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JAFP-95-0077

United States Nuclear Regulatory Commission
Document Control Desk
Mail Station P1-137
Washington, D.C. 20555

SUBJECT: DOCKET NO. 50-333
LICENSEE EVENT REPORT: LER-95-002:

Portions of Logic System Functional Test
Surveillances Missed Due to Procedure Deficiencies

Dear Sir:

This report is submitted in accordance with 10CFR50.73 (a)(2)(i)(B).

Questions concerning this report may be addressed to Mr. W. Verne Childs at (315) 349-6071.

Very truly yours,

HARRY P. SALMON, JR.

HPS:VC:tlc

Enclosure

cc: USNRC, Region I
USNRC Resident Inspector
INPO Records Center

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NRC FORM 366 (5-92) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104
EXPIRES 5/31/95

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), 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)
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TITLE (4) Portions of Logic System Functional Test Surveillances Missed Due to Procedure Deficiencies

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
									N/A	05000
01	13	95	95	002	00	02	13	95	FACILITY NAME N/A	DOCKET NUMBER 05000

OPERATING MODE (9)	N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)					
POWER LEVEL (10)	000	20.402(b)		20.405(c)		50.73(a)(2)(iv)	73.71(b)
		20.405(a)(1)(i)		50.36(c)(1)		50.73(a)(2)(v)	73.71(c)
		20.405(a)(1)(ii)		50.36(c)(2)		50.73(a)(2)(vii)	OTHER
		20.405(a)(1)(iii)	X	50.73(a)(2)(i)		50.73(a)(2)(viii)(A)	
		20.405(a)(1)(iv)		50.73(a)(2)(ii)		50.73(a)(2)(viii)(B)	
		20.405(a)(1)(v)		50.73(a)(2)(iii)		50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
Mr. W. Verne Childs, Senior Licensing Engineer	(315) 349-6071

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 1/13/95, while shutdown for refueling with all fuel in the spent fuel pool, it was discovered that a portion of the offgas system exhaust line isolation logic circuit had not been subjected to a logic system functional test every six months as required by Radiological Effluent Technical Specification Table 3.10-2, Minimum Test and Calibration Frequency for Radiation Monitoring Systems. On 1/30/95 it was discovered that a portion of the main steam line drain primary containment isolation valve isolation logic circuit also had not been subjected to a logic system functional test every six months as required by Technical Specification Table 4.2-1. The events were caused by personnel errors that occurred during a surveillance test adequacy review. The procedures will be corrected and the logic circuits tested prior to plant startup following the refuel outage. A sample of adequacy reviews associated with isolation logic circuits will be independently reviewed. LERs 93-014, 92-032, 90-015, 90-007, and 89-008 describe similar events.

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EVENT DESCRIPTION

While shutdown for refuel, maintenance and modification with all fuel in the spent fuel pool, it was discovered that the logic circuits for automatic isolation of the main condenser offgas [WF] discharge line and for main steam [SB] line drain primary containment [NH] isolation valves had not been tested semiannually as part of the logic system functional tests since initial plant startup.

During 1992, a deficiency in a logic system functional test procedure was discovered and reported in LER-92-032. As part of the corrective action for that event, a review of all surveillance test procedures was undertaken to provide assurance that the procedures properly implemented Technical Specification surveillance requirements.

On January 13, 1995, (following completion of the baseline adequacy review) while preparing revisions to procedures to correct deficiencies, the failure to properly include a test of the offgas radiation monitor "high" trip during testing of the offgas line isolation logic circuit was discovered. Radiological Effluent Technical Specification (RETS) Table 3.10-2, Minimum Test and Calibration Frequency for Radiation Monitoring Systems, requires a semiannual logic system functional test of the circuit that automatically isolates the offgas discharge line when high radiation is sensed by the offgas radiation monitoring system [IL]. The surveillance test procedure (ST-10A) tested proper operation of the isolation logic circuit for radiation monitor "inoperable" trip signals but did not include steps for "high" radiation trip signals.

During the adequacy review of the procedures for test of the offgas line isolation logic, deficiencies were identified, evaluated as not significant, and a procedure change request was initiated. During this process, the engineering personnel involved failed to note that the portions of the isolation logic circuit associated with offgas monitor radiation "high" trip were not included in the semiannual logic system functional test procedure (ST-10A).

On January 30, 1995, during procedure revisions to reflect a modification, it was discovered that two of four relay contacts in the isolation logic circuit for main steam line drain primary containment isolation valves 29MOV-74 and 29MOV-77 were not tested as part of the logic system functional test. Technical Specification Table 4.2-1, Minimum Test and Calibration Frequency for Primary Containment Isolation System, requires a semiannual logic system functional test of the circuit that automatically isolates main steam line drain valves (29MOV-74 and 29MOV-77) in the event of reactor low-low-low level, main steam line rupture, and other conditions. The procedure (ST-1D) contained steps which tested only two of four relay contacts in the logic circuits which automatically close both isolation valves. Specifically, Contacts 9-10 on Relays 16A-K7B and 16A-K7C were tested while the same contacts on Relays 16A-K7A and 16A-K7D were not tested.

