NRC FORM 366 (6-1998) U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

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

APPROVED BY OMB NO. 3150-0104 EXPIRES 06/30/2001

Estimated burden per response to comply with this mandatory information collection request: 50 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Forward comments regarding burden estimate to the 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. If an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

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TITLE (4)

Failure to Perform Fire Protection Program Surveillances at the Required Frequency

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 05000
09	16	98	98	-- 013 --	01	01	22	98	FACILITY NAME	DOCKET NUMBER 05000

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)			
POWER LEVEL (10)	100%	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)	X 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)
William Heysek, TMI Licensing Engineer	(717) 948-8191

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

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)

The Quality Assurance Audit S-TMI-98-12, "Fire Protection," identified the failure to perform a fire hose inspection surveillance at the procedurally required 18 month frequency. The missed surveillance was documented by CAP T1998-0779 written on September 16, 1998. During the performance of the remedial surveillance to inspect the hose stations on September 16, 1998, technicians further found that six of the hoses involved had not been hydrostatically tested at their required 36 month frequency. On September 16, 1998 CAP T1998-0783 was written to document the missed hydrostatic tests and additional hoses were routed to the affected areas. The following day, five of the hoses were hydrostatically tested and found to be satisfactory. The sixth hose which was found to have minor surface abrasions and no other apparent degradation was replaced with a new certified hose.

On 11/24/98, CAP T1998-1023 was issued to document the discovery of five additional fire hoses that had not been hydrostatically tested within the required 36 month interval. The fire hoses affected by this deficiency were declared inoperable and additional hoses were routed to the affected areas until the lapsed hoses were tested and found satisfactory.

The root cause of the missed fire hose inspection was that the surveillance schedule and implementing document were not revised when surveillance interval changes were made. The root cause of the failure to hydrostatically test the fire hoses was failure of the Surveillance Coordinator to follow Administrative Procedure 1001J, "Technical Specification Surveillance Testing Program", by not carrying the missed hose tests as surveillance "open items".

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

I. PLANT OPERATING CONDITIONS BEFORE THE EVENT

The plant was operating at 100% power at the time the conditions were determined to be reportable and was not changed as a result of that determination.

II. STATUS OF STRUCTURES, COMPONENTS OR SYSTEMS THAT WERE INOPERABLE AT THE START OF THE EVENT AND THAT CONTRIBUTED TO THE EVENT.

No systems, structures or components were out-of-service that contributed to the condition addressed by this LER.

III. EVENT DESCRIPTION

The Quality Assurance Audit S-TMI-98-12, "Fire Protection," identified the failure to perform a fire hose [KP/] inspection surveillance at the procedurally required frequency. The inspection is required by Administrative Procedure (AP) 1038, "Fire Protection Program," Exhibit 7 "Safety Related Test and Inspection" to be performed every 18 months. The inspection had not been performed since February 19, 1996; approximately 31 months ago. The missed surveillance was documented by CAP T1998-0779 which was written on September 16, 1998.

During the performance of the remedial surveillance to inspect the hose stations on September 16, 1998, technicians further found that the six hoses involved had not been hydrostatically tested at the AP 1038 required frequency of 36 months. These six hoses were not hydrostatically tested when this surveillance was performed on February 19, 1996, because modifications were in progress to the space in which they were permanently installed. The last previous complete performance of this 36 month hydrostatic test was May 17, 1994 approximately 52 months ago. CAP T1998-0783 documenting the missed hydrostatic tests was written on September 16, 1998.

The fire protection program requires that fire hose station inspection and hose hydrostatic test surveillances be performed every 18 and 36 months respectively. However, both surveillances were historically performed as a combined activity every 18 months via Surveillance Procedure (SP) 1301-12.3, "Fire System Hose Station Inspection and Functional Test". In 1991, a separate task was set up in the computerized work management system, Generation Maintenance System 2 (GMS2), to perform the hose station inspection as a separate activity on an 18 month frequency from the hydrostatic hose test at the 36 month frequency. Because the task was never activated, the hose station inspection and hydrostatic test continued to be performed as a single combined activity at an 18 month frequency. In 1994, the interval for performance of the hydrostatic testing was changed in GMS2 to correspond with the AP 1038 frequency of once every 36 months. The failure to activate the GMS2 18 month fire hose inspection task went unrecognized and consequently no changes were made to SP 1301-12.3, to separate the inspection task from the hydrostatic test. Since it was not scheduled as a separate 18 month activity, the hose inspection was not performed in 1997 as it should have been.

