

LICENSEE EVENT REPORT (LER)

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ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS MANDATORY INFORMATION COLLECTION REQUEST: 50.0 HRS. REPORTED LESSONS LEARNED ARE INCORPORATED INTO THE LICENSING PROCESS AND FED BACK TO INDUSTRY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-6 F33), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-G104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)

Millstone Nuclear Power Station Unit 2

DOCKET NUMBER (2)

05000336

PAGE (3)

1 OF 6

TITLE (4)

Technical Specification Violations

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)		
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER	
06	02	97	97	022	00	07	09	97	FACILITY NAME	DOCKET NUMBER	
OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more) (11)									
N		20.2201(b)			20.2203(a)(2)(v)			X 50.73(a)(2)(i)		50.73(a)(2)(viii)	
POWER LEVEL (10)		000									
		20.2203(a)(1)			20.2203(a)(3)(i)			50.73(a)(2)(ii)		50.73(a)(2)(x)	
		20.2203(a)(2)(i)			20.2203(a)(3)(ii)			50.73(a)(2)(iii)		73.71	
		20.2203(a)(2)(ii)			20.2203(a)(4)			50.73(a)(2)(iv)		OTHER	
		20.2203(a)(2)(iii)			50.36(c)(1)			50.73(a)(2)(v)		Specify in Abstract below in NRC Form 366A	
		20.2203(a)(2)(iv)			50.36(c)(2)			50.73(a)(2)(vii)			

LICENSEE CONTACT FOR THIS LER (12)

NAME

R. G. Joshi, MP2 Nuclear Licensing Manager

TELEPHONE NUMBER (include Area Code)

(860) 440-2080

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE).	X	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
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ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16).

This LER identifies those issues in which a violation of the unit's Technical Specifications (TS) occurred. A detailed review of the unit's TS is ongoing and is expected to identify additional issues. Each of the following TS violations has been characterized as a deficiency which is historical in nature and in which the safety significance of the deficiency is low.

The cause of these conditions is a failure to achieve compliance to Technical Specification Requirements.

A TS change will be initiated, and appropriate Surveillance Procedures will be revised. Technical Specification surveillance procedures will be reviewed to ensure compliance with Technical Specifications surveillance requirements as part of Millstone Unit 2 Operational Readiness Plan (Reference NNECO Commitment No. B16076 2).

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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

I. Description of Event

This LER identifies those issues in which a violation of the unit's Technical Specifications (TS) occurred. A detailed review of the unit's TS is ongoing and is expected to identify additional issues which may be reported periodically in LER supplements. Each of the following TS violations has been characterized as a deficiency which is historical in nature and in which the safety significance of the deficiency is low. At the time of discovery, the unit was defueled.

A. On June 2, 1997, during a review of the unit's TS, as part of the 10 CFR 50.54(f) project, it was discovered that the Containment Spray System (CS) [BE] TS 3.6.2.1 and the Containment Air Recirculation System (CAR) [BK] TS 3.6.2.2 do not address the condition when two CAR fans and coolers and a CS train are inoperable. This condition would occur when the associated Reactor Building Closed Cooling Water (RBCCW) [CC] loop, which provides cooling water to both of these containment systems, was inoperable. The inoperability of the RBCCW loop would occur when the associated Service Water (SW) [KE] train is declared inoperable for system repairs, or for the purpose of performing SW surveillance testing.

