

LICENSEE EVENT REPORT

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

0 1 | O H D B S | 1 2 | 0 0 - 0 0 | N P F - 0 3 | 3 4 | 1 1 | 1 1 | 4 | 5

CON'T 0 1 | REPORT SOURCE | L 6 | 0 5 | 0 - 0 3 | 4 6 | 7 | 0 6 | 2 8 | 7 9 | 8 | 0 7 | 1 0 | 7 9 | 9

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)
0 2 | At 0157 hours on June 28, 1979, an accidental short circuit caused the loss of essen-
0 3 | tial bus Y4 which supplies power to Safety Features Actuation system (SFAS) Channel 4
0 4 | (among other systems). This caused the channel 4 bistables to trip as designed and
0 5 | also closed valve DH 11, isolating the Decay Heat (DH) System. As there were no Reac-
0 6 | tor Coolant Pumps in operation, this placed the unit in violation of Technical Speci-
0 7 | fication 3.4.1. There was no danger to the health and safety of the public or station
0 8 | personnel, DH flow was not needed due to the low decay heat level. (NP-32-79-09)

0 9 | SYSTEM CODE | CAUSE CODE | CAUSE SUBCODE | COMPONENT CODE | COMP. SUBCODE | VALVE SUBCODE
E D | X | X | I N S T R U | X | Z
17 | LER/RO REPORT NUMBER | EVENT YEAR | SEQUENTIAL REPORT NO. | OCCURRENCE CODE | REPORT TYPE | REVISION NO.
7 9 | 7 9 | 6 7 | 0 1 | I | 0

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)
1 0 | DH Pump 1-2 was manually shutdown to protect the pump, bus Y4 was supplied from its
1 1 | alternate source, and affected safety systems reset. DH 11 was reopened and the 2800
1 2 | gpm DH flow re-established by 0215 hours. The blown inverter fuse was replaced and the
1 3 | Y4 bus returned to its normal supply. Facility Change Request 79-273 was prepared to
1 4 | help prevent accidental short circuiting of the 120 volt AC sources.

1 5 | FACILITY STATUS | % POWER | OTHER STATUS | METHOD OF DISCOVERY | DISCOVERY DESCRIPTION
G | 0 0 0 | NA | A | Observed during ST 5030.12

1 6 | ACTIVITY CONTENT | AMOUNT OF ACTIVITY | LOCATION OF RELEASE
Z | Z | NA | NA

1 7 | PERSONNEL EXPOSURES | TYPE | DESCRIPTION
0 0 0 | Z | NA

1 8 | PERSONNEL INJURIES | TYPE | DESCRIPTION
0 0 0 | NA

1 9 | LOSS OF OR DAMAGE TO FACILITY | TYPE | DESCRIPTION
Z | NA

2 0 | PUBLICITY ISSUED | DESCRIPTION
N | NA

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TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER STATION UNIT ONE
SUPPLEMENTAL INFORMATION FOR LER NP-32-79-09

DATE OF EVENT: June 28, 1979

FACILITY: Davis-Besse Unit 1

IDENTIFICATION OF OCCURRENCE: Loss of Safety Features Actuation System (SFAS) Channel 4 due to loss of Y4

Conditions Prior to Occurrence: The unit was in Mode 5, with Power (MWT) = 0, and Load (Gross MWE) = 0.

Description of Occurrence: At 0157 hours on June 28, 1979, while conducting surveillance testing on the Reactor Protection System (RPS) Channel 4, an alligator clip slipped off a terminal screw and shorted across another terminal. The 120 volt AC power supply to RPS Channel 4, Y4 was lost causing a loss of power to the SFAS Channel 4. The SFAS Channel 4 bistables tripped as designed upon a loss of power. The trip of one SFAS channel does not actuate any SFAS incident level but the trip of SFAS Channel 4 does actuate the bistable which closed the Decay Heat (DH) Normal Cooldown Isolation Valve DH 11.

The closure of DH 11 isolated the DH System and since there were no Reactor Coolant Pumps in operation, placed the unit in violation of Technical Specification 3.4.1, which requires in Mode 5 at least one Reactor Coolant Pump or Decay Heat Pump be in operation. The Decay Heat Pump was manually shutdown before all DH flow was lost to protect the pump.

Designation of Apparent Cause of Occurrence: The shorting of terminals with an alligator clip was due to not having large enough termination screws to properly retain an alligator clip. However, the loss of Essential Instrumentation Panel Y4 and subsequent trip of SFAS Channel 4 and RPS Channel 4 can be attributed to a characteristic of inverter YV4, which causes its fuses to blow on a short circuit.

Analysis of Occurrence: There was no danger to the health and safety of the public or to station personnel. Since decay heat generation at the time of the occurrence was low, the flow was not required for decay heat removal. The RPS and SFAS channels fail to the actuated (safe) position upon a loss of power and were not rendered inoperable by the loss of power. The three remaining SFAS channels were operable.

Corrective Action: Panel Y4 was supplied by its alternate source YBR. SFAS and RPS Channels 4 were re-energized and reset. Operations personnel then reopened valve DH 11, restarted Decay Heat Pump 1-2 and re-established greater than 2800 gpm flow to Reactor Coolant System by 0215 hours, June 28, 1979. Under Maintenance Work Order

79-2405, the blown fuse was replaced in YV4. At 1430 hours on June 28, 1979, YV4 was returned to service and operations personnel re-energized panel Y4 to normal. Previous investigation into the loss of an inverter by Power Engineering and the vendor have determined it would be more detrimental to modify the inverter to prevent recurrence than to leave the inverter in its initial state. Facility Change Request 79-273 was prepared to prevent shorting of the 120 volt AC sources to the RPS cabinets by modifying the terminals.

Failure Data: Previous failures for loss of essential 120 volt AC power supply have been reported in Licensee Event Reports NP-33-77-06, NP-33-77-10, NP-33-77-14, and NP-33-79-13.

LER #79-067