

50-315/316

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TO:

N. R. C.

FROM:

Indiana & Michigan Power Company  
Bridgman, Michigan  
R. W. Jurgensen

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## DESCRIPTION

Ltr. trans the following:

(1-P)

PLANT NAME:

Cook 1 &amp; 2

RJL

## ENCLOSURE

Consists of monthly report on impingement  
of fish covering the month of January, 1977.

(6-P)

DO NOT REMOVE

## SAFETY

## FOR ACTION/INFORMATION

## ENVIRO

ASSIGNED AD:

BRANCH CHIEF:

PROJECT MANAGER:

LIC. ASST.:

ASSIGNED AD:

BRANCH CHIEF:

PROJECT MANAGER:

LIC. ASST.:

Ziemann (6)  
Fletcher  
Dyess

## INTERNAL DISTRIBUTION

<input checked="" type="checkbox"/> REG FILE	SYSTEMS SAFETY	PLANT SYSTEMS	SITE SAFETY &
<input checked="" type="checkbox"/> NRC PDR	HEINEMAN	TEDESCO	ENVIRO ANALYSIS
<input checked="" type="checkbox"/> I & E (2)	SCHROEDER	BENAROYA	DENTON & MULLER
<input checked="" type="checkbox"/> OELD		LAINAS	
GOSSICK & STAFF	ENGINEERING	IPPOLITO	ENVIRO TECH.
MIPC	MACARRY	KIRKWOOD	ERNST
CASE	BOSMAK		BALLARD
<input checked="" type="checkbox"/> HANAUER	SIHWEIL	OPERATING REACTORS	YOUNGBLOOD
<input checked="" type="checkbox"/> HARLESS	PAWLICKI	STELLO	
			SITE TECH.
PROJECT MANAGEMENT	REACTOR SAFETY	OPERATING TECH.	GAMMILL (2)
BOYD	ROSS	EISENHUT	STIEPP
P. COLLINS	NOVAK	SHAO	HULMAN
HOUSTON	ROSZTOCZY	BAER	
PETERSON	CHECK	BUTLER	SITE ANALYSIS
MELTZ		GRIMES	VOLLMER
HELTENES	AT & I		BUNCH
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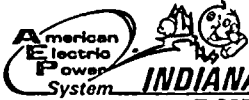
## CONTROL NUMBER

<input checked="" type="checkbox"/> LPDR: St Joseph, M.	NAT. LAB: <i>ANL</i>	BROOKHAVEN NAT. LAB.
<input checked="" type="checkbox"/> TIC:	REG V. IE	ULRIKSON (ORNL)
<input checked="" type="checkbox"/> NSIC:	LA PDR	
<input checked="" type="checkbox"/> ASLB:	CONSULTANTS:	
<input checked="" type="checkbox"/> ACRS 16 CYS HOLDING/SENT	<i>AS CAT B</i>	

770970105

770980205 60

Regulatory Docket File



**INDIANA & MICHIGAN POWER COMPANY**

DONALD C. COOK NUCLEAR PLANT  
P.O. Box 458, Bridgman, Michigan 49106

March 29, 1977

Directorate of Licensing  
U. S. Nuclear Regulatory Commission  
Washington, D.C. 20545

Docket No. 50-315  
50-316

Gentlemen:

Pursuant to the requirements of Section 4.1.2.1.2 of the Appendix B Environmental Technical Specifications for the Donald C. Cook Nuclear Plant, the attached monthly report on impingment of fish is submitted.

This report covers the month of January, 1977. During this month, the plant was shut down for a scheduled refueling outage. Therefore, the circulating water system was only run intermittently.

