

NRC FORM 195  
(2-76)

U.S. NUCLEAR REGULATORY COMMISSION

DOCKET NUMBER

~~50-315/316~~

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FROM: Indiana & Michigan Power Company  
Bridgman, Mi  
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1 SIGNED

DESCRIPTION

1p

ENCLOSURE

Monthly Report on impingement of fish for the  
month of July 1977.....

6p

PLANT NAME: Cook 1 & 2  
10-3-77 chf

## FOR ACTION/INFORMATION

BRANCH CHIEF: (7)

DAVIS

PROJECT MANAGER:

LIC. ASST: (3)

\*\*\*FOR DISTRIBUTION AS FOLLOWS:

1 EACH TO EPA HOS, EPA REGION, NOAA, F &amp; W, &amp; F &amp; D

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LPDR: ST. JOSEPH M.

TIC

NSIC

ACRS W/1 CY SENT AS CATEGORY B

CONTROL NUMBER

172760029

Encls

60





**INDIANA & MICHIGAN POWER COMPANY**

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

September 19, 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 impingement of fish is submitted.

This report covers the month of July, 1977.

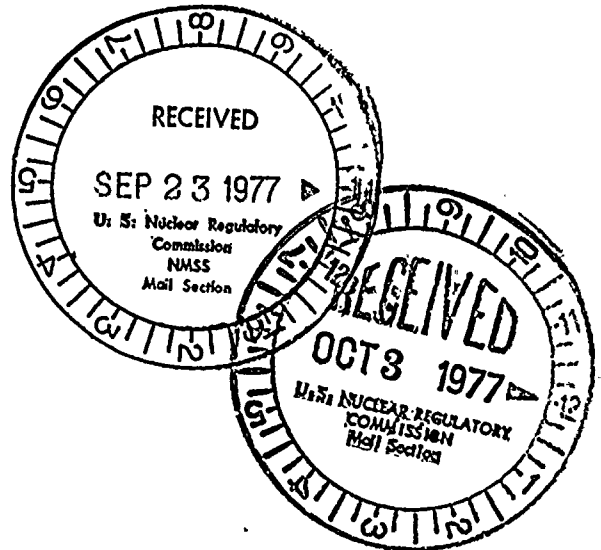
Sincerely,

D. V. Shaller  
Plant Manager

DVS/mj

Attachments

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



772 760029



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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  
Bluntnose 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

MONTH: JULY, 1977

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

	1		2		3		4		5		6		7		8	
TEMP C	NO SAMPLING		21.7		NO SAMPLING		NO SAMPLING		NO SAMPLING		23.9		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	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	124	2.62	0	0.0	0	0.0	0	0.0	46	1.36	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	5	0.56	0	0.0	0	0.0	0	0.0	9	1.64	0	0.0	0	0.0
TP	0	0.0	1	0.00	0	0.0	0	0.0	0	0.0	1	0.01	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
LS	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	2	0.01	0	0.0	0	0.0	0	0.0	1	0.02	0	0.0	0	0.0
XC	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
BR	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
TOTALS	0	0.0	132	3.20	0	0.0	0	0.0	0	0.0	57	3.03	0	0.0	0	0.0
PERCENT	0.0	0.0	4.68	2.11	0.0	0.0	0.0	0.0	0.0	0.0	2.02	2.00	0.0	0.0	0.0	0.0

MONTH: JULY, 1977

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

	9		10		11		12		13		14		15		16	
TEMP C	NO SAMPLING		16.3		NO SAMPLING		NO SAMPLING		NO SAMPLING		22.1		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	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	108	3.00	0	0.0	0	0.0	0	0.0	174	4.66	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	5	0.93	0	0.0	0	0.0	0	0.0	16	2.10	0	0.0	0	0.0
TP	0	0.0	7	0.04	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
LS	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	1	0.01	0	0.0	0	0.0
XC	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
BR	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.00	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
TOTALS	0	0.0	120	3.96	0	0.0	0	0.0	0	0.0	192	6.77	0	0.0	0	0.0
PERCENT	0.0	0.0	4.25	2.61	0.0	0.0	0.0	0.0	0.0	0.0	6.80	4.46	0.0	0.0	0.0	0.0

