

Docket No. 50-423
B17903

Attachment 2

Millstone Nuclear Power Station, Unit No. 3

LER 99-008-00

October 1999

LICENSEE EVENT REPORT (LER)

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

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.

FACILITY NAME (1)

Millstone Nuclear Power Station Unit 3

DOCKET NUMBER (2)

05000423

PAGE (3)

1 OF 4

TITLE (4)

Inadequate Surveillance Procedure Results in 125 VDC System Operated Outside of its Licensing and Design Bases

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
9	28	99	99	-- 008 --	00	10	27	99	FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)								
		<input type="checkbox"/>	20.2201(b)	<input type="checkbox"/>	20.2203(a)(2)(v)	<input checked="" type="checkbox"/>	50.73(a)(2)(i)	<input type="checkbox"/>	50.73(a)(2)(viii)	
POWER LEVEL (10)	100	<input type="checkbox"/>	20.2203(a)(1)	<input type="checkbox"/>	20.2203(a)(3)(i)	<input checked="" type="checkbox"/>	50.73(a)(2)(ii)	<input type="checkbox"/>	50.73(a)(2)(x)	
		<input type="checkbox"/>	20.2203(a)(2)(i)	<input type="checkbox"/>	20.2203(a)(3)(iii)	<input type="checkbox"/>	50.73(a)(2)(iii)	<input type="checkbox"/>	73.71	
		<input type="checkbox"/>	20.2203(a)(2)(ii)	<input type="checkbox"/>	20.2203(a)(4)	<input type="checkbox"/>	50.73(a)(2)(iv)	<input type="checkbox"/>	OTHER	
		<input type="checkbox"/>	20.2203(a)(2)(iii)	<input type="checkbox"/>	50.36(c)(1)	<input type="checkbox"/>	50.73(a)(2)(v)	Specify in Abstract below or in NRC Form 366A		
<input type="checkbox"/>	20.2203(a)(2)(iv)	<input type="checkbox"/>	50.36(c)(2)	<input type="checkbox"/>	50.73(a)(2)(vii)					

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
David W. Dodson, Supervisor Unit 3 Regulatory Compliance	(860)447-1791 ext. 2346

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)

<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE).	<input type="checkbox"/> 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)

On September 28, 1999 engineering performed a review of surveillance procedure SP 3712 NC Rev. 3 "Vital Battery Charger Surveillance Load Testing." This review was prompted as a result of a technical concern raised by an electrical maintenance worker familiar with this surveillance procedure. The results of engineering's review revealed the following deficient conditions existed when testing in accordance with applicable surveillance procedures with the Unit at power; (1) unanalyzed D.C. loads were placed upon station battery numbers 1-4, (2) a Non-Class 1E load bank utilized during testing was not electrically isolated from the 125 VDC bus and (3) the heat load associated with the load bank was not accounted for relative to provisions for adequate ventilation. Condition numbers 1 and 2 are reportable pursuant to the requirements of 10 CFR 50.73(a)(2)(i)(B) as operation in a condition prohibited by Technical Specifications and 10 CFR 50.73(a)(2)(ii)(B) as a condition outside the design bases of the Unit. Condition number 3 has been determined to be not reportable.

The cause of this event is attributed to procedural inadequacies due to a historical lack of an understanding of the licensing and design bases of the Unit.

To correct this deficiency, surveillance procedure SP 3712 NC will be revised to reflect the licensing and design bases of the Unit to ensure that no unanalyzed electrical loads are placed upon the 125 VDC Class 1E systems during performance of this procedure.

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

I. Description of Event

On September 28, 1999 with the Unit in Mode 1, engineering performed a review of surveillance procedures SP 3712 NB, "Battery Surveillance Discharge Testing" and SP 3712 NC Rev. 3. This review was prompted as a result a technical concern raised by the questioning attitude of an electrical maintenance worker familiar with implementation of these surveillance procedures. Surveillance procedure SP 3712 NB was the procedure for performing battery and battery charger testing from 1989 through 1992. Surveillance procedure SP 3712 NC has been employed to perform battery charger testing from 1992 to date. These procedures have been implemented with the Unit at power since 1989. The results of the review identified that from 1989 the electrical configuration specified in these surveillance procedures relative to performing battery charger load testing placed Millstone Unit-3 in an unanalyzed condition.

This condition is considered historical in nature and reportable pursuant to 10 CFR 50.73(a)(2)(i)(B) as operation in a condition prohibited by Technical Specifications and 10 CFR 50.73(a)(2)(ii)(B) for past operation in a condition outside the design bases of the Unit.

II. Cause of Event

The cause of this event is attributed to procedural inadequacies due to a historical lack of an understanding of the licensing and design bases of the Unit.

