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FROM: Indiana & Michigan Power Co.  
Bridgman, Michigan  
R. W. Jurgensen

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PROP

INPUT FORM

NUMBER OF COPIES RECEIVED  
1 signed org.DESCRIPTION Ltr. Trans The Following:  
( 1 page )ENCLOSURE Monthly report for November, 1976  
concerning, The impingment of fish for the  
Donald C. Cook Plant..( 1 encl rec'd )  
( 6 pages )

PLANT NAME: DONALD C. COOK UNITS 1 &amp; 2

ACKNOWLEDGED  
DO NOT REMOVE

## SAFETY

## FOR ACTION/INFORMATION

ENVIRO

JCM 1-27-77

ASSIGNED AD:		ASSIGNED AD:	
<input checked="" type="checkbox"/> BRANCH CHIEF: Ziemann/Kniel (5) <input checked="" type="checkbox"/>		<input checked="" type="checkbox"/> BRANCH CHIEF: Knighton (2)	
PROJECT MANAGER:		PROJECT MANAGER:	
<input checked="" type="checkbox"/> LIC. ASST. : Diggs/Lee		LIC. ASST. :	
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## INTERNAL DISTRIBUTION

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<input checked="" type="checkbox"/> NRC PDR	HEINEMAN	TEDESCO	ENVIRO ANALYSIS
<input checked="" type="checkbox"/> I-&-E. (2)	SCHROEDER	BENAROYA	DENTON
OELD		LAINAS	
GOSSICK & STAFF	ENGINEERING	IPPOLITO	ENVIRO TECH.
<input checked="" type="checkbox"/> MIPC	MACARRY	KIRKWOOD	ERNST
<input checked="" type="checkbox"/> CASE	KNIGHT		<input checked="" type="checkbox"/> BALLARD
<input checked="" type="checkbox"/> HANAUER	SIHWEIL	OPERATING REACTORS	SPANGLER
HARLESS	PAWLICKI	STELLO	
			SITE TECH.
PROJECT MANAGEMENT	REACTOR SAFETY	OPERATING TECH.	GAMMILL
BOYD	ROSS	EISENHUT	STAPP
P. COLLINS	NOVAK	SHAO	HULMAN
HOUSTON	ROSZTOCZY	BAER	
PETERSON	CHECK	BUTLER	SITE ANALYSIS
MELTZ		GRIMES	<input checked="" type="checkbox"/> VOLLMER
HELTAMES	AT & I		BUNCH
SKOVHOLT	SALTZMAN		<input checked="" type="checkbox"/> J. COLLINS
	RUTBERG		<input checked="" type="checkbox"/> KREGER

## EXTERNAL DISTRIBUTION

<input checked="" type="checkbox"/> LPDR: St Joseph, MICH	<input checked="" type="checkbox"/> NAT. LAB:	BROOKHAVEN NAT. LAB.
<input checked="" type="checkbox"/> TIC:	REG V. IE	ULRIKSON (ORNL)
<input checked="" type="checkbox"/> NSIC:	LA PDR	
ASLB:	CONSULTANTS:	
<input checked="" type="checkbox"/> ACRS	CYS HOLDING/SENT Cat "B" on 1-27-77	

CONTROL NUMBER

780

and  
CD





**INDIANA & MICHIGAN POWER COMPANY**

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

January 20, 1977

**Regulatory Docket File**



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 the impingment of fish is submitted.

This report covers the month of November, 1976.

