

LICENSEE EVENT REPORT

CONTROL BLOCK:

(PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

0	1	1	1	L	L	S	C	1	2	0	0	-	0	0	0	0	0	-	0	0	3	4	1	0	0	0	4	5								
8	9	LICENSEE CODE								14	15	LICENSE NUMBER								25	26	LICENSE TYPE				30	57	CAT		58						
CONT		REPORT SOURCE		DOCKET NUMBER										EVENT DATE										REPORT DATE												
0	1	L	6	0	5	0	0	0	3	7	3	7	0	3	1	1	8	3	2	0	4	1	7	1	8	1	3	9								
60	61	DOCKET NUMBER										66	69	EVENT DATE										74	75	REPORT DATE										80

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

On March 31, 1983, while performing L.S.T. 83-37, the #4 Turbine Stop Valve Limit Switch 1C71-N006G for the Reactor Protection System was found out of specification. Technical Specifications Table 2.2.1-1 Trip setpoint of less than or equal to 5% closed was exceeded. There are 4 turb. stop valves, each with associated limit switches. Only 3 out of 4 turbine stop valves being sensed less than or equal to 5% of full closed are required to scram the reactor. The 3 remaining Turb. Stop Valve limit switches were in specification. The occurrence had no effect on the safety of the public and plant personnel.

0	9	SYSTEM CODE		CAUSE CODE		CAUSE SUBCODE		COMPONENT CODE										COMP. SUBCODE		VALVE SUBCODE		REVISION NO.			
7	8	H	A	11	A	12	C	13	I	N	S	T	R	U	14	S	15	Z	16	0					
LER/RO REPORT NUMBER		EVENT YEAR		SEQUENTIA		OCCURREN		REPORT TYPE		ATTACHMENT		NPRD-4 FORM		PRIME COMP. SUPPLIER		COMPONENT MANUFACTURER									
17	18	8	3	21	22	0	3	1	24	26	0	3	28	29	L	30	31	0	32						
ACTION TAKEN		FUTURE ACTION		EFFECT ON PLANT		SHUTDOWN METHOD		HOURS		ATTACHMENT SUBMITTED		NPRD-4 FORM SUB		PRIME COMP. SUPPLIER		COMPONENT MANUFACTURER									
33	34	E	18	G	19	Z	20	Z	21	0	0	0	0	22	Y	23	N	24	N	25	N	0	0	7	26

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

The cause was determined to be improper alignment on initial installation preventing the limit switch from actuating at the required trip setpoint. The limit switch was repositioned and a new adjustable actuating arm installed to provide for proper actuating arm travel. The corrective action was performed on the 3 remaining turb. stop vlv. limit switches to prevent future occurrences. W.R. L23708 was completed 4/3/83

1	5	FACILITY STATUS		% POWER		OTHER STATUS		METHOD OF DISCOVERY		DISCOVERY DESCRIPTION																					
7	8	B	28	0	0	0	29	NA	30	B	31	LST-83-37	32																		
ACTIVITY RELEASED		CONTENT OF RELEASE		AMOUNT OF ACTIVITY		LOCATION OF RELEASE		PERSONNEL EXPOSURES		PERSONNEL INJURIES		LOSS OF OR DAMAGE TO FACILITY		PUBLICATION		ISSUED		NRC USE ONLY													
1	6	Z	33	Z	34	NA	35	NA	36	0	0	0	37	Z	38	NA	39	0	0	0	40	NA	41	Z	42	NA	43	N	44	NA	45
7	8	ACTIVITY RELEASED		CONTENT OF RELEASE		AMOUNT OF ACTIVITY		LOCATION OF RELEASE		PERSONNEL EXPOSURES		PERSONNEL INJURIES		LOSS OF OR DAMAGE TO FACILITY		PUBLICATION		ISSUED		NRC USE ONLY											
1	7	0	0	0	37	Z	38	NA	39	0	0	0	40	NA	41	Z	42	NA	43	N	44	NA	45								
7	8	ACTIVITY RELEASED		CONTENT OF RELEASE		AMOUNT OF ACTIVITY		LOCATION OF RELEASE		PERSONNEL EXPOSURES		PERSONNEL INJURIES		LOSS OF OR DAMAGE TO FACILITY		PUBLICATION		ISSUED		NRC USE ONLY											
1	8	0	0	0	40	NA	41	NA	42	0	0	0	43	NA	44	Z	45	NA	46												
7	8	ACTIVITY RELEASED		CONTENT OF RELEASE		AMOUNT OF ACTIVITY		LOCATION OF RELEASE		PERSONNEL EXPOSURES		PERSONNEL INJURIES		LOSS OF OR DAMAGE TO FACILITY		PUBLICATION		ISSUED		NRC USE ONLY											
1	9	Z	42	NA	43	NA	44	NA	45	0	0	0	46	NA	47	Z	48	NA	49												
7	8	ACTIVITY RELEASED		CONTENT OF RELEASE		AMOUNT OF ACTIVITY		LOCATION OF RELEASE		PERSONNEL EXPOSURES		PERSONNEL INJURIES		LOSS OF OR DAMAGE TO FACILITY		PUBLICATION		ISSUED		NRC USE ONLY											
2	0	N	44	NA	45	NA	46	NA	47	0	0	0	48	NA	49	Z	50	NA	51												
7	8	ACTIVITY RELEASED		CONTENT OF RELEASE		AMOUNT OF ACTIVITY		LOCATION OF RELEASE		PERSONNEL EXPOSURES		PERSONNEL INJURIES		LOSS OF OR DAMAGE TO FACILITY		PUBLICATION		ISSUED		NRC USE ONLY											

