

LICENSEE EVENT REPORT

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

0	1	0	H	D	B	S	1	2	0	0	-	0	0	0	0	0	-	0	0	3	4	1	1	1	1	4				5
7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35		
LICENSEE CODE		LICENSE NUMBER													LICENSE TYPE					CAT		58								

0	1	L	6	0	5	0	0	0	3	4	6	7	0	8	2	0	8	2	8	0	9	1	6	8	2	9
7	8	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	
CON'T		DOCKET NUMBER										EVENT DATE					REPORT DATE									

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

(NP-33-82-43) On August 20, 1982 at 1655 hours, the containment to shield building differential pressure reached a maximum of 25.2 inches of water, exceeding the Technical Specification limit (T.S. 3.6.1.4) of 25.0 inches water. The action statement requirements were being met since the station was in mode 3 at the time of the occurrence. There was no danger to the health and safety of the public or to station personnel. The differential pressure of 25.2 inches of water (0.91 psig) represents only 2.5% of the Containment Vessel design pressure (36 psig).

0	9	S	A	B	A	Z	Z	Z	Z	Z	Z	Z	Z	8	2	0	3	9	0	3	L	0					
7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32		
SYSTEM CODE		CAUSE CODE		CAUSE SUBCODE		COMPONENT CODE						COMP. SUBCODE		VALVE SUBCODE		LER/RO REPORT NUMBER		EVENT YEAR		SEQUENTIAL REPORT NO.		OCCURRENCE CODE		REPORT TYPE		REVISION NO.	
ACTION TAKEN		FUTURE ACTION		EFFECT ON PLANT		SHUTDOWN METHOD		HOURS				ATTACHMENT SUBMITTED		NPRD-4 FORM SUB.		PRIME COMP. SUPPLIER		COMPONENT MANUFACTURER									
X		F		Z		Z		0000				Y		N		Z		Z999									
33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

The cause is a design error in the Containment Purge System valves. The station has been committed to keeping these valves closed while in modes 1-4, due to design deficiencies concerning their ability to close under accident conditions and the SFAS logic. The containment pressure was restored within limits by 1843 hours using four containment vacuum relief valves.

1	5	C	0	0	0	NA	30	A	31	During RCS heatup process.	32
7	8	9	10	11	12	13	14	15	16	17	18
FACILITY STATUS		% POWER				OTHER STATUS		METHOD OF DISCOVERY		DISCOVERY DESCRIPTION	
ACTIVITY CONTENT		RELEASED OF RELEASE				AMOUNT OF ACTIVITY		LOCATION OF RELEASE			
Z		Z				NA		NA			
7	8	9	10	11	12	13	14	15	16	17	18
PERSONNEL EXPOSURES		NUMBER		TYPE		DESCRIPTION					
0		0		Z		NA					
7	8	9	10	11	12	13	14	15	16	17	18
PERSONNEL INJURIES		NUMBER		DESCRIPTION							
0		0		NA							
7	8	9	10	11	12	13	14	15	16	17	18
LOSS OF OR DAMAGE TO FACILITY		TYPE		DESCRIPTION							
Z		NA									
7	8	9	10	11	12	13	14	15	16	17	18
PUBLICITY		ISSUED		DESCRIPTION							
N		NA									
7	8	9	10	11	12	13	14	15	16	17	18

TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER STATION UNIT ONE
SUPPLEMENTAL INFORMATION FOR LER NP-33-82-43

DATE OF EVENT: August 20, 1982

FACILITY: Davis-Besse Unit 1

IDENTIFICATION OF OCCURRENCE: Containment to shield building differential pressure high

Conditions Prior to Occurrence: The unit was in Mode 3 with Power (MWT) = 0 and Load (Gross MWE) = 0.

Description of Occurrence: On Friday, August 20, 1982, the containment to shield building differential pressure gradually increased during the process of heating the Reactor Coolant System (RCS). By 1655 hours, control room gauge PDI645 had reached a maximum of 25.2 inches of water, exceeding the Technical Specification limit (T.S. 3.6.1.4) of 25.0 inches of water. The action statement of Technical Specification 3.6.1.4 required the station to be within limits in one hour or to be in hot standby within six hours and in cold shutdown within the following 30 hours. The plant was in hot standby at the time of the occurrence. At 1842 hours on the same day, check valves on each of four containment vacuum breakers had been isolated and secured open. The motor operated valves on each of these vacuum breakers were reopened and the containment pressure was within specifications by 1843 hours. At 1930 hours, the vacuum breakers were restored to normal operation. Therefore, the action statement of Technical Specification 3.6.1.4 was followed.

Designation of Apparent Cause of Occurrence: The cause of the occurrence was a design error in the containment purge system valves. Normally, the containment purge system would be used during plant heatup to vent the pressure due to expanding air inside the containment vessel. Due to design deficiencies in the containment purge isolation valves concerning their ability to close under accident conditions and concerning the Safety Features Actuation System (SFAS) logic, the station has been committed to keeping the valves closed while in Modes 1 through 4. The increase in containment pressure during previous startups had been handled by venting containment pressure through the hydrogen dilution system exhaust, but during this startup, the venting flow was not sufficient. RCS pressure and temperature were slightly elevated during this startup for scheduled piping inspections and some mirror type insulation was removed. Such conditions may have slightly contributed to the containment pressure rise due to additional heating of the containment air.

Analysis of Occurrence: There was no danger to the health and safety of the public or to station personnel. The containment vessel design pressure is 36 psig and the containment vessel is pneumatically tested to 1.25 times design pressure (45 psig). The "high" differential pressure of 25.2 inches of water (0.91 psig) represents

only 2.5% of design pressure. In the unlikely event of the worst loss of coolant accident for containment internal pressure, a 14.14 ft² hot leg split, the containment internal pressure could rise by 34.7 psig (updated Safety Analysis Report, Revision 0, 7/82). This pressure increase is based on the reactor being at 100% power, therefore, the pressure increases during a LOCA at the above conditions would probably be lower. Accordingly, adding the pressure which was reached on August 20, 1982, the maximum containment pressure would have been no more than 35.6 psig. Therefore, the structural integrity of the containment vessel would not have been challenged by any circumstances related to the subject of this report.

Corrective Action: Two items in the containment purge system should be resolved. One item is the valve manufacturer's study which concluded that containment purge isolation valves CV5005 through CV5008 may not be able to close from a fully open position under some loss of coolant accident conditions. This problem will be remedied by limiting valve opening with mechanical stops, which are being installed under Facility Change Request 79-434A. The other deficiency concerning containment purge isolation logic is currently under study and may be resolved by installing an SFAS block inhibit for the containment purge valves. Work will continue on these concerns so that the containment purge system may be used as intended, alleviating operational difficulties and preventing recurrences of the subject report.

Failure Data: Previous occurrences of the containment to shield building differential pressure exceeding the Technical specification limit were reported in Licensee Event Reports NP-33-77-81 and NP-33-78-100 (78-083).

LER #82-039