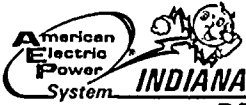


DMB



**INDIANA & MICHIGAN ELECTRIC COMPANY**

DONALD C. COOK NUCLEAR PLANT  
P.O. Box 458, Bridgman, Michigan 49106  
(616) 465-5901

August 31, 1981

IE HQ FILE COPY

Ms. N. Nicholson  
Office of Inspection and Enforcement  
United States Nuclear Regulatory Commission  
Region III  
799 Roosevelt Road  
Glen Ellyn, IL 60137

Dear Ms. Nicholson:

Attached find the analytical results from the December 16, 1980 Confirmatory Measurements Split Sample. The majority of these results were submitted during the inspection visit and discussed at an exit interview held on site December 17, 1980. The results of the comparison was documented on Inspection Report 50-315/80-22; 50-316/80-18.

Results of the analysis of a spiked particulate filter will be forwarded separately once the sample is received for analysis.

Should you have any questions please feel free to contact me.

Very truly yours,

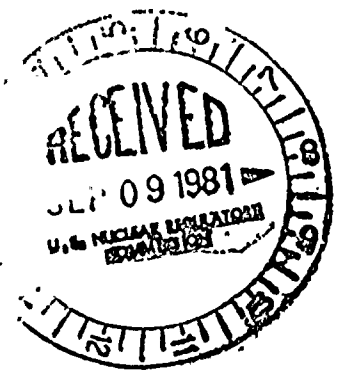
*E J Townley*

for D. V. Shaller  
Plant Manager

pjv

- cc: J. E. Dolan
- R. S. Hunter
- R. W. Jurgensen
- R. F. Kroeger
- K. J. Vehstedt
- E. Swanson/N. DuBry RO:III
- R. C. Callen MPSC
- G. Charnoff, Esq.
- J. M. Hennigan
- W. Lavalley EPRI
- PNSRC
- J. F. Stietzel
- E. L. Townley

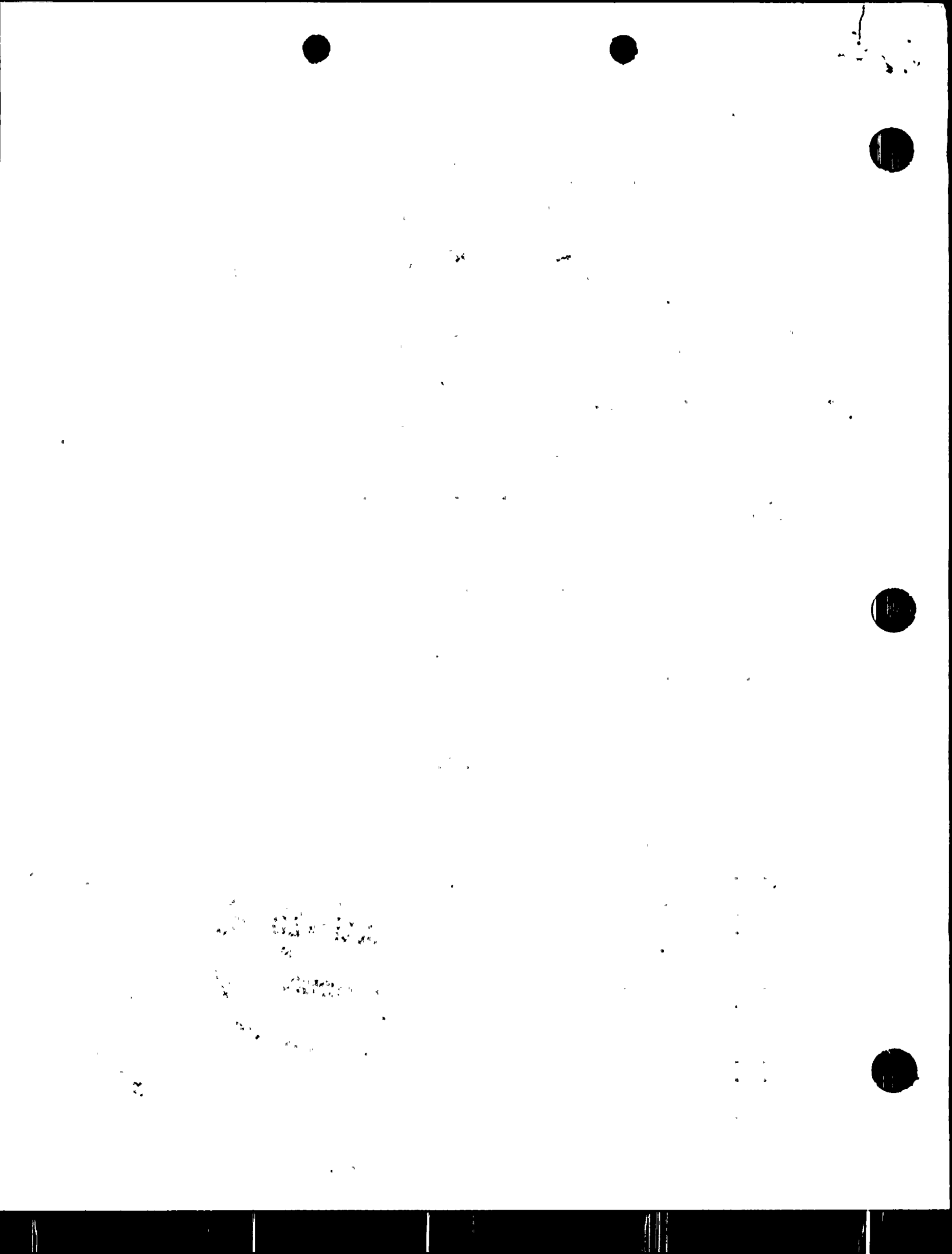
- bcc: E. A. Smarrella
- J. T. Wojcik



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10/11

8109100406 810831  
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PDR

SEP 3 1981



RSX-203 12-16-80 @ 1008

I-131	$4.404 \times 10^{-4}$	$\pm 1.54 \times 10^{-6}$	$\mu\text{Ci/cc}$
Xe-133	$1.189 \times 10^{-4}$	$\pm 2.76 \times 10^{-6}$	$\mu\text{Ci/cc}$
Xe-135	$7.858 \times 10^{-6}$	$\pm 1.03 \times 10^{-7}$	$\mu\text{Ci/cc}$
Cs-136	$2.11 \times 10^{-6}$	$\pm 8.73 \times 10^{-6}$	$\mu\text{Ci/cc}$
I-133	$7.422 \times 10^{-5}$	$\pm 1.40 \times 10^{-6}$	$\mu\text{Ci/cc}$
Cs-134	$4.021 \times 10^{-5}$	$\pm 1.09 \times 10^{-6}$	$\mu\text{Ci/cc}$
Cs-137	$7.701 \times 10^{-5}$	$\pm 1.26 \times 10^{-7}$	$\mu\text{Ci/cc}$
Mb-95	$3.23 \times 10^{-6}$	$\pm 8.31 \times 10^{-6}$	$\mu\text{Ci/cc}$
Co-58	$1.471 \times 10^{-4}$	$\pm 1.27 \times 10^{-7}$	$\mu\text{Ci/cc}$
Mn-54	$1.513 \times 10^{-5}$	$\pm 8.78 \times 10^{-6}$	$\mu\text{Ci/cc}$
Co-60	$6.298 \times 10^{-4}$	$\pm 1.12 \times 10^{-6}$	$\mu\text{Ci/cc}$
Na-24	$2.075 \times 10^{-2}$	$\pm 2.03 \times 10^{-3}$	$\mu\text{Ci/cc}$
H-3	$4.90 \times 10^{-2}$	$\pm 4.90 \times 10^{-7}$	$\mu\text{Ci/cc}$
Sr-89	$3.20 \times 10^{-6}$	$\pm 3.20 \times 10^{-8}$	$\mu\text{Ci/cc}$
Sr-90	$2.70 \times 10^{-7}$	$\pm 2.70 \times 10^{-5}$	$\mu\text{Ci/cc}$
gross $\beta$ - $\gamma$	$4.39 \times 10^{-4}$	$\pm 4.40 \times 10^{-5}$	$\mu\text{Ci/cc}$

#1 Gas Decay Tank 12-17-80 @ 0952

Xe-133	$1.255 \times 10^{-4}$	$\pm 1.08 \times 10^{-6}$	$\mu\text{Ci/cc}$
Kr-85	$7.227 \times 10^{-5}$	$\pm 1.05 \times 10^{-6}$	$\mu\text{Ci/cc}$
Xe-131M	$8.752 \times 10^{-5}$	$\pm 5.65 \times 10^{-6}$	$\mu\text{Ci/cc}$

Unit 1 Vent Stack - Charcoal Cartridge 12-16-80 @ 0957

I-131	$2.692 \times 10^{-12}$	$\pm 3.96 \times 10^{-14}$	$\mu\text{Ci/cc}$
I-133	$1.777 \times 10^{-13}$	$\pm 2.29 \times 10^{-14}$	$\mu\text{Ci/cc}$
Xe-133	$7.60 \times 10^{-12}$	$\pm 8.40 \times 10^{-14}$	$\mu\text{Ci/cc}$
Xe-135	$3.00 \times 10^{-13}$	$\pm 3.90 \times 10^{-14}$	$\mu\text{Ci/cc}$

Unit 1 Vent Stack - Gas Marinelli 12-16-80 @ 0957

Xe-133	$1.087 \times 10^{-6}$	$\pm 3.25 \times 10^{-7}$	$\mu\text{Ci/cc}$
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Unit 1 Vent Stack - Particulate Filter

- no activity detected



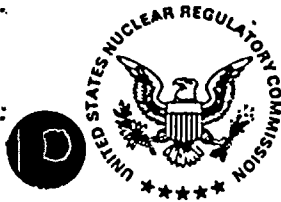
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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION III  
799 ROOSEVELT ROAD  
GLEN ELLYN, ILLINOIS 60137

JAN 2 1981

Docket No. 50-315  
Docket No. 50-316

American Electric Power Service  
Corporation  
Indiana and Michigan Power Company  
ATTN: Mr. John E. Dolan  
Vice Chairman  
Engineering  
2 Broadway  
New York, NY 10004

Gentlemen:

This refers to the routine safety inspection conducted by Mr. M. P. Phillips and Miss N. A. Nicholson of this office on December 15-17, 1980, of activities at the Donald C. Cook Nuclear Plant, Units 1 and 2, authorized by NRC Operating Licenses No. DPR-58 and No. DPR-74 and to the discussion of our findings with Mr. B. Svensson and others of your staff at the conclusion of the inspection.

The enclosed copy of our inspection report identifies areas examined during the inspection. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations, and interviews with personnel. In addition, our Mobile Laboratory was at the site during the inspection to perform independent measurements of radio-activity.

No items of noncompliance with NRC requirements were identified during the course of this inspection.

In accordance with Section 2.790 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter and the enclosed inspection report will be placed in the NRC's Public Document Room, except as follows. If this report contains information that you or your contractors believe to be proprietary, you must apply in writing to this office, within twenty-five days of the date of this letter, to withhold such information from public disclosure. The application must include a full statement of the reasons for which the information is considered proprietary, and should be prepared so that proprietary information identified in the application is contained in an enclosure to the application.

American Electric Power  
Service Corporation

- 2 - JAN 2 1981

We will gladly discuss any questions you have concerning this inspection.

Sincerely,



A. B. Davis; Chief  
Fuel Facility and  
Materials Safety Branch

Enclosure: IE Inspection  
Reports No. 50-315/80-22  
and No. 50-316/80-18

cc w/encl:  
D. V. Shaller, Plant  
Manager  
Central Files  
Reproduction Unit NRC 20b  
AEOD  
Resident Inspector, RIII  
PDR  
Local PDR  
NSIC  
TIC  
Ronald Callen, Michigan  
Public Service Commission



U.S. NUCLEAR REGULATORY COMMISSION  
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

Reports No. 50-315/80-22; 50-316/80-18

Docket Nos. 50-315; 50-316

Licenses No. DPR-58; DPR-74

Licensee: American Electric Power Service Corporation  
Indiana and Michigan Power Company  
2 Broadway  
New York, NY 10004

Facility Name: D. C. Cook Nuclear Plant, Units 1 and 2

Inspection at: D. C. Cook Site, Bridgeman, MI

Inspection Conducted: December 15-17, 1980

Inspectors: *M. P. Phillips*  
M. P. Phillips

*C. J. Paperiello*  
N. A. Nicholson

Approved By: *C. J. Paperiello*  
C. J. Paperiello, Chief  
Environmental and Special  
Projects Section

12/30/80

12/30/80

12/30/80

Inspection Summary

Inspection on December 15-17, 1980 (Reports No. 50-315/80-22; 50-316/80-18)

Areas Inspected: Routine unannounced inspection of Confirmatory Measurements, including collection of samples, analysis onsite with the Region III Mobile Laboratory, and discussion of results. The inspection involved 49 inspector-hours on site by two NRC inspectors.

Results: For the one area inspected, no apparent items of noncompliance or deviations were identified:





## DETAILS

### 1. Persons Contacted

- \*B. Svensson, Assistant Plant Manager
- \*J. Stietzel, Quality Assurance Supervisor
- \*J. Wojcik, Plant Chemistry Supervisor
- \*J. Erslund, Chemistry Supervisor

\* Denotes those present at the exit interview..

### 2. Results of Comperative Analyses

Results of comparative analyses performed on samples split and analyzed in the RIII Mobile Laboratory onsite during this inspection are shown in Table I. The criteria for comparing measurement results are given in Attachment 1. For 19 sample comparisons, the licensee's results yielded 16 agreements or possible agreements.

The licensee failed to quantify Na-24 and Co-58 on the particulate filter counted. These were at a level of  $2.1 \times 10^{-14}$   $\mu\text{Ci/ml}$  and  $2.0 \times 10^{-14}$   $\mu\text{Ci/ml}$  respectively, and are considerably lower than the Environmental Technical Specification Value for the Lower Limit of Detection, which is  $10^{-11}$   $\mu\text{Ci/ml}$ . Because of the low activity, and lack of sufficient number of isotopes, the licensee agreed to count a particulate spike sample within seven days after receipt.

The licensee failed to quantify Xe-131m in the gas sample. Although the counting equipment used did detect the presence of this isotope's energy line, it reported the activity as Ce-139, and gave a possible identification as Xe-133m. Xe-133m does not have any gamma rays associated with this energy, but Xe-131m does. The licensee felt this was an obvious software problem and is currently in discussions with the supplier of the counting equipment to resolve this misidentification. The Xe-131m in the sample was at a level of  $7.0 \times 10^{-5}$   $\mu\text{Ci/ml}$ , which is lower than the Environmental Technical Specification Value for the Lower Limit of Detection, which is  $10^{-4}$   $\mu\text{Ci/ml}$ .

### 3. Exit Interview

The inspectors met with licensee representatives (denoted in Paragraph 1) at the conclusion of the inspection on December 17, 1980. The inspectors summarized the scope and findings of the inspection. The licensee made the following remarks in response to certain of the items discussed by the inspectors.

- a. Agreed to also analyze the two liquid samples collected for tritium, Sr-89, Sr-90, and gross beta (to be counted at 1:00 p.m. Eastern Standard Time on January 14, 1981).

- b. Agreed to analyze a particulate spike sample within seven days of receipt and then return the spike with a copy of the results.

Attachments:

1. Attachment 1, Criteria for Comparing Analytical Measurements
2. Table I, Confirmatory Measurements Program Results

ATTACHMENT 1

CRITERIA FOR COMPARING ANALYTICAL MEASUREMENTS

This attachment provides criteria for comparing results of capability tests and verification measurements. The criteria are based on an empirical relationship which combines prior experience and the accuracy needs of this program.

In these criteria, the judgment limits are variable in relation to the comparison of the NRC Reference Laboratory's value to its associated one sigma uncertainty. As that ratio, referred to in this program as "Resolution", increases, the acceptability of a licensee's measurement should be more selective. Conversely, poorer agreement should be considered acceptable as the resolution decreases. The values in the ratio criteria may be rounded to fewer significant figures to maintain statistical consistency with the number of significant figures reported by the NRC Reference Laboratory, unless such rounding will result in a narrowed category of acceptance. The acceptance category reported will be the narrowest into which the ratio fits for the resolution being used.

<u>RESOLUTION</u>	<u>RATIO = LICENSEE VALUE/NRC REFERENCE VALUE</u>		
	<u>Agreement</u>	<u>Possible Agreement "A"</u>	<u>Possible Agreeable "B"</u>
<3	No Comparison	No Comparison	No Comparison
>3 and <4	0.4 - 2.5	0.3 - 3.0	No Comparison
>4 and <8	0.5 - 2.0	0.4 - 2.5	0.3 - 3.0
>8 and <16	0.6 - 1.67	0.5 - 2.0	0.4 - 2.5
>16 and <51	0.75 - 1.33	0.6 - 1.67	0.5 - 2.0
>51 and <200	0.80 - 1.25	0.75 - 1.33	0.6 - 1.67
>200	0.85 - 1.18	0.80 - 1.25	0.75 - 1.33

"A" criteria are applied to the following analyses:

Gamma spectrometry, where principal gamma energy used for identification is greater than 250 keV.

Tritium analyses of liquid samples.

"B" criteria are applied to the following analyses:

Gamma spectrometry, where principal gamma energy used for identification is less than 250 keV.

Sr-89 and Sr-90 determinations.

Gross beta, where samples are counted on the same date using the same reference nuclide.



