

56-315/316

## NRC DISTRIBUTION FOR PART 50 DOCKET MATERIAL

FILE NUMBER

Enviro

TO:

N. R. C.

FROM:

Indiana & Michigan Power Company  
Bridgman, Michigan  
D. V. Shaller

DATE OF DOCUMENT

8/17/77

DATE RECEIVED

8/22/77

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1 Signed

DESCRIPTION

ENCLOSURE

Monthly Report on Impingement of Fish  
for the Month of April, 1977.....

(1-P)

(6-P)

ACKNOWLEDGED  
DO NOT REMOVEPLANT NAME: Cook Unit No. 1  
RJL 8/23/77

1 CY ENCL Rec'd

SAFETY		FOR ACTION/INFORMATION		ENVIRONMENTAL	
ASSIGNED AD:		ASSIGNED AD:	V. MOORE (LTR)		
<input checked="" type="checkbox"/> BRANCH CHIEF:	(7) DAVIS	<input checked="" type="checkbox"/> BRANCH CHIEF:	Knighton		
PROJECT MANAGER:		<input checked="" type="checkbox"/> PROJECT MANAGER:	Cota		
LICENSING ASSISTANT:		<input checked="" type="checkbox"/> LICENSING ASSISTANT:	Slater		
			B. HARLESS		
INTERNAL DISTRIBUTION					
<input checked="" type="checkbox"/> REG FILES		SYSTEMS SAFETY	PLANT SYSTEMS		SITE SAFETY &
<input checked="" type="checkbox"/> NRC PDR		HEINEMAN	TEDESCO		ENVIRON ANALYSIS
<input checked="" type="checkbox"/> I & E (2)		SCHROEDER	BENAROYA		DENTON & MULLER
<input checked="" type="checkbox"/> OELD			LAINAS		CRITCHFIELD
<input checked="" type="checkbox"/> GOSSICK & STAFF		ENGINEERING	IPPOLITO		
<input checked="" type="checkbox"/> HANAHER		KNIGHT	F. ROSA		ENVIRO TECH.
<input checked="" type="checkbox"/> MTEC		BOSNAK			ERNST
CASE		SIHWELL	OPERATING REACTORS	<input checked="" type="checkbox"/>	BALLARD
BOYD		PAWLICKI	STELLO		YOUNGBLOOD
			EISENHUT		
PROJECT MANAGEMENT		REACTOR SAFETY	SHAO		SITE TECH.
SKOVHOLT		ROSS	BAER		
P. COLLINS		NOVAK	BUTLER		GAMMILL (2)
HOUSTON		ROSZTOCZY	<input checked="" type="checkbox"/> GRIMES		
MELTZ		CHECK			SITE ANALYSIS
HEITEMES					VOLLMER
SK		AT&I			BUNCH
		SALTZMAN		<input checked="" type="checkbox"/>	J. COLLINS
		RUTBERG			KREGER
EXTERNAL DISTRIBUTION				CONTROL NUMBER	
<input checked="" type="checkbox"/> LPDR: ST. Joseph, Mich.				Enviro 772350023 GP	
<input checked="" type="checkbox"/> TIC	<input checked="" type="checkbox"/> NSIC				
<input checked="" type="checkbox"/> NAT LAB	ANL				
REG IV (J. HANCHETT)					
<input checked="" type="checkbox"/> CYS ACRS SENT CATEGORY	B				

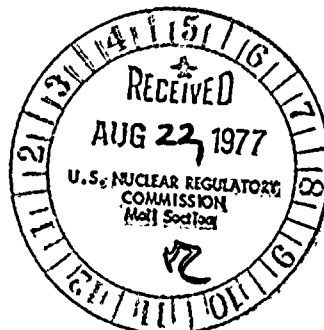
SECRET



**INDIANA & MICHIGAN POWER COMPANY**

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

August 17, 1977



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

Docket No. 50-315  
50-316

REGULATORY DOCKET FILE COPY

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 impingement of fish is submitted.

This report covers the month of April, 1977.

