Docket No. 50-315

MAY 12 1977

Indiana & Michigan Electric Company
Indiana & Michigan Power Company
ATTN: Mr. John Tillinghast
Vice President
P. O. Box 18
Bowling Green Station
New York, New York 10004

Gentlemen:

The Commission has issued the enclosed Amendment No. 19 to Facility Operating License No. DPR-58 for the Donald C. Cook Nuclear Plant Unit No. 1. This amendment is in response to your requests dated December 28, 1976, and March 16, 1977, supplemented by letter dated April 22, 1977. The amendment involves changes to the Appendix B Technical Specifications to change the requirements for periphyton and fish larvae sampling and for the discharge of chemicals to the on-site absorption field.

You proposed to institute a program to monitor periphyton in the vicinity of the plant by a combination of diver-collected samples and surveillance of periphyton entrained in the circulating water system rather than by means of artificial substrates set in Lake Michigan. Because larger areas of lake bottom can be observed and recorded by diving and because of your demonstrated ability to sample the main colony of periphyton near the plant intake and discharge structures via the circulating water system, we conclude that your proposed program provides a measure of periphyton population and characteristics equivalent to the use of artificial substrates and is acceptable.

You proposed to eliminate the requirement to conduct fish larvae tows in the lake during the months of October and November. Based on the results of your fish larvae monitoring data which indicate that very few larvae are found in the vicinity of the plant during October and November, we have determined that the elimination of sampling during these months will not significantly reduce the effectiveness of your fish monitoring program and is acceptable.

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DATE ➤						

Form AEC-318 (Rev. 9-53) AECM 0240 ☆ U. S. GOVERNMENT PRINTING OFFICE: 1974-526-166

You also proposed to change the pH, hydrocarbon, and heavy metal ion limits for discharges to the on-site absorption field to permit a one-time disposal of chemical cleaning solution from the Unit No. 2 feedwater and condensate systems. The discharged cleaning solution would have a pH of 11.4 and contain small amounts of emulsified hydrocarbons, iron, and copper. We have revieved the information you submitted to show that (1) the method of diluting the solution in the absorption field would result in a pH of 9.0 or less for the water which percolates into the ground, (2) the amounts of emulsified hydrocarbons in the solution would be essentially undetectable, and (3) the only heavy metals in the solution would be iron and copper. Based on our review of this information and, because a similar discharge to the absorption field of the chemical cleaning solution from the Unit No. 1 feedwater and condensate systems in 1973 resulted in no detectable adverse environmental impact, we conclude that the proposed Technical Specification change meets the intent of the present chemical discharge specification and is acceptable.

We have evaluated the potential for environmental impact of plant operation in accordance with the enclosed amendment. We have determined that the amendment does not authorize a significant change in effluent types or total amounts nor an increase in power level, and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and pursuant to 10 CFR 51.5(d)(4) that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

Since the amendment applies only to the alteration of non-radiological monitoring requirements, it does not involve significant new safety information of a type not considered by a previous Commission safety review of the facility. It does not involve a significant increase in the probability or consequences of an accident, does not involve a significant decrease in a safety margin, and, therefore, does not involve a significant hazards consideration. We have also concluded that there is reasonable assurance that the health and safety of the

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DATE➔						

public will not be endangered by this action and such action will not be inimial to the common defense and security.

A copy of the related Notice of Issuance is also enclosed.

Sincerely,
Original signed by
Don K. Davis
Don K. Davis, Acting Chief
Operating Reactors Branch #2
Division of Operating Reactors

Enclosures:
1. Amendment No. 19 to License No. DPR-58
2. Notice

cc w/enclosures:
See next page

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Form AEC-318 (Rev. 9-53) AECM 0240 ☆ U. S. GOVERNMENT PRINTING OFFICE: 1974-526-166

cc w/enclosures:
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Vice President
American Electric Power Service
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U. S. Environmental Protection Agency
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ATTN: EIS COORDINATOR
230 South Dearborn Street
Chicago, Illinois 60604

Mr. Wade Schuler, Supervisor
Lake Township
Baroda, Michigan 49101

Honorable W. Mabry, Mayor
City of Bridgman, Michigan 49106

cc w/enclosures and cy of
I&MECo filings dtd. 12/28/76,
3/16/77 and 4/22/77:
Executive Office of the Governor
Division of Intergovernmental
Relations
Lewis Cass Building, 2nd Floor
Lansing, Michigan 48913