TABLE I

U S NUCLEAR REGULATORY COMMISSION  
OFFICE OF INSPECTION AND ENFORCEMENT  
CONFIRMATORY MEASUREMENTS PROGRAM  
FACILITY: D. C. COOK  
FOR THE 4 QUARTER OF 1980

SAMPLE	ISOTOPE	-----NRC-----		---LICENSEE---		---NRC:LICENSEE---		
		RESULT	ERROR	RESULT	ERROR	RATIO	RES	T
OFF GAS	KR 85	8.6E-04	9.3E-05	7.4E-04	3.5E-05	8.6E-01	9.2E+00	A
	XE 131M	7.0E-05	2.2E-05	0.0	0.0	0.0	3.2E+00	NC
	XE 133	1.0E-04	2.1E-06	1.3E-04	1.1E-06	1.3E+00	4.8E+01	A
L WASTE	NA 24	2.3E-04	4.7E-06	2.1E-04	2.0E-06	9.1E-01	4.9E+01	A
	MN 54	1.5E-05	6.7E-07	1.5E-05	8.8E-07	1.0E+00	2.2E+01	A
	CO 58	1.5E-04	1.6E-06	1.5E-04	1.3E-06	1.0E+00	9.4E+01	A
	CO 60	6.3E-05	1.3E-06	6.3E-05	1.1E-06	1.0E+00	4.8E+01	A
	XE 133	1.3E-04	2.7E-06	1.2E-04	2.8E-06	9.2E-01	4.8E+01	A
	XE 135	9.2E-06	5.6E-07	7.9E-06	1.0E-06	8.6E-01	1.6E+01	A
	I 131	4.6E-04	2.4E-06	4.4E-04	1.5E-06	9.6E-01	1.9E+02	A
	I 133	7.9E-05	2.4E-06	7.4E-05	1.4E-06	9.4E-01	3.3E+01	A
	CS 134	4.1E-05	9.2E-07	4.0E-05	1.1E-06	9.8E-01	4.5E+01	A
CS 137	8.0E-05	1.3E-06	7.7E-05	1.3E-06	9.6E-01	6.2E+01	A	
P FILTER	NA 24	1.7E-05	5.2E-06	0.0	0.0	0.0	3.3E+00	NC
	CO 58	1.6E-05	1.9E-06	0.0	0.0	0.0	8.4E+00	NC
C FILTER	I 131	1.7E-03	1.4E-05	2.2E-03	3.2E-05	1.3E+00	1.2E+02	P
	I 133	1.4E-04	1.1E-05	1.5E-04	1.9E-05	1.1E+00	1.3E+01	A
	XE 133	6.0E-03	3.8E-05	6.2E-03	6.9E-05	1.0E+00	1.6E+02	A
	XE 135	2.6E-04	2.2E-05	2.5E-04	1.3E-05	9.6E-01	1.2E+01	A

T TEST RESULTS:  
A=AGREEMENT  
D=DISAGREEMENT  
P=POSSIBLE AGREEMENT  
NC=NO COMPARISON

*Recro. Unit*

MAR 17 1981

Docket No. 50-315  
Docket No. 50-316

American Electric Power Service  
Corporation  
Indiana and Michigan Power Company  
ATTN: Mr. John E. Dolan  
Vice Chairman  
Engineering  
2 Broadway  
New York, NY 10004

Gentlemen:

Thank you for your letter dated March 2, 1981, informing us of the steps you have taken to correct the noncompliance which we brought to your attention in Inspection Reports No. 50-315/80-21 and No. 50-316/80-17 forwarded by our letter dated February 4, 1981. We will examine these matters during a subsequent inspection.

Your cooperation with us is appreciated.

Sincerely,

R. F. Heishman, Acting Director  
Division of Resident and  
Project Inspection

cc w/ltr dtd 3/2/81:  
D. V. Shaller, Plant  
Manager  
Central Files  
Reproduction Unit NRC 20b  
AEOD  
Resident Inspector, RIII  
PDR  
Local PDR  
NSIC  
TIC  
Ronald Callen, Michigan  
Public Service Commission

RIII  
~~Reimann/jp~~  
3/11/81

RIII  
*Hayes*  
Hayes

RIII  
*Knop*  
Knop

RIII  
*Heishman*  
Heishman

*3/13*

# INDIANA & MICHIGAN ELECTRIC COMPANY

P. O. BOX 18  
BOWLING GREEN STATION  
NEW YORK, N. Y. 10004

March 2, 1981  
AEP:NRC:0520

Donald C. Cook Nuclear Plant Unit Nos. 1 and 2  
Docket Nos. 50-315 and 50-316  
License Nos. DPR-58 and DPR-74  
IE Reports Nos. 50-315/80-21 and 50-316/80-17

Mr. James G. Keppler, Regional Director  
U.S. Nuclear Regulatory Commission  
Office of Inspection and Enforcement  
Region III  
Glen Ellyn, Illinois 60137

Dear Mr. Keppler:

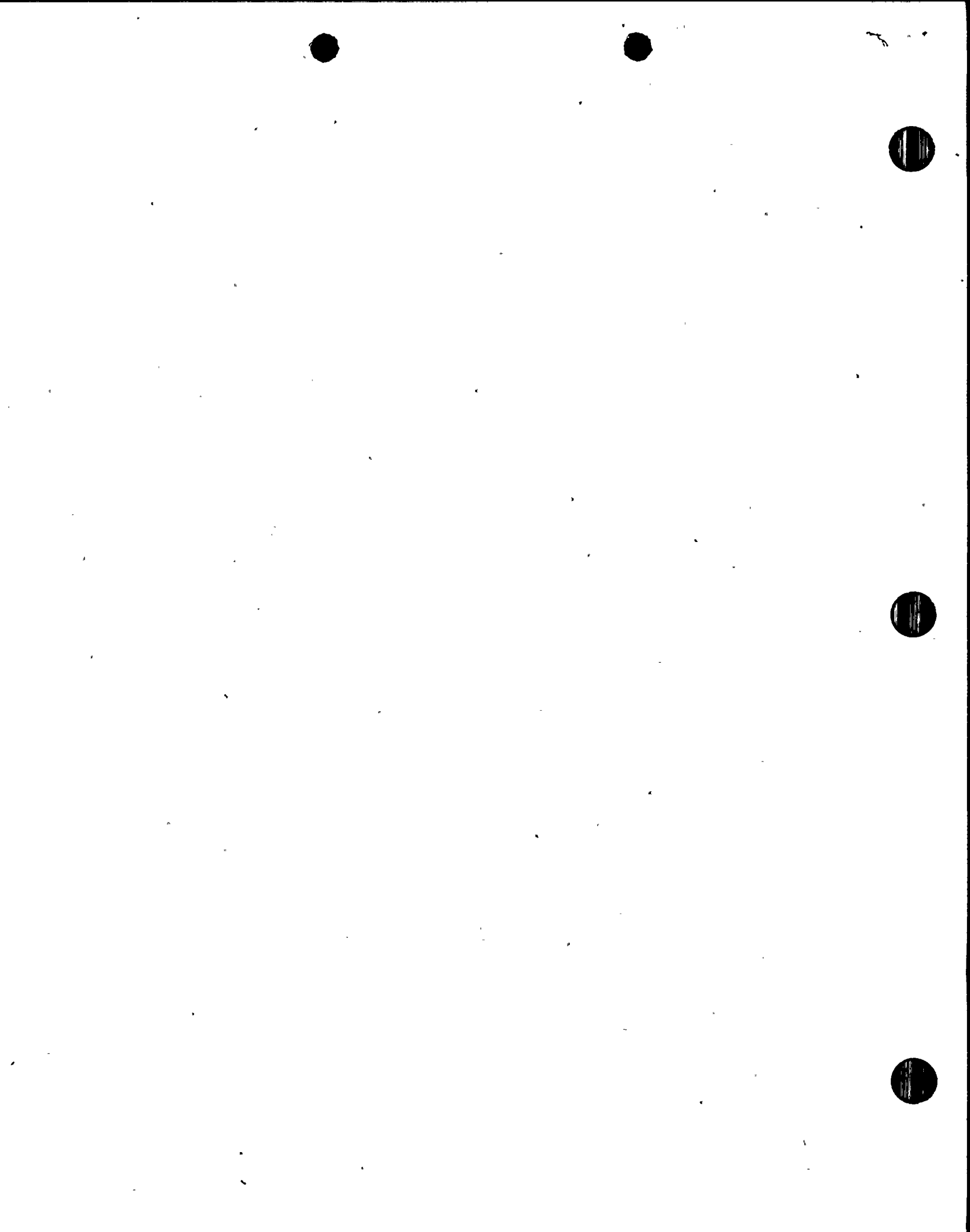
This letter responds to Mr. R. F. Heishman's letter of February 4, 1981 transmitting to us IE Report Nos. 50-315/80-21 and 50-316/80-17 for response within twenty-five days.

Appendix A to Mr. Heishman's letter identifies two items, one classified as Severity Level IV and the second classified as a Severity Level VI violation. No response is required for the first item.

With respect to the second item, we wish to point out to you that the technical reasons for not meeting the commitment date of January 1, 1981 were already given to the NRC in our letter AEP:NRC:0300E, which was referenced in the subject Inspection Report. Our failure to notify the NRC in a timely fashion which resulted in the Severity Level VI violation, has been addressed internally through a management directive. This directive emphasizes the need to meet commitment deadlines. The directive also emphasizes the need to notify the NRC of the schedule slippage prior to the original commitment date.

MAR 6 1981





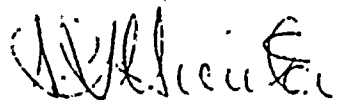
Mr. James G. Keppler

-2-

AEP:NRC:0520

Prior to the issuance of the directive, meetings were held to discuss this item and to develop the major points contained in the directive.

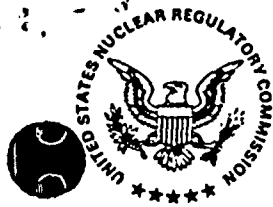
Very truly yours,



R. S. Hunter  
Vice President

cc: R. C. Callen  
G. Charnoff  
John E. Dolan  
R. W. Jurgensen  
D. V. Shaller - Bridgman  
NRC Region III Resident Inspector - Bridgman





UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION III  
799 ROOSEVELT ROAD  
GLEN ELLYN, ILLINOIS 60137

February 4, 1981

Docket No. 50-315  
Docket No. 50-316

American Electric Power Service  
Corporation  
Indiana and Michigan Power Company  
ATTN: Mr. John E. Dolan  
Vice Chairman  
Engineering  
2 Broadway  
New York, NY 10004

Gentlemen:

This refers to the routine inspection conducted by Messrs. E. R. Swanson and N. E. DuBry of this office on December 1-31, 1980, of activities at the D. C. Cook Nuclear Plant Units 1 and 2, authorized by NRC Operating License No. DPR-58 and No. DPR-74 and to the discussion of our findings with Mr. Shaller and others of your staff at the conclusion of the inspection.

The enclosed copy of our inspection report identifies areas examined during the inspection. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations, and interviews with personnel.

During this inspection, certain of your activities appeared to be in non-compliance with NRC requirements, as described in the enclosed Appendix A. The inspection showed that action had been taken to correct the identified noncompliance and to prevent recurrence. Consequently, no reply to this noncompliance is required and we have no further questions regarding this matter at this time.

Certain other activities, set forth in Appendix A to this letter, appear to be a deviation from commitments which you have made in previous correspondence with the Commission. Please advise us in writing within twenty-five days of the date of this letter of the corrective action you have taken or plan to take, showing the estimated date of completion with regard to this deviation.

American Electric Power Service - 2 -  
Corporation

February 4, 1981

We will gladly discuss any questions you have concerning this inspection.

Sincerely,

R. F. Heishman, Chief  
Reactor Operations and  
Nuclear Support Branch

Enclosures:

1. Appendix A, Notice of Violation
2. IE Inspection Report  
No. 50-315/80-21 and  
No. 50-316/80-17

cc w/encl:

D. V. Shaller, Plant  
Manager  
Central Files  
Reproduction Unit NRC 20b  
AEOD  
Resident Inspector, RIII  
PDR  
Local PDR  
NSIC  
TIC  
Ronald Callen, Michigan  
Public Service Commission

RIII

Swanson/jp  
1/27/81

RIII

DuBry

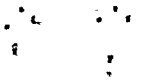
RIII

Boyd

RIII

Heishman

2/4/81



Appendix A

NOTICE OF VIOLATION

American Electric Power Service  
Corporation

Docket No. 50-315  
Docket No. 50-316

As a result of the inspection conducted on December 1-31, 1980, and in accordance with the Interim Enforcement Policy, 45 FR 66754 (October 7, 1980), the following violation was identified:

Technical Specification 3.04 states in part: "Entry into an Operational Mode . . . shall not be made unless the conditions of the Limiting Conditions for Operation are met . . . ." Technical Specification 3.6.2.1 states "Two independent containment spray systems shall be operable . . ."

Contrary to the above on December 14, 1980, CTS-124E and CTS-128E were found closed and determined to have been closed making the east CTS inoperable prior to entering Mode 4 on December 4 and during numerous subsequent mode changes.

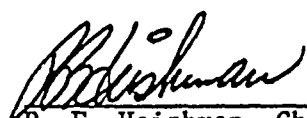
This is a Severity Level IV violation (Supplement 1.D.3).

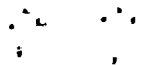
In a letter dated December 11, 1979 (AEP: NRC:0300), the licensee discussed plans to install an automatic auxiliary feedwater pump trip on low suction pressure, which would annunciate in the control room. It states "This modification will be made by January 1, 1981."

Contrary to the above the modification was not completed by January 1, 1981.

This is a Severity Level VI violation (Supplement 1F).

Dated Feb. 4, 1981

  
\_\_\_\_\_  
R. F. Heishman, Chief  
Reactor Operations and  
Nuclear Support Branch





U.S. NUCLEAR REGULATORY COMMISSION  
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

Reports No. 50-315/80-21; 50-316/80-17

Docket Nos. 50-315; 50-316

Licenses No. DPR-58; DPR-74

Licensee: American Electric Power Service Corporation  
Indiana and Michigan Power Company  
2 Broadway  
New York, NY 10004

Facility Name: D. C. Cook Nuclear Power Plant, Units 1 and 2

Inspection At: D. C. Cook Site, Bridgman, MI

Inspection Conducted: December 1-31, 1980

Inspectors: *DE Boyd*  
E. R. Swanson

2-2-81

*for*  
*for* *DE Boyd*  
N. E. DuBry

2-2-81

Approved By: *DE Boyd*  
D. C. Boyd, Chief,  
Projects Section 4

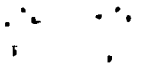
2-2-81

Inspection Summary

Inspection on December 1-31, 1980 (Reports No. 50-315/80-21; 50-316/80-17)

Areas Inspected: Routine, onsite regular and backshift inspection by the resident inspector. Areas inspected included operational safety verification, inspection during long term shutdown, surveillance observation, maintenance observations, IE Bulletin and IE Circular followup, licensee event report reviews, plant trips, and independent inspection efforts. The inspection involved a total of 178 inspector-hours onsite by two NRC inspectors including 49 inspector-hours on the off-shifts.

Results: Of the nine areas inspected, no items of noncompliance or deviations were identified in eight areas. Two items of noncompliance were identified in two areas (violation, level IV - exceeding an action statement, paragraph 8; violation level VI - failure to meet commitment - paragraph 10d).



## DETAILS

### 1. Persons Contacted

R. Hunter, Vice President, AEP  
\*D. Shaller, Plant Manager  
\*B. Svensson, Assistant Plant Manager  
\*E. Townley, Assistant Plant Manager  
\*R. Keith, Operations Superintendent  
\*E. Smarella, Technical Superintendent  
\*R. Dudding, Maintenance Superintendent  
\*J. Stietzel, QA Supervisor  
\*D. Duncan, C&I Supervisor  
\*D. Palmer, Radiation Protection Supervisor  
\*T. Kriesel, Environmental Supervisor  
R. Jurgenson, Assistant Vice President, AEP

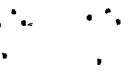
The inspectors also conducted a number of interviews with operators, technicians, and maintenance personnel during the inspection.

\*Denotes those present at the exit interview.

### 2. Operational Safety Verification

The inspector observed control room operations, reviewed selected logs and records to identify significant changes and trends; to assure required entries were being made; to verify operating memos and instructions conform to Technical Specifications; to check correctness of communications about equipment operational status; and to verify conformance to limiting conditions for operation during the month of December 1980. The inspector also conducted discussions about selected annunciators with the control room operators and supervision to assure they were knowledgeable of plant conditions and that corrective action, if required, was being taken. Tours of the Unit 2 reactor compartment (lower level), the auxiliary building, and turbine buildings were conducted to observe plant equipment conditions, including potential fire hazards, fluid leaks, and excessive vibrations and to verify that maintenance requests had been initiated for equipment in need of maintenance. The inspector by tours of the monitoring stations, observations, and direct interview verified that the physical security plan was being implemented in accordance with the station security plan.

The inspector observed plant housekeeping/cleanliness conditions and verified implementation of radiation protection controls. During the month of December 1980, the inspector walked down the accessible portions of the Unit 1 high head and boron injection portion of the CVCS which is part of the ESF systems to verify operability. These reviews and observations were conducted to verify that facility operations were in conformance with the requirements established under technical specifications, 10 CFR, and administrative procedures.



3. Inspection During Long Term Shutdown

The inspector observed the continued shutdown control room operations of Unit 2, reviewed applicable logs and conducted discussions with operators and others during early December 1980. The inspectors checked the operability of selected emergency systems and verified proper return to service of affected components. The inspectors observed portions of the multiple restarts of Unit 2.

The inspectors also observed the shutdown operations of Unit 1 in late December 1980.

4. Monthly Surveillance Observation

The inspector observed technical specifications required surveillance testing on the Pressurized Pressure Protection Set II (2 THP 4030 STP 112) and Steam Generator Water Level Protection Set III (2 THP 4030 STP 117) and verified that testing was performed in accordance with adequate procedures, that test instrumentation was calibrated, that limiting conditions for operation were met, that removal and restoration of the affected components were accomplished, that test results conformed with technical specifications and procedure requirements and were reviewed by personnel other than the individual directing the test, and that any deficiencies identified during the testing were properly reviewed and resolved by appropriate management personnel.

