

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)
Oyster Creek, Unit 1DOCKET NUMBER (2)
0 5 0 0 0 2 1 9 1 OF 0 5

TITLE (4)

Failure to Functionally Test All Excess Flow Check Valves

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 NAMES														
0	6	2	5	8	4	8	4	0	1	6	0	0	0	7	2	4	8	4	0	5	0	0	0

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)									
POWER LEVEL (10)	0	0	0	20.402(b)		20.406(c)		50.73(a)(2)(iv)		73.71(b)	
				20.406(a)(1)(i)		50.36(e)(1)		50.73(a)(2)(v)		73.71(e)	
				20.406(a)(1)(ii)		50.36(e)(2)		50.73(a)(2)(vi)		OTHER (Specify in Abstract below and in Text, NRC Form 308A)	
				20.406(a)(1)(iii)		50.73(a)(2)(i)		50.73(a)(2)(viii)(A)			
				20.406(a)(1)(iv)		50.73(a)(2)(ii)		50.73(a)(2)(viii)(B)			
20.406(a)(1)(v)		50.73(a)(2)(iii)		50.73(a)(2)(a)							

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
Robert J. Murdock, Engineering Assistant, Sr. I	610 19 917 11-14 18 1911

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
<input type="checkbox"/>	<input checked="" type="checkbox"/>				

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen six-space typewritten lines) (16)

On Monday, June 25, 1984, during a review of instrument surveillance procedures, it was discovered that not all sixty (60) installed excess flow check valves had been functionally tested as required by Technical Specifications.

The surveillance procedure which dictates the excess flow check valve functional test method cannot be executed on valves which are typically connected to low flow sensing lines such as Recirculation Pump seal pressure lines. Certain excess flow check valves could not be seated during functional test surveillances due to insufficient flow. These surveillances for eleven (11) excess flow check valves were reviewed by supervisory personnel and acknowledged as complete with no indication of any violation of Technical Specification requirements.

The functional test surveillance is being revised to test only those valves which would normally have sufficient flow at hydrostatic test pressure. A modification to low flow check valve lines is being evaluated and a new surveillance procedure will be developed to satisfy the functional test requirement for check valves in these low flow lines.

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APPROVED OMB NO. 3150-0104

EXPIRES 8/31/85

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TEXT (If more space is required, use additional NRC Form 365A's) (17)

DATE OF OCCURRENCE

The event was discovered on June 25, 1984.

IDENTIFICATION OF OCCURRENCE

All excess flow check valves have not been functionally tested as required by Technical Specification 4.5.0.

This is considered to be a reportable event as defined in 10 CFR 50.73 (a)(2)(i)(B).

CONDITIONS PRIOR TO DISCOVERY

The Reactor was shutdown in the refuel mode with Reactor coolant temperature less than 212°F.

DESCRIPTION OF OCCURRENCE

On Monday, June 25, 1984, during a review of instrument surveillance procedures, it was discovered that not all sixty (60) excess flow check valves had been functionally tested as required by section 4.5.0 of the Technical Specifications.

Surveillances executed since July 1977 were reviewed and revealed that insufficient flow prevented the functional testing of excess flow check valves in certain instrument lines. The affected valves are in the sensing lines to Recirculation Pump seal pressure (ten (10) lines total) and the Inner Head Seal Leakage Detection System (one (1) line)

As long as the Inner Head Seal is intact, there would be no flow available at the excess flow check valve. Therefore, it can be assumed that this valve has not been functionally tested since installation.

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

The flow available in Recirculation Pump seal pressure sensing lines is dependent on the condition of the seals. A review of past surveillances revealed that each surveillance had between three (3) and six (6) Recirc Pump Seal Pressure excess flow check valves which exhibited insufficient flow to cause the valves to close.

It was not noted by any procedure review personnel that the surveillance tests had not been completed in their entirety and that a discrepancy existed in the executed copies of the procedures.

The last time the functional test was executed was April of 1982. In this surveillance, five (5) Recirculation Pump seal pressure and the Inner Head Seal Pressure excess flow check valves were not functionally tested because of insufficient flow. The executed copy of the surveillance procedure referenced an engineering memo as the basis for not testing these valves. The memo concluded that it was impractical to further test the six (6) valves by external means. Reviewers, however, signed the surveillance procedure as complete and satisfactory, believing the memo was justification for not testing the six (6) valves.

APPARENT CAUSE OF OCCURRENCE

The apparent cause of the occurrence is attributed to the lack of proper procedure review by management personnel. Apparently, Technical Specification requirements for testing of excess flow check valves were not considered during the procedure review process. A contributing factor is that the functional test procedure does not reference the Technical Specification in any manner.

In addition, the last executed surveillance procedure contained an engineering memo which appeared to be justification to a reviewer for omitting sections of the test if the Technical Specification requirement had been contemplated.

Finally, the current plant piping configuration is such that low flow sensing lines have no taps or connections to functionally test the check valves using an external water source.

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U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

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TEXT (If more space is required, use additional NRC Form 388A's) (17)

ANALYSIS OF OCCURRENCE and SAFETY ASSESSMENT

There are sixty (60) instrument lines at Oyster Creek which extend from the Reactor Vessel or Primary System through the Primary Containment to instruments and gauges in the Reactor Building. Thirty-one (31) of these are associated with sensors for the Reactor Protection System while the remaining twenty-nine (29) supply indication and control instruments.

No excess flow check valve associated with this occurrence is part of the Reactor Protection System. All are used in instrument lines feeding Recirculation Pump seal pressure transmitters (indication only) and an alarm circuit for the Inner Head Seal Leakage Detection System.

If a line break downstream of a Recirculation Pump seal pressure excess flow check valve occurred, and the check valve failed to operate, the sensing line could be depressurized by isolating its respective Recirculation Loop. This would limit the uncontrolled release of coolant to the Reactor Building.

The Inner Head Seal Leakage instrument line is normally not pressurized unless a failure of the head seal occurred. Upon such a failure, the sensing line can be manually isolated from the control room by closing in-containment electrical isolation valves. If a break downstream of the excess flow check valve for this system occurred and the check valve failed to seat, (assuming the line was pressurized), the system could be readily isolated from the control room.

Also, for many years, the Inner Head Seal Leakage System was normally left valved out. Therefore, no demand could have been made on its associated check valve to operate.

CORRECTIVE ACTION

The immediate corrective action taken for this occurrence was identifying the discrepancy via a deviation report and conducting a thorough review of all past excess flow check valve functional test surveillances for possible review errors. Future actions and solutions to be evaluated include the following:

1. The importance of reviewing all Technical Specifications which may be associated with a particular surveillance procedure will be re-emphasized to all surveillance review personnel.

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TEXT (If more space is required, use additional NRC Form 386A's) (17)

2. The excess flow check valve functional test procedure will be revised to state the specific Technical Specification requirement which dictates the performance of the test. Also, the procedure acceptance criteria will state that all check valves must pass the functional test to satisfy this requirement.

3. A piping modification is being evaluated to permit functional testing of excess flow check valves installed in low flow lines. A new surveillance procedure would then be developed to test the check valves affected by this modification.