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)

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TITLE (4)

Time Response Of Containment Fuel Drop Radiation Monitor Less Conservative Then Value Assumed Within FSAR

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
11	08	96	96	046	00	12	07	96	FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	5	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)	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)	[X] 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 November 8, 1996, at 1330, with the plant in Mode 5, it was determined that the containment purge isolation time response was greater than that specified in the Final Safety Analysis Report (FSAR). The condition was discovered during the performance of containment purge isolation time response testing as required by Technical Specifications and in accordance with the requirements contained within the Technical Requirements Manual. On November 8, 1996 at 1413, a prompt report was made pursuant to 10CFR50.72(b)(2)(iii)(C and D) as a condition that alone could have prevented the fulfillment of a safety function of a system needed: to control the release of radioactivity; and, to mitigate the consequences of an accident.

The root causes for this event have been identified as: 1) Inadequate original design and; 2) Failure of the surveillance test program and initial startup test program to assure compliance with the FSAR.

The Containment Fuel Drop Radiation Monitor design will be reviewed. Based on this review the design of the monitor will be modified or a Technical Specification change request will be submitted to the NRC for approval. A design review of response time data for safety related non-Engineered Safety Features (ESF) actuations which support FSAR chapter 15 analysis will be performed to ensure that the data is supported by surveillance procedures.

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

I. Description of Event

On November 8, 1996, at 1330, with the plant in Mode 5, it was determined that the Containment Purge Isolation time response was greater than that specified in the Final Safety Analysis Report (FSAR). The condition was discovered during the performance of Containment purge isolation time response testing as required by Technical Specifications and in accordance with the requirements contained within the Technical Requirements Manual (TRM). On November 8, 1996 at 1413, a prompt report was made pursuant to 10CFR50.72(b)(2)(iii)(C) and 10CFR50.72(b)(2)(iii)(D) as a condition that alone could have prevented the fulfillment of a safety function of a system needed: to control the release of radioactivity; and, to mitigate the consequences of an accident.

The Containment Fuel Drop Radiation Monitors (RMS*RIY41 and RMS*RIY42) were being response time tested to meet the Technical Specification Surveillance requirements established in License Amendment 129. This testing determined that the radiation monitor could not meet the response time requirements of the TRM. This condition is being reported pursuant to 10CFR50.73(a)(2)(v)(C & D) as a condition that alone could have prevented the fulfillment of a safety function needed to control the release of radioactive material or mitigate the consequences of an accident.

The Containment Purge System had previously been declared inoperable due to an overdue surveillance and the Containment Purge Isolation valves (3HVU*CTV32A/B and 3HVU*CTV33A/B) had been closed. No fuel movement was being performed.

II. Cause of Event

The causes for this event have been identified as:

1. Inadequate original design. The design process governing the initial design relied on vendor calculation and inputs which were not adequately verified by plant design engineering or by onsite testing.

2. Failure of the surveillance test program and initial startup test program to assure compliance with the FSAR. The process to assure the complete logic circuit was adequately response time tested and therefore met the response time requirements contained within the FSAR was inadequate.

III. Analysis of Event

The FSAR in Section 15.7.4.2 states, that transit time for the purge air from the inlet of the containment purge duct to the isolation valves (3HVU*CTV32A/B and 3HVU*CTV33A/B) is 5.0 seconds based upon 2 seconds for the detector to respond and 3 seconds for valve closure.

A calculation was performed in 1985 to verify that the containment purge isolation valves will close before contaminated air would reach the isolation valves after receiving a signal from the radiation monitor(s). This calculation was revised in 1993. Based on this revised calculation, contaminated purge air will not reach the isolation valves for 5.89 seconds. The 5 seconds specified in the FSAR was therefore bounded by analyzed response time in that the isolation valves would close prior to radioactive air reaching the valves. However neither the FSAR, nor the unit's Technical Requirements Manual were updated to reflect the revised response time.