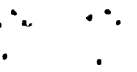
The inspector also witnessed portions of the following test activities:

<u>Procedure No.</u>	<u>Title</u>
2 THP 4030 STP 104	Overtemperature and Overpower Protection Set I.
2 THP 4030 STP 118	Steam Generator Water Level Protection Set IV.
12 THP 6030 IMP 142	Cardox System Surveillance.

5. Monthly Maintenance Observation

Station maintenance activities of safety related systems and components listed below were observed/reviewed to ascertain that they were conducted in accordance with approved procedures, regulatory guides and industry codes or standards and in conformance with technical specifications.

The following items were considered during this review: the limiting conditions for operation were met while components or systems were removed from service; approvals were obtained prior to initiating the work; activities were accomplished using approved procedures and were inspected as applicable; functional testing and/or calibrations were performed prior to returning com-



ponents or systems to service; quality control records were maintained; activities were accomplished by qualified personnel; parts and materials used were properly certified; radiological controls were implemented; and, fire prevention controls were implemented.

Work requests were reviewed to determine status of outstanding jobs and to assure that priority is assigned to safety related equipment maintenance which may affect system performance.

The following maintenance activities were observed/reviewed:

<u>Procedure No.</u>	<u>Title</u>
2 THP 6030 IMP 229	Source Range NI Calibration on N-32.
12 MHP 4050 FDF 001	Receipt, Storage, and Preliminary Inspection of New Fuel Assembly Shipping Container.

6. IE Bulletin Followup

For the IE Bulletins listed below the inspector verified that the written response was within the time period stated in the bulletin, that the written response included the information required to be reported, that the written response included adequate corrective action commitments based on information presentation in the bulletin and the licensee's response, that licensee management forwarded copies of the written response to the appropriate onsite management representatives, that information discussed in the licensee's written response was accurate, and that corrective action taken by the licensee was as described in the written response.

<u>IEB No.</u>	<u>Title</u>
80-21	Valve Yokes Supplied by Malcolm Foundry Company, Inc.
80-23	Failures of Solenoid Valves Manufactured by Valcor Engineering Corp.

The inspectors are still following the licensee's re-evaluation of IEB 79-21 "Temperature Effects on Level Measurements".

7. IE Circular Followup

For the IE Circulars listed below, the inspector verified that the Circular was received by the licensee management, that a review for applicability was performed, and that if the circular were applicable to the facility, appropriate corrective actions were taken or were scheduled to be taken.





IEC No.

Title

79-17

Contact Problem in SB-12 Switches on G.E. Metalclad Ckt B.

80-23

Potential Defects in Beloit Emergency Diesels.

Also, IE Circular 79-05, "Moisture Leakage in Stranded Wire Conductors," has been closed out. It was noted that there have been similar occurrences when water leaked through a conduit and contaminated the turbine building sub-basement in July 1980.

8. Licensee Event Reports Followup

Through direct observations, discussions with licensee personnel, and review of records, the following event reports were reviewed to determine that reportability requirements were fulfilled, immediate corrective action was accomplished, and corrective action to prevent recurrence had been accomplished in accordance with technical specifications.

Unit 1

Unit 2

80-20/03L-0

79-26(Sup)/03x-1  
80-25/03L-0  
80-27/03L-0

LER 80-033/01-T-0

(Unit 2)

During preparations for changing operational modes on December 4, 1980 Surveillance Test \*\*02-OHP 4030 STP.007 was performed on the containment spray (CTS) system. This required valve alignments including closure of CTS-124E and CTS-128E on the discharge of the East CTS Heat Exchanger. These valves were found to be closed during a tour of the Auxiliary Equipment Operator on December 14, 1980. The two valves were opened restoring operability by 0700 on the 14th.

Investigation revealed these valves had been shut on December 4, 1980 at about 1000 hours to perform the surveillance test on East CTS Pump. The valves are shut to prevent inadvertent spray to the containment while testing the pump. After pump testing was complete, an Auxiliary Equipment Operator was assigned to restore the flow path to normal. CTS-124E and CTS-128E are required to be locked and sealed open in the flow path. The Auxiliary Equipment Operator locked and sealed CTS-124E and CTS-128E in the shut position, but initialled the Checkoff Sheet as having locked and sealed the two valves in the open position.

Numerous mode changes (9) were made during the period of December 4-14 each of which constitutes a violation of Technical Specification (T.S.) 3.0.4 which requires the system to be operable prior to entering the next higher



22



1

mode. Also, exceeded was the T.S. 3.6.2.1 which allows one of the two CTS headers to be inoperable for 72 hours before taking specified actions. This is an item of noncompliance violation category IV as specified in Appendix A. The inspector reviewed the licensee's corrective actions and determined them to be adequate to prevent further recurrence.

Additionally, Plant Manager Instruction, PMI-2110, had been revised by temporary sheet on December 9, 1980 to require independent verification of restoration of valve lineups on all ECCS equipment prior to declaring operable after maintenance or surveillance testing. Had this been in effect on December 4, 1980, this event would have been much less likely to occur.<sup>1/</sup>

9. Plant Trips

Following the plant trips on December 14, 1980 due to a malfunction in the Unit 2 main generator pilot exciter the inspector ascertained the status of the reactor and safety systems by observation of control room indicators and discussions with licensee personnel concerning plant parameters, emergency system status and reactor coolant chemistry. The inspector verified the establishment of proper communications and reviewed the corrective actions taken by the licensee.

All systems responded as expected, and the plant was returned to operation on December 16, 1980.

10. Independent Inspection

- (a) Bomb Threat: A bomb threat was received by the licensee via a telephone. The inspector observed the licensee's implementation of their security plan which included notification of local law enforcement agencies, coordination of plant wide search, communications during the event, and decision making. The threat was determined to be a hoax, no bomb was found.
- (b) Special Test: The inspector reviewed the test performed on December 4, 1980 of the Unit 2 Residual Heat Removal System Check Valves: RH-133, RH-134, SI-170 L2, SI-170 L3. The procedure used (12-THP-SP.003) was reviewed with its temporary changes TP-1 and TP-2. The inspector verified that calibrated equipment was used in performing the test. An effort was not made to quantify isolation valve leakage since the initial test met the acceptance criterion of  $\leq 5$  GPM total leakage. The test was performed at a primary system pressure of 400 psig. The results were as follows:

<sup>1/</sup> A management enforcement meeting was held in the Region III offices on January 13, 1981 to discuss this event. Details of this meeting will be discussed in a separate report.

<u>Valve</u>	<u>Desired</u>	<u>Actual</u>
Rh-122 & RH 134	2 GPM	.10 observable
SI-170 L2	1 GPM	2.02 gpm
SI-170 L3	1 GPM	1.12 gpm
All 4	5 GPM	3.24 gpm

- (c) Steam Generator Tube Wear: On November 4, 1980, the Resident Inspector was notified of visible damage to several inner-row tubes in a Unit 2 steam generator. Eddy current testing was in progress to detect a minor tube leak on this steam generator, and when the secondary side hand holes were opened the tube lane blocking device was found loose. Four tubes were found to have 50% wastage and one tube with 20% wastage. These were adjacent to the tube lane blocking devices which had apparently been moving due to the flow. Subsequent checks of the Unit 1 steam generators in late December revealed similar wear in two steam generators. The blocking devices were found properly secured indicating they had been loose during a previous operating period. All tubes with significant wear were plugged and the procedure revised to prevent further recurrence.

Salem Unit 1 has experienced similar wear in three of four steam generators and as a result plugged all of the tubes adjacent to the tube lane blocking devices. A draft IE Circular was submitted on this subject.

- (d) Auxiliary Feedwater Systems: As tasked by the Safety Evaluation Report related to Amendment 42 to License No. DPR-58 and Amendment 24 to License No. DPR-74, the inspector reviewed various procedures and modifications affecting the Auxiliary Feedwater System as discussed below:

Recommendation GS-4: Procedure OHP-4022.055.003 is the abnormal operating procedure titled "Loss of Condensate to Auxiliary Feedwater Pumps". The inspector determined that it adequately delineates the coordination and actions required to align Essential Service Water to supply the three Auxiliary Feedwater Pumps.

Recommendation GS-5: OAP-4023.001.007 including Temporary Sheet No. 1 was found to specify actions necessary for manual initiation of the Turbine Driven Auxiliary Feedwater Pump (TDAFP). The inspector also found that emergency lighting was installed in the TDAFP rooms and that emergency radios are available in the Shift Operating Engineer's office for use during AC power loss.

Recommendation GS-6: Verification of valve alignment after testing and maintenance is required by Temporary Sheet No. 8 to OHP-4030. STP.017 dated August 4, 1980. OHP-4021.001.002 "Plant Startup from Hot Standby to Minimum Load" was reviewed and it was found that the procedure did not call for operating all auxiliary feedwater pumps. During the

Unit 2 startup on December 7, 1980 the TSAFP was not used to provide water to any steam generators, though it was otherwise demonstrated operable by the surveillance test. When the disparity between the licensee's December 11, 1979 letter and current operating procedures was pointed out to the licensee a Temporary Sheet was added to the procedure requiring the flow verification described in recommendation GS-6.

Recommendation GL-4: The licensee's December 11, 1979 letter (AEP:NRC:00300) response to GL-4 discusses plans to install an automatic pump trip on low suction pressure which will alarm in the control room. It states that "This modification will be made by January 1, 1981." The associated design change RFC-12-2460 has not been completed as scheduled. As a result of these discussions the licensee issued a letter, dated January 27, 1981, to H. Denton, indicating their intention to complete this modification by April 30, 1981.

This is a deviation from a commitment and is a severity level VI violation as stated in Appendix A.

16. Exit Interview

The inspector met with licensee representatives (denoted in Paragraph 1) throughout the month of December 1980 and summarized the scope and findings of the inspection activities.



MAY 20 1981

Docket No. 50-315  
Docket No. 50-316

American Electric Power Service  
Corporation  
Indiana and Michigan Power Company  
ATTN: Mr. John E. Dolan  
Vice Chairman  
Engineering  
2 Broadway  
New York, NY 10004

Gentlemen:

Thank you for your letter dated April 28, 1981, supplementing your letter of February 23, 1981, relative to the steps you have taken to correct the noncompliance which we brought to your attention in Inspection Report Nos. 50-315/80-20 and 50-316/80-16 forwarded by our letter dated January 23, 1981, and further discussed in our letter dated March 31, 1981. We will examine these matters during a subsequent inspection.

Your cooperation with us is appreciated.

Sincerely,

C. E. Norelius, Acting Director  
Division of Engineering and  
Technical Inspection

cc: D. V. Shaller, Plant  
Manager

cc w/ltr dtd 4/28/81:  
Central Files  
Reproduction Unit NRC 20b  
AEOD  
Resident Inspector, RIII  
PDR  
Local PDR  
NSIC  
TIC  
Ronald Callen, Michigan  
Public Service Commission

RIII

Baker  
5/15/81

RIII

Hayes

RIII

Spessard

RIII

Norelius  
5/20

RIII

Connaughton

# INDIANA & MICHIGAN ELECTRIC COMPANY

P. O. BOX 18  
BOWLING GREEN STATION  
NEW YORK, N. Y. 10004

April 28, 1981  
AEP:NRC:0516A

Donald C. Cook Nuclear Plant Unit Nos. 1 and 2  
Docket Nos. 50-315 and 50-316  
License Nos. DPR-58 and DPR-74

Mr. James G. Keppler, Regional Director  
U.S. Nuclear Regulatory Commission  
Office of Inspection and Enforcement  
Region III  
Glen Ellyn, Illinois 60137

- References: (1) NRC IE Inspection Report Nos. 50-315/80-20;  
50-316/80-16 dated January 23, 1981
- (2) Submittal No. AEP:NRC:0516 dated January 23,  
1981

Dear Mr. Keppler:

This letter responds to your March 31, 1981 letter which supplemented Appendix A of Inspection Report No. 50-315/80-20 and 50-316/80-16 (Reference 2). Indiana & Michigan Electric Co. has established low and high limits for pumps tested as per ASME Section XI requirements. These limits were established according to Table IWP-3100-2, sub-note 1 which allows the owner to establish acceptable limits.

If within the 96 hour review period permitted in IWP-3220, a suction pressure is found outside these limits, the pump will be placed in the 'ALERT' status and test frequency shall be doubled until the cause of the deviation is determined and corrected (ref. IWP-3230). If within this same time period, the suction pressure is found below the established 'allowable range', the pump status will be changed to 'required action'. At this time the pump shall be declared inoperable and not returned to service until the condition has been corrected (ref. IWP-3230).

MAY 1 1981





The limits were established as per IWP-3110 which requires reference values to be at points of operation readily duplicated during subsequent in-service testing. Based on this, the normal expected range of pump running and not running suction pressures for all plant conditions was used to establish the reference low and high suction pressures for each pump. An instrument error of  $\pm 2\%$  of instrument range was then added as allowed by IWP-4110, 'Quality'.

The pressure measurement instruments range on each pump was verified not to exceed four times the reference values in accordance with IWP-4111, 'Range'.

The new suction pressure ranges and their required actions have been incorporated into plant procedure 12 THP 4030 STP.222, 'ISI Pump Test Program'. The ISI Pump Test Program is now consistent with the requirements of ASME Section XI.

Very truly yours,



R. S. Hunter  
Vice President

cc: R. C. Callen  
G. Charnoff  
John E. Dolan - Columbus  
R. W. Jurgensen  
D. V. Shaller - Bridgman  
Region III Resident Inspector at Cook Plant - Bridgman

March 31, 1981

Docket No. 50-315  
Docket No. 50-316

American Electric Power Service  
Corporation  
Indiana and Michigan Power Company  
ATTN: Mr. John E. Dolan  
Vice Chairman  
Engineering  
2 Broadway  
New York, NY 10004

Gentlemen:

This letter supplements our letter of March 12, 1981 regarding Inspection Report No. 50-315/80-20a and 50-316/80-16 forwarded by our letter dated January 23, 1981.

With regard to Item 1 of Appendix A of the subject letter we will examine this matter during a subsequent inspection.

With regard to your response to Item 2 of Appendix A, we feel that a misunderstanding has been created by a misstatement contained in Item 4.c. of the Details section of the inspection report. Specifically, the word 'accuracy' was inappropriately used, where the intended meaning was 'Precision.' Item 4,c should have read as follows:

....Reference values provide a basis for establishing acceptable instrument precision not only to comply with ASME Section XI requirements, but to provide confidence in test data used to measure pump performance and establish pump operability.

It was not our intent to challenge your ability to comply with paragraphs IWP 4110 'Quality' or IWP 4113 'Calibration' as addressed in your response. Paragraph IWP 4111 'Range' states, "The full scale range of each instrument shall be not greater than four times the reference value"... It is our position that compliance with paragraphs IWP 4110 and IWP 4111 together, assures a nominal precision with which pump inlet pressure is measured. The maximum range requirement of paragraph IWP 4111 is expressed in terms of the reference value required to be established in accordance with paragraph IWP 3110.

OFFICE	RIII, <i>ms</i>	RIII	RIII <i>XAC</i>	RIII <i>ms</i>	RIII <i>A</i>		
SURNAME	Peschel/cs	Holzmer <i>ms</i>	Connaughton	Baker <i>ms</i>	Heishman		
DATE	3/27/81	3/27/81	3/27/81		3/27		



American Electric Power Service  
Corporation

-2-


March 31, 1981

The item of noncompliance was issued against the requirements of ASME Section XI, paragraph IWP 3110 pursuant to 10 CFR 50.55a(g) and remains an item of noncompliance in the absence of specific written relief from these requirements granted by the NRC.

We request that you submit, within 25 days of this letter, a written statement or explanation in reply for this item of noncompliance including: (1) corrective action taken and results achieved; (2) corrective action to be taken to avoid further noncompliance; and (3) the date when full compliance will be achieved.

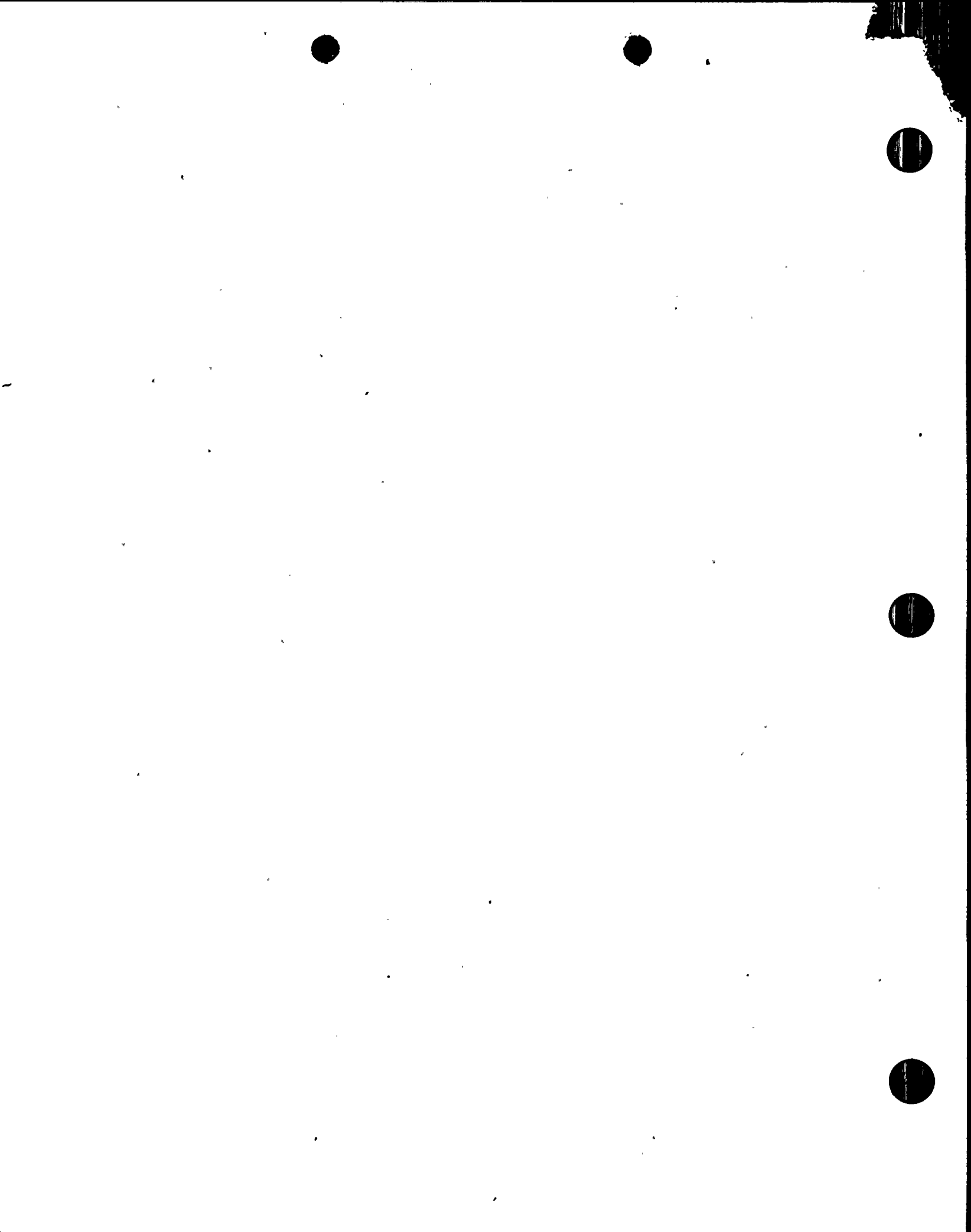
Your cooperation with us is appreciated.

