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(TEMPORARY FORM)

CONTROL NO: 1550

FILE: INCIDENT REPORT

FROM: American Electric Power New York, New York 10004 Mr. J.E. Dolan		DATE OF DOC 2-3-75	DATE REC'D 2-11-75	LTR x	TWX	RPT	OTHER
TO: NRC		ORIG 1 signed	CC	OTHER	SENT AEC PDR <u>XXX</u> SENT LOCAL PDR <u>XXX</u>		
CLASS	UNCLASS	PROP INFO	INPUT	NO CYS REC'D 1		DOCKET NO: 50-3154316	

DESCRIPTION:
Ltr reporting an abnormal occurrence at the D.C. Cook facility....concerning a deficiency ...diode failures in the Engineered Safe-guards System test circuitry.....

ENCLOSURES:
ACKNOWLEDGED
DO NOT REMOVE

PLANT NAME: D.C. Cook

FOR ACTION/INFORMATION 2-12-75 JB

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INTERNAL DISTRIBUTION

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Regulatory Docket File

AMERICAN ELECTRIC POWER Service Corporation

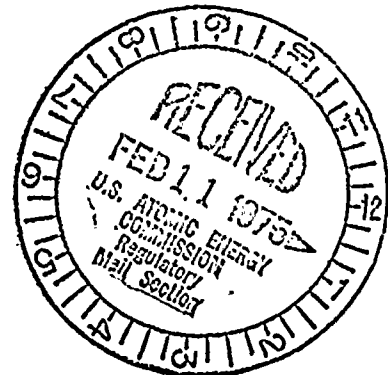
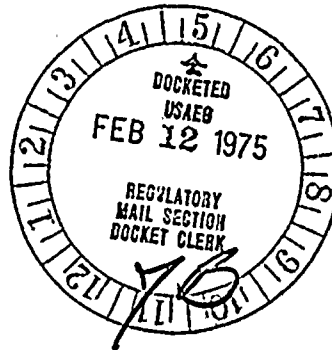
AEP

2 Broadway, New York, N. Y. 10004
(212) 422-4800

JOHN E. DOLAN
Executive Vice President
Engineering & Construction

February 3, 1975

Docket No. 50-315
and 50-316
CPR No. 61
DPR No. 58



U.S. Nuclear Regulatory Commission
Directorate of Regulatory Operations
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Attention: Mr. James G. Keppler
Regional Director

Gentlemen:

Pursuant to the regulations of 10CFR50.55(e), we herewith submit this report concerning an equipment deficiency which occurred during construction at the Donald C. Cook Nuclear Plant, Bridgman, Michigan. Unit 1 is currently operating under AEC Operating License DPR-58 and Unit 2 is being constructed under AEC Construction Permit No. CPR-61.

The equipment deficiency has been identified as diode failures in the Engineered Safeguards System test circuitry. This test circuitry is utilized to periodically verify the continuity of relay coils which are required for the proper operation of the Engineered Safeguards System.

The subject diodes are used for the sole purpose of protecting certain indicating lamps in the Engineered Safeguard System test circuitry from surge voltages generated when associated relays in this system are reset (de-energized). Such a relay reset would occur after these Engineered Safeguards System relays have been energized in the performance test. Diodes associated with these relays failed during initial performance testing of the system at which time detection of the failure occurred.

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Mr. James G. Keppler

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February 3, 1975

An investigation into the deficiency has determined that the peak reverse voltage rating of these particular diodes is insufficient to withstand the surge voltages generated during Engineered Safeguards System Relay de-energization. This resulted in diode failures and subsequent damage to Engineered Safeguards System circuitry.

Had the diode failure occurred undetected during plant operation, and had the Engineered Safeguards System been called upon to operate during the time interval that the failure remained undetected, proper operation of certain functions of the Engineered Safeguards System may have been prevented. However, the indications of this failure during the initial performance testing were clear and immediately discernable to both test and operations personnel. Therefore, due to the comprehensive testing program carried out on this equipment prior to plant startup, no possibility existed for placement of the subject Engineered Safeguards System test circuitry in service with this diode deficiency remaining undetected.

To prevent future damage, all diodes in the Engineered Safeguards System Test circuitry subject to failure by this mechanism have been removed and replaced with varistors with the appropriate voltage characteristics. All Engineered Safeguards circuitry, including any circuitry with the above modification, has been tested. All circuitry now operates within required specifications and no varistor failures have been experienced under repeated operation.

Very truly yours,

John E. Dolan

John E. Dolan

Executive Vice President
Engineering & Construction

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