III. Analysis of Event

Technical Specification (TS) 3/4.8.2, "D.C. Sources," requires that surveillance's be performed to demonstrate each 125-Volt battery bank and charger OPERABLE. Surveillance Requirement (SR) 4.8.2.1.c.4 requires that at least once per 18 months, each battery charger be capable of supplying at least the amperage indicated in TS Table 4.8-2b, "Battery Charger Capacity" at greater than or equal to 132 volts for at least 24 hours. Surveillance procedures SP 3712 NB and 3712NC were employed to demonstrate compliance with this TS. SP 3712 NB was the applicable procedure from 1989 until 1992, SP 3712 NC has been utilized from 1992 to date. A review of these procedures revealed the following deficiencies.

1. In order to perform the battery charger load test, a Non-Class 1E load bank was required to be connected to the operating 125 VDC system. The connection of the Non-Class 1E load bank [LDC], which is utilized to load the battery chargers to their nameplate rating for 24 hours could have imposed an additional DC loading of 200A to batteries 1 and 2 and 50A to batteries 3 and 4. Per FSAR section 8.3.2.1.2.2, the Class 1E station batteries are sized to carry their DC loads for 2 hours for Loss of Power (LOP) conditions during which the battery chargers are not available. A review of the loads imposed by the load bank upon the Class 1E station batteries indicates none of the station batteries had enough reserve capacity to handle the load increase to satisfy the 2 hour duty cycle. This condition is reportable pursuant to 10 CFR 50.73(a)(2)(ii)(B) for past operation outside the design bases of the Unit. In addition, TS 4.8.2.1.d requires that the batteries be verified as adequate to supply and maintain in OPERABLE status all of the actual or simulated emergency loads for the design duty cycle when the battery is subjected to a battery service test. Since the

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batteries would not be capable of satisfying the required 2 hour duty cycle, this condition is reportable pursuant to 10 CFR 50.73(a)(2)(i)(B), operation in a condition prohibited by Technical Specifications.

2. The Non-Class 1E load bank utilized during surveillance testing was not electrically isolated as per the requirements of Regulatory Guide (RG) 1.75, "Physical Independence of Electric Systems." As such, the 125 VDC system was vulnerable to the effect of an unanalyzed electrical fault and/or over load. This configuration renders the surveilled train inoperable. The ACTION statement associated with TS 4.8.2.1.c.4 requires that the inoperable train be returned to OPERABLE status within 2 hours or be in at least HOT STANDBY within the next 6 hours. The time required to perform the surveillance exceeded 24 hours. As such, this condition is reportable pursuant to 10 CFR 50.73(a)(2)(i)(B), operation in a condition prohibited by Technical Specifications and 10 CFR 50.73(a)(2)(ii)(B) for past operation outside the design bases of the Unit.
3. In order to perform the battery charger load test, a Non-Class 1E load bank was required to be connected to the operating 125 VDC system [EJ]. The load bank imposed an additional 85,000btu of burden upon the east and west switchgear room HVAC systems. A review of the switchgear HVAC system has determined that this system maintains sufficient capacity to handle the additional heat load increase.

These issues are historical. There are no safety consequences associated with these issues due to the operability of the redundant train during each circumstance.

IV. Corrective Action

Surveillance Procedure SP 3712 NC will be revised to reflect the licensing and design bases of the Unit to ensure that no unanalyzed electrical loads are placed upon the 125 VDC Class 1E systems during performance of this procedure.

Other corrective actions performed include a reconstitution effort relative to the Millstone Nuclear Power Station Unit No. 3 licensing and design bases which was undertaken during the Millstone recovery.

V. Additional Information

None

Similar Events

LER 98-028-00 "Historical Event, Missed Surveillance: Failure to Perform Leak Rate Testing At An Increased Frequency For Pressure Isolation Valve 3RHS*MV8702B As Required By Surveillance Requirement 4.4.6.2.2.e"

On May 13, 1998, with the Unit in Mode 5, a review of historical Inservice Test (IST) Program trend data for Pressure Isolation Valve (PIV) leak testing revealed that PIV (3RHS*MV8702B) RCS Loop 4,

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Hot Leg to Residual Heat Removal', had not been leak tested at an increased frequency as required by Technical Specification (TS) Surveillance Requirement 4.4.6.2.2.e.

This is a historical condition. The cause of the missed pressure isolation valve surveillance test was attributed to similar IST programmatic deficiencies previously reported in Licensee Event Report (LER) 96-021-02, "Components Not Included in the In-Service Test Program as a Result of Programmatic Deficiencies." The cause of this event has been determined to be inadequate program monitoring and a weak scheduling process for increased frequency "alert" surveillance testing.

Manufacturer Data

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