Update Report - Previous Report Date 3-11-82

NRC FORM 366 (7-77)

U. S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT

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

0 1	LICENSEE CODE	I L Z I S 1 (2)
	LICENSE NUMBER	0 0 - 0 0 0 0 0 - 0 0 (3)
	LICENSE TYPE	4 1 1 1 1 (4)
	CAT	(5)
0 1 (CON'T)	REPORT SOURCE	L (6)
	DOCKET NUMBER	0 5 0 0 0 2 9 5 (7)
	EVENT DATE	0 2 2 6 8 2 (8)
	REPORT DATE	0 1 1 9 8 3 (9)

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

0 2 During the period 4/13/81 thru 5/9/81, Unit 1 RC loop D operated with
0 3 an approximate 4% flow reduction. All 3 loop D flow channels were
0 4 calibrated assuming that normal flow conditions existed, resulting in
0 5 non-conservative Low Loop Flow Trip setpoints for loop D, in violation
0 6 of T.S. Table 3.1-1. The redundant loss of loop flow protection
0 7 provided by the RCP Breaker Trip was operable. This is the first
0 8 occurrence of this type.

Line	System Code (11)	Cause Code (12)	Cause Subcode (13)	Component Code (14)	Comp. Subcode (15)	Valve Subcode (16)
0 9	I A	D	Z	Z Z Z Z Z Z	Z	Z

(17) LER/RO REPORT NUMBER

Event Year		Sequential Report No.		Occurrence Code	Report Type		Revision No.
8 2	—	0 0 5	/	0 1	X	—	1

Action Taken (18)	Future Action (19)	Effect on Plant (20)	Shutdown Method (21)	Hours (22)	Attachment Submitted (23)	NPRD-4 Form Sub. (24)	Prime Comp. Supplier (25)	Component Manufacturer (26)
E	G	Z	Z	0 0 0 0	Y	N	Z	Z 9 9 9

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

1 0 The flow reduction was caused by a nozzle cover inadvertently left in
1 1 the 1D S/G hotleg during the spring 1981 refueling outage eddy current
1 2 exam. Most of the nozzle cover dissolved, removing the partial flow
1 3 blockage, and the loop D RC flow channels were reset properly on
1 4 5/9/81. Procedural controls on S/G work have been strengthened.

Line	Facility Status (28)	% Power (29)	Other Status (30)	Method of Discovery (31)	Discovery Description (32)
1 5	H	0 0 0	NA	B	Eddy current exam of S/G

Line	Activity Released (33)	Content of Release (34)	Amount of Activity (35)	Location of Release (36)
1 6	Z	Z	NA	NA

PERSONNEL EXPOSURES

Line	Number (37)	Type (38)	Description (39)
1 7	0 0 0	Z	NA

PERSONNEL INJURIES

Line	Number (40)	Description (41)
1 8	0 0 0	NA

LOSS OF OR DAMAGE TO FACILITY

Line	Type (42)	Description (43)
1 9	Z	NA

2 0 PUBLICITY

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NRC USE ONLY

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ATTACHMENT TO UPDATED LER

NO. 82 - 005 / 01X - 1

COMMONWEALTH EDISON CO.

ZION GENERATING STATION

50-295

Description of Event

During the period of 4/31/81 thru 5/9/81, Unit 1 RC loop D operated with an approximate 4% flow reduction. The flow reduction was caused by a nozzle cover that was inadvertently left in the hot leg channel head of 1D S/G during eddy current examination during the spring 1981 refueling outage. Discovery of steel hinges in the RCS during the February 1982 Unit 1 refueling outage initiated the investigation that led to this report.

Since the presence of the nozzle cover and resulting flow reduction in loop D was not known at the time, all three RC flow channels on loop D were calibrated on 4/13/81 assuming that normal flow conditions existed. This resulted in nonconservative Low Loop Flow Trip setpoints for loop D. (e.g. a 90% Low Loop Flow Trip setpoint would have corresponded to approximately 86% of normal RC loop flow). This is a violation of Technical Specification Table 3.1-1 which requires that the setpoint be 90% of normal flow. This is the first occurrence of this type event.

Consequences of Occurrence

All other reactor trips were operable between 4/13/81 and 5/9/81. This includes the Low Loop Flow Trip for RC loops A,B, and C; and for all 4 loops the redundant loss of loop flow protection provided by the Reactor Coolant Pump Breaker Trip. The health and safety of the public were not affected.

Inspection of the physical damage caused by the loose nozzle cover in the RCS revealed that the S/G tube ends protruding thru the S/G tube sheets on the primary side of the 1D S/G hot leg were deformed due to the pounding action of the loose parts in the 1D S/G hot leg channel head.

Cause of Occurrence

A nozzle cover was left in the hot leg channel head of 1D steam generator during the spring 1981 refueling outage eddy current examination, causing the flow reduction in 1D S/G.

It is not known precisely how the nozzle cover was left in steam generator, since all available documentation shows that the cover was removed. The governing procedures and administrative controls over steam generator work were not adequate to ensure that all foreign objects were removed from the steam generator.

Corrective Actions

The loop D RC flow transmitters were recalibrated to read proper 100% flow on 5/9/81 after showing an increase of about 4%. This flow increase has since been attributed to the removal of the flow blockage in loop D due to disintegration by dissolving of the aluminum nozzle cover (except for two steel 30 inch long steel hinges and 36 nut-bolt-washer assemblies). The presence of the nozzle cover in the RCS was not known on 5/9/81.

The procedural controls over steam generator work have been strengthened to ensure that all foreign objects are removed from the steam generators. Inventory control of the nozzle covers has been increased.

Subsequent to the discovery of the damaged tube ends, photographs were taken of the entire tube sheet. Evaluation concluded there was no damage to the tube sheet or tube-to-tube sheet welds and the tube ends only required repair to facilitate eddy current examination and possible future tube plugging. The repair program on the deformed S/G tube ends in 1D S/G hot leg consisted of all tubes(3388) being pushed or rolled to provide the capability to accept an eddy current probe or mechanical plug.