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INDIANA & MICHIGAN ELECTRIC COMPANY

INDIANA & MICHIGAN POWER COMPANY

DOCKET NO. 50-315

DONALD C. COOK NUCLEAR PLANT UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No.
License No. DPR-58

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The applications for amendment by Indiana & Michigan Electric Company and Indiana & Michigan Power Company (the licensees) dated December 28, 1976 and March 16, 1977, supplemented by letter dated April 22, 1977, comply with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the applications, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

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SURNAME ➤						
DATE ➤						

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C(2) of Facility Operating License No. DPR-58 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Don K. Davis, Acting Chief
Operating Reactors Branch #2
Division of Operating Reactors

Attachment:
Changes to the Technical
Specifications

Date of Issuance:

OFFICE ➤						
SURNAME ➤						
DATE ➤						

ATTACHMENT TO LICENSE AMENDMENT NO.

FACILITY OPERATING LICENSE NO. DPR-58

DOCKET NO. 50-315

Replace the following pages of the Technical Specifications contained in Appendix B of the above-indicated license with the attached pages bearing the same numbers. The changed areas on the revised pages are identified by a marginal line. The page numbers with an asterisk are unchanged overleaf pages that are provided to maintain document completeness.

2.2-3*
2.2-4
2.2-5*
2.2-5a (new page)
2.2-6*
4.1-21
4.1-22*
4.2-5*
4.2-6

OFFICE ➤						
SURNAME ➤						
DATE ➤						

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-315

INDIANA & MICHIGAN ELECTRIC COMPANY
INDIANA & MICHIGAN POWER COMPANY

NOTICE OF ISSUANCE OF AMENDMENT TO FACILITY OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. to Facility Operating License No. DPR-58, issued to Indiana & Michigan Electric Company and Indiana & Michigan Power Company (the licensees), which revised the Technical Specifications for operation of the Donald C. Cook Nuclear Plant Unit No. 1 (the facility), located in Berrien County, Michigan. The amendment is effective as of the date of its issuance.

The amendment changed the Appendix B Technical Specifications to change the requirements for periphyton and fish larvae sampling and for the discharge of chemicals to the on-site absorption field.

The applications for the amendment comply with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment. Prior public notice of this amendment was not required since the amendment does not involve a significant hazards consideration.

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SURNAME ➤						
DATE ➤						

The Commission has determined that the issuance of this amendment will not result in any significant environmental impact and that pursuant to 10 CFR §51.5(d)(4), an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of this amendment.

For further details with respect to this action, see (1) the December 28, 1976 and March 16, 1977 letters of application for amendment and supplement dated April 22, 1977, and (2) Amendment No. to License No. DPR-58. Both of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C., and at the Maude Reston Palenske Memorial Library, 500 Market Street, St. Joseph, Michigan 49085. A single copy of item (2) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Operating Reactors.

Dated at Bethesda, Maryland, this

FOR THE NUCLEAR REGULATORY COMMISSION

Don K. Davis, Acting Chief
Operating Reactors Branch #2
Division of Operating Reactors

OFFICE ➔						
SURNAME ➔						
DATE ➔						

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

May 12, 1977

Docket No. 50-315

Indiana & Michigan Electric Company
Indiana & Michigan Power Company
ATTN: Mr. John Tillinghast
Vice President
P. O. Box 18
Bowling Green Station
New York, New York 10004

Gentlemen:

The Commission has issued the enclosed Amendment No. 19 to Facility Operating License No. DPR-58 for the Donald C. Cook Nuclear Plant Unit No. 1. This amendment is in response to your requests dated December 28, 1976, and March 16, 1977, supplemented by letter dated April 22, 1977. The amendment involves changes to the Appendix B Technical Specifications to change the requirements for periphyton and fish larvae sampling and for the discharge of chemicals to the on-site absorption field.

You proposed to institute a program to monitor periphyton in the vicinity of the plant by a combination of diver-collected samples and surveillance of periphyton entrained in the circulating water system rather than by means of artificial substrates set in Lake Michigan. Because larger areas of lake bottom can be observed and recorded by diving and because of your demonstrated ability to sample the main colony of periphyton near the plant intake and discharge structures via the circulating water system, we conclude that your proposed program provides a measure of periphyton population and characteristics equivalent to the use of artificial substrates and is acceptable.