Sincerely,



R. F. Heishman, Acting Director  
Division of Resident and  
Project Inspection

cc:  
Mr. D. V. Shaller, Plant  
Manager  
Central Files  
Reproduction Unit NRC 20b  
AEOD  
Resident Inspector, RIII  
PDR  
Local PDR  
NSIC  
TIC  
Ronald Callen, Michigan  
Public Service Commission



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION III  
799 ROOSEVELT ROAD  
GLEN ELLYN, ILLINOIS 60137



January 23, 1981

Docket No. 50-315  
Docket No. 50-316

American Electric Power Service  
Corporation  
Indiana and Michigan Power Company  
ATTN: Mr. John E. Dolan  
Vice Chairman  
Engineering  
2 Broadway  
New York, NY 10004

Gentlemen:

This refers to the routine inspection conducted by K. R. Baker, J. M. Peschel, M. M. Holzmer, K. A. Connaughton of this office on November 17-21, 1980 and January 13, 1981, of activities at Donald C. Cook Nuclear Plant, Units 1 and 2 authorized by NRC Operations Licenses No. DPR-58 and No. DPR-74 and to the discussion of our findings with Mr. Shaller and others of your staff at the conclusion of the inspection.

The enclosed copy of our inspection report identifies areas examined during the inspection. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations, and interviews with personnel.

During this inspection, certain of your activities appeared to be in non-compliance with NRC requirements, as described in the enclosed Appendix A, and a written response is required.

American Electric Power  
Service Corporation

- 2 -

January 23, 1981

We will gladly discuss any questions you have concerning this inspection.

Sincerely,

R. F. Heishman, Chief  
Reactor Operations and  
Nuclear Support Branch

Enclosures:

1. Appendix A, Notice of Violation
2. IE Inspection Reports  
No. 50-315/80-20 and  
No. 50-316/80-16

cc w/encls:

D. V. Shaller, Plant  
Manager  
Central Files  
Reproduction Unit NRC 20b  
AEOD  
Resident Inspector, RIII  
PDR  
Local PDR  
NSIC  
TIC  
Ronald Callen, Michigan  
Public Service Commission

RIII

Peschel/so

~~12/15/80~~

*[Signature]*  
1/22/81

RIII

Holzmer

*[Signature]*  
1/22/81

RIII

Connaughton

*[Signature]*  
1/22/81

RIII

Baker

*[Signature]*  
1/21/81

RIII  
*[Signature]*  
Boyd  
1-21-81  
Heishman

1/22/81



Appendix A

NOTICE OF VIOLATION

American Electric Power  
Service Corporation

Docket No. 50-315  
Docket No. 50-316

As a result of the inspection conducted on November 17-21, 1980, and in accordance with the Interim Enforcement Policy, 45 FR 66754 (October 7, 1980) the following violations were identified:

1. Unit 1 Technical Specification 4.1.2.3.c states that the centrifugal charging pump operability shall be demonstrated at least once per 31 days and that pump operation shall be verified for at least 15 minutes.

Contrary to the above, centrifugal charging pump 1W was run for only five minutes during the monthly surveillance conducted on June 16, 1980.

This is a Severity Level VI violation (Supplement I). (50-315/80-20-01)

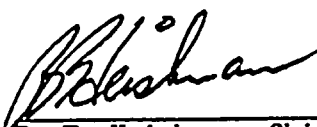
2. 10 CFR 50.55a(g) states that an inservice inspection system for pumps shall be established in accordance with ASME Section XI, 1974 addition and addenda through summer of 1975.

Contrary to the above, the licensee's ISI pump operability test program did not establish reference values for pump inlet pressure as required by ASME Section XI Article IWP-3110.

This is a Severity Level VI violation (Supplement I). (50-315/80-20-02)  
(50-316/80-16-01)

Pursuant to the provisions of 10 CFR 2.201, you are required to submit to this office within twenty-five days of the date of this Notice a written statement or explanation in reply, including for each item of noncompliance: (1) corrective action taken and the results achieved; (2) corrective action to be taken to avoid further noncompliance; and (3) the date when full compliance will be achieved. Under the authority of Section 182 of the Atomic Energy Act of 1954, as amended, this response shall be submitted under oath or affirmation.

January 23, 1981  
Dated \_\_\_\_\_

  
\_\_\_\_\_  
R. F. Heishman, Chief  
Reactor Operations and  
Nuclear Support Branch

U. S. NUCLEAR REGULATORY COMMISSION  
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

Reports No. 50-315/80-20; 50-316/80-16

Docket Nos. 50-315; 50-316

Licenses No. DPR-58; DPR-74

Licensee: American Electric Power Service Corporation  
Indiana and Michigan Power Company  
2 Broadway  
New York, NY 10004

Facility Name: D. C. Cook Nuclear Plant Units 1 & 2

Inspection At: D. C. Cook Site, Bridgman, MI

Inspection Conducted: November 17-21, 1980 and January 13, 1981

Inspectors: *J. M. Peschel*  
J. M. Peschel

1/22/81

K. R. Baker  
*K. A. Connaughton*  
K. A. Connaughton  
*M. M. Holzmer*  
M. M. Holzmer

1/22/81

1/22/81

Approved By: *K. R. Baker*  
K. R. Baker, Chief,  
Nuclear Support Section 2

1/22/81

Inspection Summary

Inspection on November 17-21, 1980 and January 13, 1981 (Reports No. 50-315/80-20;  
No. 50-316/80-16)

Areas Inspected: Maintenance procedures; maintenance activities; surveillance procedures; surveillance activities; ISI procedures and activities for pumps and valves; licensee event reports followup and plant tours. The inspection involved a total of 151 inspector-hours onsite by four NRC inspectors including zero inspector-hours offshifts.

Results: Of the seven areas inspected, two apparent items of noncompliance were identified; Inadequate pump run time during a surveillance (Paragraph 3B); and failure to establish reference values for pump inlet pressures for the ISI program (Paragraph 3C).



DETAILS

1. Personnel Contacted

- \*D. Shaller, Plant Manager
- \*R. Keith, Operations Superintendent
- R. Dudding, Maintenance Superintendent
- \*E. Smarella, Technical Superintendent
- \*J. Stietzel, QA Supervisor
- D. Campbell, Production Supervisor
- \*H. Bolinger, ISI Supervisor
- W. Golden, Performance Engineer
- R. Wagner, Performance Engineer
- E. Kant, Performance Engineering Supervisor
- D. Duncan, C&I Supervisor
- \*B. Svensson, Assistant Plant Manager
- T. Beilman, Senior QA Auditor

The inspectors also contacted several other licensee employees, including operators, plant engineering and administrative personnel.

\*Denotes those attending the exit interview.

2. Maintenance

a. Maintenance Activities

Maintenance activities of safety related systems and components listed below were observed/reviewed to ascertain that they were conducted in accordance with approved procedures, regulatory guides and industry codes or standards and in conformance with Technical Specifications.

The following items were considered during this review: The limiting conditions for operation were met while components or systems were removed from service; approvals were obtained prior to initiating the work; activities were accomplished using approved procedures and were inspected as applicable; functional testing and/or calibrations were performed prior to returning components or systems to service; quality control records were maintained; activities were accomplished by qualified personnel; parts and materials used were properly certified; radiological controls were implemented; and, fire prevention controls were implemented.

The following maintenance activities were observed/reviewed:

Unit 1	J.O. 63382	BIT valve replacement
Unit 1	J.O. 63529	West containment spray pump weld repair

Unit 1	J.O. 55989	IAB emergency diesel timing check
Unit 1	J.O. 63544	West RHR pump cleaning
Unit 1	J.O. 63366	East centrifugal charging pump seal rebuilding
Unit 1	J.O. 63795	West motor driven auxiliary feed pump valve repair
Unit 1	J.O. 59088	Incore flux mapping system drive motor repair
Unit 1	J.O. 63554	Containment pressure indicator repair
Unit 1	J.O. 12037	Wind speed and direction recorder repair
Unit 1	J.O. 12023	1-CD emergency diesel valve repair
Unit 1	J.O. 63393	PORV motor repair
Unit 1	J.O. 55205	RCP seal repair
Unit 1	J.O. 63328	No. 3 accumulator valve repair
Unit 1	J.O. 57377	MCC breaker replacement
Unit 2	J.O. 25179	Pressurizer level control circuit repair
Unit 2	J.O. 24096	Comparator and rate circuit repair
Unit 2	J.O. 20665	Modification of ice condensor door frames

The inspector noted several instances where Forms No. PMI 2290-1 and No. 2290-3 were not fully completed. The licensee's management agreed to take action to improve performance in this area.

During a tour it was noted the Unit 1 pressurizer power operated relief valve, NRV-151, was closed. The PORV's had recently undergone tests by the operations department to determine which valves were leaking. A job order had not yet been issued for this valve. The licensee agreed to insure a job order was issued for this valve.

No items of noncompliance were identified.

b. Preventive Maintenance

The preventive maintenance system was reviewed to determine if it was current for safety related components.

The inspector observed that attachment 30 of the preventive maintenance system, Plant Winterizing, had not been completed in October as required by the system. The licensee stated that much of the work has been completed and stated that the remainder would be completed in a timely manner.

The preventive maintenance system at present does not have a central status system, and many procedures have hand written changes and additions. The system is in the process of being reorganized with a new control system. The licensee has begun



a typing and the review/approval process to allow the new system to be implemented in a timely manner.

No items of noncompliance were identified.

c. Facility Procedures

The facility maintenance procedures listed below were reviewed to verify that they were adequate and consistent with Technical Specifications.

1. Maintenance Procedures

12 MHP 5021.002.003  
12 MHP 5021.003.001  
12 MHP 5021.009.001  
12 MHP 5021.032.001L  
MHP 5021.032.001K

2. Preventive Maintenance Procedures

Attachment 10  
Attachment 26

No items of noncompliance were identified.

3. Surveillance

a. Procedures

The inspector reviewed several surveillance tests selected from the Technical Specifications to ensure that the tests were covered by properly approved procedures; that these procedures contained adequate preparation or prerequisites, included acceptance criteria, and provided for system restoration following testing. The following procedures examined:

OHP.4030.STP.004  
OHP.4030.STP.005  
OHP.4030.STP.030  
THP.4030.THP.352  
OHP.4030.STP.007  
THP.4030.STP.205  
THP.4030.STP.216  
OHP.4030.STP.013  
OHP.4030.STP.020

Although acceptance criteria were specified in a section of each procedure, there were some instances in which acceptance criteria sections could have been more complete. An example is the 15 minute minimum pump run time required by the monthly surveillance on the Unit 1 centrifugal charging pumps as specified in Technical Specification 4.1.2.3.c. Acceptance criteria for pump run

times are not listed in the surveillance procedure, although start and stop time are recorded. Other Unit 1 pumps require the 15 minute minimum run during the monthly surveillances.

No items of noncompliance were identified.

b. Completed Surveillances

Completed surveillances were reviewed for Unit 1 to verify that surveillances were performed within the required periodicity and that the results were within the Technical Specifications. A check for completeness of surveillance records was also made.

Unit 1 Technical Specification 4.1.2.3.c requires that the centrifugal charging pumps (CCP) be run for a minimum of 15 minutes during the monthly surveillance.

Contrary to the above requirement, the Unit 1 West CCP was run for only five minutes during the monthly surveillance OHP.4030.STP.004 conducted on June 16; 1980.

Inclusion of the 15 minute acceptance criteria in this and other test procedures, as discussed in Paragraph A (Procedures) above, would have possibly prevented this noncompliance. The inspector emphasized the value of a review of all test procedures for which this criterion is applicable.

This is an item of noncompliance identified in Appendix A (50-315/80-20-01).

Records of completed surveillance tests are required to be maintained by Technical Specification 6.10.1.d. The licensee was unable to produce for review the following of completed Unit 1 surveillances.

<u>Surveillance Test</u>	<u>Sheet No.</u>	<u>Date(s)</u>	<u>Component</u>
OHP.4030.STP.030	6.7	January 1-24, 1980	N/A
OHP.4030.STP.030	6.7	June 1, 1980	N/A
OHP.4030.STP.030	6.5	June 3,4,5,15, 1980	N/A
OHP.4030.STP.030	6.5	May 2, 1980	N/A
OHP.4030.STP.030	6.5	April 14,29,30, 1980	N/A
OHP.4030.STP.013	6.1	January 31, 1980	No. 1 H2 Recombiner
OHP.4030.STP.020	6.2	February, 1980	East Train
OHP.4030.STP.020	6.2	May, 1980	West Train
OHP.4030.STP.004/005	All	July, 1980	Both Pumps

The licensee has agreed to locate these records. This is considered an unresolved item pending the licensee locating these records (50-315/80-20-01).





c. ISI Operativity Testing Program - Pumps

The inspector reviewed the licensee's pump testing program to verify compliance with the requirements of 10 CFR 50.55a(g). Pump test records revealed that tests had been conducted on all applicable pumps at the required frequencies with properly approved procedures. Test methods were found to be satisfactory. The licensee has not established reference values for pump inlet pressure as required by ASME Section XI Article IWP-3110. Reference values provide a basis for establishing acceptable instrument accuracy not only to comply with the ASME Section XI requirements, but to provide confidence in test data used to measure pump performance and establish pump operability.

This is an item of noncompliance identified in Appendix A (50-315/80-20-02) and (50-316/80-16-01).

d. ISI Operability Testing Program - Valves

The inspector reviewed the licensee's valve testing program to verify compliance with the requirements of 10 CFR 50.55a(g). Examination of the licensee's approved ISI valve test program, status summaries and several test procedures revealed that the licensee has performed tests at the required frequencies against appropriate acceptance criteria. The licensee is currently in the process of revising the test program. The revised program's requirements will be reflected in the program status summary which, according to the licensee, will be updated biweekly.

No items of noncompliance were identified.

4. Licensee Event Report Followup

- a. (Closed) Unit 1 Licensee Event Report (LER) 80-15/03L-0 dated July 29, 1980 was reviewed. This report stated that while in Mode 6 the train "B" centrifugal charging pump failed, due to a broken shaft, while the train "A" diesel was out of service. Core alterations were halted and the train "A" diesel was placed in service. The train "B" charging pump was subsequently repaired using a "new" design shaft. The failed shaft problem has been a recurring problem with the "old" design shaft. All pumps now in operation are using the "new" design shaft. No further problems are anticipated. This item is considered closed.

No items of noncompliance were identified.

- b. (Closed) Unit 2 Licensee Event Report (LER) 80-26/03L-0 were reviewed. Two check valves (R-156 and R-157) were recently determined by the licensee to be containment isolation valves. This LER was submitted to satisfy reporting requirements concerning previous



events involving the valves. The valves were not included in the type C leak test prior to November 1978. Check valve R156 had been installed backward. On November 18, 1978, check valve R156 was removed and reinstalled correctly. Both valves successfully passed the type C leak test and were included in the applicable surveillance test procedure. The inspector verified implementation of these corrective actions. This item is considered closed.

No items of noncompliance were identified.

- c. (Closed ) Unit 1 Licensee Event Report (LER) 80-25/03L-0 was reviewed. On September 29, 1980, a glycol isolation valve was determined inoperable upon failure to fully close during containment isolation valve testing. The valve was exercised until it functioned correctly. Corrective action by the licensee consisted of increasing surveillance test frequency from quarterly to monthly. The inspector learned that the valve failed the first monthly surveillance performed on November 13, 1980. The licensee was informed that increased surveillance testing as a proposed corrective action in the forthcoming LER would be considered inadequate and that cause identification and a timely fix should be addressed.

No items of noncompliance were identified.

- d. (Open) Unit 2 Licensee Event Report (LER) 80-32/03L-0 was reviewed. This LER stated that on September 4, 1980 during a surveillance test to return the East RHR pump to service after maintenance the pump was unstable and declared inoperable. This was stated to be the first event of this type. The licensee stated that the test procedure did not provide for removing all air in the system during fill and vent and that the procedure was changed to correct this. The inspector reviewed the following records associated with the event:

- (1) Unit 2 Control Room Log July 1, 1980 to September 4, 1980
- (2) Clearance Permit Log July 20 to September 4, 1980
- (3) Monthly Operating Reports for September, August and July, 1980.<sup>1/</sup>
- (4) Condition Report - C/R No. 2-8-80-237
- (5) Condition Report - C/R No. 2-9-80-254
- (6) Job Order Number 00354
- (7) Job Order Number 24250
- (8) 1-OHP.4030.STP.005 Revision 8 dated April 2, 1980 with ten temporary sheets
- (9) 2-OHP.4030.STP.005 Revision 3 dated June 19, 1979 with 17 temporary sheets

1/ Letters D. V. Shaller to Director, OMI and PC USNRC dated October 14, September 12, and August 6, 1980.