Sincerely,

D. V. Shaller  
Plant Manager

DVS/mj

cc: R. W. Jurgensen  
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

772350023

BY DOCKET EN

# 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	Goldfish-----GF	River redhorse-----RR
Atlantic salmon-----AS	Grass pickeral-----GP	Rock bass-----RB
Bigmouth shiner-----BS	Green sunfish-----GN	Round whitefish-----RW
Black bullhead-----BB	Johnny darter-----JD	Sand shiner-----SH
Black crappie-----BC	Lake chub-----LC	Sauger-----SA
Bloater-----BL	Lake Herring-----LH	Sea lamprey-----SL
Bluegill-----BG	Lake sturgeon-----LG	Shorthead redhorse-----SR
Bluntnose minnow-----BM	Lake trout-----LT	Shortnose gar-----SG
Bowfin-----BF	Lake whitefish-----LW	Silver chub-----SC
Brook trout-----TB	Largemouth bass-----LB	Slimy sculpin-----SS
Brown trout-----BT	Log perch-----LP	Smallmouth bass-----SB
Burbot-----BR	Longnose dace-----LD	Splake-----SX
Carp-----CP	Longnose gar-----LR	Spoonhead sculpin-----PN
Channel catfish-----CC	Longnose sucker-----LS	Spotfin shiner-----SF
Chestnut lamprey-----CL	Mimic shiner-----MC	Spottail shiner-----SP
Chinook salmon-----CH	Mottled sculpin-----MS	Steelhead-----ST
Common shiner-----CS	Mudminnow-----MM	Tiger muskey-----TM
Creek chub-----CR	Ninespine stickleback-----NS	Trout-perch-----TP
Emerald shiner-----ES	Northern pike-----NP	Unidentified coregonid-----XC
Fathead minnow-----PP	Pirate perch-----PR	Unidentified pisces-----XX
Fourhorned sculpin-----FS	Pink salmon-----PK	Walleye-----WL
Freshwater drum-----FD	Pumpkinseed-----PS	White crappie-----WC
Gizzard shad-----GS	Quillback-----QL	White sucker-----WS
Golden redhorse-----GR	Rainbow smelt-----SM	Yellow bullhead-----YB
Golden shiner-----GL	Rainbow trout-----RT	Yellow perch-----YP
		Zero fish caught-----ZZ

MONTH: APRIL, 1977

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

	1		2		3		4		5		6		7		8	
TEMP C	6.7		NO SAMPLING		NO SAMPLING		NO SAMPLING		8.3		NO SAMPLING		NO SAMPLING		8.4	
SPECIES	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT
SP	21	0.38	0	0.0	0	0.0	0	0.0	20	0.31	0	0.0	0	0.0	123	1.53
AL	4	0.17	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	84	3.59
SM	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	9	0.10
YP	5	0.35	0	0.0	0	0.0	0	0.0	3	0.10	0	0.0	0	0.0	34	1.38
TP	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	12	0.12
JD	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	1	2.55
CM	1	0.45	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
BT	1	0.02	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	2	0.01
SS	4	0.05	0	0.0	0	0.0	0	0.0	24	0.18	0	0.0	0	0.0	111	0.81
TOTALS	36	1.41	0	0.0	0	0.0	0	0.0	47	0.59	0	0.0	0	0.0	376	10.08
PERCENT	2.71	3.57	0.0	0.0	0.0	0.0	0.0	0.0	3.54	1.49	0.0	0.0	0.0	0.0	28.29	25.51

MONTH: APRIL, 1977

WEIGHT IN KILCGRAMS

TEMPERATURE IN DEGREES CENTIGRADE

PERCENTAGES ARE OF TOTAL SAMPLED THIS MONTH

TEMP C	9		10		11		12		13		14		15		16	
	NO SAMPLING NUMBER	WEIGHT	NO SAMPLING NUMBER	WEIGHT	NO SAMPLING NUMBER	WEIGHT	8.4 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	24	0.30	0	0.0	0	0.0	0	0.0	0	0.0
AL	0	0.0	0	0.0	0	0.0	10	0.44	0	0.0	0	0.0	0	0.0	0	0.0
SM	0	0.0	0	0.0	0	0.0	2	0.03	0	0.0	0	0.0	0	0.0	0	0.0
YP	0	0.0	0	0.0	0	0.0	12	0.62	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
JD	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	2	0.00	0	0.0	0	0.0	0	0.0	0	0.0
SS	0	0.0	0	0.0	0	0.0	22	0.15	0	0.0	0	0.0	0	0.0	0	0.0
TOTALS	0	0.0	0	0.0	0	0.0	73	1.55	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	5.49	3.92	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