You proposed to eliminate the requirement to conduct fish larvae tows in the lake during the months of October and November. Based on the results of your fish larvae monitoring data which indicate that very few larvae are found in the vicinity of the plant during October and November, we have determined that the elimination of sampling during these months will not significantly reduce the effectiveness of your fish monitoring program and is acceptable.

You also proposed to change the pH, hydrocarbon, and heavy metal ion limits for discharges to the on-site absorption field to permit a one-time disposal of chemical cleaning solution from the Unit No. 2 feedwater and condensate systems. The discharged cleaning solution would have a pH of 11.4 and contain small amounts of emulsified hydrocarbons, iron, and copper. We have reviewed the information you submitted to show that (1) the method of diluting the solution in the absorption field would result in a pH of 9.0 or less for the water which percolates into the ground, (2) the amounts of emulsified hydrocarbons in the solution would be essentially undetectable, and (3) the only heavy metals in the solution would be iron and copper. Based on our review of this information and, because a similar discharge to the absorption field of the chemical cleaning solution from the Unit No. 1 feedwater and condensate systems in 1973 resulted in no detectable adverse environmental impact, we conclude that the proposed Technical Specification change meets the intent of the present chemical discharge specification and is acceptable.

We have evaluated the potential for environmental impact of plant operation in accordance with the enclosed amendment. We have determined that the amendment does not authorize a significant change in effluent types or total amounts nor an increase in power level, and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and pursuant to 10 CFR 51.5(d)(4) that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

Since the amendment applies only to the alteration of non-radiological monitoring requirements, it does not involve significant new safety information of a type not considered by a previous Commission safety review of the facility. It does not involve a significant increase in the probability or consequences of an accident, does not involve a significant decrease in a safety margin, and, therefore, does not involve a significant hazards consideration. We have also concluded that there is reasonable assurance that the health and safety of the

public will not be endangered by this action and such action will not be inimial to the common defense and security.

A copy of the related Notice of Issuance is also enclosed.

Sincerely,

Don K Davis

Don K. Davis, Acting Chief
Operating Reactors Branch #2
Division of Operating Reactors

Enclosures:
1. Amendment No. 19 to
   License No. DPR-58
2. Notice

cc w/enclosures:
See next page

cc w/enclosures:
Mr. Robert Hunter
Vice President
American Electric Power Service
Corporation
2 Broadway
New York, New York 10004

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Chief, Energy Systems Analyses
Branch (AW-459)
Office of Radiation Programs
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ATTN: EIS COORDINATOR
230 South Dearborn Street
Chicago, Illinois 60604

Mr. Wade Schuler, Supervisor
Lake Township
Baroda, Michigan 49101

Honorable W. Mabry, Mayor
City of Bridgman, Michigan 49106

cc w/enclosures and cy of
I&MECo filings dtd. 12/28/76,
3/16/77 and 4/22/77:
Executive Office of the Governor
Division of Intergovernmental
Relations
Lewis Cass Building, 2nd Floor
Lansing, Michigan 48913

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

INDIANA & MICHIGAN ELECTRIC COMPANY

INDIANA & MICHIGAN POWER COMPANY

DOCKET NO. 50-315

DONALD C. COOK NUCLEAR PLANT UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 19
License No. DPR-58

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The applications for amendment by Indiana & Michigan Electric Company and Indiana & Michigan Power Company (the licensees) dated December 28, 1976 and March 16, 1977, supplemented by letter dated April 22, 1977, comply with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the applications, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C(2) of Facility Operating License No. DPR-58 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 19, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Don K. Davis

Don K. Davis, Acting Chief
Operating Reactors Branch #2
Division of Operating Reactors

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 12, 1977

ATTACHMENT TO LICENSE AMENDMENT NO. 19

FACILITY OPERATING LICENSE NO. DPR-58

DOCKET NO. 50-315

Replace the following pages of the Technical Specifications contained in Appendix B of the above-indicated license with the attached pages bearing the same numbers. The changed areas on the revised pages are identified by a marginal line. The page numbers with an asterisk are unchanged overleaf pages that are provided to maintain document completeness.

