NRC FORM 366 (4-95) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104
EXPIRES 04/30/98
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 (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Millstone Nuclear Power Station Unit 3	05000423	1 of 5

TITLE (4)

Torquing of Battery Connections Not Performed As Part Of Connection Tightness Checks

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
01	08	97	97	002	00	02	07	97	FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)			
POWER LEVEL (10)		20.2201(b)	20.2203(a)(2)(v)	[X] 50.73(a)(2)(i)	50.73(a)(2)(viii)
		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 or 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	TELEPHONE NUMBER (Include Area Code)
J.M. Peschel, MP3 Nuclear Licensing Manager	(860)437-5840

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)		EXPECTED SUBMISSION	MONTH	DAY	YEAR
[ ] YES (If yes, complete EXPECTED SUBMISSION DATE).	[X] NO				

ABSTRACT (Limit to 1400 spaces, i.e. approximately 15 single-spaced typewritten lines) (16)

On January 8, 1997, with the unit in Mode 5, it was discovered that the 18 month battery surveillance procedure did not include checking the torquing of battery connections against the manufacturer's recommended torque value as required by the Surveillance Requirement (SR) 4.8.2.1.c.2 bases which reference IEEE Standard 450-1980. This condition was determined to be reportable pursuant to 10 CFR50.73(a)(2)(i), as an operation or condition prohibited by the Technical Specifications.

There was no safety significance because the batteries were capable of performing their intended safety function as evidenced by the cell-to-cell and terminal connection detail resistance readings and the passing of battery service tests. There were no safety consequences associated with this condition. However, the failure to perform the surveillances in accordance with the Technical Specifications is significant.

The battery surveillance procedures were revised to contain the appropriate torquing requirements and the batteries were tested.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)					PAGE (3)
		YEAR	SEQUENTIAL NUMBER			REVISION NUMBER	
Millstone Nuclear Power Station Unit 3	05000423	97	--	002	--	00	2 of 5

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

I. Description of Event

On January 8, 1997, with the unit in Mode 5, it was discovered that the 18 month battery surveillance procedure did not include checking the torquing of battery connections as required by the Surveillance Requirement (SR) 4.8.2.1.c.2 bases. Surveillance Requirement 4.8.2.1.c.2 states that, "Each 125 volt battery bank and charger shall be demonstrated OPERABLE: c.) At least once per 18 months by verifying that: 2) The cell-to-cell and terminal connections are clean, tight, and coated with anticorrosion material." The Technical Specification Basis states that "the Surveillance Requirement for demonstrating the OPERABILITY of the station batteries are based on the recommendations of ... [Institute of Electrical and Electronic Engineers] IEEE [Standard] 450-1980, IEEE Recommended Practice for Maintenance, Testing, and Replacement of Large Lead Storage Batteries for Generating Stations and Substations." The IEEE standard states as part of maintenance to "check and record ... [the] tightness of bolted connections to manufacturer's recommended torque value followed by cell-to-cell and terminal connection and detail resistance" checks. The requirements of the IEEE standard were not included in the SR. The batteries were declared inoperable at 1725 hours on January 8, 1997, and restored to operable status at 0913 hours on January 14, 1997.

Historically, the 125 volt batteries should have been declared inoperable and the appropriate Limiting Condition for Operation (LCO) entered. Since the batteries had not been checked tight, it was determined that this condition was reportable pursuant to 10 CFR50.73(a)(2)(i), as an operation or condition prohibited by the TS.

The procedure was revised to incorporate steps to check tightness of bolted connections to the battery manufacturer's recommended torque values. On January 12 and 13, 1997, while performing the revised surveillance it was discovered that Battery 301B-1 and 301B-2 respectively, failed to meet the 70 percent of full torque value specified. Subsequently it was identified that Battery 301A-2 also failed to meet the 70 percent of full torque value. This condition is also being reported pursuant to 10CFR50.73(a)(2)(i), as an operation or condition prohibited by the Technical Specifications.

II. Cause of Event

The recommendations of IEEE Standard 450-1980 were not adequately translated into maintenance procedure. This is related to the unit's management not expecting and enforcing literal compliance with design bases documents, such as IEEE Standard 450-1980. The cause of this event is attributed to lack of an effective verification and validation of the maintenance procedure, specifically assuring that the IEEE Standard was incorporated into the procedure.

III. Analysis of Event

A review of the surveillance and maintenance history for the 125 volt unit batteries was performed as part of the investigation. The wording of the TS requirement, ... "cell-to-cell and terminal connections are clean, tight, ..." left room for interpretation over how to measure the tightness of the connection. Procedural revisions and the associated reviews were unsuccessful at realizing the procedural inadequacies because the procedures quoted the Technical Specification requirements verbatim and the writers/reviewers did not take the next step of consulting the source document for the requirement. Review of design bases documents are required to be included in procedure reviews as part of procedure update requirements for the station.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)					PAGE (3)
		YEAR	SEQUENTIAL NUMBER			REVISION NUMBER	
Millstone Nuclear Power Station Unit 3	05000423	97	--	002	--	00	3 of 5

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

Compliance with verifying the connections tight was thought to have been demonstrated by taking resistance readings followed by the 18 month service test discharge in the "as-found" condition. A review of work order history indicated that resistance readings of the battery connections had been taken at least once per 18 months, followed by a battery service test in the "as-found" condition. The batteries passed the resistance checks and the service discharge tests, hence, would be available to perform their intended safety functions.

