



**Consumers
Power
Company**

General Offices: 212 West Michigan Avenue, Jackson, Michigan 49201 • Area Code 517 788-0550

September 15, 1975

Regulatory

File Cy.



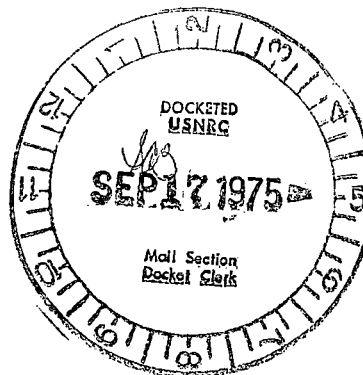
Mr Robert A. Purple
Division of Reactor Licensing
US Nuclear Regulatory Commission
Washington, DC 20555

DOCKET 50-255, LICENSE DPR-20 -
PALISADES PLANT, AO-75-20

Attached is Abnormal Occurrence (AO) Report No 75-20 covering dropped shutdown rod No 16. This occurrence appears to be similar to AO-75-18 and AO-75-19 and an investigation into the cause of these failures has begun.

David A. Bixel
Assistant Nuclear Licensing Administrator

CC: JGKeppler, USNRC
File



3890

ABNORMAL OCCURRENCE REPORT
Palisades Plant

1. Report No: AO-75-20.
2. a. Report Date: September 15, 1975.
b. Occurrence Date: September 5, 1975.
3. Facility: Palisades Plant, Covert, Michigan.
4. Identification of Occurrence: Control Rod No 16 dropped into the core.

This incident was identified as an abnormal occurrence by Technical Specifications 3.10.6(c). The shutdown rods shall not be inserted below their exercise limit until all regulating rods are inserted.

5. Conditions Prior to Occurrence: The plant was operating at the steady state power level of 80%.
6. Description of Occurrence: At 1210 hours on September 5, 1975, Control Rod No 16 dropped into the core. Turbine runback reduced plant power to 70%. Plant power was further reduced to 60%. To comply with administrative limits, an unsuccessful attempt was made to retrieve the control rod.
7. Designation of Apparent Cause of Occurrence: The apparent cause of the incident was a shorted clutch coil.
8. Analysis of Occurrence: Control Rod No 16 was classified inoperable under Section 3.10.4(b) of the plant Technical Specifications. Plant operation was continued with one inoperable rod (under an administrative limit of 60%) until the evening lighting load had passed. The plant was then shut down to effect necessary repairs.

Core flux tilts were calculated and demonstrated to be within the limits of Technical Specifications, Section 3.10.3 Reactivity of the dropped rod was less than 0.2%. (Technical Specifications limit on potential ejected rod worth is about 1%.)

9. Corrective Action: The immediate corrective action was to replace the clutch. While the dropping of a control rod is an anticipated event provided for within the plant Technical Specifications (and generally does not represent a safety problem), we recognize that a generic problem may exist with the control rod drive mechanism (CRDM) clutches. As indicated in AO-75-18 and AO-75-19, we have begun an investigation of the clutch failures that have recently occurred and hope to determine the mode and/or cause of the failures.

Preliminary information indicates that a high clutch coil temperature may be associated with these failures. To alleviate this problem we have reduced clutch coil voltage and expect to accomplish a reduction of about 25% in the power dissipation within the clutch coils.

10. Failure Data:

- a. CRDM No 16 manufacturer is Combustion Engineering, Inc and the piece is J-2966-163-001.

The dual clutch assembly manufacturer is Combustion Engineering, Inc and the piece number is CND-SE-3998-1.

- b. This mode of failure on CRDM clutches has occurred in the past at the Palisades Plant. See AO-73-9 transmitted by letter dated August 20, 1973, AO-75-18 transmitted by letter dated August 28, 1975 and AO-75-19 transmitted by letter dated September 9, 1975.