A review of the documentation associated with the adequacy review revealed that engineering personnel had used a single copy of the engineering drawing when "marking up" the drawing to illustrate which portions of the logic circuit were tested by the various procedures. As a result, one portion of the drawing of the logic circuit was marked up to illustrate those portions tested by the logic system functional test (performed semiannually) and another portion of the same drawing was marked up to illustrate those portions tested by the simulated automatic actuation test (ST-1K), which is performed once every 18 months. The personnel performing the review failed to note that a portion of the logic circuit was not tested semiannually as required.

Event Cause

The events were caused by procedure deficiencies (Cause Code D). A logic system functional test is defined in Technical Specification definition 1.0.F.7 as "... a test of relays and contacts of a logic circuit ...". The procedures did not contain procedure steps for test of all of the relays and/or relay contacts.

The failure to identify the procedure deficiencies was personnel error (Cause Code A). The engineering personnel performing the adequacy review failed to note that while all of the logic circuits were tested, some portions of the circuit were tested once every 18 months rather than semiannually as required.

EVENT ANALYSIS

The event requires a report under 10CFR50.73(a)(2)(i)(B). That is, an operation prohibited by Technical Specifications. The failure to test all of the logic circuit relays and/or relay contacts as part of the semiannual logic system functional test means that the operability of the logic circuit was not demonstrated as required.

The failure to test the offgas radiation monitor "high" trip function every six months as part of the logic system function test was not safety significant. The radiation monitors are tested every quarter as part of the instrument channel functional test also required by RETS Table 3.10-2. The functional test demonstrates proper operation of the radiation "high" trip function relay but does not demonstrate proper operation of the relay contact which is part of the isolation logic circuit. The logic circuit is also subjected to a simulated automatic actuation test once each operating cycle (once/18 months). The simulated automatic actuation test procedure demonstrates proper operation of the radiation "high" trip function relays, contacts and other logic circuit components. The monthly instrument channel functional test and simulated automatic actuation test have both been performed with satisfactory results during the most recent test.

The failure to test all of the relay contacts of the main steam line drain primary containment isolation valve logic circuit as part of the logic system functional test ST-1D every six months was not safety significant. The logic relays which isolate the main steam line drains also isolate the main steam lines and reactor water sample lines. The isolation logic circuits for the four relays of concern in this event (Relays 16A-K7A,B,C and D) use a total of 16 contacts in the isolation logic circuits for main steam line drains, main steam lines and reactor water sample lines. Logic system functional test procedures test all four relays and all the 16 associated contacts (except for the two contacts noted above) once every six months. In addition, the procedure for performing a Simulated Automatic Actuation Test (ST-1K) once every 18 months includes steps which verify proper operation of all the relays and relay contacts that automatically close the main steam line drain primary containment isolation valves. In other words, Simulated Automatic Actuation Test procedure ST-1K includes testing of the relay contacts which were not included in logic system functional test procedure ST-1D.

It should further be noted that Standard Technical Specifications typically require the performance of logic system functional tests once each 18 months. The combination of the instrument channel functional tests, logic system functional tests, and simulated automatic actuation tests required by RETS Table 3.10-2 and Technical Specification Table 4.2-1 result in tests of the logic circuit relays and contacts discussed in this LER at a frequency that is equal to or greater than that normally specified by Standard Technical Specifications.

Corrective Actions:

1. The offgas line isolation logic system functional test procedure (ST-10A) will be revised and test of the entire logic circuit will be completed prior to plant startup following the refuel outage. (Planned completion date, February 20, 1995.)

2. The main steam line drain isolation logic system functional test procedure (ST-1D) will be revised and test of the entire logic circuit will be completed prior to plant startup following the refuel outage. (Planned completion date: February 20, 1995.)

3. A sample of the isolation logic surveillance test adequacy reviews will be independently reviewed to provide confirmation that these two errors were isolated events. (Planned completion date: August 1, 1995.)

Additional Information:

Failed Components: None

Previous Similar Events: LERs 93-014, 92-032, 90-015, 90-007, and 89-008 describe previous similar events in which procedure deficiencies resulted in all or part of a surveillance requirement to be missed.

Attachment 1

LER-95-002
Commitment Status
JAFP-95-0077

Number	Commitment	Due Date
JAFP-95-0077-01	The offgas line isolation logic system functional test procedure (ST-10A) will be revised and test of the entire logic circuit will be completed prior to plant startup following the refuel outage.	02/20/95
JAFP-95-0077-02	The main steam line drain isolation logic system functional test procedure (ST-1D) will be revised and test of the entire logic circuit will be completed prior to plant startup following the refuel outage.	02/20/95
JAFP-95-0077-03	A sample of the isolation logic surveillance test adequacy reviews will be independently reviewed to provide confirmation that these two errors were isolated events.	08/01/95