NRC FORM 195 (2-76)

U.S. NUCLEAR REGULATORY COMMISSION

NRC DISTRIBUTION FOR PART 50 DOCKET MATERIAL

DOCKET NUMBER 50-315

FILE NUMBER INCIDENT REPORT

TO: Mr J G Keppler

FROM: Indiana & Michigan Pwr Co
Bridgman, Michigan
R W Jurgensen

DATE OF DOCUMENT 2-12-77

DATE RECEIVED 2-16-77

☒ LETTER ☒ ORIGINAL ☐ COPY ☐ NOTORIZED ☒ UNCLASSIFIED

PROP

INPUT FORM

NUMBER OF COPIES RECEIVED one cc

DESCRIPTION -

Ltr trans the following:

1p

PLANT NAME: Cook #1

ENCLOSURE

Licensee Event Report (RO# 77-05) on 1-11-77 failure of 600 volt buses to be energized by emergency diesel generators due to personnel error & equipment failure.....

ACKNOWLEDGED

3p

DO NOT REMOVE

NOTE: IF PERSONNEL EXPOSURE IS INVOLVED SEND DIRECTLY TO KREGER/J. COLLINS

FOR ACTION/INFORMATION 2-16-77 ebf

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CONTROL NUMBER

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NRC FORM 195 (2-76)

30

American Electric Power System
INDIANA & MICHIGAN POWER COMPANY
DONALD C. COOK NUCLEAR PLANT
P.O. Box 458, Bridgman, Michigan 49106

February 12, 1977

Mr. J. G. Keppler, Regional Director
Office of Inspection and Enforcement
United States Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, IL 60137

Operating License DPR-58
Docket No. 50-315

Dear Mr. Keppler:

Pursuant to the requirements of Appendix A Technical Specifications and the United States Nuclear Regulatory Commission Regulatory Guide 1.16, Revision 4, Section 2.b, the following report is submitted:

RO 50-315/77-05

Sincerely,

for R. W. Jurgensen
Plant Manager

RWJ/mj

cc: R. S. Hunter
J. E. Dolan
G. E. Lien
R. J. Vollen BPI
R. C. Callen MPSC
K. R. Baker RO: III
R. Walsh, Esq.
P. W. Steketee, Esq.
G. Charnoff, Esq.
G. Olson
J. M. Hennigan
PNSRC
R. S. Keith
Dir., IE (30 copies)
Dir., MIPC (3 copies)

1677

LICENSEE EVENT REPORT

CONTROL BLOCK: [ ] (1–6)

[PLEASE PRINT ALL REQUIRED INFORMATION]

	LICENSEE NAME	LICENSE NUMBER	LICENSE TYPE	EVENT TYPE
01	MIDCC1 (7–14)	00–00000–00 (15–25)	4111 1 (26–30)	03 (31–32)

	CATEGORY	REPORT TYPE	REPORT SOURCE	DOCKET NUMBER	EVENT DATE	REPORT DATE
01 CON'T	00 (57–58)	L (59)	L (60)	05000–315 (61–68)	011177 (69–74)	021277 (75–80)

EVENT DESCRIPTION

02 See Attachment

03

04

05

06 (RO-50-315/77-05)

	SYSTEM CODE	CAUSE CODE	COMPONENT CODE	PRIME COMPONENT SUPPLIER	COMPONENT MANUFACTURER	VIOLATION
07	EB (10)	B (11)	CKTBRK (12–17)	L (43)	I005 (44–47)	N (48)

CAUSE DESCRIPTION

08 See Attachment

09

10

	FACILITY STATUS	% POWER	OTHER STATUS	METHOD OF DISCOVERY	DISCOVERY DESCRIPTION
11	H (9)	000 (10–12)	NA (13–44)	C (45)	Review of Technical Specifications (46–80)

	FORM OF ACTIVITY RELEASED	CONTENT OF RELEASE	AMOUNT OF ACTIVITY	LOCATION OF RELEASE
12	Z (9)	Z (10)	NA (11–44)	NA (45–80)

PERSONNEL EXPOSURES

	NUMBER	TYPE	DESCRIPTION
13	000 (9–11)	Z (12)	NA (13–80)

PERSONNEL INJURIES

	NUMBER	DESCRIPTION
14	000 (9–11)	NA (12–80)

15 PROBABLE CONSEQUENCES – None. At all times during the event, the required heat removal loop was in operation. The health and safety of the public was not jeopardized.

