

LICENSEE EVENT REPORT

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

V A S P S 1 0 0 - 0 0 0 0 0 - 0 0 3 4 1 1 1 1 4 5
 6 9 LICENSEE CODE 14 15 LICENSE NUMBER 25 26 LICENSE TYPE 30 57 CAT 58

REPORT SOURCE L 6 0 5 0 0 0 2 8 0 7 0 12 10 9 8 3 8 0 2 2 3 8 3 9
 60 61 DOCKET NUMBER 66 69 EVENT DATE 74 75 REPORT DATE 80

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

With unit 1 less than 350°F/450 psig and Unit 2 at 100%, it was discovered that
 MOV-SW-103A, B, C, and D and MOV-SW-203A, C, and D failed to open upon demand from
 the control room. These events are contrary to T.S.3.4.A.2 and is reportable per
 T.S.6.6.2.a(1). The valves are readily accessible and were capable of being opened
 manually, and the Containment Spray System remained operable. Therefore, the health
 and safety of the public was not affected.

SYSTEM CODE W A 11 CAUSE CODE E 12 CAUSE SUBCODE X 13 COMPONENT CODE V A L V E X 14 COMP. SUBCODE B 15 VALVE SUBCODE A 16
 9 10 11 12 13 18 19 20
 LER/RO REPORT NUMBER 17 8 3 21 22
 ACTION TAKEN 18 G 19 Z 20 SHUTDOWN METHOD 21 Z 22 HOURS 22 0 0 0 0 40
 FUTURE ACTION 34 EFFECT ON PLANT 35 ATTACHMENT SUBMITTED 23 Y 24 Y 25 A 26 P 3 4 0 25
 33 34 35 36 37 40 41 42 43 44 47

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

The motors of MOV-SW-103C and 203C had failed due to corrosion. The torque
 switch of valve MOV-SW-103B had failed due to corrosion. The other valves,
 MOV-SW-103A, D and 203A, D operated satisfactorily after being manually lifted off
 the seat. The unit 2 valves were repaired and returned to service. These valves
 will be cycled on a more frequent basis.

FACILITY STATUS G 28 0 0 0 29 N/A 30 METHOD OF DISCOVERY B 31 Operator Observation 32
 8 9 10 12 13 44 45 46 80
 ACTIVITY CONTENT 33 Z 34 Z 35 N/A 36 LOCATION OF RELEASE 36
 8 9 10 11 44 45 80

PERSONNEL EXPOSURES NUMBER 37 0 0 0 38 Z 39 N/A
 8 9 10 11 12 13 44 45 80

PERSONNEL INJURIES NUMBER 40 0 0 0 41 N/A
 8 9 10 11 12 13 44 45 80

LOSS OF OR DAMAGE TO FACILITY TYPE 42 Z 43 N/A
 8 9 10 11 12 13 44 45 80

PUBLICITY DESCRIPTION 44 N/A
 8 9 10 11 12 13 44 45 80

ISSUED 45 N/A
 8 9 10 11 12 13 44 45 80
 NAME OF PREPARED J. L. Wilson PHONE (804) 357-3184

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 PDR ADOCK 05000280
 S PDR

NRC USE ONLY

ATTACHMENT 1
SURRY POWER STATION, UNIT NO. 1
DOCKET NO: 50-280
REPORT NO: 83-003/ OIT-0
EVENT DATE 02-09-83

TITLE OF THE EVENT: FAILURE OF RECIRC. SPRAY SERVICE WATER MOV's

1. Description of the Event

With Unit 1 less than 350°F/450 psig and Unit 2 operating at 100% power, performance of the unit 1 Recirculation Spray Heat Exchanger flushes revealed that MOV's SW-103A, B, C, and D (Service Water to Recirc. Spray Heat Exchangers) would not open upon demand from the control room. Subsequent testing of the Unit 2 Service Water to Recirc. Spray HX MOV's revealed that MOV-SW-203A and D failed in an intermediate position and that MOV-SW-203C would not respond upon demand from the control room. These events are contrary to Technical Specification 3.4.A.2 and are reportable in accordance with Technical Specification 6.6.2.a(1).

2. Probable Consequences and Status of Redundant Equipment

The Recirculation Spray system aids the Containment Spray system in reducing containment pressure rapidly following the Design Basis Loss of Coolant accident. The Containment Spray system is capable of returning the containment pressure to sub-atmospheric following a LOCA, with the Recirculation Spray system provided for long term heat removal and maintenance of sub-atmospheric conditions.

The affected valves' position is monitored in the control room. These valves are readily accessible and were capable of being opened manually to admit Service Water to the Recirc. Spray heat exchangers and allow the Recirc. Spray system to perform its safety function. The Containment Spray system remained operable, and the spray function of the Recirc. Spray system was not impaired. One train in the operating unit remained operable and was capable of providing Service Water flow to the Heat Exchangers. Therefore, the health and safety of the public was not affected.

3. Cause

The motors of MOV's SW-103C and 203C had become bound up due to corrosion. The torque switch of valve MOV-SW-103B had failed due to corrosion in the switch. Mechanical and electrical inspection and testing of the remaining valves (MOV-SW-103A, D and 203A, D) has not revealed a definite cause of failure. Since the failure of the aforementioned valves (103A, D, 203A, D) could not be repeated, it is believed that a combination of marginally sized motor and higher than normal breakaway torque due to lower water temperatures and possible seat creep caused the valves to stick. This is supported by the fact that once the valves (MOV-SW-103A, D) were manually lifted off their seat, they responded to demand signals and showed satisfactory performance, and valves MOV-SW-203A & D operated satisfactorily after a nominal torque setting increase of 2 to 3.

4. Immediate Corrective Action

The valves MOV-SW-103A, B, C, and D were manually opened to lift the butterfly disk off the seat. Valves 103A, and 103D were then opened electrically from the control room. Valves 103B and 103C would not respond to demand signals and were opened manually. Valve testing of unit II valves was initiated. Mechanical and electrical inspections of the valves and motor operators were initiated to determine and correct the cause of failure.

5. Subsequent Corrective Action

The Unit 2 Recirc. Spray HX service water valves were tested to determine operability. Valves MOV-SW-203A and D required a nominal increase of the torque switch setting to cycle the valves. The motor of MOV-203C was bound up due to corrosion. The motor was replaced on MOV-SW-203C. The three Unit II valves were tested satisfactory and returned to service.

6. Action Taken to Prevent Recurrence

As an interim measure, the valves will be cycled on a quarterly basis and Administrative Procedures have been placed in effect that will insure timely operator action will be taken in the unlikely event of further valve failure. An in-depth investigation of possible modifications to the valve operators has been initiated.

7. Generic Implications

None at this time.