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 2	05000336	1 OF 4

TITLE (4)

Insufficient ESFAS Surveillance Testing (Generic Letter 96-01 Review)

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
03	25	97	97	-- 009 --	01	02	01	99	FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)					
POWER LEVEL (10)	000	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)
R. G. Joshi, MP2 Regulatory Compliance Manager	(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)			EXPECTED SUBMISSION DATE (15)	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 March 25, 1997, the first three of fourteen reports which review the facility's compliance with Generic Letter (GL) 96-01 for the Engineered Safety Feature Actuation System were received. Subsequent to this, the remaining eleven reports were completed and reviewed and five additional types of deficiencies were identified. At the time of discovery of these conditions, the unit was defueled.

The cause of these conditions was an inadequate program to ensure surveillance procedures fully implement Technical Specification requirements.

To correct this deficiency, operational surveillances (which perform the functional tests required by the facility TS) associated with deficiencies identified under the GL 96-01 review will be revised to ensure that TS functional requirements are satisfied.

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

I. Description of Event

On March 25, 1997, the first three of fourteen reports which review the facility's compliance with Generic Letter (GL) 96-01 for the Engineered Safety Feature Actuation System (ESFAS) were received. Subsequent to this, the remaining eleven reports were completed and reviewed and five additional types of deficiencies were identified. At the time of discovery of these conditions, the unit was defueled.

From the first three reports it was determined that circuits within the Containment Spray Actuation System (CSAS) [BE], which is a sub-system of the ESFAS, were not being properly tested during surveillance activities. The 6N90-3 actuation modules 30 millisecond delay circuit and all ESFAS circuitry after the delay circuit had not been properly tested on a monthly basis.

The CSAS is required to be functionally tested. The present functional test procedure utilizes two overlapping tests. One test injects a signal as close to the sensor as practicable and verifies that the bistable within the ESFAS trips. The other function test uses the Automatic Test Insertion (ATI) to test the logic between the bistable and actuation module. Both tests are performed on a monthly basis in accordance with the Technical Specifications. However, the actuation modules for the CSAS were modified in May 1995 to solve a relay race within the ESFAS system. This modification introduced a 30 millisecond time delay. Since the ATI is a 2 millisecond pulse, the ATI cannot test the time delay or the circuitry after the time delay circuit. Operational surveillances to support the bistable trip test were initiated which would have verified this circuitry. However, the containment spray pump actuation modules were not incorporated into the operational test. Therefore, monthly functional testing does not test the trip function of the containment spray pumps.

The remaining eleven reports, which review the facility's compliance with GL 96-01 for the ESFAS, were reviewed and the following deficiencies were identified.

On May 12, 1997 it was identified that the Pressurizer Pressure Safety Injection Actuation System (SIAS) [JE] Shut-Down Block and Steam Generator Pressure Main Steam Isolation (MSI) Shut-Down Block functions had historically not been tested in accordance with the Technical Specifications (TS) Surveillance 4.3.2.1.2 which requires that the bypasses for the blocks shall be demonstrated operable during at power channel functional tests which affect bypass operation.

On May 19, 1997, it was identified that portions of the Enclosure Building Filtration Actuation Signal (EBFAS) [BD], the Undervoltage Actuation Signal (UV), Auxiliary Exhaust Actuation Signal (AEAS), SIAS, and Containment Isolation Actuation Signal [JM] were not being tested as required by TS Surveillance Requirement 4.3.2.1.1.

The Reserve Station Service Transformer (RSST) has a total of six combinations of logic and only two combinations were being tested. The time delay associated with the RSST isolation from the offsite power grid (8 seconds) was not being tested to ensure proper timing.

On November 24, 1997, it was identified that the functional test procedure for the AEAS incorrectly assumed that the Automatic Test Insertor (ATI) was on in all modes of operation. The ATI is required to be operable during modes 1 through 4. However, the ESFAS technical specification Limiting Condition of Operation (LCO) allows the ATI to be turned off in modes 5, 6 or defueled. Therefore, when the AEAS functional test was performed the ATI was not always operating as required when the AEAS functional test procedure was performed.

These conditions are being reported in accordance with 10CFR50.73(a)(2)(i)(B), any operation or condition prohibited by the plant's Technical Specifications.

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

II. Cause of Event

The cause of these conditions was an inadequate program to ensure surveillance procedures fully implement Technical Specification requirements.

III. Analysis of Event

The ESFAS monitors the Nuclear Steam Supply System to affect plant equipment to start or to mitigate the consequences of an event if conditions deviate from a preset operating range. The TS required functional tests for ESFAS show that the required circuitry is operable and capable of performing its intended function. The purpose of the GL 96-01 review was to verify the adequacy of the surveillances used to satisfy the TS functional requirements.

The discrepancies listed above are instances in which ESFAS functional testing was not sufficient to ensure verbatim compliance with applicable TS requirements. Field validation/verification of the components which were not tested in accordance with TS requirements, which was performed during the GL 96-01 review, has shown that the associated components historically were operable. Therefore, these conditions are not safety significant.

IV. Corrective Action

As a result of these conditions, the following actions have been, or will be, performed to strengthen the facility surveillance program:

1. Operational surveillances, which verify the circuitry after the bistable, have been revised to properly test the CSAS actuation modules.

2. In the response to NOV 336/98-08-07 (NNECO Commitment No. B16076-2) Millstone Unit No. 2 has performed a review of Technical Specification surveillance procedures to ensure compliance with Technical Specifications surveillance requirements as part of the Operational Readiness Plan.

3. Operational surveillances (which perform the functional tests required by the facility TS) associated with deficiencies identified under the GL 96-01 review will be revised prior to entry into Mode 4 from the current outage to ensure that TS functional requirements are satisfied.

V. Additional Information

Similar Events

Previous similar events involving the facility review of Generic Letter 96-01:

LER 96-035 - Identified that both bistables (one for each facility) were not verified for a Main Steam Isolation (MSI) signal for the Engineered Safety Actuation Feature System. An MSI signal is sent to both bistables to ensure a single failure will not cause an actuation and the functional test did not verify both bistables, only the bistable for the facility under test.

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

LER 97-008 - Identified that bistable trip lights were not verified during the RPS bistable trip test. The trip lights are the only indication available to verify that the K1, K2 and K3 relays properly form the 2 out of 4 matrix for the RPS to trip the reactor.

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