Research of the unit's records found that on May 22, 1984, at 1645 hours, with the unit in Mode 1, at 100% power, the SW train was removed from service to repair a pipe leak. The SW train was declared inoperable, resulting in the need to declare the RBCCW loop A, the A & B CAR fans and coolers, and the CS train A inoperable. Action statements for the SW system TS 3.7.4.1 and Diesel Generator TS 3.8.1.1 were entered. However, the CAR fans and coolers and CS train were not declared inoperable. Without the appropriate action statement in the unit's TS for this situation, TS 3.0.3 should have been entered and action should have been initiated within one hour to place the unit in Hot Standby within the next 6 hours, and Hot Shutdown in the following 6 hours. Since TS 3.0.3 was not entered and the required action was not initiated, TS 3.0.3 was violated. The SW repairs were completed and the train was returned to service the same day. On January 26, 1996 another event occurred when a Surveillance Procedure was performed on the SW system. Entry into the action statement for TS 3.7.4.1 was made, however, the cascading inoperability affect was not considered, and TS 3.0.3 was not entered. The SW loop was inoperable for 26 minutes.

B. On May 5, 1997, while assessing the E-bar surveillance requirements for the current Mid-Cycle 13 outage, it was questioned whether TS 3.4.8, Reactor Coolant System (RCS)[AB] - Specific Activity Surveillance requirements for E-bar had been met during Refuel Outage 12 (RFO12). A review of completed surveillance procedures found E-bar analysis had not been performed prior to entering Mode 5 on June 4, 1995, and greater than six months had elapsed since the previous E-bar analysis had been performed on September 26, 1994. An E-bar analysis was performed on September 25, 1995 following a return to full power operation.

The E-bar surveillance procedure performed on March 21, 1995, included a prerequisite, "...sample to be taken after a minimum of 24 days of 100% power operation...". The completed surveillance was annotated, "...use E-bar and 100/E-bar from 9/26/94 SP until representative data is obtained." No RCS sample was taken for measurement and analysis as required by TS prior to returning to Mode 5. TS 3.4.8 is not applicable in Mode 6. The prerequisite of "24 Days of 100% power operation" ensures radioactive isotopes are at equilibrium and representative of power operation conditions. The provisions of TS 4.0.4 were violated in RFO12 with entry into Mode 5 and power operation without meeting the applicable E-bar surveillance requirements. Additional review determined TS 4.0.4 had similarly been violated during RFO11. Therefore, this condition is a violation of TS 4.0.4.

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A review of the E-bar surveillance procedure history identified the following conditions: Revisions 0 through 4 of the applicable surveillance procedure (effective 2/14/77 through 2/14/97) did not identify the modes in which TS 3.4.8 is applicable. The associated surveillance form incorrectly identified the TS applicable modes. Procedure prerequisites for revisions 2, 3, and 4 (effective 11/22/85 through 2/14/97) required the E-bar sample to be obtained during Mode 1 power operation.

- C. On June 10, 1997, during an ongoing self assessment of gaseous radioactive effluents, it was discovered that the surveillance procedure for determining quarterly off-site air dose due to noble gas effluents did not include effluents from the containment purges [VA] and the waste gas decay tanks [WE] as required by TS Surveillance Requirement 4.11.2.2.1. TS 6.15 establishes the requirements for the Radiological Effluent Monitoring and Off-Site Dose Calculation Manual (REMODOCM). TS Surveillance 4.11.2.2.1 requires the quarterly and yearly cumulative air dose contributions to be determined in accordance with Section II of the REMODOCM once every 31 days. This requirement was violated.

These events are being reported pursuant to 10 CFR 50.73 (a)(2)(i)(B) any event or condition prohibited by the plants Technical Specifications.

II. Cause of Event

The cause of these conditions is a failure to achieve compliance to Technical Specification Requirements.

III. Analysis of Event

- A. The CAR system and the CS system work in conjunction with each other in the event of a Loss of Coolant Accident (LOCA) or Main Steam Line Break (MSLB) to provide a means of cooling the containment atmosphere to reduce containment building pressure, and thus reduce the potential leakage of airborne and gaseous radioactivity. Each system, (CAR and CS) has two redundant, independent and separate sub systems. Two of the four CAR units in conjunction with one train of the CS system limits the containment pressure and structural temperature to less than containment design values following a LOCA.