Sincerely,

  
for R. W. Jurgensen  
Plant Manager

RWJ/mj

Attachments

cc: R. S. Hunter  
J. E. Dolan  
G. E. Lien  
R. J. Vollen  
K. R. Baker RO: III  
R. C. Callen MPSC  
Richard Walsh, Esq.  
Peter Steketee, Esq.  
NRC RO: III  
PNSRC File



770970103

770980205



# ABBREVIATIONS AND STATION IDENTIFICATIONS FOR MONTHLY FIELD DATA REPORTS

## Stations:

A - north of plant 0-2 m  
 B - south of plant 0-2 m  
 C - south of plant 6.1 m  
 D - south of plant 9.1 m  
 E - off Cook Plant 21.3 m  
 F - Warren Dunes 0-2 m  
 G - Warren Dunes 6.1 m  
 H - Warren Dunes 9.1 m  
 Q - north of plant 9.1 m  
 R - north of plant 6.1 m  
 W - Warren Dunes 21.3 m

## Time:

D = day  
 N = night

## Numbers in catch:

F - few (1-9 fish)  
 M - many (10-50 fish)  
 A - abundant ( 50 fish)  
 When numbers are given it

is the exact number of fish.

## Species:

Alewife-----AL  
 Atlantic salmon-----AS  
 Bigmouth shiner-----BS  
 Black bullhead-----BB  
 Black crappie-----BC  
 Bloater-----BL  
 Bluegill-----BG  
 Bluntnost minnow-----BM  
 Bowfin-----BF  
 Brook trout-----TB  
 Brown trout-----BT  
 Burbot-----BR  
 Carp-----CP  
 Channel catfish-----CC  
 Chestnut lamprey-----CL  
 Chinook salmon-----CH  
 Common shiner-----CS  
 Creek chub-----CR  
 Emerald shiner-----ES  
 Fathead minnow-----PP  
 Fourhorned sculpin-----FS  
 Freshwater drum-----FD  
 Gizzard shad-----GS  
 Golden redhorse-----GR  
 Golden shiner-----GL

Goldfish-----GF  
 Grass pickerel-----GP  
 Green sunfish-----GN  
 Johnny darter-----JD  
 Lake chub-----LC  
 Lake Herring-----LH  
 Lake sturgeon-----LG  
 Lake trout-----LT  
 Lake whitefish-----LW  
 Largemouth bass-----LB  
 Log perch-----LP  
 Longnose dace-----LD  
 Longnose gar-----LR  
 Longnose sucker-----LS  
 Mimic shiner-----MC  
 Mottled sculpin-----MS  
 Mudminnow-----MM  
 Ninespine stickleback-----NS  
 Northern pike-----NP  
 Pirate perch-----PR  
 Pink salmon-----PK  
 Pumpkinseed-----PS  
 Quillback-----QL  
 Rainbow smelt-----SM  
 Rainbow trout-----RT

River redhorse-----RR  
 Rock bass-----RB  
 Round whitefish-----RW  
 Sand shiner-----SH  
 Sauger-----SA  
 Sea lamprey-----SL  
 Shorthead redhorse-----SR  
 Shortnose gar-----SG  
 Silver chub-----SC  
 Slimy sculpin-----SS  
 Smallmouth bass-----SB  
 Splake-----SX  
 Spoonhead sculpin-----PN  
 Spotfin shiner-----SF  
 Spottail shiner-----SP  
 Steelhead-----ST  
 Tiger muskey-----TM  
 Trout-perch-----TP  
 Unidentified coregonid-----XC  
 Unidentified pisces-----XX  
 Walleye-----WL  
 White crappie-----WC  
 White sucker-----WS  
 Yellow bullhead-----YB  
 Yellow perch-----YP  
 Zero fish caught-----ZZ

Gentlemen: Please note that the total number of fish given on the computer printout represents the total number of fish impinged at the Cook Plant for the month of January. Since the plant was down during this month impingement washing was sporadic and therefore we elected to collect and process the entire sample. Please keep this in mind when viewing this data because it does differ from previous and forthcoming months when we shall return to every 4th day sampling.