2.2-3*
2.2-4
2.2-5*
2.2-5a (new page)
2.2-6*
4.1-21
4.1-22*
4.2-5*
4.2-6

2.2.2.2 Specification

Chemicals in the steam generator blowdown liquid discharged to the lake shall be limited to the maximum annual quantities and maximum discharge concentrations below:

	Maximum Annual Discharge (lbs/yr)	Maximum Disch. Conc. ppm
Phosphate	7600	0.025
Morpholine	3100	0.006
Ammonia (from Hydrazine)	1800	0.031

Actual quantities of these chemicals used which are discharged to the lake shall be reported in the annual Operating Report. Any violations shall be reported as specified in Sections 5.4.1 and 5.4.2.1.

2.2.2.3 Monitoring Requirements

During operation, samples of blowdown liquid shall be taken a minimum of four times a week at each steam generator blowdown sample connection and analyzed for those chemicals added for corrosion and deposition control. A composite sample of the unit's blowdown liquid shall be analyzed monthly for products of corrosion, i.e., iron, copper (corrosion products). At least once a month during the initial operating period, a sample of each unit's cooling water discharge shall be collected and analyzed for control chemicals added to the steam cycle.

Methods of analysis used for determination of the chemical additives and corrosion products will be in the Plant Laboratory Procedures Manual.

2.2.2.4 Basis

Hydrazine, morpholine and phosphate will be used for corrosion and deposit prevention in the steam cycle. These chemicals will be continuously blown down to and diluted by the condenser cooling water. Under normal operating conditions, the blowdown rate will average about 20 gpm. When there is inleakage of primary coolant into the secondary coolant through the steam generator or when there is inleakage of circulating water (these are abnormal conditions) the phosphate content of the secondary coolant will intentionally be increased to a level no greater than 80 ppm and the blowdown rate will be increased to a level not greater than 250 gpm.

The maximum annual discharges of phosphate and morpholine permitted in the Specification correspond to normal operation 95% of the time of operation and operation at the maximum phosphate content and blowdown rate for 5% of the time. The morpholine concentration is expected to be maintained at 20 ppm in the blowdown at all times. Hydrazine will be added to the steam system as an oxygen-scavenging corrosion inhibitor. At the elevated operating temperature any of this chemical that has not reacted with oxygen will decompose to nitrogen and ammonia. The maximum annual discharge permitted in the specification is that corresponding to normal operation (0.02 ppm hydrazine) for 99% of the time of operation and the maximum concentration (96 ppm) for a maximum of 1% of the operating time for times just before and after shutdown. It is assumed the plant will operate 80% of the time in calculating maximum permitted releases.

Maximum discharge concentrations are calculated on the basis of a circulating water discharge rate that is the mean of those for Unit 1 and Unit 2.

No other plant corrosion or deposit inhibitors will be discharged to the plant environs.

2.2.3 OTHER CHEMICAL DISCHARGES

2.2.3.1 Objective

The purpose of this specification is to control or limit the release of chemicals, other than corrosion and deposit inhibitors, to the lake or the onsite absorption field to preclude or minimize potentially adverse impacts on aquatic or terrestrial biota due to plant operation.

2.2.3.2 Specification

The maximum quantities and discharge concentrations of other chemicals used in the plant which will be discharged to the lake and to the onsite absorption field shall be limited to the values specified in Table 2.2.1. Chemicals used in the plant shall be diluted and neutralized as required to give a pH in the range of 5.5 to 9 prior to discharge to the onsite absorption field. Excepting chlorine, no toxic chemical, e.g., chromates, mercury compounds, etc., shall be discharged to the lake or onsite absorption field. No oil or petroleum products shall be discharged to the lake or to the onsite absorption field. The composition and quantity of detergents (Table 2.2-1) used and discharged to the lake shall be reported in the annual Operating Reports.

On those occasions when spent chemical cleaning solutions are to be discharged to the absorption field, samples of the sump waste water shall be collected and analyzed for all chemical species (including heavy metals

Note: For the one time chemical cleaning of the Unit 2 Condensate and Feedwater Systems, to be completed by the time of Unit 2 initial criticality, the following exceptions to Specification 2.2.3.2 apply: Neutralization of cleaning solution prior to discharge to the absorption field is not required, small quantities of hydrocarbon coatings or preservatives may be discharged with the cleaning solution flush, of the order of a few gallons, and sampling for heavy metals, other than iron and copper, are not required.

