

CONTROL BLOCK:

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 ① (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

SYSTEM CODE I D 11		CAUSE CODE X 12		CAUSE SUBCODE Z 13		COMPONENT CODE Z Z Z Z Z 14				COMP. SUBCODE Z 15		VALVE SUBCODE Z 16	
7 8		9 10		11		12		13		17		18	
LER/RO REPORT NUMBER 7 8 21 22		EVENT YEAR 7 8		SEQUENTIAL REPORT NO. 1 1 0 24 25 26		OCCURRENCE CODE / 27		REPORT TYPE L 30		REVISION NO. / 31		32	
ACTION TAKEN E 18 33		FUTURE ACTION X 19 34		EFFECT ON PLANT B 20 35		SHUTDOWN METHOD Z 21 36		HOURS 0 0 0 22 37 38 39 40		ATTACHMENT SUBMITTED Y 23 41		NPRD-4 FORM SUB. N 24 42	
33 34		35 36		37 38 39 40		41		42		PRIME COMP. SUPPLIER Z 25 43		COMPONENT MANUFACTURER Z Z Z Z 26 44 45 46 47	

PUBLICITY													NRC USE ONLY									
ISSUED		DESCRIPTION																				
2	0	N	(44)	NA																		
7	8	9		10																		
					68										69							
															30							

TOLEDO EDISON COMPANY
DAVIS-BESSE UNIT ONE NUCLEAR POWER STATION
SUPPLEMENTAL INFORMATION FOR LER NP-33-78-131

DATE OF EVENT: November 7, 1978

FACILITY: Davis-Besse Unit 1

IDENTIFICATION OF OCCURRENCE: NI Imbalance Indication Out of Calibration

Conditions Prior to Occurrence: The unit was in Mode 1, with Power (MWT) = 1996, and Load (MWE) = 655.

Description of Occurrence: At approximately 0900 hours on November 7, 1978, the axial power imbalance as indicated by the out-of-core detectors was found to be outside the negative limits of Technical Specification 3.2.1. The incore imbalance indication was unavailable at the time due to a computer malfunction. The reactor power was reduced to less than 40% by 0947 hours (Technical Specification 3.2.1 is not applicable below 40% full power).

When the computer was returned to service, the incore imbalance indication was found to be well within limits and the out-of-core imbalance indication was declared to be out of calibration. Investigation has shown that the actual imbalance was well within technical specification limits at all times.

Investigation of the event also shows that the axial imbalance indicated by the out-of-core detectors had been outside the negative error adjusted limit for about ten hours before it was recognized. Since the computer was inoperable, hourly imbalance determinations were being performed (as per Technical Specification 4.2.1), but the technical specification limits were applied instead of the error adjusted limits.

Designation of Apparent Cause of Occurrence: The gross imbalance inaccuracy of the out-of-core detectors resulted from the calibration of the detectors being performed at low reactor power for the Natural Circulation Test. A small inaccuracy in imbalance at very low power is greatly exaggerated as power is increased.

The failure of the operators to recognize that indicated imbalance was outside its limits is attributed to a problem in Technical Specification 3.2.1 and in the procedure governing the imbalance check. Technical Specification 3.2.1 provides only one limit of imbalance vs. power which represents the actual imbalance limit. The procedure applies the necessary instrument error associated with the incores and out-of-cores and displays both the technical specification and instrument error corrected curves on one graph. The procedure did not, however, clearly explain the use of the curves.

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Analysis of Occurrence: There was no danger to the health and safety of the public or to unit personnel. At no time did the actual imbalance ever exceed the limits of Technical Specification 3.2.1.

Corrective Action: The out-of-core detectors were recalibrated when the computer was returned to service (at approximately 1300 hours). Since the Natural Circulation Test will not be conducted again, and since NI calibration is routinely done only at power levels greater than 15%, an imbalance inaccuracy resulting from low power calibration should not recur.

The procedure, ST 5020.01, governing the imbalance check has been modified to more clearly explain the use of the imbalance limit curves.

Failure Data: There have been no previous occurrences of improper calibration of the out-of-core detector indication of imbalance due to calibration at low powers.

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