The containment fuel drop radiation monitor utilizes a microcomputer with two electronic filters, one of which has a variable response times based upon the magnitude of the input signal. The variable radiation monitor response time

caused the containment fuel drop radiation monitors to fail the surveillance test. As a result, the containment purge isolation has never been capable of performing its specified response time functions.

There were no adverse safety consequences as a result of this condition in that the unit did not experience a fuel handling accident requiring closure of the Containment Purge Isolation Valves. However, based on the above analysis, the containment fuel drop radiation monitors are incapable of meeting their response time requirements. Therefore, the radiological consequences of a fuel handling accident in containment, as documented in FSAR chapter 15.7.4.2.2, could be more severe then previously analyzed.

IV. Corrective Action

The following corrective actions will be implemented:

1. The Containment Fuel Drop Radiation Monitor design will be reviewed. Based on this review the design of the monitor will be modified or a Technical Specification change request will be submitted to the NRC for approval by May 1, 1997

2. As part of the ongoing FSAR design review, the response time data for safety related non-Engineered Safety Features (ESF) actuations which support FSAR chapter 15 analysis will be reviewed to verify that the data is supported by surveillance procedures. Applicable surveillance procedures will be updated as necessary prior to entry into mode 4.

3. As part of the ongoing FSAR review, applicable sections of the FSAR will be revised to accurately reflect the isolation time of the Containment Purge Isolation valves ((3HVU*CTV32A/B and 3HVU*CTV33A/B) by January 31, 1997.

4. Coordinated with the ongoing FSAR review, Section 3.2.2 of the Technical Requirements Manual (TRM) will be revised to accurately reflect the response time of the Containment Purge Exhaust and Supply Valves radiation monitors by February 28, 1997.

V. Additional Information

During the evaluation of this condition NNECO determined that the letter which submitted the License Amendment Request that was issued as License Amendment 129 stated that the response time was 5.29 seconds. NNECO attributes this discrepancy to be a typographical error.

Similar Events

LER 96-042-00: Incompletely Implemented Technical Specification Amendment Resulting in a Missed Surveillance on RMS Monitors

On October 28th, 1996 at 1600 hours, with the plant in Mode 5, it was discovered that Technical Specifications (TS) response time surveillance testing of Containment Fuel Drop Radiation Monitoring System (RMS) monitors 3RMS-RE41 and 3RMS-RE42 had not been

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performed. The RMS monitors were declared inoperable and the containment purge & vent valves were shut as required by the applicable TS ACTION statement.

This condition was reportable pursuant to 10CFR50.73 (a)(2)(i)(B), as any operation or condition prohibited by the plant's Technical Specifications.

Response time testing of the Containment Fuel Drop Instrument channels will be completed prior to returning the Containment Purge & Vent to service. The procedure governing license amendment incorporation and implementation will be revised to clarify roles and responsibilities. Licensing personnel will be trained on the requirements and responsibilities associated with developing and processing Technical Specification change requests.

LER 96-008-00: Reactor Protection System Lead/Lag Time Constants Set Non-Conservatively

On April 12, 1996, at 14:30, with the plant in Mode 5, it was discovered that time constants used on lead/lag cards for Overpressure Delta Temperature and Overtemperature Delta Temperature Reactor Trip setpoints as well as Steam Line Negative Rate -High Main Steam Line Isolation setpoints may be set non-conservatively. A subsequent review determined that these time constants specified in plant Technical Specifications for Overpressure Delta Temperature and Overtemperature Delta Temperature Reactor Trip setpoints were used as an input to calculate Safety Analysis Limits, thus affecting Limiting Safety System settings. The root cause of the non-conservatively set time constants was the failure to identify conservative calibration requirements for Reactor Protection circuits in plant Technical Specifications.

Manufacturer Data

EIIS System Codes
Radiation Monitoring System - RM
Reactor Building Environmental Control System - VA

EIIS Component Codes
Indicator, Radiation - RI
Transmitter, Radiation - RT

Kaman Ionization Chamber model KDI-10