TABLE 2.2-1

OTHER CHEMICAL DISCHARGES TO ENVIRONS

Chemical	Estimated Maximum Annual Discharge (per year)	Estimated Maximum Discharge Concentration (PPM)	Use and Estimated Discharge Frequency	Discharged in
Sodium (1) Sulfate	480 tons	10,000	Product of makeup water demineralizer regenerations. Discharged over a 2-4 hour period twice per day.	Onsite absorption field
Boron	600 lbs.	0.03	a) Release caused by steam generator tube leak. Discharged during intermittent periods corresponding to primary to secondary steam generator leakage.	Lake
			b) Release caused by boron carryover into Liquid Radwaste Disposal System evaporator distillate. Discharged intermittently with plant liquid waste effluents.	Lake
Phosphate (2) (Tri- and Di-sodium)	11,700 lbs.	5,300	Used for preoperational cleaning of the Condensate and Feedwater Systems. (See Note 2)	Onsite absorption field
Detergents	3,000 lbs.	0.15	Used for onsite laundry, decontamination of equipment and personnel. Discharged intermittently.	Lake

(1) Product from the reaction of sodium hydrozide and sulfuric acid used in regeneration of makeup demineralizers.

(2) Secondary System cleaning completed (7/73). Chemicals discharged were neutralized prior to pumping to onsite absorption field.

Amendment No. 19

TABLE - 2.2-1 (cont'd)

OTHER CHEMICAL DISCHARGES TO THE ENVIRONS

Chemical	Estimated Maximum Annual Discharge (per year)	Estimated Maximum Discharge Concentration (ppm)	Use & Estimated Discharge Frequency	Discharge To
Tri- and Di-Sodium Phosphate	12,500 lbs.	5,000	Used for Pre-operational chemical cleaning of the Unit No. 2 Condensate and Feedwater Systems	On site Absorptic Pond

2.2-5a

and hydrocarbons) that potentially could result from the cleaning operation. Actual quantities of the chemical species used in the cleaning operation, and the actual concentrations and estimated quantities of all other chemical species discharged shall be reported in the annual Operating Report.

Actual quantities of the species monitored in the next Section (2.2.3.3) that are discharged to the lake and to the onsite absorption field shall be reported in the annual Operating Report. Any violations of these specifications shall be reported as specified in Sections 5.4.1 and 5.4.2.1.

2.2.3.3 Monitoring Requirements

During operation, samples of a steam generator's blowdown liquid shall be analyzed for boron a minimum of four times a week whenever primary-to-secondary leakage occurs in that steam generator.

Samples of processed wastes from the radiological waste disposal system shall be analyzed for boron whenever these wastes are discharged to the lake.

During initial plant operation, the pH of the turbine building sump shall be monitored and composite samples of the sump discharge shall be collected and analyzed for sodium, calcium, magnesium, sulfate, chloride and total solids during ten regenerations of the makeup water system demineralizers. During normal plant operation, the pH of the sump discharge shall be determined and composite samples taken and analyzed for the same constituents once a week.

Samples of the sump discharge will be collected and analyzed whenever any chemicals, other than spent regenerants, are drained to the sump.

2.2.3.4 Basis

The only discharges to the lake containing chemicals used in the plant are the steam generator blowdown liquid and the liquid from the radiological waste processing system.

Spent regenerant solutions are drained to the turbine room sump where they are diluted prior to pumping to the onsite absorption field. In addition other waste water consisting of condensate and service water is drained to this sump. Monitoring sump water discharge pH during regeneration during plant startup will permit making adjustments to insure that the pH is within limits specified. The monitoring of the pH at the stated intervals will assure that sump discharge remains near the neutral pH

Specification

Field Method

Periphyton on the intake and discharge structures and the surrounding riprap shall be visually inspected and samples hand-collected during the months of April through October (see Specification 4.1.2.1.4.).

Monthly samples of entrained phytoplankton at the intake shall be examined for periphytic species and the abundances thereof obtained.

Preservation of samples shall be the same as for samples collected in the regular sampling scheme of the general ecological survey.

Labatory Method

The laboratory methods used shall be the same as those used for phytoplankton in the regular sampling scheme of the general ecological survey--see Specification 4.1.2.1.1.2.--except that each month from April through October a wet-mounted sample from the intake structure shall be examined also.

Reporting Requirement

As specified in Section 5.4.