MONTH: JULY, 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		24.2		NO SAMPLING		NO SAMPLING		NO SAMPLING		17.2		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	1	0.01	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
AL	0	0.0	43	0.94	0	0.0	0	0.0	0	0.0	36	0.74	0	0.0	0	0.0
SM	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.00	0	0.0	0	0.0
YP	0	0.0	49	2.40	0	0.0	0	0.0	0	0.0	9	0.66	0	0.0	0	0.0
TP	0	0.0	4	0.04	0	0.0	0	0.0	0	0.0	1	0.00	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
LS	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	3	0.02	0	0.0	0	0.0	0	0.0	1	0.00	0	0.0	0	0.0
XC	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
BR	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
TOTALS	0	0.0	100	3.42	0	0.0	0	0.0	0	0.0	47	1.41	0	0.0	0	0.0
PERCENT	0.0	0.0	3.54	2.25	0.0	0.0	0.0	0.0	0.0	0.0	1.66	0.93	0.0	0.0	0.0	0.0



MONTH: JULY, 1977

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

	25		26		27		28		29		30		31			
TEMP C	NO SAMPLING		10.1		NO SAMPLING		NO SAMPLING		NO SAMPLING		21.0		NO SAMPLING		TOT. NO.	TOT. WT.
SPECIES	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT		
SP	0	0.0	119	1.13	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	120	1.14
AL	0	0.0	103	2.42	0	0.0	0	0.0	0	0.0	13	0.29	0	0.0	647	16.03
SH	0	0.0	120	0.48	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	121	0.48
YP	0	0.0	1323	122.25	0	0.0	0	0.0	0	0.0	7	0.50	0	0.0	1422	131.03
TP	0	0.0	462	1.99	0	0.0	0	0.0	0	0.0	1	0.01	0	0.0	477	2.09
JD	0	0.0	2	0.00	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.00
LS	0	0.0	8	0.05	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	8	0.05
SS	0	0.0	10	0.05	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	18	0.11
XC	0	0.0	5	0.05	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	5	0.05
BR	0	0.0	1	0.74	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.74
LB	0	0.0	1	0.00	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.00
TOTALS	0	0.0	2154	129.17	0	0.0	0	0.0	0	0.0	21	0.79	0	0.0	2823	151.74
PERCENT	0.0	0.0	76.30	85.12	0.0	0.0	0.0	0.0	0.0	0.0	0.74	0.52	0.0	0.0	100.00	100.00

MONTH: JULY, 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	15.00	42.02	0.14	0.40	4.25	120	0.75	1.14	465	4.44
AL	80.88	54.81	2.00	1.45	22.92	647	10.56	16.03	2507	62.12
SM	15.13	42.38	0.06	0.17	4.29	121	0.32	0.48	468	1.86
YP	177.75	462.98	16.38	42.78	50.37	1422	86.35	131.03	5510	507.74
TP	59.63	162.60	0.26	0.70	16.90	477	1.38	2.09	1848	8.11
JD	0.25	0.71	0.00	0.00	0.07	2	0.00	0.00	7	0.02
LS	1.00	2.83	0.01	0.02	0.28	8	0.03	0.05	31	0.19
SS	2.25	3.28	0.01	0.02	0.64	18	0.07	0.11	69	0.44
XC	0.63	1.77	0.01	0.02	0.18	5	0.03	0.05	19	0.21
BR	0.25	0.46	0.09	0.26	0.07	2	0.49	0.74	7	2.88
LB	0.13	0.35	0.00	0.00	0.04	1	0.00	0.00	3	0.01
TOTAL	352.88	729.79	18.97	44.56	100.00	2823	100.00	151.74	10939	588.00

THERE WERE 9 DAYS ON WHICH SAMPLES WERE TAKEN.  
ESTIMATED TOTALS FOR THIS MONTH ARE BASED ON 31 DAYS OF IMPINGEMENT.

EXECUTION TERMINATED 22:00:47 T=-.659 RC=0 \$.59