It was subsequently discovered on September 16, 1998 that they had not been hydrostatically tested in February 1996, when the fire hose inspection and hydrostatic test was being performed on other hoses covered by SP 1301-12.3. At that time, the hose stations connected to FS-V-392 and FS-V-393 [KP/SHV] were removed from the Fire Service system to support a modification to facilities in the Control Tower. A Surveillance Deficiency Report, generated in accordance with Administrative Procedure 1001J, "Technical Specification Surveillance Testing Program", identified a memorandum by the Fire Service Program Engineer as the vehicle to cause the hoses to be inspected and hydrostatically tested when modifications

were complete. Contrary to the expectations of AP 1001J, the surveillance coordinator mistakenly closed the surveillance deficiency based on the memo from the program engineer and signed off in GMS2 as a combined hydrostatic test and inspection, even though surveillance data sheet included a note identifying that only an inspection of the hose stations had been performed. Consequently the missed hydrostatic tests were not carried as an "open item" in the Surveillance Open Items List and were never rescheduled in GMS2.

On November 24, 1998 prior to completion and independent of a committed action to perform the program review, the FPE identified five additional hoses that exceeded the 36 month hydrostatic test performance frequency. The FPE initiated a review of the hard copy data package for the last performance of SP1301-12.3 "Fire Hose Station Inspection and Functional Test", dated February 29, 1996. He found a conflict between the surveillance procedure data sheet documentation which did not document completion of any hydro tests and field indication that some hoses were tested in February 1996. Discussions with individuals involved with the February 1996 test revealed that after performing some of the hose surveillance tests, they were told by the prior FPE that the next scheduled hydrostatic testing was due in May 1997; three years from the last performed test in May 1994.

Although the tested hoses were marked to show testing in February 1996, only completion of the hose station inspections was documented by a note in the "Additional Comments" section of the cover page (Technical Specification Surveillance [TSS] Job Order) of the February 1996 test package. The reason why the tests were not completed as required in 1997, was that the TSS Coordinator failed to assimilate the note (that only the inspection activity was performed) and mistakenly signed off the GMS2 surveillance as "complete" for both the inspection and hydrostatic test in February 1996. This error caused him to fail to reschedule the hydrostatic tests for May 1997. The TSS coordinator could not account for these errors. CAP T1998-1023 was written on November 24,1998 to document the missed hose test surveillance for the hoses at stations FS-V-117, FS-V-148, FS-V-149, FS-V-151, and FS-V-386 [KP/SHV].

IV. AUTOMATIC OR MANUAL INITIATED SAFETY SYSTEM RESPONSES

No automatic or manual safety system responses were involved with the deficiencies reported herein since there was no physical plant event.

V. FAILURES AND ERRORS

The root cause determination found that the 18-month fire hose inspection surveillance was missed due to the failure to ensure that all appropriate changes were made to the surveillance schedule and implementing documents when associated surveillance interval changes were made. Contributing to this event was the omission of the inspection frequency in Surveillance Procedure 1301-12.3, "Fire System Hose Station Inspection and Functional Test." Although SP 1301-12.3 was historically performed every 18 months, throughout this time, the only reference to frequency identified in this procedure is "3 years" found in the header of the hydrostatic test data collection page.

The root cause of the missed hydrostatic tests for the initial six fire hoses was the failure to follow administrative procedures; specifically Administrative Procedure 1001J, "Technical Specification Surveillance Testing Program," by not carrying the missed hose tests as surveillance "open items" and documenting the tests not performed as complete in GMS2.

The "extent of condition" was not fully known since the review did not compare AP 1038 to the lower tier implementing documents. Therefore, a long-term corrective action was initiated to verify that the

requirements of the fire protection program are being fully implemented at the required intervals through GMS2, the respective fire protection inspection and surveillance test activities and to identify any other instances of a missed fire program surveillance activity or improperly scheduled tasks. The effort necessary to effectively complete this action was specified to include a comprehensive review of the program from the top down, through the implementing procedures, the GMS2 task scheduling and a check of the last performed surveillance documents to confirm they were each successfully completed at the correct interval. This comprehensive program review to identify the "extent of condition" would have identified the additional missed hose tests, prior to its January 1, 1999 completion date.

The missed hydrostatic hose test surveillance activities were a result of the same data entry error for the surveillance performed in 1996.

