ATTACHMENT G
LICENSEE EVENT REPORT

CONTROL BLOCK: | | | | | | | (1) (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

I L L S C I	(2)	0 0 - 0 0 0 0 0 - 0 0	(3)	4 1 1 0 0 0	(4)		(5)
LICENSEE CODE		LICENSE NUMBER		LICENSE TYPE		CAT	

REPORT SOURCE: L (6) | DOCKET NUMBER: 0 5 0 0 0 3 7 3 (7) | EVENT DATE: 0 8 2 1 8 2 (8) | REPORT DATE: 0 9 2 0 8 2 (9)

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

On Aug. 21, 1982, a reactor recirculation pump seal failed. This failure in no way jeopardized the health and safety of the general public. All leakage from the seal was contained within the primary containment and processed via normal means

SYSTEM CODE	CAUSE CODE	CAUSE SUBCODE	COMPONENT CODE	COMP. SUBCODE	VALVE SUBCODE
C B (11)	E (12)	B (13)	X X X X X X (14)	Z (15)	Z (16)

(17) LER/RO REPORT NUMBER	EVENT YEAR		SEQUENTIAL REPORT NO.		OCCURRENCE CODE	REPORT TYPE		REVISION NO.
	8 2	—	0 9 4	/	0 3	L	—	0

ACTION TAKEN	FUTURE ACTION	EFFECT ON PLANT	SHUTDOWN METHOD	HOURS (22)	ATTACHMENT SUBMITTED	NPRD-4 FORM SUB.	PRIME COMP. SUPPLIER	COMPONENT MANUFACTURER
X (18)	A (19)	Z (20)	Z (21)	0 0 0 0 0	Y (23)	N (24)	N (25)	B 2 6 5 (26)

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

The seal failed due to thermal stresses. The seal was replaced and the pump restarted on 8/27/82.

FACILITY STATUS	% POWER	OTHER STATUS (30)	METHOD OF DISCOVERY	DISCOVERY DESCRIPTION (32)
B (28)	0 0 0 (29)	NA	Z (31)	NA

ACTIVITY RELEASED	CONTENT OF RELEASE	AMOUNT OF ACTIVITY (35)	LOCATION OF RELEASE (36)
Z (33)	Z (34)	NA	NA

PERSONNEL EXPOSURES

NUMBER	TYPE	DESCRIPTION (39)
0 0 0 (37)	Z (38)	NA

PERSONNEL INJURIES

NUMBER	DESCRIPTION (41)
0 0 0 (40)	NA

LOSS OF OR DAMAGE TO FACILITY (43)

TYPE	DESCRIPTION
Z (42)	NA

8209270280 820920
PDR ADOCK 05000373
S PDR

PUBLICITY

ISSUED	DESCRIPTION (45)
N (44)	NA

NRC USE ONLY

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I. LER NUMBER: 82-094/03L-0

II. LASALLE COUNTY STATION: UNIT 1

III. DOCKET NUMBER: 050-373/374

IV. EVENT DESCRIPTION:

On Saturday August 2], 1982, the seal on 1A reactor recirculation pump (1B33-C001A) failed admitting steam and water into the primary containment. The events that pertain to this situation were as follows.

1. At approximately 0300, the decision was made to shutdown the unit due to insufficient water inventory for normal plant operation.

2. In the process of shutting down numerous condensate system alarms came out. Because of the fear of condensate pump cavitation and because it was thought that the control rod drive pump would lose its suction, the reactor was manually scrammed at 0536 by placing the mode switch in shutdown. The normal plant shutdown would have taken about another hour.

3. Because of high differential pressure across the inlet suction filters (1C11-D010 & D300) and the CRD drive filters (1C11-D003A&B), the decision was made at 0745 to trip the CRD pump.

4. With the trip of the CRD pump, there was immediate concern as to the possibility of overheating the recirculation pump seals. Thus the recirculation pump temperatures were being monitored from recorder 1B33-R601 at panel 1H13-P614.

5. Pump temperatures began to rise immediately. The outlet temperature of the #1 seal cavity on the 1B pump rose to and leveled out at approximately 150°. However the #1 seal cavity outlet temperature on the 1A pump continued rising and at 0759 this high temperature alarm came up. Based upon this data, the decision was made to send personnel into the drywell to monitor or adjust RBCCW flow to the pump.

