

UPDATE REPORT - Previous Report Date 12/26/79

NRC FORM 366 (7-77)

U. S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT

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

[01] MTRR-1 [2] 000-0000000-000 [3] 41111 [4] [] [5]

CON'T [01] REPORT SOURCE [L6] 0150-011515 [7] 1213179 [8] 0180480 [9]

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10) [02] Design review of the 24" containment ventilation isolation valves, CV4097 [03] and CV4095, on 12/13/79 indicated that the valves might not close under the [04] worst LOCA pressure conditions in containment unless the valves were oper- [05] ated at partially closed positions. A minor modification was made on [06] 12/13/79 to restrict the valve opening. Redundant valves CV4094 and CV4096 [07] have been operable except as described in LER 80-13. Reportability based [08] on Tech Spec 6.9.2.a(9).

[09] SYSTEM CODE [S D] (11) CAUSE CODE [B] (12) CAUSE SUBCODE [A] (13) COMPONENT CODE [V A L V E X] (14) COMP. SUBCODE [B] (15) VALVE SUBCODE [D] (16)

[10] The cause is due to inadequate specifications for the original valves in- [11] stalled in the system in 1962. The valves were specified to maintain tight [12] closure characteristics at the accident pressure but consideration of [13] closure capability during the pressure transient was lacking.

[14] FACILITY STATUS [E] (28) N POWER [h 8 5] (29) OTHER STATUS [NA] (30) METHOD OF DISCOVERY [D] (31) DISCOVERY DESCRIPTION [Design review requested by NRC] (32)

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

[16] PERSONNEL EXPOSURES NUMBER [0 0 0] (37) TYPE [Z] (38) DESCRIPTION [NA] (39)

[17] PERSONNEL INJURIES NUMBER [0 0 0] (40) DESCRIPTION [NA] (41)

[18] LOSS OF OR DAMAGE TO FACILITY TYPE [Z] (42) DESCRIPTION [NA] (43)

Attachment to LER 79-028-01X-1
Consumers Power Company
Big Rock Point Plant
Docket 50-155

On November 29, 1978 the NRC forwarded a request to evaluate closure capability of the containment isolation ventilation valves during the transient pressure conditions of design basis accidents. Test data supplied by the valve manufacturer indicates that two 24" butterfly valves should be partially closed during power operation to assure proper complete closure during the most restrictive containment pressure transient as described in the Final Hazard Summary Report.

Test data received on December 13, 1979 and based on a 30 psig accident transient (his data represents a conservatism since the actual transient is only 23.0 psig), indicates the valve CV4097 in the supply loop should be operated with the disc no further open than 65° from the full closed position. The limiting factor is disc shaft torque capability. Valve CV4095 in the exhaust loop should be operated with the disc no further open than 45° from the full open position. The limiting factor is the operator torque capability.

Mechanical stops were installed on the operating mechanisms on December 13, 1979 to provide positive control of the maximum valve opening. Both valves were positioned to operate at 45° from full open position. This maintained the required negative ventilation system pressure inside containment and also provided adequate vacuum relief capability.

Apparently this design shortcoming was the result of inadequate specifications for the original valves installed during plant construction in 1962.

Valve CV4095 is an Allis-Chalmers model 50 RS 24" diameter butterfly valve. Valve CV4097 is an Allis-Chalmers model 50 FR 24" diameter butterfly valve. This latter valve is a 1974 replacement for the original valve which was identical to CV4095.

Re-evaluation in March of 1980 revealed that adequate margin would be provided by operation with the exhaust valve (CV4095) open as far as 85° and the supply valve CV4097 open as far as 75°. The mechanical stops were adjusted in March of 1980 to allow both valves to be opened to 75° to provide a larger flow and properly balanced differential pressure conditions for the containment building.