Basis

Periphyton are attached algae growing upon solid substrates, consequently they are fixed in position. If their substrates are located where the Plant discharge can reach them, the periphyton may respond by abundance changes, changes in population composition, changes in diversity, or changes in other population parameters. Statistically significant differences between preoperational and operational population parameters will be noted and the relationship to Plant operation investigated.

4.1.2.1.1.5 Fish

Objective

To determine the environmental impact of Plant operation on the fish populations in the vicinity of the Plant and establish species composition, indices of abundance for fish at the site, seasonal and depth distribution, and the various developmental stages of fish present in the Plant area.

Specifications

Field Method

Stations:
At least eleven permanent stations shall be maintained in the area of the Cook Plant and Warren Dunes (control location). Two seining stations (A and B) north and south of the plant and three gillnetting, trawling stations and fish larvae (C, and D south of the plant and I north of the plant) in 20 and 30 feet of water shall be maintained in the vicinity of the Cook Plant. A gillnetting station (J north of the plant) in 30 feet of water shall be maintained. One fish larvae station (E) in 70 feet of water shall also be maintained. At Warren Dunes State Park (control location) one seining station (F), two stations (G and H) in water depths of 20 and 30 feet for gillnetting, trawling and fish larvae and one station (M) at 70 foot of water depth for fish larvae shall be maintained. Fish larvae tows shall be conducted at ten stations. The fishing areas at the plant are shown in Figure 4.1.2-3, Warren Dunes State Park control stations are not shown on the figure.

Beach Seining:

Beach seining shall be conducted during periods of reduced wave height using a 38.0 meter x 1.8 meter (125 feet x 6 feet) nylon bag seine having 0.5 cm (0.25 inch) bar mesh. The seine shall be first stretched perpendicular to the shoreline and then pulled parallel to the shore, a distance of 61 meters (200 feet). Duplicate non-overlapping collections shall be made in this manner during a day and a night once each month at the seining stations (A, B, F). The seine shall be pulled against the current, and southerly when no current is detectable. Fish captured by seine (also by trawl and gillnet) shall be bagged and frozen for future laboratory analysis.

Trawling:

Duplicate bottom tows of 10 minutes each shall be taken during both the day and night once per month at the five stations (C, D, G, H, I)

TABLE 4.1.2-1 (Continued)

MONTHS AND STATIONS USED FOR GENERAL ECOLOGICAL SURVEY
(see Table 4.1.2-2 for transect locations and distances from shore)

Major surveys: 3 months (April, July, October)
36 stations (as shown below)

DC-0	DC-1	DC-2	DC-3	DC-4	DC-5	DC-6
NDC-.5-0	NDC-.5-2			SDC-.5-0	SDC-.5-2	
NDC-1-0	NDC-1-1	NDC-1-2		SDC-1-0	SDC-1-1	SDC-1-2
NDC-2-0	NDC-2-1	NDC-2-3		SDC-2-0	SDC-2-1	SDC-2-3
NDC-4-0	NDC-4-1	NDC-4-3		SDC-4-0	SDC-4-1	SDC-4-3
	NDC-4-4				SDC-4-4	
NDC-7-1	NDC-7-3	NDC-7-5		SDC-7-1	SDC-7-3	SDC-7-5

(B) Year With Concurrent Entrainment and Impingement Studies
Short surveys: 5 months (May, June, August, September, November)
11 stations (as shown below)

DC-0	DC-1	DC-2	DC-3	DC-4	DC-5	DC-6
NDC-.5-1		NDC-7-1				
SDC-.5-1		SDC-7-1				

Major surveys: 3 months (April, July, October)
36 stations (as shown below)

DC-0	DC-1	DC-2	DC-3	DC-4	DC-5	DC-6
NDC-.5-0	NDC-.5-1			SDC-.5-0	SDC-.5-1	
NDC-1-0	NDC-1-1	NDC-1-2		SDC-1-0	SDC-1-1	SDC-1-2
NDC-2-0	NDC-2-1	NDC-2-3		SDC-2-0	SDC-2-1	SDC-2-3
NDC-4-0	NDC-4-1	NDC-4-3		SDC-4-0	SDC-4-1	SDC-4-3
	NDC-4-4				SDC-4-4	
NDC-7-1	NDC-7-3	NDC-7-5		SDC-7-1	SDC-7-3	SDC-7-5

(C) Years Without Concurrent Entrainment and Impingement Studies
Short surveys: Same as for (B)

Major surveys: Same as for (B)

Benthos

Benthos stations for 1973 were described in Part XIII of report series, pp. 214-218.* Beginning in July 1974 benthos will be collected from the following stations of the regular grid. Each sample will be the contents of chamber #1 of a triplex ponar grab. In zone 0, four casts will be made at each station. In zones 1 and 2, two casts will be made at each station. The sampling months will be April, July and October.