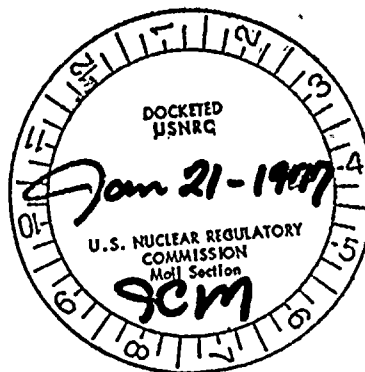
Sincerely,

  
R. W. Jurgensen  
Plant Manager

RWJ/mj

**Attachments**

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





## 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: NOVEMBER, 1976

WEIGHT IN KILOGRAMS

TEMPERATURE IN DEGREES CENTIGRADE

TEMPERATURE IN DEGREES CENTIGRADE  
PERCENTAGES ARE OF TOTAL SAMPLED THIS MONTH

TEMP C	1		2		3		4		5		6		7		8	
	NO SAMPLING NUMBER	WEIGHT	NO SAMPLING NUMBER	WEIGHT	NO SAMPLING NUMBER	WEIGHT	18.9 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	14	0.12	0	0.0	0	0.0	0	0.0	116	1.12
AL	0	0.0	0	0.0	0	0.0	18	0.10	0	0.0	0	0.0	0	0.0	93	1.21
SM	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.02
YP	0	0.0	0	0.0	0	0.0	4	0.09	0	0.0	0	0.0	0	0.0	7	0.23
TP	0	0.0	0	0.0	0	0.0	4	0.07	0	0.0	0	0.0	0	0.0	6	0.07
JD	0	0.0	0	0.0	0	0.0	1	0.00	0	0.0	0	0.0	0	0.0	1	0.00
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	1	0.01	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	0	0.0	0	0.0	0	0.0	4	0.02	0	0.0	0	0.0	0	0.0	2	0.02
SB	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.02
GS	0	0.0	0	0.0	0	0.0	3	0.01	0	0.0	0	0.0	0	0.0	19	0.11
XC	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.00
PS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
BB	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
BG	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	1	0.36
TOTALS	0	0.0	0	0.0	0	0.0	49	0.43	0	0.0	0	0.0	0	0.0	250	3.19
PERCENT	0.0	0.0	0.0	0.0	0.0	0.0	3.60	1.37	0.0	0.0	0.0	0.0	0.0	0.0	18.34	10.23

MONTH: NOVEMBER, 1976

WEIGHT IN KILOGRAMS

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	7.6 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	3.16	0	0.0	0	0.0	0	0.0	16	0.12
AL	0	0.0	0	0.0	0	0.0	77	3.27	0	0.0	0	0.0	0	0.0	43	0.89
SM	0	0.0	0	0.0	0	0.0	4	0.09	0	0.0	0	0.0	0	0.0	2	0.01
YP	0	0.0	0	0.0	0	0.0	6	0.19	0	0.0	0	0.0	0	0.0	0	0.0
TP	0	0.0	0	0.0	0	0.0	3	0.03	0	0.0	0	0.0	0	0.0	2	0.03
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	1	3.15	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	4	0.02	0	0.0	0	0.0	0	0.0	0	0.0
SB	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	3	3.02	0	0.0	0	0.0	0	0.0	8	0.19
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
PS	0	0.0	0	0.0	0	0.0	1	0.04	0	0.0	0	0.0	0	0.0	0	0.0
BB	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
BG	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	3.0	0	0.0	0	0.0	0	0.0	0	0.0
TOTALS	0	0.0	0	0.0	0	0.0	123	0.98	0	0.0	0	0.0	0	0.0	71	1.25
PERCENT	0.0	0.0	0.0	0.0	0.0	0.0	9.02	3.14	0.0	0.0	0.0	0.0	0.0	0.0	5.21	4.00





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

[illegible]

