

LICENSEE EVENT REPORT

CONTROL BLOCK: (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

1 1 1 L L S I C 1 2 0 0 - 0 0 0 0 0 0 - 0 0 3 4 1 1 0 0 0 4 5
8 9 14 15 25 26 30 37 CAT 58

CONT
0 1
REPORT SOURCE L 6 0 5 0 0 0 3 7 1 3 7 1 1 1 1 2 8 3 3 0 2 2 3 8 4 9
60 61 68 69 74 75 80

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES 10

On 11-12-83 at 2215 with the unit in Cold Shutdown, the B RHR Heat Exchanger outlet valve (1E12-F003B) failed to open via the motor operator or manually. The inoperability of this valve, while in the closed position, made B Shutdown Cooling and B Suppression Pool Cooling inoperative. The A Shutdown Cooling Loop was operable to control decay heat. A second method of controlling decay heat was also available. This second method utilizes the RHR and RCIC systems. Safe operation of the plant was maintained.

7 8 9
SYSTEM CODE C F 11
CAUSE CODE B 12
CAUSE SUBCODE A 13
COMPONENT CODE V A L V E X 14
COMP. SUBCODE E 15
VALVE SUBCODE D 16
EVENT YEAR 8 3 21 22
SEQUENCE REPORT NO. 1 4 7 24 26
OCCURRENCE CODE 0 3 28 29
REPORT TYPE X 30
REVISION NO. 1 32
LER/RO REPORT NUMBER 17
ACTION TAKEN X 18
FUTURE ACTION X 19
EFFECT ON PLANT Z 20
SHUTDOWN METHOD Z 21
HOURS 0 0 0 0 22
ATTACHMENT SUBMITTED Y 23
NPD-6 FORM SUB. N 24
PRIME COMP. SUPPLIER A 25
COMPONENT MANUFACTURER A 3 9 1 26

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS 27

It is believed that the valve can become inoperable in the close position due to water being trapped in the bonnet cavity. Since the bonnet cavity does not have a mechanism to vent off the entrapped water for valve opening, the wedge is hydraulically locked in the closed position. At the recommendation of Anchor Darling Valve Mfg., the valve limit switches were temporarily changed such that the wedge travel is stopped by position and not by torque. This change should allow the entrapped water to vent off during valve opening.

7 8 9
FACILITY STATUS B 28
% POWER 0 0 0 29
OTHER STATUS NA 30
METHOD OF DISCOVERY A 31
DISCOVERY DESCRIPTION Observation 32
ACTIVITY CONTENT RELEASED OF RELEASE Z 33
AMOUNT OF ACTIVITY NA 35
LOCATION OF RELEASE 36
PERSONNEL EXPOSURES NUMBER 0 0 0 37
TYPE Z 38
DESCRIPTION NA 39
PERSONNEL INJURIES NUMBER 0 0 0 40
DESCRIPTION NA 41
LOSS OF OR DAMAGE TO FACILITY TYPE S 42
DESCRIPTION NA 43
PUBLICITY ISSUED N 44
DESCRIPTION NA 45
NRC USE ONLY
8404030253 840223
PDR ADOCK 05000373
S PDR

NAME OF PREPARER

M. A. Peters

PHONE: 815/357-6761

- I. LER NUMBER: 83-147/03X-1
- II. LASALLE COUNTY STATION: Unit 1
- III. DOCKET NUMBER: 050-373/374
- IV. EVENT DESCRIPTION:

On 11-12-83 at 2215 with the unit in Cold Shutdown, the B RHR Heat Exchanger outlet valve (1E12-F003B) failed to open via the motor operator or manually. The inoperability of this valve, while in the closed position, made B Shutdown Cooling and B Suppression Pool Cooling inoperative.

V. PROBABLE CONSEQUENCES OF THE OCCURRENCE:

The A Shutdown Cooling Loop was operable to control decay heat. A second method of controlling decay heat was also available - LLP-83-29 which utilizes the RHR and RCIC systems. By 0300 on 11-13-83, the A RHR Shutdown Cooling Loop was in operation. A high temperature of 185°F on the reactor water cleanup system bottom head drain was reached prior to A RHR Shutdown Cooling operation. Safe operation of the plant was maintained.

VI. CAUSE:

1E12-F003B is a flex-wedge gate valve manufactured by the Anchor Darling Co. Similar problems with this valve have occurred previously. The corrective action in LER 83-117/03L-0 stated that the valve would be disassembled at the next planned unit outage of sufficient duration and the valve internals inspected for any potential causes of inoperability. A supplemental LER will be issued describing the valve internals inspection. The 1E12-F003B valve was disassembled via work request L27760. The valve internals were inspected by representatives of Anchor Darling Co., Mark Controls Corp., and CECO. The internals were evaluated as extremely good. A wedge to seat rings contact test (Blue Test) indicated approximately 100% contact. While performing Work Request L29638, written to remove and replace the motor operator for the valve internals inspection, the operator motor winding insulation was found to be burnt. The valve was reassembled, motor operator (with a new motor) was replaced, and the valve satisfactorily cycled. The valve subsequently again became locked in the closed position while continuing to test the valve during various conditions of B Shutdown Cooling. It is believed that the valve can become inoperable in the close position due to water being trapped in the bonnet cavity. Since the bonnet cavity does not have a mechanism to vent off the entrapped water for valve opening, the wedge is hydraulically locked in the closed position.

VII. CORRECTIVE ACTION:

At the recommendation of Anchor Darling, the valve limit switches were temporarily changed such that the wedge travel is stopped by position and not by torque. This change would allow the water entrapped in the bonnet cavity to be vented through the upper seat rings to wedge seat as the valve is opened. A temporary system change LAP 240-6 Att. B 1-700-83 and work request L29978 were performed to accomplish the above recommendation. The valve has since

VII. CORRECTIVE ACTION (Cont'd):

been tested without failure several times under different conditions of B RHR Shutdown Cooling. A.I.R. 01-83-67128 has been issued to scrutinize the performance of 1E12-F003B over the next two excursions of the unit to cold shutdown. If the temporary system change to the valve resolves the valve becoming inoperative in the close position, a permanent modification will be made in accordance with Anchor Darling's recommendations.

Prepared by: M. A. Peters



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DMB

March 20, 1984

James G. Keppler
Regional Administrator
Region III
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

Dear Sir:

Reportable Occurrence Report #83-147/03X-1 Docket #050-373 is being submitted to your office to supersede previously submitted Reportable Occurrence Report #83-147/03L-0, in accordance with NUREG-0161, "Instructions for Preparation of Data Entry Sheets for Licensee Event Report (LER) File"; General Instruction No. 3.

C E Sargent
for G. J. Diederich
Superintendent
LaSalle County Station

GJD/GW/kg

Enclosure

CC: Director of Inspection & Enforcement
Director of Management Information & Program Control
U.S. NRC Document Management Branch
INPO-Records Center
File/NRC

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