IEEE Standards 450-1987 and 1995, have deleted battery connection torquing requirements and specify that cell-to-cell terminal connection detail resistance readings should be taken. These revisions support the conclusion that there was no safety significance because the batteries were capable of performing their intended safety function as evidenced by the cell-to-cell and terminal connection detail resistance readings. There were no safety consequences associated with this condition. However, the failure to perform the surveillances in accordance with the Technical Specifications is significant.

IV. Corrective Action

The following corrective actions were taken:

1. The battery surveillance procedures were revised to ensure they contain the appropriate torquing requirements in accordance with IEEE Standard 450-1980.

2. The batteries were torqued and restored to operable status on January 14, 1997.

The following corrective actions will be taken:

1. Mechanical and electrical surveillance procedures will be reviewed to ensure they satisfy Technical Specification requirements by March 30, 1997.

2. Battery surveillance procedures will be reviewed for compliance with IEEE Standard 450-1980, by March 30, 1997.

3. The FSAR will be revised to reflect the commitments to IEEE Standard 450-1980, by June 30,1997.

4. Technical Specification surveillance requirements and the FSAR will be reviewed for requirements pertinent to mechanical maintenance and electrical surveillance procedures by June 30, 1997.

V. Additional Information

None

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

Similar Events

LER 96-004-00 "Auxiliary Feedwater Isolation Valves Noncompliance with Technical Specifications"

On March 19,1996, with the plant in MODE 1 at 100 percent power, it was determined that there were several historical occasions when the plant had failed to enter the appropriate Technical Specification's (TS) limiting condition for operation (LCO) action statement when shutting the Turbine Driven Auxiliary Feedwater pump discharge valves, at less than 10 percent power. The cause of he historical TS noncompliance was a misinterpretation of the Technical Specifications. The plant erroneously used a TS Surveillance Requirement to take exception to a TS LCO.

As action to prevent recurrence, this event was reviewed with station personnel to caution others on using TS Surveillance Requirements to alter Technical Specification LCOs.

LER 96-038-00 "Violation of Technical Specifications Pertaining to High Pressure Safety Injection & Charging System Pumps"

At 1800 on October 10, 1996, with the plant in Mode 5, plant personnel determined that the Technical Specification requirement for operability of High Pressure Safety Injection (SIH) and Charging (CHS) system pumps had not historically been met during transitions between Modes 3 and 4. Technical Specifications 3.1.2.4, 3.5.2 and 3.5.3 specify different combinations of SIH and CHS pumps that are required to be operable or inoperable at the transition point from Mode 3 to Mode 4 at 350 degrees Fahrenheit. The Technical Specifications do not provide a temperature transition band for removing pumps from service or restoring them to operable status as the transition is made from Mode 3 to Mode 4 or Mode 4 to Mode 3. The plant had historically changed modes and placed the plant in the configuration required by the new mode after the mode entry. These conditions occurred as a result of conducting operations to meet the intent of the Technical Specifications rather than ensuring compliance with the Technical Specifications.

The corrective actions associated with this LER have not been fully implemented at this time. Implementation of these actions will aid in preventing recurrences similar to those being reported.

LER 96-048-00 "Failure To Complete Technical Specification Required Testing Of CHS Pump While Shutdown"

On December 2, 1996, with the plant in Mode 5, it was determined that a portion of the Technical Specification surveillance which tests the load shed function for both Emergency Diesel Generators (EDGs) had not been performed in accordance with Technical Specification Surveillance 4.8.1.1.2.g.6. This surveillance is required to be completed once per 18 months during shutdown. Contrary to this, the surveillances which tested the load shed for both trains of Charging (CHS) system pumps and re-energization feature for portions of the CHS system were performed during plant operation. The cause was determined to be a lack of verbatim compliance with the Technical Specifications. Contributing to this were ineffective corrective actions to identify "shutdown" surveillances, and incomplete updating of the Master Surveillance Test Control List (MSTCL) data base.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)					PAGE (3)
		YEAR	SEQUENTIAL NUMBER			REVISION NUMBER	
Millstone Nuclear Power Station Unit 3	05000423	97	--	002	--	00	5 of 5

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

The safety significance of this event was minimal in that the mode in which the surveillances were performed had no physical affect on the ability to complete the surveillances or the ability of the EDGs to perform their safety function. As immediate corrective action, the EDGs were declared inoperable and the load shed surveillances were performed during shutdown prior to restoring the EDGs to operable status.

LER 97-00[illegible]0 "Lack of Verbatim Compliance with Technical Specification Surveillance Requirements for 125 Volt Batteries and Battery Chargers"

On January 4, 1997, with the plant in Mode 5, it was identified that 125 volt battery surveillance testing was being performed in a manner that was not in verbatim compliance with the Technical Specifications (TS). Similarly, on January 9, 1997, with the plant in Mode 5, it was identified that 125 volt battery charger surveillance testing was being performed in a manner that was not in verbatim compliance with the TS. These conditions were determined to be reportable pursuant to 10CFR50.73(a)(2)(i), as an event or condition prohibited by the Technical Specifications.

While the surveillance testing performed may have been more accurate or more conservative than the verbatim requirements of the specifications involved, this event is significant in that it identifies further examples of a lack of verbatim compliance with TS requirements. These conditions were identified as the result of a heightened awareness of the potential for additional lack of verbatim TS compliance such as those described in previous Licensee Event Reports, LER 96-038-00, and LER 96-048-00.

Corrective actions included immediate revision and performance of the battery and battery charger surveillance testing procedure requirements to effect verbatim TS compliance with the TS. Additionally, a review of the affected TS will be conducted for potential wording changes to ensure clarity, followed by the development and submittal of any resultant amendment request.

Manufacturer Data

EIIS System Code

DC Power System - Class 1E.....EJ

EIIS Component Function Identifier

Battery .....BTRY