*Benton Harbor Power Plant Liminological Studies. Part XIII. Cook Plant Preoperational Studies 1972. 281 pages. March 1973.

TABLE 4.1.2-1 (Continued)

MONTHS AND STATIONS USED FOR GENERAL ECOLOGICAL SURVEY
(See Table 4.1.2-2 for transect locations and distances from shore)

Short surveys: None

Major surveys: 3 months (April, July, October)
30 stations (as shown below)

	Zone 0	Zone 1	Zone 2
Inner	SDC-1-1	SDC-1-2	SDC-1-3
	SDC-.5-1	SDC-.25-1	SDC-.5-3
	DC-1	DC-2	DC-3
	NDC-.5-1	NDC-.25-1	DC-4
	NDC-1-1	NDC-1-2	NDC-.5-3
Outer	SDC-7-1	SDC-7-3	SDC-7-5
	SDC-4-1	SDC-7-2	SDC-7-4
	SDC-2-1	SDC-2-3	SDC-4-3
	NDC-4-1	NDC-2-3	NDC-4-3
	NDC-7-1	NDC-7-3	NDC-7-5

Periphyton

Diving:
Months: 7 (April, May, June, July, August, September, October)

One sample from the intake structure to be examined in wet-mount each month.

Entrained Periphyton
Months: 12

Duplicate samples from the intake forebay shall, each month, be identified and counted by the method used for phytoplankton in the regular sampling scheme of the general ecological survey.

Fish

Months: 8 (April through November)

Eleven permanent stations were established in the area of the Cook Plant and Warren Dunes State Park (control site). Two seining stations (A and B) north and south of the plant and three gillnetting, trawling and fish larvae stations (C and D) south of the plant and I north of the plant in 20 and 30 feet of water were established. A gillnetting station is located at station J north of the plant (30 ft of water). A fish larvae station (E) in 70 feet of water was also established for the months of April through August.

At Warren Dunes State Park (control location) one seining station (F); two stations (G and H) in water depths of 20 and 30 feet for gillnetting, trawling and fish larvae; and one station (M) fished during April through August at 70 foot of water depth for fish larvae were established. Fish larvae tows shall be conducted at ten stations. No fish larvae tows need be taken during October and November.

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-315

INDIANA & MICHIGAN ELECTRIC COMPANY
INDIANA & MICHIGAN POWER COMPANY

NOTICE OF ISSUANCE OF AMENDMENT TO FACILITY OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 19 to Facility Operating License No. DPR-58, issued to Indiana & Michigan Electric Company and Indiana & Michigan Power Company (the licensees), which revised the Technical Specifications for operation of the Donald C. Cook Nuclear Plant Unit No. 1 (the facility), located in Berrien County, Michigan. The amendment is effective as of the date of its issuance.

The amendment changed the Appendix B Technical Specifications to change the requirements for periphyton and fish larvae sampling and for the discharge of chemicals to the on-site absorption field.

The applications for the amendment comply with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment. Prior public notice of this amendment was not required since the amendment does not involve a significant hazards consideration.

The Commission has determined that the issuance of this amendment will not result in any significant environmental impact and that pursuant to 10 CFR §51.5(d)(4), an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of this amendment.

For further details with respect to this action, see (1) the December 28, 1976 and March 16, 1977 letters of application for amendment and supplement dated April 22, 1977, and (2) Amendment No. 19 to License No. DPR-58. Both of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C., and at the Maude Reston Palenske Memorial Library, 500 Market Street, St. Joseph, Michigan 49085. A single copy of item (2) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Operating Reactors.

Dated at Bethesda, Maryland, this twelfth day of May, 1977.

FOR THE NUCLEAR REGULATORY COMMISSION

Don K. Davis, Acting Chief
Operating Reactors Branch #2
Division of Operating Reactors