MONTH: APRIL, 1977

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

	17		18		19		20		21		22		23		24	
TEMP C	NO SAMPLING		9.5		NO SAMPLING		NO SAMPLING		NO SAMPLING		10.6		NO SAMPLING		NO SAMPLING	
SPECIES	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT
SP	0	0.0	3	0.04	0	0.0	0	0.0	0	0.0	2	0.04	0	0.0	0	0.0
AL	0	0.0	1	0.03	0	0.0	0	0.0	0	0.0	1	0.04	0	0.0	0	0.0
SH	0	0.0	3	0.11	0	0.0	0	0.0	0	0.0	1	0.04	0	0.0	0	0.0
YP	0	0.0	1	0.09	0	0.0	0	0.0	0	0.0	1	0.02	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
JD	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
CH	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	5	0.05	0	0.0	0	0.0	0	0.0	1	0.00	0	0.0	0	0.0
TOTALS	0	0.0	13	0.32	0	0.0	0	0.0	0	0.0	6	0.14	0	0.0	0	0.0
PERCENT	0.0	0.0	0.98	0.81	0.0	0.0	0.0	0.0	0.0	0.0	0.45	0.35	0.0	0.0	0.0	0.0



MONTH: APRIL, 1977

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

	25		26		27		28		29		30		31			
TEMP C	9.4		NO SAMPLING		NO SAMPLING		NO SAMPLING		10.5		NO SAMPLING		NO SAMPLING		TOT. NO.	TOT. WT.
SPECIES	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT		
SP	84	1.00	0	0.0	0	0.0	0	0.0	34	0.45	0	0.0	0	0.0	311	4.04
AL	65	2.43	0	0.0	0	0.0	0	0.0	351	12.50	0	0.0	0	0.0	516	19.21
SH	22	0.16	0	0.0	0	0.0	0	0.0	23	0.21	0	0.0	0	0.0	60	0.65
YP	67	4.53	0	0.0	0	0.0	0	0.0	3	0.32	0	0.0	0	0.0	126	7.40
TP	12	0.12	0	0.0	0	0.0	0	0.0	4	0.04	0	0.0	0	0.0	29	0.28
JD	3	0.01	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	1
LT	0	0.0	0	0.0	0	0.0	0	0.0	1	3.10	0	0.0	0	0.0	2	5.65
CH	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.45
BT	0	0.0	0	0.0	0	0.0	0	0.0	1	0.01	0	0.0	0	0.0	2	0.03
NS	3	0.01	0	0.0	0	0.0	0	0.0	1	0.00	0	0.0	0	0.0	8	0.02
SS	79	0.38	0	0.0	0	0.0	0	0.0	25	0.14	0	0.0	0	0.0	271	1.76
TOTALS	335	8.65	0	0.0	0	0.0	0	0.0	443	16.78	0	0.0	0	0.0	1329	39.52
PERCENT	25.21	21.89	0.0	0.0	0.0	0.0	0.0	0.0	33.33	42.46	0.0	0.0	0.0	0.0	100.00	100.00

MONTH: APRIL, 1977

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	ESTIMATED TOTALS FOR MONTH NUMBER	WEIGHT
SP	38.88	42.56	0.51	0.51	23.40	311	10.23	4.04	1166	15.15
AL	64.50	120.31	2.40	4.30	38.83	516	48.60	19.21	1935	72.02
SH	7.50	9.70	0.08	0.08	4.51	60	1.65	0.65	225	2.44
YP	15.75	23.45	0.93	1.52	9.48	126	18.74	7.40	472	27.77
TP	3.63	5.34	0.04	0.05	2.18	29	0.72	0.28	108	1.07
JD	0.38	1.06	0.00	0.00	0.23	3	0.03	0.01	11	0.05
LT	0.25	0.46	0.71	1.32	0.15	2	14.30	5.65	7	21.19
CM	0.13	0.35	0.06	0.16	0.08	1	1.14	0.45	3	1.69
BT	0.25	0.46	0.00	0.01	0.15	2	0.08	0.03	7	0.12
NS	1.00	1.20	0.00	0.00	0.60	8	0.05	0.02	30	0.08
SS	33.88	39.84	0.22	0.26	20.39	271	4.46	1.76	1016	6.62
TOTAL	166.13	184.43	4.94	6.18	100.00	1329	100.00	39.52	4983	148.19

THERE WERE 8 DAYS ON WHICH SAMPLES WERE TAKEN.  
ESTIMATED TOTALS FOR THIS MONTH ARE BASED ON 30 DAYS OF IMPINGEMENT.

EXECUTION TERMINATED 11:13:31 T=.792 RC=0 \$.83

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1977 AUG 22 PM 12 32