David J. Jude

MONTH: JANUARY, 1976

WEIGHT IN KILOGRAMS  
TEMPERATURE IN DEGREES CENTIGRADE  
PERCENTAGES ARE OF TOTAL SAMPLED THIS MONTH

	1		2		3		4		5		6		7		8	
TEMP C	NO SAMPLING		NO SAMPLING		1.1		NO SAMPLING		NO SAMPLING		NO SAMPLING		1.1		1.1	
SPECIES	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT
SP	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
AL	0	0.0	0	0.0	4	0.08	0	0.0	0	0.0	0	0.0	2	0.04	0	0.0
SM	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.04	0	0.0
YP	0	0.0	0	0.0	5	1.57	0	0.0	0	0.0	0	0.0	1	0.20	0	0.0
TP	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
LT	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	7.35
CM	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
BT	0	0.0	0	0.0	4	0.19	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
NS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
SS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.02	0	0.0
CC	0	0.0	0	0.0	3	0.10	0	0.0	0	0.0	0	0.0	1	0.05	0	0.0
GS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.53
LB	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
YB	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
TOTALS	0	0.0	0	0.0	16	1.95	0	0.0	0	0.0	0	0.0	6	0.35	4	7.88
PERCENT	0.0	0.0	0.0	0.0	23.53	8.17	0.0	0.0	0.0	0.0	0.0	0.0	8.82	1.45	5.88	33.04

MONTH: JANUARY, 1976

WEIGHT IN KILOGRAMS  
TEMPERATURE IN DEGREES CENTIGRADE  
PERCENTAGES ARE OF TOTAL SAMPLED THIS MONTH

	9		10		11		12		13		14		15		16	
TEMP C	NO SAMPLING		NO SAMPLING		NO SAMPLING		1.1		1.1		1.1		1.1		1.1	
SPECIES	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT
SP	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.03	0	0.0
AL	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.02	0	0.0
SM	0	0.0	0	0.0	0	0.0	1	0.05	0	0.0	0	0.0	0	0.0	0	0.0
YP	0	0.0	0	0.0	0	0.0	2	0.57	0	0.0	0	0.0	0	0.0	0	0.0
TP	0	0.0	0	0.0	0	0.0	1	0.01	0	0.0	0	0.0	0	0.0	0	0.0
LT	0	0.0	0	0.0	0	0.0	1	3.05	1	3.50	1	3.60	0	0.0	0	0.0
CM	0	0.0	0	0.0	0	0.0	1	0.68	0	0.0	0	0.0	0	0.0	1	0.58
BT	0	0.0	0	0.0	0	0.0	0	0.0	4	0.24	0	0.0	0	0.0	1	0.02
NS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
SS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
CC	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
GS	0	0.0	0	0.0	0	0.0	1	0.35	1	0.30	0	0.0	1	0.25	0	0.0
LB	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
YB	0	0.0	0	0.0	0	0.0	1	0.01	0	0.0	0	0.0	0	0.0	0	0.0
TOTALS	0	0.0	0	0.0	0	0.0	8	4.73	6	4.05	1	3.60	3	0.30	2	0.59
PERCENT	0.0	0.0	0.0	0.0	0.0	0.0	11.76	19.81	8.82	16.97	1.47	15.09	4.41	1.26	2.94	2.48

MONTH: JANUARY, 1976

WEIGHT IN KILOGRAMS  
TEMPERATURE IN DEGREES CENTIGRADE  
PERCENTAGES ARE OF TOTAL SAMPLED THIS MONTH

TEMP C	17		18		19		20		21		22		23		24	
	NO SAMPLING NUMBER	WEIGHT	NO SAMPLING NUMBER	WEIGHT	NO SAMPLING NUMBER	WEIGHT	1.1 NUMBER	WEIGHT	NO SAMPLING NUMBER	WEIGHT	NO SAMPLING NUMBER	WEIGHT	NO SAMPLING NUMBER	WEIGHT	NO SAMPLING NUMBER	WEIGHT
SPECIES																
SP	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
AL	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
SM	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
YP	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
TP	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
LT	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
CM	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
BT	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
NS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
SS	0	0.0	0	0.0	0	0.0	2	0.01	0	0.0	0	0.0	0	0.0	0	0.0
CC	0	0.0	0	0.0	0	0.0	2	0.02	0	0.0	0	0.0	0	0.0	0	0.0
GS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
LB	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
YB	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
TOTALS	0	0.0	0	0.0	0	0.0	4	0.03	0	0.0	0	0.0	0	0.0	0	0.0
PERCENT	0.0	0.0	0.0	0.0	0.0	0.0	5.88	0.13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