The RBCCW system, which is cooled by the SW system, has two independent, redundant subsystems (trains) each having 100% heat removal capacity following a LOCA. A spare RBCCW pump and heat exchanger can supply either loop. The SW system also has two independent, redundant subsystems (trains), each having 100% heat removal capacity. A spare SW pump can supply either train. Two independent cross-connectable trains with isolation valves are provided to each heat exchanger. Following a LOCA, one SW pump and train are required to provide cooling to the RBCCW and diesel generator heat exchangers.

Considering the historical nature of this condition, redundancy of the affected systems, the existing installed spare pumps and heat exchangers, and the installed system cross-ties, the safety significance of this event is low.

- B. E-bar is a quantitative measurement of the average beta and gamma energies per disintegration for isotopes with half-lives longer than 15 minutes, excluding iodine. Because the value of E-bar does not change rapidly, analysis is only required every 6 months. The limits on the specific activity of the reactor coolant ($\leq 100/E\text{-bar uci/gm}$) ensure that following a steam generator tube rupture accident, the site boundary 2 hour dose does not exceed a small fraction of the 10 CFR 100 limits.

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The Standard Technical Specifications (STS) for Combustion Engineering Units, NUREG-1432, Revision 1, changes the E-bar applicability to Mode 1, 2, & 3 with RCS average temperature ≥ 500 degrees F. The STS also provides direction that the E-bar determination is "Not required to be performed until 31 days after a minimum of 2 EFPD and 20 days of Mode 1 operation have elapsed since the reactor was last subcritical for ≥ 48 hours." This demonstrates the need to achieve equilibrium conditions at full power to obtain a meaningful value for E-bar.

Considering the historical nature of this condition, the corrective action (Surveillance Procedure and Form revision) that has been completed, and that a representative value was used ("use E-bar and 100/E-bar from 9/26/94 SP until representative data is obtained"), the safety significance of this event is low.

- C. Technical Specification 6.15 requires that the station have an REMODCM with Section I, Radiological Effluents Monitoring Manual (REMM), and Section II, Offsite Dose Calculation Manual (ODCM). This manual describes the sampling and analysis programs to determine the concentration of radioactive materials released offsite, and the methodology and parameters used in the offsite dose calculations. ODCM Paragraph D.2, 10 CFR 50 Appendix I - Noble Gas Limits, requires the quarterly air dose determination using noble gas from all sources - ventilation, containment purges, and waste gas tanks. The surveillance procedure did not account for the noble gas released from the containment (CTMT) purges and Waste Gas Delay Tanks (WGDT), which are both specifically required by the ODCM. TS 3.11.2.2.a places a limit on the air off-site dose due to noble gas for each calendar quarter of ≤ 5 mrad for gamma and ≤ 10 mrad for beta. Surveillance Requirement 4.11.2.2.1 states, "Cumulative dose contributions for the current calendar quarter and current calendar year shall be determined in accordance with Section II of the REMODCM once every 31 days." Failure to include noble gas from containment purge and WGDT is a violation of the TS Surveillance Requirement.

The safety significance of this event is low. The doses resulting from releases from containment purges and waste gas tanks are calculated separately for the Annual Radiological Effluent Report. These doses have never exceeded 10 CFR 50 Appendix I design guidelines.

IV. Corrective Action

As a result of these events, the following actions have been, or will be, performed.

- A.1. A Technical Specification Change Request will be submitted to add appropriate action statements for the Containment Spray and Containment Air Recirculation Systems before entering Mode 4 from the current outage.
- B.1. The E-bar surveillance procedure and surveillance form have been revised to conform to the applicable Technical Specification Surveillance Requirements.
- C.1. The noble gas surveillance procedure will be revised to properly conform to the applicable Technical Specification referenced Offsite Dose Calculation Manual Requirements before entering Mode 4 from the current outage.
- B.2 & C.2. Technical Specification surveillance procedures will be reviewed to ensure compliance with Technical Specifications surveillance requirements as part of Millstone Unit 2 Operational Readiness Plan (Reference NOV 336/96-08-07, NNECO Commitment No. B16076-2).

