

U. S. NUCLEAR REGULATORY COMMISSION

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TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER STATION UNIT ONE
SUPPLEMENTAL INFORMATION FOR LER NP-33-80-21

DATE OF EVENT: February 10, 1980

FACILITY: Davis-Besse Unit 1

IDENTIFICATION OF OCCURRENCE: Control Rod 5-11 Absolute Position Indication (API) Failure

Conditions Prior to Occurrence: The unit was in Mode 1, with Power (MWT) = 471, and Load (Gross MWE) = 156.

Description of Occurrence: On February 10, 1980 at 1500 hours, Control Rod 5-11 API was declared inoperable due to numerous asymmetric rod alarms. This placed the unit in the action statement of Technical Specification 3.1.3.3 which permitted continued unit operation if the position of the control rod and its group is maintained and periodically verified at one of the zone reference positions. The rod position was verified at its 100% withdrawn position per the action statement, and the rod position indication was placed in asymmetric bypass.

Designation of Apparent Cause of Occurrence: After several months of collecting data on control rod 5-11, the apparent cause has been determined to be defective API reed switch assemblies. A major contributing cause to this failure is the excessive temperatures to which the assemblies and their cables were subjected. This occurred during several months of operation in which the head assembly cooling fans were not in operation due to a deficient procedure which allowed restart following the 1978 outage without reconnecting the cooling fan power cables. The Reactor Vessel Closure Head Removal and Replacement Procedure, SP 1504.01, was corrected.

Analysis of Occurrence: There was no danger to the health and safety of the public or station personnel. The control rod did not vary from its intended position, only the API was faulty.

Corrective Action: During the last shutdown in February, 1980, an additional test connection was made at the inner containment electrical penetration at existing butt splices in the API cabling. This was done under FCR 79-424, Rev. A, and as a continuing corrective action to similar occurrences reported under Licensee Event Reports NP-33-79-141 and NP-33-80-07.

Under Facility Change Request 79-413, a new "R4C" API system was installed. This system features built-in channel redundancy and high temperature API cables.

Failure Data: There have been previous failures of control rod APIs. Control Rod 5-11's current symptoms were previously reported in Licensee Event Reports NP-33-79-141 and NP-33-80-07.