VI. ASSESSMENT OF THE SAFETY CONCEQUENCES AND IMPLICATIONS OF THE EVENT

There were no safety consequences associated with either the missed hose inspection or hydrostatic tests identified. No fires, requiring use of these hoses, occurred between the expiration and re-establishment of their functionality. Hose functionality was re-established based on satisfactory hydrostatic test completion. These missed surveillances, inspections and hydrostatic tests, did not result in any actual or potential adverse impacts on personnel or plant equipment.

VII. PREVIOUS EVENTS OF A SIMILAR NATURE

Plant records; Licensee Event Reports, Corrective Action Program Documents, Plant Review Group minutes, and Quality Deficiency Reports, of the past five years were researched to identify events related to "missed" technical specification equivalent surveillances, i.e. not performed within the scheduled time frame. The search results are listed below in chronological order.

- PRG Meeting 94-031 of 06/07/95 – Some Calibration checks on containment monitoring instrumentation were not scheduled due to a previously incorrect interpretation of Technical Specification requirements.

- PRG Meeting 94-067 of 08/05/94 – Calibration checks on RM-A5 and RM-A15 were not scheduled due to a previously incorrect interpretation of Technical Specification requirements.

- LER 93-005 05/10/93 - The Reactor Building Annual Inspection was not performed as a result of Engineering Department not effectively tracking and communicating the need to perform the surveillance.

- CAP T1997-0845 11/06/97 – Saturation Margin Monitor Surveillance missed due to a failure to re-schedule this surveillance after another surveillance, which satisfied these surveillance requirements, had been performed on an earlier date.

- LER 98-002 documented a missed Spent Fuel Pool sample surveillance which resulted from a lack of familiarity with requirements and loss of a posted work instruction placard.

- LER 98-008 documented a failure to identify an out of tolerance reading due to less than adequate I&C work verification practices during performance of a Technical Specification calibration surveillance.

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VIII. IMMEDIATE AND CORRECTIVE ACTIONS

The following immediate actions were completed for the September 16, 1998 event:

1. Immediate action to correct the missed hose inspection surveillance was to initiate a Job Order to perform the activity. The inspections were completed satisfactorily on September 16, 1998.

2. The six fire hoses were declared inoperable and within 1 hour of the identification of the missed hydrostatic tests and additional hoses were routed to the affected areas. The hydrostatic test of the five hoses (one hose was replaced with a new certified hose because of minor cracking of the jacket) was completed September 17, 1998 and the system was restored to fully operable status. Note: this hose was removed from service and the fittings were cut off before it could be tested. The hose showed minor age related cracking of the outer rubber jacket. Hoses with this type of degradation historically passed their hydrostatic tests.

3. Management reviewed the expectations of AP-1001J to individuals responsible for tracking surveillance open items that items be tracked to their completion and that informal processes should not be relied upon to see that work associated with open items is completed. This action was completed on September 16, 1998.

Completed corrective actions associated with the September 16, 1998 event:

1. Revision 17, effective December 31, 1998, to Surveillance Procedure 1301-12. 3 "Fire System Hose Station Inspection and Functional Test" included verbiage explaining that the procedure implements a requirement to hydrostatically test fire hoses and a separate requirement to inspect those hoses, specify the surveillance intervals and reformat the procedure to make these facts clear and emphatic.

2. Based on the indications of weaknesses found during the programmatic review, the surveillance program management reviewed the recent events and minor deficiencies with the surveillance group. Lessons learned reinforced job expectations including:
   - the requirements of procedure 1001J: addressing incomplete surveillance items and surveillance comments,
   - scheduling, schedule revisions, and records storage expectations,
   - relevant procedure revisions and other improvements being conducted such as the surveillance matrix.

   This action was completed on December 23, 1998.

The following immediate actions were completed for the November 24, 1998 event:

1. The five fire hoses were declared inoperable and within 1 hour of the identification of the missed hydrostatic tests, additional hoses were routed to the affected areas.

2. All TS hoses not tested in September 1998 were hydrostatically tested as part of corrective action for T-1998-0783. This testing is now complete and there were no test failures.

3. Physical walkdown inspections were performed on all Technical Specification and Non- Technical Specification fire hoses in the plant to verify that the hydrostatic test date on the hose was consistent with test completion records in GMS2. The five hoses identified on 11/24/98 in addition to the six hoses previously identified in CAP T1998-0783 were confirmed to be the only fire hoses at the station that exceeded their hydrostatic test interval requirements.

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* The Energy Industry Identification System (EIIS), System Identification (SI) and Component Function Identification (CFI) Codes are included in brackets, "[SI/CFI] where applicable, as required by 10 CFR 50.73 (b)(2)(ii)(F).