- (10) 2-OHP.4021.008.001 Filling and Venting of Emergency Core Cooling System Revision 1 dated April 18, 1978
- (11) SOE Log July 23 to September 4, 1980
- (12) Operations Department DIR dated October 20 transmitting completed STP's to vault.

The report was found to be incorrect and inaccurate in the areas as listed below:

- (a) The surveillance test was conducted as a routine monthly test (2-OHP.4030.STP.005), not a test performed to return the East RHR pump to service. Clearance Permit logs and the logs show that the last time the system had been removed from service was July 23, 1980 at 1855 hours for work on IRV-310. The system was logged as being returned to service on July 24, 1980.
- (b) The problem had been observed on August 4, 1980 while performing routine surveillance test 2-OHP.4030.STP.005. Log entries on August 4, 1980 show the pump was started at 0359 hours and stopped at 0401 hours due to poor suction pressure. At 0425 hours the pump was started after venting. At 0428 it was stopped again because of poor suction. At 0540 the pump was again started after venting. It was run until 0643 hours. A condition report (2-8-80-237) was initiated. The licensee classified the event as not requiring a LER. The originator of the condition report conducted the investigation. The investigation was essentially a rehash of the event with the following statement, "I do not have any explanation for the air in the system." PSNRC review accepted this. This condition report appears to have received a superficial investigation and review. A review of the operating and maintenance history would have revealed that the maintenance on July 23, 1980 had been the source of the air. The decision that the event was not reportable at that time was very questionable and in retrospect represents noncompliance with Technical Specification 6.9.1.8 reporting requirements.
- (c) Records show that the last maintenance performed on the East RHR train prior to the event was July 23, 1980. Valves IRV-310 and RH 128E had packing leaks repaired (Job Orders 00354 and 24250). The East RHR train was removed from service on July 23, 1980 at 1855 hours and returned to service on 1035 hours on July 24, 1980. The logs do not show that the East RHR pump was operated to verify operability nor could

a completed surveillance test be found that indicated the train was tested. The Clearance Permit 22056 under which the repairs had been made has been destroyed (allowable under the licensee's administrative procedure). Discussions with the personnel who developed the clearance indicate that the East RHR pump was not tagged out, only the heat exchanger and associated valves. It is not clear at this time if the heat exchanger was drained to facilitate the repairs or if the fluid drained out of the heat exchanger during the repairs. In any case it does not appear that any operability test of the pump was conducted following the return to service. The licensee has a procedure for filling and venting, 2-OHP.4021.008.001. No completed sign off for this procedure could be found. A review of the procedure indicates it would have been usable for filling and venting with changes to the initial conditions.

It is not clear that changes to the surveillance procedure 2-OHP.4030STP.005 will prevent the event from happening again as the procedure was not used to return the system to operation. The real problem appears to be lack of an effective policy on the return to service of safety related equipment that include an evaluation of the method of removal from service, maintenance performed, procedures used and what procedures are to be used during the return to service and that equipment be test operated.

The air introduced into the East RHR train degraded the performance of that train such that it could not be relied upon to fulfill the LCO with respect to a large break loss of coolant accident and insure continued operation of the East RHR pump during small break loss of coolant accident.

In the case of the large LOCA the air induced into the RHR pump suction by the miniflow line from the heat exchanger outlet would produce a reduction in head developed by the pump, as observed by the licensee on August 4 and September 4, 1980. This would delay injection by this RHR pump as reactor coolant system pressure would need to decay further than that assumed in the accident analysis before injection occurred. Also the entrained air in the injection water would reduce the injection flow rate until flushed into the Reactor Coolant System.

In case of a small break LOCA the RHR pump would be required to operate for a period of time on miniflow. This is the same mode of operation that the pump is tested under during the monthly surveillance test. During the August and September tests the operators intervened and stopped the pump when the pressures and currents were erratic,





indicating cavitation and abnormal pump performance. Given these indications they would have probably also stopped the pump in the event of a LOCA to prevent damage to the pump. Hence, it would have been unavailable until the operator had time to investigate the cause of the erratic performance. The following caution notes from the RHR pump technical manual are quoted to show the manufactures concern regarding operation of the pump with air in the system.

CAUTION

"BEFORE STARTING OR WHILE OPERATING THE PUMP THE CASING AND SUCTION LINE MUST BE COMPLETELY FILLED WITH THE LIQUID BEING PUMPED. THE ROTATING PARTS DEPEND ON THIS LIQUID FOR LUBRICATION AND THE PUMP MAY SEIZE IF OPERATED WITHOUT LIQUID. THE CASING AND SUCTION LINE MUST BE FILLED WITH LIQUID DURING STARTING, OPERATION AND SHUTDOWN PERIODS."

CAUTION

- "1. NEVER OPERATE THE RESIDUAL HEAT REMOVAL PUMPS WITHOUT PUMP/SYSTEMS BEING COMPELTELY PRIMED.
2. ....
3. ....
4. WHEN OPERATING FOR SOME TIME AT REDUCED CAPACITY, MUCH OF THE PUMP HORSEPOWER WILL GO INTO THE LIQUID IN THE FORM OF HEAT. A BY-PASS MUST BE PROVIDED UNDER THESE CONDITIONS TO PREVENT THE LIQUID FROM BECOMING HOT ENOUGH IN THE PUMP TO VAPORIZE.

FOR CONTINUOUS PUMP OPERATION, THE MINIMUM FLOW FOR SAFE OPERATION OF THIS PUMP IS 500 GPM."

The function of the East RHR train could have been significantly degraded during this time period as described above but it still may have provided a portion of its design capability for accident mitigation. The Technical Specification Limiting Conditions for Operations implicitly require the equipment be at full capacity and reliability. This was not the case with the East RHR train between July 23, 1980 and September 4, 1980.

On January 13, 1981 a meeting was held in the Region III office to discuss this event with the licensee. Attending for the licensee were:

J. Dolan, Vice Chairman Engineer  
R. Hunter, Executive Vice President for Construction and Nuclear Engineering  
B. Svensson, Assistant Plant Manager  
R. Keith, Operations Superintendent  
A. Grimes, Chief Mechanical Engineer  
S. Milioti, Assistant Division Head Nuclear Engineering

Region III personnel attending were:

J. Keppler, Regional Director  
R. Heishman, Chief, Reactor Operations and Nuclear Support Branch  
A. Davis, Deputy Director



C. Norelius, Regional Enforcement Coordinator  
D. Boyd, Section Chief, Projects Section 4  
K. Baker, Section Chief, Nuclear Support Section 2  
E. Swanson, Senior Resident Inspector

The licensee outlined the results of his review. The licensee believes that the quarterly portion of the surveillance test introduces the air into the systems. The licensee is investigating this and other possible causes. The licensee stated the problem had occurred again during the January 4, 1981 test. The licensee stated that the test frequency would be increased to weekly until the source of the air was identified. In addition he would analyze the effects of the air on system performance during large and small loss of coolant accidents.

This matter is considered unresolved pending completion of the licensee's review and subsequent review of these results by Region III.

5. Tours

The inspectors toured various portions of the facility to observe activities in progress.

The inspector noted that fire doors on the north end of the Auxiliary feed water pump area were wired and blocked open. These doors are U.L. three hour rated doors. This is considered an unresolved item pending review of the licensee's fire hazard analysis and NRR's SER. (50-315/80-20-02) (50-316/80-16-01)

6. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are addeptable items, items of noncompliance or deviations. Unresolved items during this inspection are discussed in Paragraphs 3, 4 and 5.

7. Exit Interview

The inspectors met with licensee representatives (denoted in Paragraph 1) at the conclusion of the inspection on November 21, 1980. The inspectors summarized the purpose, scope and findings of the inspection.

February 19, 1981

Docket No. 50-315  
Docket No. 50-316

American Electric Power Service  
Corporation  
Indiana and Michigan Power Company  
ATTN: Mr. John E. Dolan  
Vice Chairman  
Engineering  
2 Broadway  
New York, NY 10004

IE FILE COPY

Gentlemen:

Thank you for your letter dated January 28, 1981, informing us of the steps you have taken to correct the noncompliance which we brought to your attention in Inspection Report No. 50-315/80-19 and No. 50-316/80-15 forwarded by our letter dated January 6, 1981; Extension January 15, 1981. We will examine these matters during a subsequent inspection.

Your cooperation with us is appreciated.

Sincerely,

R. F. Heishman, Chief  
Reactor Operations and  
Nuclear Support Branch

cc w/ltr dtd 1/28/81:  
D. V. Shaller, Plant  
Manager  
Central Files  
Reproduction Unit NRC 20b  
AEOD  
Resident Inspector, RIII  
PDR  
Local PDR  
NSIC  
TIC  
Ronald Callen, Michigan  
Public Service Commission

RIII

for Swanson/jp  
2/12/81

RIII

Boyd

RIII

Heishman

2/18/81

1944

# INDIANA & MICHIGAN ELECTRIC COMPANY

P. O. BOX 18  
BOWLING GREEN STATION  
NEW YORK, N. Y. 10004

January 28, 1981  
AEP:NRC:00511

Donald C. Cook Nuclear Plant Unit Nos. 1 and 2  
Docket Nos. 50-315 and 50-316  
License Nos. DPR-58 and DPR-74  
IE Inspection Report Nos. 50-315/80-19 and 50-316/80-15

Mr. James G. Keppler, Regional Director  
U. S. Nuclear Regulatory Commission  
Office of Inspection and Enforcement  
Region III  
Glen Ellyn, Illinois 60137

Dear Mr. Keppler:

The attachment to this letter provides our response to the Notice of Violation contained in Appendix A of IE Inspection Report Nos. 50-315/80-19 and 50-316/80-15 which we received on January 6, 1981. On January 15, 1981 Mr. Heishman of your Staff granted our request for an extension to respond to the Notice of Violation within 25 days from the date on which we received the inspection report.

Very truly yours,

*John E. Dolan*  
John E. Dolan  
Vice President

cc: R. C. Callen  
G. Charnoff  
R. S. Hunter  
R. W. Jurgensen  
D. V. Shaller - Bridgman  
Region III Resident Inspector at Cook Plant - Bridgman

STATE OF NEW YORK  
COUNTY OF NEW YORK

John E. Dolan, being duly sworn, deposes and says that he is the Vice President of Licensee Indiana & Michigan Electric Company, that he has read the foregoing response to the notice of violation contained in IE Inspection Report Nos. 50-315/80-19 and 50-316/80-15 and knows the contents thereof; and that said contents are true to the best of his knowledge and belief.

John E. Dolan

Subscribed and sworn to before me this 23<sup>rd</sup> day of January 1981

Gregory M. Curigan

GREGORY M. CURIGAN  
Notary Public, State of New York  
No. 31-4813431  
Qualified in New York County  
Commission Expires March 30, 1981.

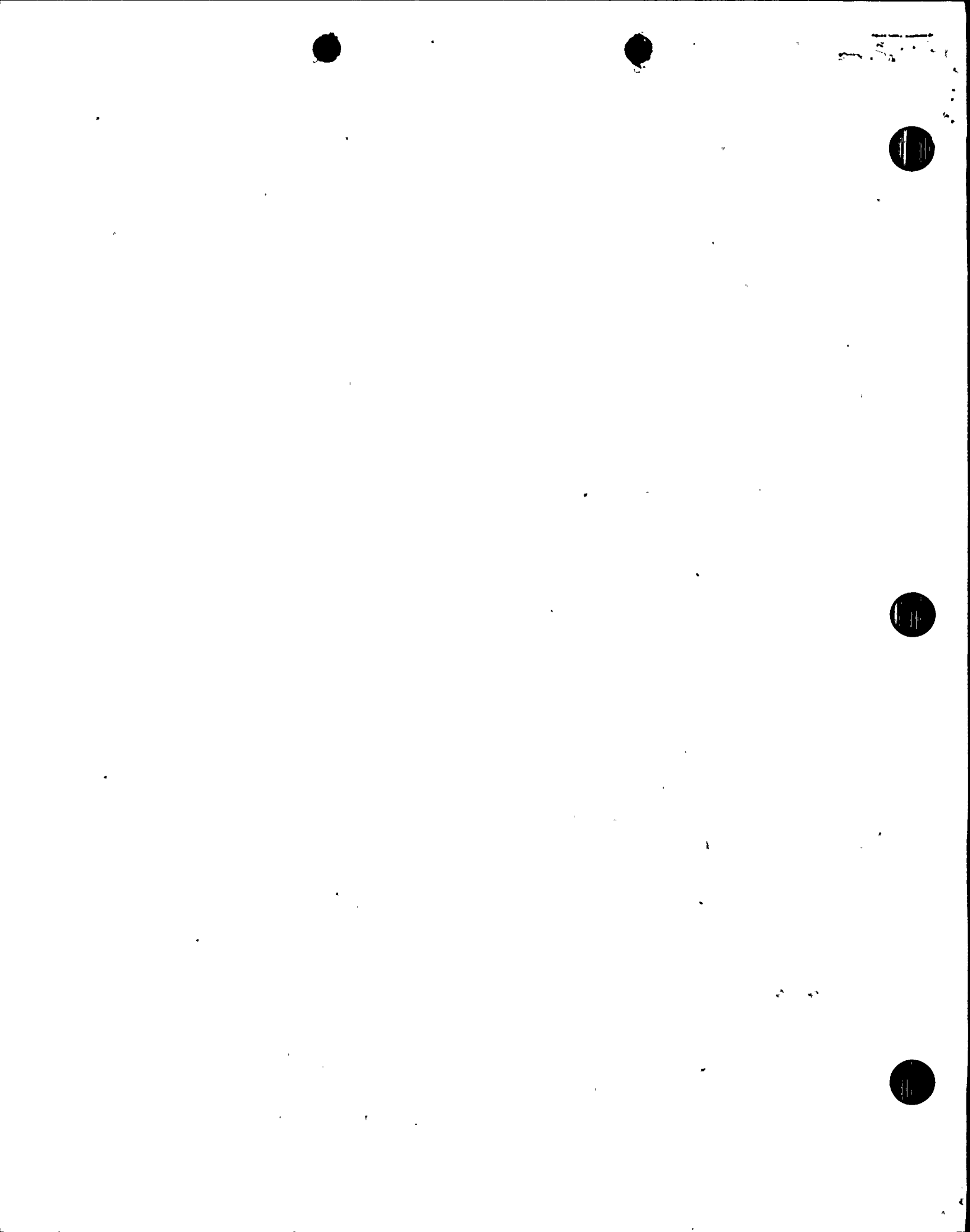




ATTACHMENT TO  
AEP:NRC:0511

In accordance with the requirements of the notice subject of this response we provide the following information:

- a) The reason for the items of noncompliance is that during the period of time that this inspection was conducted we were implementing design changes in the Cook Plant which required pulling cables through penetration fire seals in the cable vault. It was during the implementation of these changes that the two of them were made non-functional thereby exceeding the limiting condition of operation of Technical Specification 3/4.7.10. c/c
  
- b) The corrective steps taken were to immediately repair the penetration fire seals by either the plant approved temporary repair mechanism or repaired permanently utilizing the plant approved repair procedure. They were subsequently inspected and accepted on December 4, 1980, by the Plant QC Department. c/c
  
- c) To preclude further items of non-compliance, a memo from the Cook Plant Construction Department was transmitted on December 8, 1980 to all contractors reiterating the Donald C. Cook Nuclear Plant's requirements on penetration fire seals. In addition Plant Manager Instruction PMI-2270, entitled "Fire Protection and Safety Equipment", was revised by a temporary change sheet which amplifies the requirements and the responsibilities for those people who have the potential for breaching or coming across a fire seal within the plant that has been breached. Full compliance was achieved by the issuance of these documents. c/c



DEC 30 1980

Docket No. 50-315  
Docket No. 50-316

American Electric Power Service  
Corporation  
Indiana and Michigan Power Company  
ATTN: Mr. John E. Dolan  
Vice Chairman  
Engineering  
2 Broadway  
New York, NY 10004

Gentlemen:

This refers to the inspection conducted by Messrs. E. R. Swanson and N. E. DuBry of this office on November 1-30, 1980, of activities at D. C. Cook Nuclear Plant Units 1 and 2 authorized by NRC Operating License No. DPR-58 and No. DPR-74 and to the discussion of our findings with Mr. Shaller at the conclusion of the inspection.

The enclosed copy of our inspection report identifies areas examined during the inspection. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations, and interviews with personnel.

During this inspection, certain of your activities appeared to be in noncompliance with NRC requirements, as described in the enclosed Appendix A, and a written response is required.

In accordance with Section 2.790 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter, the enclosures, and your response to this letter will be placed in the NRC's Public Document Room, except as follows. If the enclosures contain information that you or your contractors believe to be proprietary, you must apply in writing to this office, within twenty-five days of the date of this letter, to withhold such information from public disclosure. The application must include a full statement of the reasons for which the information is considered proprietary, and should be prepared so that proprietary information identified in the application is contained in an enclosure to the application.



American Electric Power Service - 2 -  
Corporation

We will gladly discuss any questions you have concerning this inspection.

Sincerely,

R. F. Heishman, Chief  
Reactor Operations and  
Nuclear Support Branch

Enclosures:

1. Appendix A, Notice of Violation
2. IE Inspection Report  
No. 50-315/80-19 and  
No. 50-316/80-15

cc w/encl:  
D. V. Shaller, Plant  
Manager  
Central Files  
Reproduction Unit NRC 20b  
AEOD  
Resident Inspector, RIII  
PDR  
Local PDR  
NSIC  
TIC  
Ronald Callen, Michigan  
Public Service Commission

RIII

Boyd/jp  
12/18/80

RIII

Heishman

12/23/80



Appendix A

NOTICE OF VIOLATION

American Electric Power Service  
Corporation

Docket No. 315

As a result of the inspection conducted on November 1-30, 1980, and in accordance with the Interim Enforcement Policy, 45 FR 66754 (October 7, 1980), the following violation was identified:

Appendix A Technical Specification 3.7.10.a states: With one or more of the above required penetration fire barriers non-functional, establish a continuous fire watch on at least one side of the affected penetration within one hour.