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V. Additional Information

Similar Events

Previous LERs that involve Technical Specification violations include:

- LER 95-019: Failure to meet Technical Specification Requirements for Plant Systems - Snubbers
- LER 95-030: Violation of Technical Specification 3.0.4 During Reactor Plant Heatup
- LER 96-001: Reactor Coolant System Heatup Rate Exceeded Technical Specification Limit
- LER 96-003: Failure to Enter Technical Specification Limiting Condition for Operation 3.0.3 After Discovery that the Service Water Strainers were Inoperable Due to Ice Blockage
- LER 96-005: Failure to Enter Technical Specification Action Statement during Maintenance and Inservice Testing
- LER 96-007: Reactor Coolant System Cooldown Rate Exceeded Technical Specification Limit
- LER 96-011: Plant Shutdown Required by Technical Specifications Completed and Required Time to Enter Mode 5 was Exceeded
- LER 96-015: Failure to Perform Action Requirement for the Technical Specifications Limiting Condition for Operation 3.3.1.1
- LER 97-007: Violation of Technical Specification 4.4.11.3 Requirement Reactor Head Vent Valve Operability
- LER 96-023: Discrepancies Found in Various Technical Specification Required Valve Lineups
- LER 96-024: Inadequate Surveillances for Reactor Protection System and Engineered Safety Actuation System Response Time Testing
- LER 96-025: Enclosure Building Filtration Actuation Signal/Auxiliary Exhaust Actuation Signal Interlock Not Tested Periodically
- LER 96-026: Incomplete Technical Specification Required Surveillance - Valve Lineups Inside Containment
- LER 96-035: Failure to Perform Periodic Surveillance Testing for Interlock Function Associated with the Main Steam Isolation System Function of the Engineered Safeguards Actuation System
- LER 96-037: Inadequate Surveillance Procedure for Verifying Average Water Temperature at the Unit 2 Intake Structure
- LER 96-038: Inadequate Surveillance Procedures Used to Verify Emergency Diesel Generator Operability
- LER 96-039: Failure to Perform Periodic Surveillance Testing for Containment Purge System Containment Isolation Valves in Accordance with Technical Specification 4.9.10
- LER 96-040: Inadequate Surveillance Procedure for Verifying Motor Circuit Breaker Position in Accordance with Technical Specification Requirements 4.1.2.3.2, 4.1.2.3.3, and 4.4.1.4
- LER 97-003: Surveillance Procedure SP2618C Fails to Meet Technical Requirements Manual Surveillance Requirements
- LER 97-004: Three HPSI Pumps Aligned to the RCS at the Same Time
- LER 97-005: IST Instrumentation Does Not Meet ANSI/ASME Chapter XI Requirements
- LER 97-007: Violation of Technical Specification 4.4.11.3 Requirements Reactor Head Vent Valve Operability
- LER 97-008: Insufficient RPS Logic Circuitry Surveillance (Generic Letter 96-01 Review)
- LER 97-009: Insufficient ESFAS Surveillance Testing (Generic Letter 96-01 Review)
- LER 97-010: Heavy Dummy Fuel Assembly and Handling Tools Exceed Technical Specification Load Limit
- LER 97-012: Insufficient Diesel Start Surveillance Test
- LER 97-013: Inoperable Radiation Monitors due to Surveillance Procedure Error

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- LER 97-016: Technical Specification 4.0.4 Incorrectly Applied to Surveillance Requirements for the TDAFW Pump
- LER 97-017: Bypassed Refuel Machine Overload Cut-off
- LER 97-019: ATI Sends Repeated Trip Signal to the RSST Feeder Breaker
- LER 97-020: Insufficient Verification of B HPSI Pump Header as Boron Injection Flowpath

Energy Industry Identification System (EIIS) codes are identified in the text as [XX].