MONTH: JANUARY, 1976

WEIGHT IN KILOGRAMS

TEMPERATURE IN DEGREES CENTIGRADE

PERCENTAGES ARE OF TOTAL SAMPLED THIS MONTH

	25		26		27		28		29		30		31			
TEMP C	1.1		NO SAMPLING		NO SAMPLING		1.1		NO SAMPLING		NO SAMPLING		1.1			
SPECIES	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	TOT. NO.	TOT. WT.
SP	1	0.02	0	0.0	0	0.0	1	0.00	0	0.0	0	0.0	1	0.01	4	0.06
AL	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	7	0.14
SM	0	0.0	0	0.0	0	0.0	4	0.01	0	0.0	0	0.0	2	0.03	8	0.13
YP	1	0.24	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.00	10	2.59
TP	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.01
LT	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	5	17.50
CK	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	1.25
BT	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	9	0.45
NS	0	0.0	0	0.0	0	0.0	1	0.00	0	0.0	0	0.0	0	0.0	1	0.00
SS	0	0.0	0	0.0	0	0.0	3	0.03	0	0.0	0	0.0	0	0.0	6	0.06
CC	0	0.0	0	0.0	0	0.0	1	0.00	0	0.0	0	0.0	0	0.0	7	0.17
GS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	5	1.44
LB	1	0.03	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.03
YB	0	0.0	0	0.0	0	0.0	1	0.00	0	0.0	0	0.0	0	0.0	2	0.01
TOTALS	3	0.29	0	0.0	0	0.0	11	0.05	0	0.0	0	0.0	4	0.04	68	23.85
PERCENT	4.41	1.20	0.0	0.0	0.0	0.0	16.18	0.22	0.0	0.0	0.0	0.0	5.88	0.18	100.00	100.00



MONTH: JANUARY, 1976

WEIGHT IN KILOGRAMS  
TEMPERATURE IN DEGREES CENTIGRADE  
PERCENTAGES ARE OF TOTAL SAMPLED THIS MONTH

SPECIES	DAILY AVG NUMBER	STD DEV NUMBER	DAILY AVG WEIGHT	STD DEV WEIGHT	PERCENT NUMBER	TOTAL NUMBER	PERCENT WEIGHT	TOTAL WEIGHT
SP	0.33	0.49	0.00	0.01	5.88	4	0.24	0.06
AL	0.58	1.24	0.01	0.02	10.29	7	0.57	0.14
SM	0.67	1.23	0.01	0.02	11.76	8	0.54	0.13
YP	0.83	1.47	0.22	0.46	14.71	10	10.87	2.59
TP	0.08	0.29	0.00	0.00	1.47	1	0.05	0.01
LT	0.42	0.67	1.46	2.39	7.35	5	73.38	17.50
CN	0.17	0.39	0.10	0.25	2.94	2	5.26	1.25
BT	0.75	1.54	0.04	0.09	13.24	9	1.90	0.45
NS	0.08	0.29	0.00	0.00	1.47	1	0.01	0.00
SS	0.50	1.00	0.01	0.01	8.82	6	0.27	0.06
CC	0.58	1.00	0.01	0.03	10.29	7	0.72	0.17
GS	0.42	0.67	0.12	0.19	7.35	5	6.02	1.44
LB	0.08	0.29	0.00	0.01	1.47	1	0.12	0.03
YB	0.17	0.39	0.00	0.00	2.94	2	0.06	0.01
TOTAL	5.67	4.25	1.99	2.54	100.00	68	100.00	23.85

ESTIMATED TOTALS FOR MONTH  
NUMBER WEIGHT

10	0.25
18	0.35
20	5.33
25	6.69
2	0.03
12	45.21
5	3.24
23	1.17
2	0.01
15	0.17
18	0.45
12	3.71
2	0.07
5	0.03
175	61.61

THERE WERE 12 DAYS ON WHICH SAMPLES WERE TAKEN.  
ESTIMATED TOTALS FOR THIS MONTH ARE BASED ON 31 DAYS OF IMPINGEMENT.

EXECUTION TERMINATED 14:49:09 T=.239 RC=0 \$.22

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1977 APR 4 PM 3 16