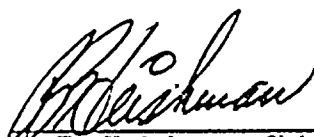
Contrary to the above, (1) penetration W-5095 was non-functional for at least two days and (2) penetration F-6078 was non-functional: neither penetration had a continuous fire watch established which could insure adequate fire protection for the cable spreading room.

This is a Severity Level IV violation. (Supplement 1.D)

Pursuant to the provisions of 10 CFR 2.201, American Electric Power Service Corporation is hereby required to submit to this office within twenty-five days of the date of this Notice a written statement or explanation in reply, (1) the reasons for the items of noncompliance; (2) the corrective steps which have been taken and the results achieved; (3) corrective steps which will be taken to avoid further items of noncompliance; and (4) the date when full compliance will be achieved. Under the authority of Section 182 of the Atomic Energy Act of 1954, as amended, this response shall be submitted under oath or affirmation.

dated

12/23/80

  
\_\_\_\_\_  
R. F. Heishman, Chief  
Reactor Operations and  
Nuclear Support Branch





U.S. NUCLEAR REGULATORY COMMISSION  
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

Reports No. 50-315/80-19; 50-316/80-15

Docket Nos. 50-315; 50-316

Licenses No. DPR-58; DPR-74

Licensee: American Electric Power Service Corporation  
Indiana and Michigan Power Company  
2 Broadway  
New York, NY 10004

Facility Name: D. C. Cook Nuclear Power Plant, Units 1 and 2

Inspection At: D. C. Cook Site, Bridgman, MI

Inspection Conducted: November 1-31, 1980

Inspectors: *for* *DE Boyd*  
E. R. Swanson

12-23-80

*for* *DE Boyd*  
N. E. DuBry

12-23-80

Approved By: *DE Boyd*  
D. C. Boyd, Chief,  
Projects Section 4

12-23-80

Inspection Summary

Inspection on November 1-30, 1980 (Reports No. 50-315/80-19; 50-316/80-15)

Areas Inspected: Routine, onsite regular and backshift inspection by the resident inspector. Areas inspected included operational safety verification, inspection during long term shutdown, maintenance observations, surveillance observation, new fuel receipt, accessible portions of Unit 1 and Unit 2 facilities, followup on previously identified items, and independent inspection. The inspection involved a total of 126 inspector-hours onsite by two NRC inspectors including 56 inspector-hours off-shifts.

Results: Of the seven areas inspected, no items of noncompliance or deviations were identified in six areas. One item of noncompliance was identified in one area (violation, level IV - failure to establish fire watch - paragraph 8).

## DETAILS

### 1. Persons Contacted

- \*D. Shaller, Plant Manager
- \*B. Svenson, Assistant Plant Manager
- \*E. Townley, Assistant Plant Manager
- \*R. Keith, Operations Superintendent
- \*E. Smarella, Technical Superintendent
- R. Dudding, Maintenance Superintendent
- D. Duncan, C&I Supervisor
- \*J. Stietzel, QA Supervisor
- D. Palmer, Radiation Protection Supervisor

The inspectors also contacted a number of operators, technicians, and maintenance personnel including some contact workers.

\*Denotes those present at the exit interview.

### 2. Follow up On Previous Inspection Findings

(Closed) Noncompliance (315/80-02, 316/80-02): Review of standing orders not done. The inspector interviewed operators, reviewed records and discussed corrective action taken with licensee management. As delineated in the March 12, 1980 response. There were some minor record keeping errors. The inspector considers the corrective action taken adequate to preclude further noncompliance in this area.

### 3. Operational Safety Verification

The inspector observed control room operations, reviewed applicable logs and conducted discussions with control room operators during the month of November 1980. The inspector verified the operability of selected emergency systems, reviewed tagout records and verified proper return to service of affected components. Tours of auxiliary buildings and turbine buildings were conducted to observe plant equipment conditions, including potential fire hazards, fluid leaks, and excessive vibrations and to verify that maintenance requests had been initiated for equipment in need of maintenance. The inspector by observation and direct interview verified that the physical security plan was being implemented in accordance with the station security plan.

The inspector observed plant housekeeping/cleanliness conditions and verified implementation of radiation protection controls. During the month of November, 1980, the inspector walked down the accessible portions of the Unit 2 intermediate head safety inspection systems to verify operability. The inspector also witnessed portions of the radioactive waste system controls associated with radwaste shipments and barreling.

These reviews and observations were conducted to verify that facility operations were in conformance with the requirements established under technical specifications, 10 CFR, and administrative procedures.

4. Inspection During Long Term Shutdown

Following the Unit 2 shutdown the inspectors have observed the shutdown control room operations, reviewed applicable logs, and conducted discussions with control room operators and others during the month of November 1980. The inspectors verified the operability of selected emergency systems and verified proper return to service of affected components. Tours of the Unit 2 containment, the fuel handling areas, the auxiliary building and the turbine building were made to observe plant equipment conditions, including potential fire hazards, fluid leaks, and that maintenance requests had been initiated for equipment in need of maintenance. The inspectors witnessed work in progress on the Reactor Coolant Pump Oil Spill Guard verification. By observation and direct interview the inspector verified that the physical security plan was being implemented in accordance with the station security plan.

5. Monthly Surveillance Observation

The inspector observed technical specifications required surveillance testing on the containment air radio gas monitor (2 THP 4030 STP 153), containment air particulate process monitor (2 THP 4030 STP 152) and containment area monitor at the personnel lock (2 THP 4030 STP 155) and verified that testing was performed in accordance with adequate procedures, that test instrumentation was calibrated, that limiting conditions for operation were met, that removal and restoration of the affected components were accomplished, that test results conformed with technical specifications and procedure requirements and were reviewed by personnel other than the individual directing the test, and that any deficiencies identified during the testing were properly reviewed and resolved by appropriate management personnel.

The inspector also witnessed portions of the following test activities:

<u>Procedure No.</u>	<u>Title</u>
120 HP 4030 STP 016	RCS Leak Test
20 HP 4021.032.001	Starting, Parelleling, and Loading the Emergency Diesel
12 THP 6030I MP142	Cardox System Surveillance
1 THP 4030 STP.027	Power Range Nuclear Instrument Protection Set I.

6. Review of Plant Operations

During the month of November 1980 the inspector reviewed the following activities:



a. Review and Audits

On November 25, 1980, the inspector sat in on a safety review committee meeting. The inspector verified that provisions of technical specifications dealing with membership, review process, frequency, and qualifications were met. The inspector also verified that decisions made were reflected in the meeting minutes and that corrective actions proposed were taken.

On November 25, 1980, the inspector witnessed an audit conducted by the licensee's offsite audit team and verified conformance with technical specifications and QA procedures.

b. Training

The inspector attended two of the licensee's operator requalification lecture series and verified that lesson plan objectives were met and that training was in accordance with the approved operator requalification program schedule and objectives.

The inspector verified by direct questioning of one new, one existing, and one temporary employee that administrative controls and procedures, radiological health and safety, industrial safety, controlled access and security procedures, emergency plan, and quality assurance training were provided as required by the licensee's technical specifications; verified by direct questioning of one craftsman and one technician that on-the-job training, formal technical training commensurate with job classification, and fire fighting training were provided.

c. Emergency Preparedness

The inspector observed and verified that the emergency equipment, facilities and systems described in the emergency plan are in place and operable. It was noted that the major revision to the Emergency Plan is not yet approved for us by the NRC. The inspectors verified that systems and equipment to be used for monitoring release of radioactivity are operable as described in the Plan and as required by the Technical Specifications. It was noted that at one time two of three secondary side monitors were out of service. A drill was held to exercise the coordination between the local hospital, ambulance service and the plant staff in the handling of a contaminated, injured person. The inspectors also witnessed the annual site emergency drill on November 25, and attended the critique following the drill.

7. Monthly Maintenance Observation

Station maintenance activities of safety related systems and components listed below were observed/reviewed to ascertain that they were conducted in accordance with approved procedures, regulatory guides and industry codes or standards and in conformance with technical specifications.

The following items were considered during this review: the limiting conditions for operation were met while components or systems were removed from service; approvals were obtained prior to initiating the work; activities were accomplished using approved procedures and were inspected as applicable; functional testing and/or calibrations were performed prior to returning components or systems to service; quality control records were maintained; activities were accomplished by qualified personnel; parts and materials used were properly certified; radiological controls were implemented; and, fire prevention controls were implemented.

Work requests were reviewed to determine status of outstanding jobs and to assure that priority is assigned to safety related equipment maintenance which may affect system performance.

The following maintenance activities were observed/reviewed:

<u>Procedure No.</u>	<u>Title</u>
12 MHP 4050 FDF.001	Receipt, Storage, and Preliminary Inspection of New Fuel Assembly Shipping Containers
12 MPH 4040 FDF.002	Unloading of New Fuel Assemblies From Shipping Containers
12 MPH 4050 FDF.011	Auxiliary Building Crane Operating Instructions
12 THP 6010 RAD 601	Receipt of Radioactive Material
12 PMP 4040 SNM.001	SNM Accountability Manual for the D. C. Cook Plant
12 MHP 4050 FDF.005	Inspection of New Fuel Assemblies
12 MPH 4050 FDF.006	Storage of New Fuel Assemblies
12 MHP-SP-RFC-2483	Reactor Coolant Pump Motor Modification
1 THP 6010 Rad 594	RMS Radiogas Cap Source Calibration
1 THP 6010 IMP.012	RMS (Six Trgud-Gas) Calibration

Following completion of maintenance on the Radiation Monitoring System, the inspector verified the systems had been returned to service properly. The reactor coolant pump modification was not complete during the period of the report and they had not been returned to service.

#### 8. Independent Inspection

During the inspection period a significant number of penetration fire barriers were repaired utilizing 12 MHP 5021.021 Revision 1. While



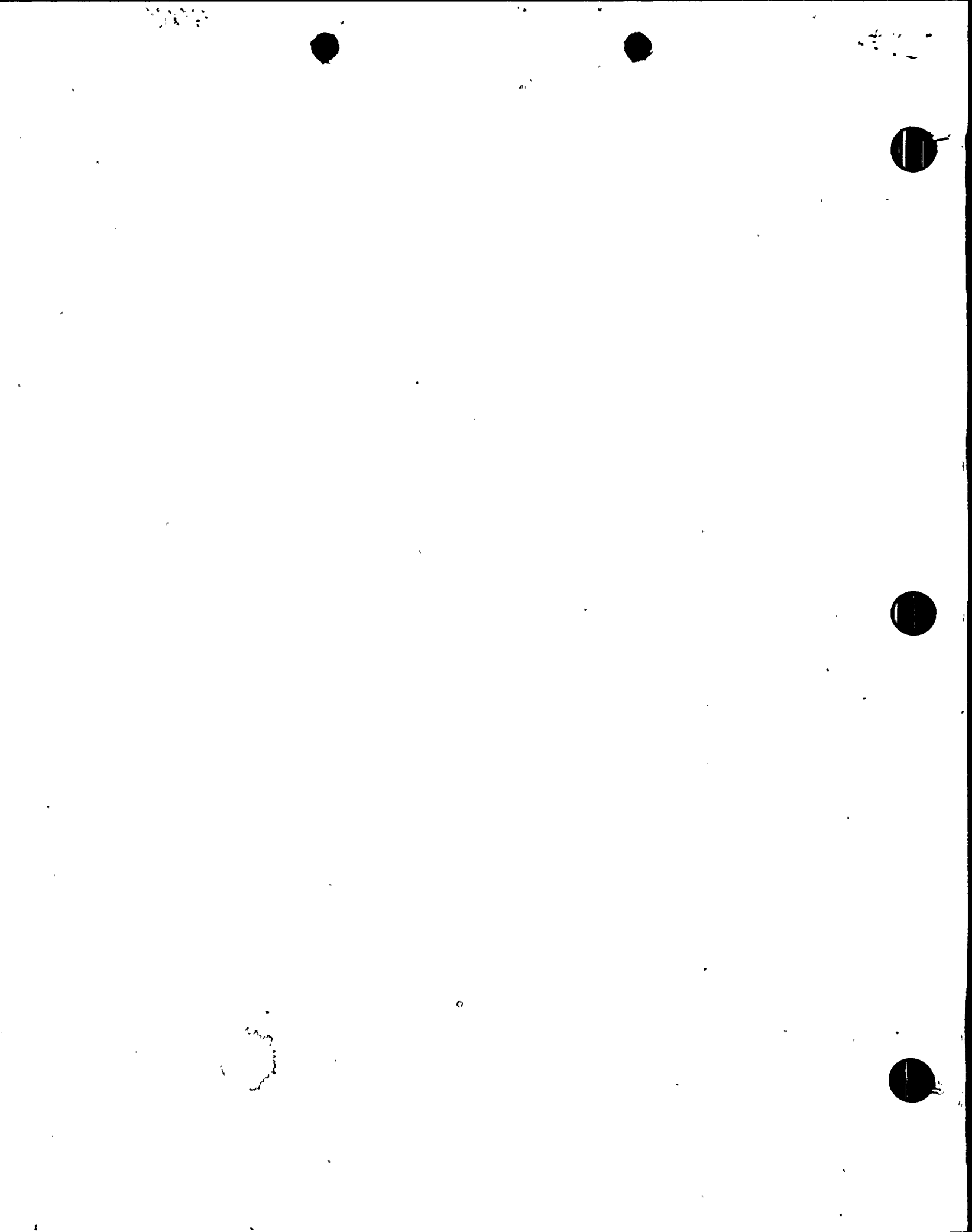
inspecting the outgoing work on November 24, the inspector noted a non-functional fire barrier between the control room and the cable vault which was being repaired, but with no one around. Technical Specification 3.7.10 requires a continuous fire watch to be established within one hour of the barrier becoming non-functional. The operators were also unaware of the opening and had a fire been detected in the cable vault and the CO<sub>2</sub> system initiated, the control room would have been made uninhabitable. Further discussions with the contractor and plant personnel revealed that there is no direction available to them as to what a fire watch is, or what his responsibilities and duties are. The lack of a fire watch is an item of noncompliance, violation category IV. The question of what a fire watch is and his duties is an unresolved item. While further inspecting the cable vault, penetration W-5095 was also discovered to be non-functional as the inspector could see thru the wall to the Turbine Building. This condition existed for several days and the hole was labeled with tape indicating that it was not to be sealed. This item supports the above noncompliance. In their response to a similar item of noncompliance (50-315/78-09), the licensee stated that a fire detection system is an adequate substitute for a fire watch though the Technical Specification does not make allowance for this.

The inspector also stated that the non-functional barrier might render the CO<sub>2</sub> and Halon suppression systems inoperable by not being able to adequately contain the gas and provide the necessary pressure and concentration.

9. Exit Interview

The inspector met with licensee representatives (denoted in Paragraph 1) throughout the month and at the conclusion of the inspection on November 26, 1980, and summarized the scope and findings of the inspection activities. The licensee acknowledged comments made concerning fire barriers as detailed in paragraph 8.





February 5, 1981

Docket No. 50-315  
Docket No. 50-316

American Electric Power Service  
Corporation  
Indiana and Michigan Power Company  
ATTN: Mr. John E. Dolan  
Vice Chairman  
Engineering  
2 Broadway  
New York, NY 10004

Gentlemen:

Thank you for your letter dated January 23, 1981, informing us of the steps you have taken to correct the noncompliance identified in our letter dated January 2, 1981, Inspection Reports No. 50-315/80-15 and No. 50-316/80-14. We will examine your corrective action during a future inspection.

Your cooperation with us is appreciated.