6. While preparations were being made to go into the drywell, the #1 seal outlet temperature kept rising. At 0828 when this temperature got to 175°F the pump was tripped. When the pump tripped this temperature rapidly rose to 235°F.

7. At approximately 0910 entry into the drywell was achieved. RBCCW cooling water flow was observed to be about 13 gpm. The calibration tag on the flow switch showed that to be the low alarm point so the foreman increased flow to approximately 25 gpm. This flow increase was completed in about one (1) minute. As a result of this, #1 seal temperature decreased to about 100°F.

8. While the foreman was in communication with the control room concerning the status of the pump he observed water and steam emanating

from the seal itself. At this time, approximately 0958, the control room shut the suction and discharge valves (1B33-F023A&067A) for the 1A recirculation pump. Double indication was observed on the suction valve and water continued to blow out of the seal. Also #1 seal cavity temperature rose beyond 300°F.

9. At about 1000 the drywell floor drain fillup rate was monitored to be approximately 2.4 gpm. Though difficulties were encountered in trying to isolate the leak, it was felt that, with this low of a leak rate, declaring a GSEP condition was unwarranted. The plan was to send an individual into the drywell to close the suction valve.

10. From approximately 1045 to 1120 the flow rate into the floor drain sump increased steadily until it indicated greater than 20 gpm. It remained at greater than 20 gpm for approximately 2 hrs/at 1110 because of the sudden rise in flow the decision was made to call this situation an Unusual Event. Appropriate notifications were made.

11. At 1225 the loop was completely isolated and the leakage stopped.

12. At 1305 the Unusual Event was terminated after visual verification that the leakage had stopped coming from the recirc pump seal area. The drywell floordrain sump fillup rate was also observed to be steadily decreasing

13. Cooldown of the plant was continued.

V. PROBABLE CONSEQUENCES OF THE OCCURRENCE:

This occurrence in no way jeopardized the health and safety of the general public. All the leakage from the seal was processed via the drywell equipment and floor drain system. Though the fillup rate instrumentation for the drywell floor drain sump indicated in excess of 20 gpm, a review of the sump pump-out rate showed that for 125-1/2 min the rate was about 27 gpm and for about 22-1/2 min the rate was about 19 gpm. This data was read over a four hour period and the average flow rate for this period was 15.91 gpm. By observing the drywell equipment drain sump pump flow rates, it was determined that the average flow rate over four hours was 4.32 gpm. The total flow rate (20.23) from both sumps was well below the Alert range and also within the LCO for reactor coolant system leakage (3.4.3.2) though this is the first instance of recirculation pump seal failure at LaSalle Station, such failures are not uncommon in the industry.

VI. CAUSE:

Upon overhaul of the damaged seal, it was discovered that the failure was due to the excessive thermal stress applied to the seal by increasing the cooling water flow. (See item #7 in Event Description.) The #1 seal rotating face had a complete clean break straight through it; the #2 seal rotating face had two complete clean breaks on opposite sides of each other. These pieces are made of tungsten carbide, a very hard but brittle material.

VII. CORRECTIVE ACTION:

A. Immediate Corrective Action.

As stated in section IV of this report, the immediate corrective action was to isolate A recirculation loop and continue the plant cooldown.

B. Long Term Corrective Action

1. The old seal was replaced on 8/24/82. A recirculation pump was started on 8/27/82 at 1650 and the reactor was taken critical at 0300 on 8/28/82. The plant was at normal operating temperature and pressure on 8/29/82 at 0025. All pump parameters were as expected.

2. LOP-DW-01 "Drywell Closeout (After Outage)" will be modified to indicate that RBCCW flow can be set greater than 20 gpm just as long as cooling water to the motor is properly set.

3. Revise LOA 1(2) H13 P602 B507 "Rx Recirc Pump Temp Hi" to give direction to refer to LOA-RR-02 "Reactor Recirculation Pump Trouble".

4. Revise LOA-RR-02 "Reactor Recirculation Pump Trouble" to clear up ambiguities concerning at what temperatures a pump trip is required.

Prepared by H. J. Hentschel