NRC FORM 366
(7-77)

LICENSEE EVENT REPORT

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

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

LICENSEE CODE — LICENSE NUMBER — LICENSE TYPE — CAT

CON'T

REPORT SOURCE: L (6) | 0 5 0 - 0 3 4 6 (7) | 0 1 2 3 7 8 (8) | 0 2 1 7 7 8 (9)

DOCKET NUMBER — EVENT DATE — REPORT DATE

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

On January 23, 1978 and February 1, 1978, a Quadrant Power Tilt (QPT) in excess of the steady state and transient limits was indicated by the unit process computer using the symmetrical incore detector system. It was discovered that the computer calculated QPT was incorrect and a manual QPT calculation verified the QPT was within limits. There was no danger to the health and safety of the public or to unit personnel. A review of the power range detector values over the time period in question shows no evidence of any significant QPT. (NP-33-78-18)

SYSTEM CODE: R C (11) | CAUSE CODE: D (12) | CAUSE SUBCODE: Z (13) | COMPONENT CODE: Z Z Z Z Z Z (14) | COMP SUBCODE: Z (15) | VALVE SUBCODE: Z (16)

(17) LER/RO REPORT NUMBER: EVENT YEAR 7 8 | — | SEQUENTIAL REPORT NO. 0 1 4 | / | OCCURRENCE CODE 0 3 | REPORT TYPE L | — | REVISION NO. 0

ACTION TAKEN: G (18) | FUTURE ACTION: Z (19) | EFFECT ON PLANT: Z (20) | SHUTDOWN METHOD: Z (21) | HOURS (22): 0 0 0 0 | ATTACHMENT SUBMITTED: Y (23) | NPRO-4 FORM SUB.: N (24) | PRIME COMP. SUPPLIER: N (25) | COMPONENT MANUFACTURER: Z Z Z Z (26)

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

The incore detectors were removed from scan to allow testing of the incore detectors and the connections to the computer. The detectors were inadvertently left off scan after the testing was complete. The test procedure for which the incores were taken off scan is being modified to clarify the requirement for returning the detectors to scan.

FACILITY STATUS: C (28) | % POWER: 0 5 5 (29) NA | OTHER STATUS (30) | METHOD OF DISCOVERY: A (31) NA | DISCOVERY DESCRIPTION (32)

ACTIVITY RELEASED: Z (33) | CONTENT OF RELEASE: Z (34) NA | AMOUNT OF ACTIVITY (35) | LOCATION OF RELEASE (36): NA

PERSONNEL EXPOSURES — NUMBER: 0 0 0 (37) | TYPE: Z (38) | DESCRIPTION (39): NA

PERSONNEL INJURIES — NUMBER: 0 0 0 (40) | DESCRIPTION (41): NA

LOSS OF OR DAMAGE TO FACILITY — TYPE: Z (42) | DESCRIPTION: NA

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PUBLICITY — ISSUED: N (43) | DESCRIPTION (45): NA

NRC USE ONLY

DVR 78-017

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TOLEDO EDISON COMPANY
DAVIS-BESSE UNIT ONE NUCLEAR POWER STATION
SUPPLEMENTAL INFORMATION FOR LER NP-33-78-18

DATE OF EVENT: January 23, 1978

FACILITY: Davis-Besse Unit 1

IDENTIFICATION OF OCCURRENCE: Failure to complete required surveillance testing of quadrant power tilt (QPT) due to an inoperable QPT monitor.

Conditions Prior to Occurrence: The unit was in Mode 1 with Power (MWT) = 970, and Load (MWE) = 335.

Description of Occurrence: On January 23, 1978, a quadrant power tilt (QPT) in excess of the steady state and transient limits was indicated by the unit process computer using the symmetrical incore detector system. Just prior to the recognition of the tilt, a large temperature differential between the two reactor coolant loops was temporarily developed due to a feedwater system problem. The tilt was considered to be the probable result of the temperature differential. Steps were taken to comply with the appropriate action statement for the excessive tilt. One action item was overlooked resulting in an apparent violation of Technical Specification 3.2.4. The details of this occurrence were telephoned to the OIAE Principal Inspector on January 24, 1978 with a confirming telecopy.

On February 1, 1978 during a startup following a reactor trip, a similar QPT was observed, but no apparent cause could be identified. The computer QPT alarm based on the symmetrical incore system was declared inoperable and a manual calculation of the QPT based on the out-of-core detectors (power range) was initiated per Technical Specification 4.2.4. The QPT was determined to be within limits.

A detailed investigation of the computer calculated QPT revealed that two of the 16 symmetrical incore strings had been taken off scan while at 75% Full Power sometime between January 18, 1978 and January 23, 1978. The values that the detectors were reading remained constant from the time they were taken off scan, thus producing values of tilt whenever the reactor power deviated significantly from 75%. Data from the January 23, 1978 occurrence were examined and the QPT was found to be caused by the same problem. No real QPT existed at that time, therefore, Technical Specification 3.2.4 was not violated.

The operability of the two symmetrical incore strings, however, did make the QPT alarm inoperable since sometime between January 18 and January 23. Contrary to Technical Specification 4.2.4, the QPT was not calculated every 12 hours as required. At 1600 hours on February 1, 1978, the problem was resolved and the QPT alarm was restored to operability.

Designation of Apparent Cause of Occurrence: The incore detectors were removed from scan to allow testing of the incore detectors and the connections to the computer. The detectors were inadvertently left off scan after the testing was complete. The requirement to return the detectors to scan is not clearly stated in the test procedure.

Analysis of Occurrence: There was no danger to the health and safety of the public or to unit personnel. While no QPT alarm was operable, and no QPT manual calculations were performed, a review of the power range detector values over the time period in question shows no evidence of any significant QPT.

Corrective Action: The test procedure for which the incores were taken off scan is being modified to clarify the requirement for returning the detectors to scan.

The scope of the surveillance test which checks the operability of the incores is being expanded to assure that any string removed from scan is detected and returned to scan.

Failure Data: This is not a repetitive occurrence.

LER #78-014

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