Sincerely,

R. F. Heishman, Chief  
Reactor Operations and  
Nuclear Support Branch

cc: D. V. Shaller, Plant  
Manager

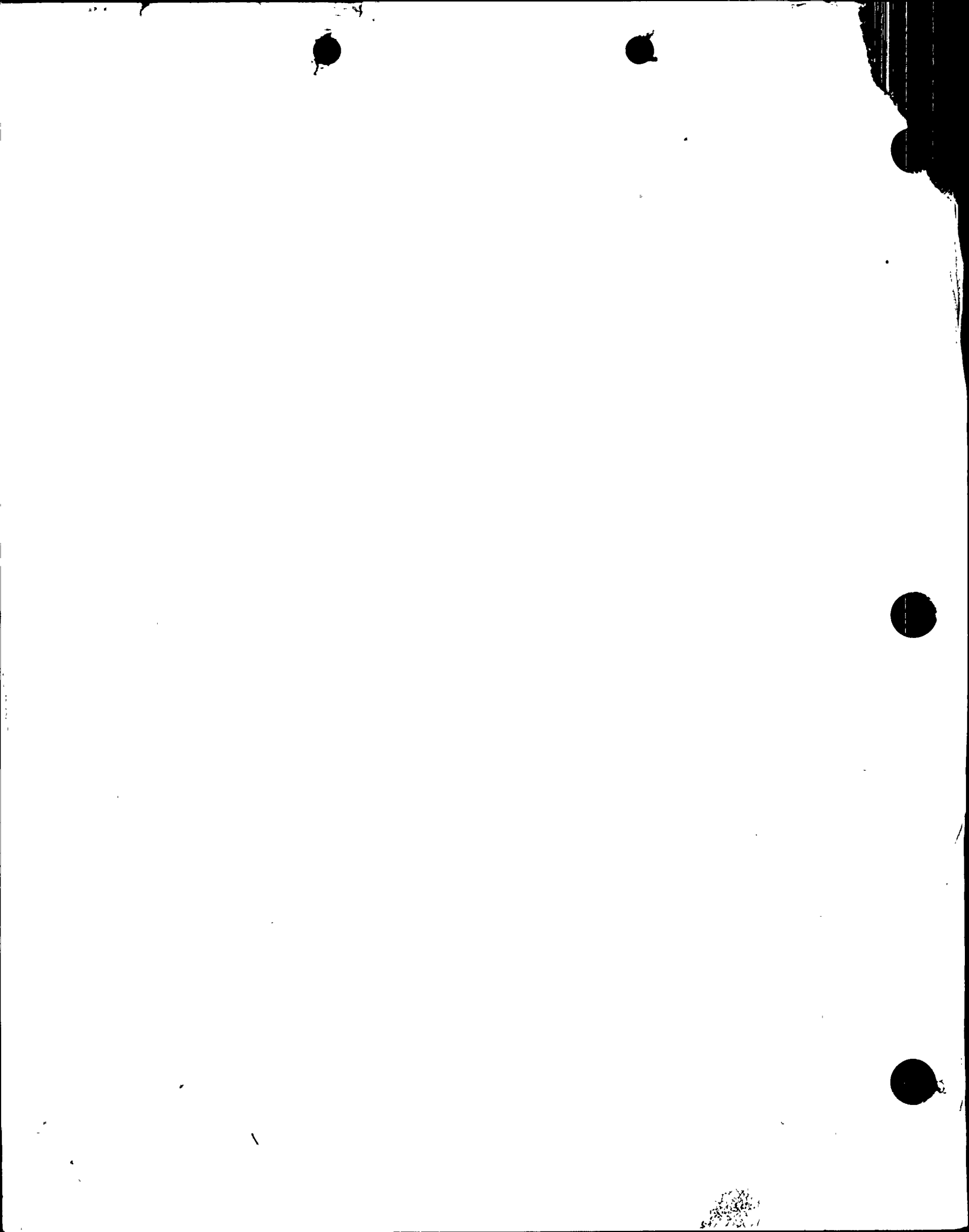
cc w/ltr dtd 1/23/81:  
Central Files  
Reproduction Unit NRC 20b  
AEOD  
Resident Inspector, RIII  
PDR  
Local PDR  
NSIC  
TIC  
Ronald Callen, Michigan  
Public Service Commission

RIII

RIII

Boyd/so  
2/3/81

Heishman  
g/f/g



*Mr. H. Peter Datta*  
*Sheet Attached -*  
*1/28/81 - JPK*

# INDIANA & MICHIGAN ELECTRIC COMPANY

P. O. BOX 18  
BOWLING GREEN STATION  
NEW YORK, N. Y. 10004

*Boyd - Adequate?*

*A*

January 23, 1981  
AEP:NRC:00512

Donald C. Cook Nuclear Plant Unit Nos. 1 and 2  
Docket Nos. 50-315 and 50-316  
License Nos. DPR-58 and DPR-74  
IE Inspection Report Nos. 50-315/80-15; 50-316/80-14

Mr. James G. Keppler, Regional Director  
U.S. Nuclear Regulatory Commission  
Office of Inspection and Enforcement  
Region III  
Glen Ellyn, Illinois 60137

Dear Mr. Keppler:

This letter is our response to the Notice of Violation attached as Appendix 'A' to Mr. R. F. Heishman's letter of January 2, 1981. In accordance with Appendix 'A' to Mr. Heishman's letter this response is being submitted under oath and affirmation.

On July 28, 1980, while Unit No. 2 was operating in Mode 1, the nitrogen cover pressure on one of the four accumulator tanks exceeded the upper limit of 644 psig specified in Technical Specification 3.5.1.d. for approximately ten minutes. The maximum pressure experienced was 650 psig. This event was in fact the result of the failure of the high/low pressure alarm to clear during operator action to increase cover gas pressure. The transient nature of this event and the magnitude of the pressure excursion (+6 psi) coupled with the normal accuracy of the pressure monitor ( $\pm 14$  psi) and the apparent lack of adverse safety significance led to the Plant Staff's request that personnel from American Electric Power Service Corporation (AEPSC) investigate the reportability of the event.

The results of the AEPSC review indicated that there was no reasonable adverse safety implications associated with the subject event. It was recognized that the apparent nitrogen overpressure did constitute entry into the 'Action Statement' of Specification 3.5.1.d., however, the reviewers felt that the reporting criteria of Specification 6.9.1.9.b, "...operation

JAN 28 1981

in a degraded mode...", had not been fulfilled as the apparent cover gas overpressure did not impair the ability of the affected accumulator to perform its safety function. The AEPSC response to the Plant Staff's request failed to provide clear guidance as to the reportability of the subject event.

Effective corrective action by the operator(s) returned the accumulator cover gas pressure to within the limits of Specification 3.5.1.d. in approximately ten minutes; well within the time period of one hour allowed by the 'Action Statement' of the Specification. The reportability of this event has been discussed with those members of the AEPSC staff involved with the aforementioned review. Particular emphasis was placed on the need for the AEPSC office to provide clear and concise guidance to the Plant Staff in matters such as the one discussed herein. These actions should be sufficient to prevent reoccurrence of similar events.

Very truly yours,



R. S. Hunter  
Vice President

cc: John E. Dolan  
R. C. Callen  
G. Charnoff  
R. W. Jurgensen  
D. V. Shaller  
Region III Site Inspector

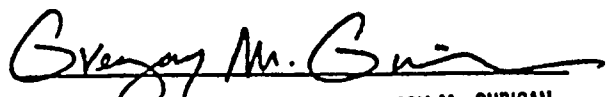


\_STATE OF NEW YORK )  
 )  
COUNTY OF NEW YORK)

R. S. Hunter, being duly sworn, deposes and says he is the Vice President of Licensee Indiana and Michigan Electric Company, that he has read the foregoing response to the NRC Notice of Violation contained in IE Inspection Reports No. 50-315/80-15 and No. 50-316/80-14 and knows the contents thereof, and the said contents are true to the best of his knowledge and belief.

  
\_\_\_\_\_

Subscribed and sworn to before me this 23<sup>rd</sup> day of January, 1981

\_\_\_\_\_  
  
Notary Public  
GREGORY M. GURICAN  
Notary Public, State of New York  
No. 31-4643431  
Qualified in New York County  
Commission Expires March 30, 1981.





# INDIANA & MICHIGAN ELECTRIC COMPANY

P. O. BOX 18  
BOWLING GREEN STATION  
NEW YORK, N. Y. 10004

January 23, 1981  
AEP:NRC:00512

Donald C. Cook Nuclear Plant Unit Nos. 1 and 2  
Docket Nos. 50-315 and 50-316  
License Nos. DPR-58 and DPR-74  
IE Inspection Report Nos. 50-315/80-15; 50-316/80-14

Mr. James G. Keppler, Regional Director  
U.S. Nuclear Regulatory Commission  
Office of Inspection and Enforcement  
Region III  
Glen Ellyn, Illinois 60137

Dear Mr. Keppler:

This letter is our response to the Notice of Violation attached as Appendix 'A' to Mr. R. F. Heishman's letter of January 2, 1981. In accordance with Appendix 'A' to Mr. Heishman's letter this response is being submitted under oath and affirmation.

On July 28, 1980, while Unit No. 2 was operating in Mode 1, the nitrogen cover pressure on one of the four accumulator tanks exceeded the upper limit of 644 psig specified in Technical Specification 3.5.1.d. for approximately ten minutes. The maximum pressure experienced was 650 psig. This event was in fact the result of the failure of the high/low pressure alarm to clear during operator action to increase cover gas pressure. The transient nature of this event and the magnitude of the pressure excursion (+6 psi) coupled with the normal accuracy of the pressure monitor ( $\pm 14$  psi) and the apparent lack of adverse safety significance led to the Plant Staff's request that personnel from American Electric Power Service Corporation (AEPSC) investigate the reportability of the event.


The results of the AEPSC review indicated that there was no reasonable adverse safety implications associated with the subject event. It was recognized that the apparent nitrogen overpressure did constitute entry into the 'Action Statement' of Specification 3.5.1.d., however, the reviewers felt that the reporting criteria of Specification 6.9.1.9.b, "...operation

JAN 28 1981

in a degraded mode...", had not been fulfilled as the apparent cover gas overpressure did not impair the ability of the affected accumulator to perform its safety function. The AEPSC response to the Plant Staff's request failed to provide clear guidance as to the reportability of the subject event.

Effective corrective action by the operator(s) returned the accumulator cover gas pressure to within the limits of Specification 3.5.1.d. in approximately ten minutes; well within the time period of one hour allowed by the 'Action Statement' of the Specification. The reportability of this event has been discussed with those members of the AEPSC staff involved with the aforementioned review. Particular emphasis was placed on the need for the AEPSC office to provide clear and concise guidance to the Plant Staff in matters such as the one discussed herein. These actions should be sufficient to prevent reoccurrence of similar events.

Very truly yours,



R. S. Hunter  
Vice President

cc: John E. Dolan  
R. C. Callen  
G. Charnoff  
R. W. Jurgensen  
D. V. Shaller  
Region III Site Inspector



STATE OF NEW YORK )


)

COUNTY OF NEW YORK)

R. S. Hunter, being duly sworn, deposes and says he is the Vice President of Licensee Indiana and Michigan Electric Company, that he has read the foregoing response to the NRC Notice of Violation contained in IE Inspection Reports No. 50-315/80-15 and No. 50-316/80-14 and knows the contents thereof, and the said contents are true to the best of his knowledge and belief.

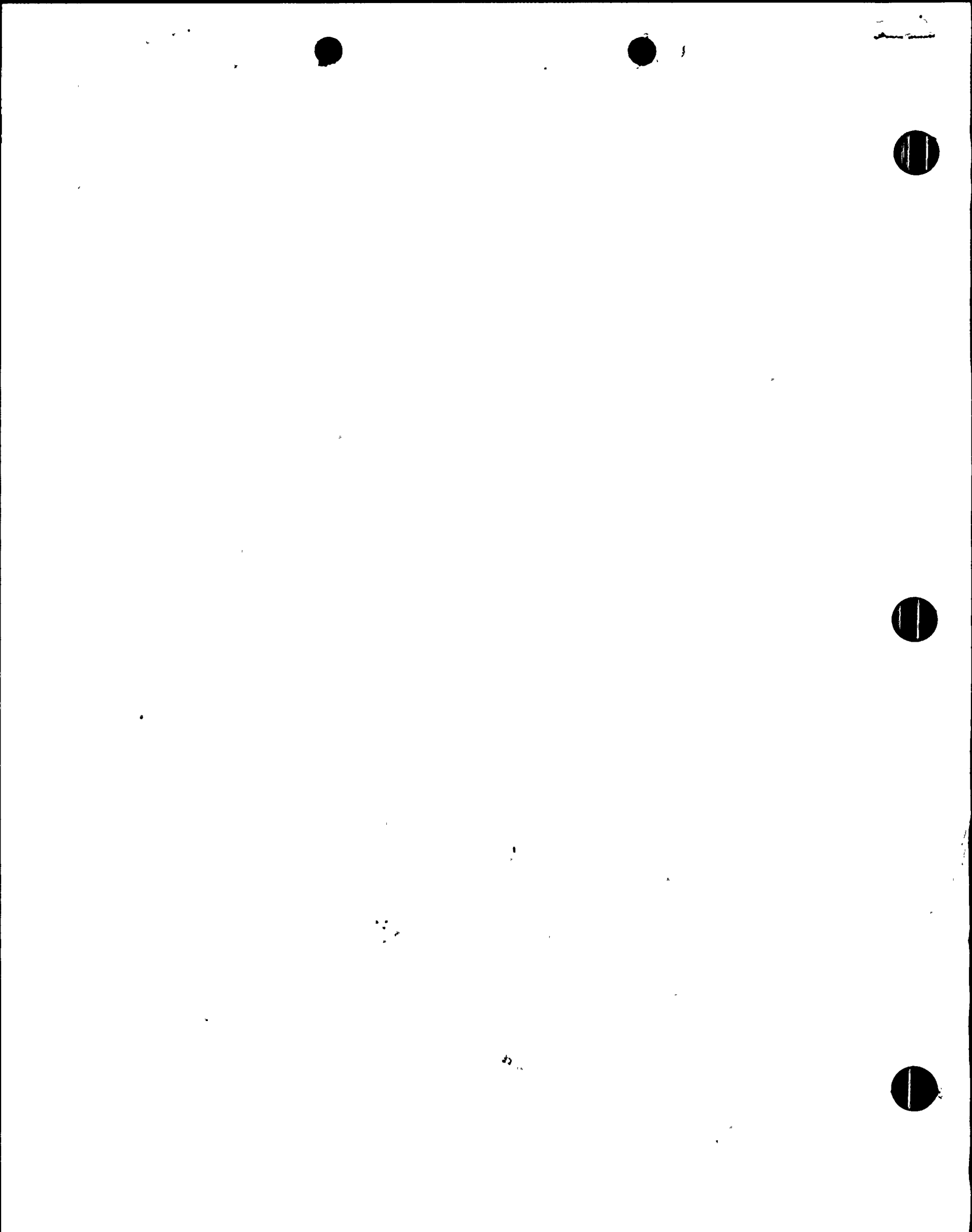
  
\_\_\_\_\_

Subscribed and sworn to before me this 23<sup>rd</sup> day of January, 1981

.....  
\_\_\_\_\_  


Notary Public

GREGORY M. GURICAN  
Notary Public, State of New York  
No. 31-4643431  
Qualified in New York County  
Commission Expires March 30, 1981.



JAN 2 1981

Docket No. 50-315  
Docket No. 50-316

American Electric Power Service  
Corporation  
Indiana and Michigan Power Company  
ATTN: Mr. John E. Dolan  
Vice Chairman  
Engineering  
2 Broadway  
New York, NY 10004

Gentlemen:

This refers to the routine inspection conducted by Messrs. E. Swanson and N. DuBry of this office on September 28 - October 31, 1980, of activities at the D. C. Cook Nuclear Plant, Units 1 and 2 authorized by NRC Operating License No. DPR-58 and No. DPR-74 and to the discussion of our findings with Mr. D. V. Shaller at the conclusion of the inspection.

The enclosed copy of our inspection report identifies areas examined during the inspection. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations, and interviews with personnel.

During this inspection, certain of your activities appeared to be in non-compliance with NRC requirements, as described in the enclosed Appendix A, and a written response is required.

American Electric Power Service - 2 -  
Corporation

We will gladly discuss any questions you have concerning this inspection.

Sincerely,

R. F. Heishman, Chief  
Reactor Operations and  
Nuclear Support Branch

Enclosures:

1. Appendix A,  
Notice of Violation
2. IE Inspection Reports  
No. 50-315/80-15 and  
No. 50-316/80-14

cc w/encl:  
D. V. Shaller, Plant  
Manager  
Central Files  
Reproduction Unit NRC 20b  
AEOD  
Resident Inspector, RIII  
PDR  
Local PDR  
NSIC  
TIC  
Ronald Callen, Michigan  
Public Service Commission

RIII

Swanson/jp  
12/10/80

RIII

DuBry

RIII

Boyd

RIII

Heishman

12/31/80

Appendix A

NOTICE OF VIOLATION

American Electric Power Service  
Corporation

Docket No. 50-316

As a result of the inspection conducted on October 23-24, 1980, and in accordance with the Interim Enforcement Policy, 45 FR 66754 (October 7, 1980), the following violation was identified:

Technical Specification 3.5.1.d states: In modes 1, 2, and 3, a nitrogen cover pressure of between 599 and 644 psig must be maintained on each of the safety injection accumulators.


Operation outside of this pressure boundary constitutes entry into a limiting condition for operation, which, in accordance with Technical Specification 6.9.1.8.b, requires prompt notification (24 hour) with a written followup within 14 days.

Contrary to the above, on July 28, 1980, while the reactor was operating, the nitrogen cover pressure limit on one safety injection accumulator was exceeded for a period of approximately ten minutes, and this event was not reported to the NRC.

This is a Severity Level IV violation (Supplement 1.D.4)

Pursuant to the provisions of 10 CFR 2.201, you are required to submit to this office within twenty-five days of the date of this Notice a written statement or explanation in reply, including for each item of noncompliance: (1) corrective action taken and the results achieved; (2) corrective action to be taken to avoid further noncompliance; and (3) the date when full compliance will be achieved. Under the authority of Section 182 of the Atomic Energy Act of 1954, as amended, this response shall be submitted under oath or affirmation.

Dated 12/31/80



R. F. Heishman, Chief  
Reactor Operations and  
Nuclear Support Branch



U.S. NUCLEAR REGULATORY COMMISSION  
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

Reports No. 50-315/80-15; 50-316/80-14

Docket Nos. 50-315; 50-316

Licenses No. DPR-58; DPR-74

Licensee: American Electric Power Service Corporation  
Indiana and Michigan Power Company  
2 Broadway  
New York, NY 10004

Facility Name: D. C. Cook Nuclear Power Plant, Units 1 and 2

Inspection At: D. C. Cook Site, Bridgman, MI

Inspection Conducted: September 28, 1980 - October 31, 1980

Inspectors: E. R. Swanson *ERS*

12-12-80

*for* N. E. DuBry *NEB*

12-12-80

*for* Approved By: D. C. Boyd, Chief,  
Projects Section 4 *D. C. Boyd*

12-12-80

Inspection Summary

Inspection on September 28, 1980 - October 31, 1980 (Reports No. 50-315/80-15; 50-316/80-14)

Areas Inspected: Operational safety verification, maintenance, surveillance, licensee event report followup, review of plant operations, plant trips and safety system challenges, organization and administration, unplanned gaseous release, venting and purging of containment, and Category "A" task action plan requirements (NUREG 0578). The inspection involved a total of 257 inspector-hours onsite by two NRC inspectors including 75 inspector-hours onsite during off-shifts.

Results: Of the twelve areas inspected, no items of noncompliance or deviations were identified in eleven areas. One item of noncompliance was identified in one area (failure to report - paragraph 8).