LOSS OR DAMAGE TO FACILITY

	TYPE	DESCRIPTION
16	Z (9)	NA (10–80)

PUBLICITY

17 NA

ADDITIONAL FACTORS

18 See Attachment

19

NAME: Leland L. Lenz PHONE: (616) 465-5901

ATTACHMENT TO RO-50-315/77-05

EVENT DESCRIPTION

On January 11, 1977, at 1037 hours, with the Reactor in Refueling Mode 6, 600 volt bus 11C was crosstied with Bus 11A and the 11C feed breaker, 11C1, was opened. At 1348 hours, 600 volt bus 11B was crosstied with bus 11D and the 11B feed breaker, 11B11, was opened. Both feed breakers and their supply transformers were tagged out for Doble testing of the transformers.

This left all 600 volt buses energized, but only buses 11D and 11A would be energized from an emergency diesel generator in case of a blackout.

Per Technical Specification 3.8.2.2, Refueling Mode 6 requires one 600 volt bus to be operable and aligned to an operable diesel generator. Per Technical Specification 3.8.2.1 one 600 volt bus is defined as 11A and 11B or 11C and 11D.

At 1513 hours feed breaker 11A1 tripped due to overload. This deenergized buses 11A and 11C.

The clearance of 11C transformer was released and bus 11C energized from it's normal source at 1558 hours. This made 600 volt buses 11C and 11D operable.

An investigation of bus 11A found the middle horizontal bus bar burned open between bus cubicals 1 and 2. The bus bars for the other two phases in the burned open area were opened so that cubicals 1 and 2 were no longer tied together. To accomplish this bus 11C was deenergized at 1758 hours due to the proximity of bus 11C to the work area for opening the phases in bus 11A. While doing this work bus 11D was the only bus aligned to an operable diesel generator, however, bus 11B was energized from bus 11D.

Bus 11C was energized from it's normal source at 1917 hours.

Bus 11A, except for cubical 1, was energized from it's normal source at 2029 hours.

Cubical 1 of bus 11A was energized at 2031 hours by closing bus tie breaker 11AC. This made all feeders from bus 11A operable.

The Technical Specification requirement for leaving an operable 600 volt emergency bus aligned to an operable diesel generator was not met for a period of 2 hours and 15 minutes when the buses were crosstied for Doble testing and for a period of 1 hour and 20 minutes for the emergency repair work to the failed bus 11A. The total elapsed time from the start of the testing to completion of the temporary repair work was 5 hours and 29 minutes.

Bus 11A and 11C were again removed from service on February 12 for the permanent repair of bus 11A. The elapsed time that both buses were deenergized was 7 hours and 48 minutes.

CAUSE DESCRIPTION

The cause of the first event was personnel error when the original switching was made for testing of the transformers.

The cause of the second event was equipment failure. The 11A bus bar burned open at a bolted connection which either had loosened during use or had never been properly tightened during manufacture. The latter reason is believed to be the most likely cause because all other bus connections that have been checked are of proper bolt tension and show no evidence of overheating.

ADDITIONAL FACTORS

The personnel error was due to a misinterpretation of the requirements of Technical Specification 3.8.2.2 which only specifies "1 - 600 volt emergency bus" being required in Modes 5 and 6.

The Technical Specifications involved will be reviewed by all licensed personnel prior to March 1, 1977.

D. Farham

American Electric Power System INDIANA & MICHIGAN POWER COMPANY
DONALD C. COOK NUCLEAR PLANT
P.O. Box 458, Bridgman, Michigan 49106

February 12, 1977

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Docket No. 50-315

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RO 50-315/77-05

Sincerely,

for R. W. Jurgensen
Plant Manager

RWJ/mj

cc: R. S. Hunter
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G. E. Lien
R. J. Vollen BPI
R. C. Callen MPSC
K. R. Baker RO: III
R. Walsh, Esq.
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02 See Attachment

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PUBLICITY

17 NA

ADDITIONAL FACTORS

18 See Attachment

19

NAME: Leiland S. Lease PHONE: (616) 465-5901

GPO 881-867

ATTACHMENT TO RO-50-315/77-05

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