MONTH: NOVEMBER, 1976

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

TEMP C	25		26		27		28		29		30		31		TOT. NO.	TOT. WT.
	NO SAMPLING	WEIGHT	NO SAMPLING	WEIGHT	NO SAMPLING	WEIGHT	5.7	WEIGHT	NO SAMPLING	WEIGHT	NO SAMPLING	WEIGHT	NO SAMPLING	WEIGHT		
SPECIES																
SP	0	0.0	0	0.0	0	0.0	34	0.36	0	0.0	0	0.0	0	0.0	247	2.29
AL	0	0.0	0	0.0	0	0.0	159	4.54	0	0.0	0	0.0	0	0.0	1002	23.29
SH	0	0.0	0	0.0	0	0.0	1	0.01	0	0.0	0	0.0	0	0.0	10	0.14
YP	0	0.0	0	0.0	0	0.0	1	3.07	0	0.0	0	0.0	0	0.0	23	0.76
TP	0	0.0	0	0.0	0	0.0	1	3.01	0	0.0	0	0.0	0	0.0	18	0.24
JD	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.00
LT	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	2.75
CM	0	0.0	0	0.0	0	0.0	0	3.0	0	0.0	0	0.0	0	0.0	1	0.15
BT	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.01
NS	0	0.0	0	0.0	0	0.0	0	3.0	0	0.0	0	0.0	0	0.0	2	0.01
SS	0	0.0	0	0.0	0	0.0	1	0.01	0	0.0	0	0.0	0	0.0	13	0.10
SB	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.02
GS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	36	0.34
XC	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.00
PS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.04
BB	0	0.0	0	0.0	0	0.0	1	0.18	0	0.0	0	0.0	0	0.0	1	0.18
BG	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.00
BR	0	0.0	0	0.0	0	0.0	0	3.0	0	0.0	0	0.0	0	0.0	2	0.85
TOTALS	0	0.0	0	0.0	0	0.0	198	5.19	0	0.0	0	0.0	0	0.0	1363	31.18
PERCENT	0.0	0.0	0.0	0.0	0.0	0.0	14.53	15.66	0.0	0.0	0.0	0.0	0.0	0.0	100.00	100.00

MONTH: NOVEMBER, 1976

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

SPECIES	DAILY AVG	STD DEV	DAILY AVG	STD DEV	PERCENT	TOTAL	PERCENT	TOTAL	ESTIMATED TOTALS FOR MONTH	
	NUMBER	NUMBER	WEIGHT	WEIGHT	NUMBER	NUMBER	WEIGHT	WEIGHT	NUMBER	WEIGHT
SP	35.29	37.71	0.33	0.38	18.12	247	7.35	2.29	1058	9.82
AL	143.14	210.03	3.33	5.83	73.51	1002	74.69	23.29	4294	99.80
SH	1.43	1.40	0.02	0.03	0.73	10	0.44	0.14	42	0.59
YP	3.29	2.93	0.11	0.09	1.69	23	2.43	0.76	98	3.25
TP	2.57	1.99	0.03	0.03	1.32	18	0.77	0.24	77	1.03
JD	0.29	0.49	0.00	0.00	0.15	2	0.01	0.00	8	0.01
LT	0.14	0.38	0.39	1.04	0.07	1	8.82	2.75	4	11.79
CH	0.14	0.38	0.02	0.06	0.07	1	0.48	0.15	4	0.64
BT	0.14	0.38	0.00	0.01	0.07	1	0.05	0.01	4	0.06
NS	0.29	0.76	0.00	0.00	0.15	2	3.02	0.01	8	0.02
SS	1.86	1.68	0.01	0.01	0.95	13	0.31	0.10	55	0.41
SB	0.14	0.38	0.00	0.01	0.07	1	0.05	0.02	4	0.07
GS	5.14	6.67	0.05	0.07	2.64	36	1.11	0.34	154	1.48
XC	0.14	0.38	0.00	0.00	0.07	1	0.01	0.00	4	0.02
PS	0.14	0.38	0.01	0.02	0.07	1	0.13	0.04	4	0.18
BB	0.14	0.38	0.03	0.07	0.07	1	0.58	0.18	4	0.77
BG	0.14	0.38	0.00	0.00	0.07	1	0.01	0.00	4	0.02
BR	0.29	0.49	0.12	0.21	0.15	2	2.73	0.85	8	3.65
TOTAL	194.71	222.57	4.45	7.05	100.00	1363	100.00	31.18	5841	133.61

THERE WERE 7 DAYS ON WHICH SAMPLES WERE TAKEN.  
ESTIMATED TOTALS FOR THIS MONTH ARE BASED ON 30 DAYS OF IMPINGEMENT.

RECHARGE TERMINATED 22-00-50 T=522 \$46