## DETAILS

### 1. Persons Contacted

\*D. Shaller, Plant Manager  
\*B. Svensson, Assistant Plant Manager  
R. Begor, Staff Assistant  
\*E. Townley, Assistant Plant Manager  
R. Lease, Operator Superintendent  
E. Smarella, Technical Superintendent  
R. Dudding, Maintenance Superintendent  
\*J. Stietzel, QA Supervisor  
T. Beilman, Senior QA Auditor  
G. Caple, Department Assistant, QA  
M. McAllister, Stores Supervisor  
D. Duncan, Plant C&I Supervisor  
D. Bischoff, Performance Engineer for C&I  
T. Kriesel, Environmental Coordinator  
J. Ho, Senior Engineer (Nuclear)  
J. Fryer, Radiation Protection Foreman  
D. Palmer, Radiation Protection Supervisor

\*Denotes those present at the exit interview.

The inspectors also interviewed other licensee employees during the course of this inspection. They included radiation protection technicians, senior reactor, reactor and auxiliary operators, members of the security force, and office personnel.

### 2. Operational Safety Verification

The inspector observed control room operations, reviewed applicable logs and conducted discussions with control room operators during the month of September and October. The inspector verified the operability of selected emergency systems, reviewed tagout records and verified proper return to service of affected components. Tours of Auxiliary building, Spent Fuel Storage area, Turbine Building, and Security facilities were conducted to observe plant equipment conditions, including potential fire hazards, fluid leaks, and excessive vibrations and to verify that maintenance requests had been initiated for equipment in need of maintenance. The inspector by observation and direct interview verified that the physical security plan was being implemented in accordance with the station security plan.

The inspector observed plant housekeeping/cleanliness conditions and verified implementation of radiation protection controls. During the month of October, the inspector walked down the accessible portions of the Unit 2 ECCS accumulator systems to verify operability. The inspector also witnessed portions of the radioactive waste system controls associated with radwaste shipments and barreling.

These reviews and observations were conducted to verify that facility operations were in conformance with the requirements established under technical specifications, 10 CFR, and administrative procedures.

3. Monthly Maintenance Observation

Station maintenance activities of safety related systems and components listed below were observed/reviewed to ascertain that they were conducted in accordance with approved procedures, regulatory guides and industry codes or standards and in conformance with technical specifications.

The following items were considered during this review: the limiting conditions for operation were met while components or systems were removed from service; approvals were obtained prior to initiating the work; activities were accomplished using approved procedures and were inspected as applicable; functional testing and/or calibrations were performed prior to returning components or systems to service; quality control records were maintained; activities were accomplished by qualified personnel; parts and materials used were properly certified; radiological controls were implemented; and, fire prevention controls were implemented as necessary.

The following maintenance activities were observed/reviewed:

<u>Title</u>	<u>Procedure</u>
Fire Seal Installation	12-MHP-5021-001-031
Installation of fire seals is currently being examined by a regional investigator and a specialist inspector.	

4. Monthly Surveillance Observation

The inspector observed technical specifications required surveillance testing on the Unit 2 "West" Motor Driven Auxiliary feed pump (2-OHP-4040STP.017) and verified that testing was performed in accordance with adequate procedures, that test instrumentation was calibrated, that limiting conditions for operation were met, that removal and restoration of the affected components were accomplished, that test results conformed with technical specifications and procedure requirements and were reviewed by personnel other than the individual directing the test, and that any deficiencies identified during the testing were properly reviewed and resolved by appropriate management personnel.

The inspector also witnessed portions of the following test activities:

Unit 1 steam generator flow mismatch protection set (1THP4030STP021), Units 1 and 2 diesel generator load testing, Unit 1 diesel generator fire pump test (1-OHP-4030-STP-120), and heat tracing surveillance testing in Unit 2.

The inspector observed that testing was scheduled in accordance with technical specification requirements, and that qualified personnel were using approved procedures to perform the tests.

5. IE Bulletin Followup

For the IE Bulletins listed below the inspector verified that the written response was within the time period stated in the bulletin, that the written response included the information required to be reported, that the written response included adequate corrective action commitments based on information presentation in the bulletin and the licensee's response, that licensee management forwarded copies of the written response to the appropriate onsite management representatives, that information discussed in the licensee's written response was accurate, and that corrective action taken by the licensee was as described in the written response.

IEB 80-18 - Maintenance of Adequate Flow Through Centrifugal Charging Pumps After Steam Line Break

IEB 80-12 Decay Heat Removal System Operability

IEB 79-03A Longitudinal Weld Defects in ASME SA-312 Type 30455 Pipe

A review of licensee actions regarding IE Bulletin 79-21 "Temperature Effects on Level Measurements" found that procedures and modified setpoint had been promulgated per response letter to the Commission on May 22, 1980. (AEP:NRC:00271B) The inspector inquired as to what steps were being taken by the licensee following their receipt of the June 22, 1980, letter from their vendor (AEP-80-66) delineating corrective action to be considered. Licensee representatives stated that re-evaluation was being done. This matter will continue to be followed by the inspector.

6. Licensee Event Reports Followup

For the IE Circulars listed below, the inspector verified that the Circular was received by the licensee management, that a review for applicability was performed, and that if the circular were applicable to the facility, appropriate corrective actions were taken or were scheduled to be taken.

Unit 1

RO 50-315/80-23/036-0

7. IE Circular Followup

For the IE Circulars listed below, the inspector verified that the Circular was received by the licensee management, that a review for applicability was performed, and that if the circular were applicable to the facility, appropriate corrective actions were taken or were scheduled to be taken.

IEC 80-12 Valve-Shaft-To-Actuator Key May Fall Out of Place When Mounted Below Horizontal Axis

IEC 80-11 Emergency Diesel Lube Oil Cooler Failures



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IEC 80-09	Problems with Plant Internal Communications Systems
IEC 80-05	Emergency Diesel Generator Lube Oil Addition and Onsite Supply
IEC 80-04	Securing of Threaded Locking Devices on Safety-Related Equipment
IEC 80-02	Nuclear Power Plant Staff Work Hours
IEC 80-01	Service Advice for GE Induction Disc Relays
IEC 79-25	A Shock Arrester Strut Assembly Interference
IEC 79-23	Motor Starters and Contactors Failed to Operate
IEC 79-22	Stroke Times for PORV'S
IEC 79-20	Failure of GTE Sylvania Relay, Type PM, Bulletin 730 S, Catalogue 5012-11-AC (12V AC Coil)
IEC 79-19	Loose Locking Devices on Ingersoll-Rand Pumps
IEC 79-13	Replacement of Diesel Fire Pump Starting Contactors
IEC 79-12	Potential Diesel Generator Turbocharger Problem
IEC 79-10	Pipefitting Manufactured From Wrong Material
IEC 79-09	Split or Punctured Diaphragm's on SCBA's.
IEC 79-04	Loose Packing Nut on Limitorque Moto Valve Operators
IEC 79-02	Failure of POR 120V Vital A/C Power Supply

8. Review of Plant Operations

During the months of September through October the inspector reviewed the following activities:

a. Procurement

The inspector reviewed procurement and storage activities to ascertain whether the purchase of components, materials and supplies used for safety related functions, is in conformance with the licensee's approved QA program and implementing procedures; non-conforming items are segregated and marked accordingly; applicable preventive maintenance is performed; housekeeping and environmental requirements are met; and, limited shelf-life items are controlled.

The following components were inspected.

- (1) GE GE RTV-133 Fire Retardant Caulking
- (2) DOW silicone foam
- (3) Retrofit locknut kits for Ingersoll-Rand pumps

b. Training

The inspector verified by direct questioning of one new, one existing, and one temporary employee that administrative controls and procedures, radiological health and safety, industrial safety, controlled access and security procedures, emergency plan, and quality assurance training were provided as required by the licensee's technical specifications; verified by direct questioning of one craftsmen and one technician that on-the-job training, formal technical training commensurate with job classification, and fire fighting training were provided.

c. Environmental Protection

The inspector discussed the installation and operability of environmental monitoring and sampling stations with licensee representatives. The inspector also reviewed with the contracted vendor the monitoring frequency of TLD, air sampling, and milk sampling collections. Location of sample stations of present and proposed (TMI Lessons Learned Emergency Upgrade) were reviewed with licensee and the vendor representative.

d. Emergency Preparedness

The inspectors observed the emergency preparedness drill conducted by FEMA on October 9, 1980, and viewed the functioning of the licensee's Technical Support Center. The inspector's visited the Berrian County Emergency Operations Center and the Joint Public Information Center and verified the agencies are familiar with their roles in the emergency plan. Attendance at the critique on October 10, 1980, revealed that FEMA gave the drill a passing grade and that the final report would be issued at a later date. A sampling of equipment used during the drill was found to be returned to its proper location after the drill exercise.

e. Licensee Action Concerning Identified Problems

The inspector reviewed Condition Reports generated during the months of July, August, and September, 1980, for trends or recurring failures and resolution of identified discrepancies involving safety-related components. Condition Report No. 2-7-80-226 describes an event on July 28, 1980, when a Unit 2 accumulator was charged with nitrogen over the technical specification limit and was restored to within the limits specified in approximately ten minutes. The event was properly reviewed by plant management and classified as not reportable, with the QA Supervisor dissenting. As discussed in the exit meeting held on October 24, 1980, Technical Specification 6.9.1.9.b reporting requirement is applicable (operation in a degraded mode permitted by a limiting condition for operation). As detailed in Appendix A, this is an item of noncompliance.

9. Plant Trips - Safety System Challenges

Following the plant trips and safety system challenge of Unit 1 on October 11, 1980, while conducting control valve testing the inspector ascertained the status of the reactor and safety systems by observation of control room indicators and discussions with licensee personnel concerning plant parameters, emergency system status and reactor coolant chemistry. The inspector verified the establishment of proper communications and reviewed the corrective actions taken by the licensee.

All systems responded as expected, and the plant was returned to operation on October 12, 1980.

A ground fault in the Unit 2 main generator (Brown-Boveri) resulted in a plant trip on October 18, 1980.

All systems, with the exception of one source range channel, responded as expected. The source range channel was restored to operations within an hour. The plant has been shutdown and cooled down while the licensee conducts extensive repairs on the main generator. Estimated date of plant operational restoration is mid-December, 1980.

10. Organization and Administration

The inspector reviewed the organizational structure of the offsite and onsite facility organization contained in the Technical Specifications and determined the following:

- a. Figure 6.2.-2 of the Technical Specifications for both units does not reflect the assignment of an Assistant Plant Manager (two are currently assigned), a Staff Assistant, an Outage/Design Change Coordinator, a Chief Security Supervisor or an Environmental Coordinator. Personnel who have changed assignments in the last year include:

- (1) assignment of T. A. Kreisel as Environmental Supervisor
- (2) assignment of R. S. Kieth as Operation Superintendent
- (3) assignment of H. M. Chadwell as Design Change Coordinator
- (4) assignment of F. W. Schaub as Chief Security Supervisor (Acting)
- (5) assignment of C. A. Ross as Nuclear Engineer
- (6) assignment of D. R. Campbell as Production Supervisor, Operations

The qualifications of the above personnel were found to meet Technical Specification or QA Program requirements.

- b. Figure 6.2.-1 of the Technical Specifications does not reflect the current Offsite Management and Technical Support Organization due to several recent changes in incorporated structure. No significant changes in personnel have occurred, but some reorganization has taken place.

The licensee has submitted Technical Specification change requests for Unit 1 on December 22, 1978; for Unit 2 on February 13, 1979, and has updated their submittals by telephone as recently as June 10, 1980.

No items of noncompliance or deviations were identified.

11. Unplanned Gaseous Release

On October 17, 1980, the licensee experienced an unplanned gaseous radioactive release from the auxiliary building vent stack. Investigation revealed that the source was due to off-gassing of overflow to the auxiliary building clean sump. The overflow had been caused by the waste system tanks being overfilled while attempting to valve in the reactor coolant filter in the CVCS system due to a leaking drain valve. The release was primarily xenon-133 and was 1.6% of Technical Specification limits based on integrated measurements during the release. Three workers near the scene received



minor contamination, they were decontaminated and released. The licensee took immediate corrective action when the cause was discovered and has replaced the leaking drain valve to preclude recurrence.

12. Venting and Purging of Containment (Task II.E.4)

The inspector reviewed all available correspondence and guidance concerning the issue of containment purge and vent. The licensee has committed in a June 8, 1979, letter (AEP:NRC:00114A) ". . . to limit purging of Unit 1 in Modes 1, 2, 3 and 4 to 90 hours per year until the issue is finally resolved". Unit 2 is restricted by Technical Specifications from purging during Modes 1, 2, 3 and 4. As summarized in a November 8, 1979, letter (AEP:NRC:00295) the licensee has responded to all questions, submitted the results of purge valve testing and analyses, provided justification for unrestricted purging of both units, submitted details of the review of overriding of safety actuation signals, and requested NRC action on their requests for a Technical Specification change on Unit 2 and removal of the 90 hour restriction on Unit 1. Further correspondence on December 5, 1979 (AEP:NRC:00295A) states that since the installed Radiation Monitoring System (as described in the FSAR) does cause purge system isolation, the monitors (designed as control grade) are not part of the Safeguards System, but provide additional inputs and enhance the defense-in-depth philosophy. Mr. Schwencer's letter to Mr. Dolan (I&M) on February 11, 1980, requested further commitment to Interim Position No. 1. By letter dated March 10, 1980 (AEP:NRC:00370) the licensee committed to comply with the position which follows:

1. Whenever the containment integrity is required, emphasis should be placed on operating the containment in a passive mode as much as possible and on limiting all purging and venting times to as low as achievable. To justify venting or purging, there must be an established need to improve working conditions to perform a safety related surveillance or safety related maintenance procedure. (Examples improved working conditions would include deinerting, reducing temperature\*, humidity\*, and airborne activity sufficiently to permit efficient performance or to significantly reduce occupational radiation exposures), . . . . It was also stated in the letter that even in complying with the position for Unit 1, the licensee may need to purge in excess of 90 hours per year as was previously discussed (AEP:NRC:00114A).

Inspection during the period covered by this report and efforts detailed IE Inspection Reports 50-315/80-08 and 50-316/80-07, paragraph 14, verified that the licensee is in compliance with the stated position. According to records maintained in the control room, Unit 1 has been purged for less than 20 hours in the current calendar year. By letter of March 25, 1980 (AEP:NRC:00295B) the licensee responded to questions and further committed to install safety grade/class 1E containment radiation monitoring channels to provide initiation of containment ventilation isolation. This is to be installed during the first outage of sufficient duration subsequent to equipment delivery.

13. CATEGORY "A" TMI TASK ACTION PLAN REQUIREMENTS

On February 26, 1980, a meeting was held between NRR and licensee representatives to review the implementation of Category "A" requirements of NUREG-0578. Supplemental information requested at this meeting was provided by letter on March 10, 1980 (AEP:NRC:00334B).

An evaluation of compliance was issued by the Division of Operating Reactors on March 20, 1980, to J. Dolan which included items to be followed up by the Office of Inspection and Enforcement (OIE). The following is a list of areas inspected during the month of October, 1980, to complete the evaluation of actions taken by the licensee.

NUREG 0578 Number (Task Number)

- 2.1.3.b(II.F.2)      Subcooling Meter - Procedures were reviewed for backup methods and operators were interviewed and found knowledgeable of procedures. Also reviewed in IE Reports 50-315/80-04 and 50-316/80-03.
- 2.1.4(II.E.4.2)      Containment Isolation - 12-DHP 4030 STP035 "Sealed Valve Position Logging" provides adequate administrative control to assure that manual isolation valves are in the correct position and provides for periodic verification that normally closed valves and locked doors.
- 2.1.5.c                Hydrogen Recombiner Procedures - 1-DHP 4022:034.004 and 2-DHP 4022.034.004 were reviewed and operators interviewed to ascertain their level of familiarity. Recombiners were covered in training and most operators were familiar with their operation by having performed the semi-annual surveillance test.
- 2.1.6.a(III.D.1.1)   Leak Reduction Program - PMI 5031, 12-OHP 4030.STP.038 and 12-THP-SP-015 were reviewed and found to implement an effective program for identifying and correcting leaks. Results of both the gaseous and liquid leak tests that have been performed were reviewed. Significant leaks identified were promptly corrected.
- 2.1.6.b(II.B.2)      Design Review Shielding and Environmental Qualifications - Licensee committed to submit response on environmental qualifications to the NRC by April 15, 1980, in their March 10, 1980 letter (AEP:NRC;00334B). By letter of May 15, 1980, (AEP:NRC:00334D) the licensee transmitted an executive summary of the Plant Shielding Design review and Equipment Radiation Environmental Qualification review and stated that the detailed report would be available at the plant for OIE review. Informal communications indicate it might be available by the end of November.

2.1.8.a(II.B.3)

Post Accident Sampling Capability - 112-THP-SP-13 was reviewed and found to adequately prescribe sampling and analysis methods utilizing the modified systems equipment described in the March 10, 1980 submittal.

The equipment was verified to be available. These interim measures will be further reviewed by a special Health Physics group.

2.1.8.b(II.F.1)

Increased Range of Radiation Monitors - 12-THP-SP-1 and 12-THP-SP-16 were reviewed and found to be adequate for the measures described. Portable instruments are available to be utilized as described in the March 10, 1980 submittal. They are not installed as inferred by the March 20, 1980 evaluation. Equipment and modifications are installed and accomplished as described. These interim measures will be further reviewed by a special Health Physics group.

2.1.8.c(III.D.3.3)

Radioiodine Instrumentation - 12-THP-SP-14 was reviewed and found to be adequately implement the provisions described in the March 10, 1980 submittal. Two NMC CAMs and three PING-1A monitors are available (not "4 PINE-1A" as stated in the March 10, 1980 submittal). These interim measures will be further reviewed by a special Health Physics group.

Note: The above referenced Special Procedures were not available in the Technical Support Center (TSC) as the inspector logically expected since the TSC is the controlling station for these support functions.

2.2.1.a(I.A.1.2)

Shift Supervisor Responsibilities - PMSO.046 and OSO.031 specify the responsibilities of the plant Senior Operating Engineer and further delineate which of the non-safety related duties may be delegated to other persons.

#### 14. Exit Interview

The inspector met with licensee representatives (denoted in Paragraph 1) throughout the month and summarized the scope and findings of the inspection activities. The licensee acknowledged the comments the inspector made concerning the noncompliance discussed in Paragraph 8.