NAME OF PREPARER

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- I. LER NUMBER: 83-031/03L-0
- II. LASALLE COUNTY STATION: Unit 1
- III. DOCKET NUMBER: 050-373
- IV. EVENT DESCRIPTION:

While performing LaSalle Special Test (L.S.T. 83-37), the #4 Turbine Stop Valve limit switch 1C71-N006G for the Reactor Protection System was found out of specification. Technical Specifications Table 2.2.1-1 calls for a trip setpoint of less than or equal to 5% closed with an allowable value of less than or equal to 7% closed. The as found value discovered during the test was 9% closed. The Technical Specifications of Table 2.2.1-1 were exceeded.

V. PROBABLE CONSEQUENCES OF THE OCCURRENCE:

There are 4 Turbine Stop Valves. A turbine stop valve has 2 R.P.S. limit switches associated with it providing redundancy and reliability. One limit switch is located inside a locally mounted cabinet, the other limit switch is located on the outside of the valve. Both limit switches are in parallel and provide continuity to a relay which when de-energized, sends a signal to the Reactor Protection System. Each limit switch senses the position of its associated turbine stop valve and closes when the turbine stop valve is greater than 95% of its full open position. The limit switch will thus open upon sensing the turbine stop valve less than or equal to 5% full closed. Since the limit switches for each turbine stop valve form a 2 out of 2 logic, both have to open to de-energize their associated relay which, in turn, sends a signal to the Reactor Protection System. The Reactor Protection System will scram the Reactor upon receiving 3 out of 4 turbine stop valves being less than or equal to 5% of full closed with Reactor power greater than or equal to 30%. This is done to minimize the pressure transient on the Reactor Pressure Vessel resulting from a turbine trip.

The problem that occurred on March 31, 1983, during the performance of L.S.T. 83-37 was that the limit switch 1C71-N006G for turbine stop valve #4 was opening at 9% of valve full closure instead of the Technical Specification trip setpoint of less than or equal to 5% of valve full closure. The limit switch was still fully operational, however, the stop valve would have drifted farther from its full open position in order to send a signal to the Reactor Protection System. The Technical Specifications, besides assigning a trip setpoint, also assign an allowable value which is limit switch actuation less than or equal to 7% of valve full closure. The limit switch would have still performed its intended function, but would have done it 2% below the allowable value.

Since one valve drifting off its seat less than or equal to 5% of full closed does not cause any action to be initiated, the limit switch set point being lower than specification has little effect. Because of the likelihood of 3 turbine stop valves drifting off their seats at less

V. PROBABLE CONSEQUENCES OF THE EVENT (Cont'd):

than or equal to 5% of full closed position simultaneously being so remote, the only probable occurrence would be a turbine trip which would cause all 4 turbine stop valves to close. Since only 3 out of 4 stop valves being sensed less than or equal to 5% of full closed are required to scram the reactor, the limit switch 1C71-N006G had no affect on safe and reliable plant operation. The health and safety of plant personnel and the general populace was maintained at all times.

VI. CAUSE:

The cause of the limit switch 1C71-N006G being out of specification was due to improper initial installation. There are 5 limit switches in each respective turbine stop valve cabinet. The limit switch in question was at the top of the cabinet and in a position that the cam on the valve follower could not engage it the required distance. This prevented the actuating arm from tripping the limit switch at the required setpoint of less than or equal to 5% of full closed.

The problem was one of improper limit switch alignment with the valve follower cam, and not due to a fault with the limit switch assembly.

VII. CORRECTIVE ACTION:

Work Request #L23708 was written on April 1, 1983, in response to the occurrence.

Lowering of the limit switch assembly 1/2" to 1" would have remedied the problem but this was not possible due to the placement of other limit switches immediately below it.

The solution that was arrived at was to angle the limit switch assembly providing greater contact arc of the actuator arm and to replace the existing actuator arm with an adjustable type. The new positioning increased the movement arc of the actuator arm and the adjustable arm allowed for a greater freedom of movement preventing binding against the limit switch housing.

These two changes made to the limit switch solved the problem of bringing the limit switch back into tolerance.

Although the other cabinet mounted limit switches were not found out of specification as was the #4 turbine stop valve limit switch, it was decided to angle the limit switches and replace the actuator arms with an adjustable type for the remaining #1, #2, and #3 turbine stop valves. This was done to prevent similar occurrences in the future. Work was completed on April 3, 1983.

The limit switches and arms were made by NAMCO. Replacement parts used were also NAMCO.

As a further corrective action, LaSalle electrical procedure LES-EH-001

VII. CORRECTIVE ACTION: (Cont'd)

"Attachment A" will be changed to specify limits in accordance with Tech Spec to prevent future error.

Prepared by: Vincent Masterson