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NHGoodrich, ASLBP

Docket No. 50-315

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

Gentlemen:

In response to your request of February 26, 1975, the Commission has issued Amendment No. 6 to Facility Operating License DPR-58. A signed copy of the amendment is enclosed. A copy of a related notice, which has been forwarded to the Office of the Federal Register for filing and publication, is also enclosed.

Amendment No. 6 to DPR-58 consists of Change No. 6 to the Technical Specifications for the plant.

This amendment permits you to increase the maximum discharge concentrations of sodium sulfate, boron, phosphate, and detergents from 535 to 10,000 ppm, from .0002 to .03 ppm, from 750 to 5300 ppm, and from .051 to .15 ppm respectively, The estimated maximum annual discharge of boron is increased from 105 pounds per year to 600 pounds per year. The estimated maximum annual discharges of sodium sulfate, phosphate, and detergents are unchanged. The amendment eliminates the requirement to collect lake water for radiological analysis 24 hours after a batch release, if the lake sampling stations are covered with ice, and eliminates the requirement to analyze lake water radiological samples upon collection. The amendment also clarifies the types of radiological analysis to be performed on lake water samples.

Copies of the Environmental Impact Appraisal and the Negative Declaration are also enclosed.

Sincerely,

Original signed by
K. Kniel

Karl Kniel, Chief
Light Water Reactors Branch 2-2
Division of Reactor Licensing

Enclosures: See Next page.

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DATE ▶						

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

Enclosures:
1. Amendment No. 6 to DPR-43
2. Negative Declaration
3. Environmental Impact Appraisal
4. Federal Register Notice

cc:

Gerald Charnoff, Esquire
Shaw, Pittman, Potts, Trowbridge
& Madden
910 17th Street, N.W.
Washington, D. C. 20006

Mr. Robert S. Hunter
Assistant Vice President
American Electric Power
Service Corporation
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Businessmen for the Public Interest
Suite 1001
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Peter W. Steketee, Esquire
Freihofer, Cook, Hecht,
Oosterhouse and DeBoer
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Division of Intergovernmental Relations
Executive Office of the Governor
Lewis Cass Building, 2nd Floor
Lansing, Michigan 48913

Michiana Area Council
of Governments
P. O. Box 627
700 Wabash Avenue
South Bend, Indiana 46608

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

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

Mr. Orrel H. Hurst, Director
Bureau of Engineering
State Board of Health
1330 West Michigan Street
Indianapolis, Indiana 462026

Mr. Sheldon Meyers
ATTN: Mr. Jack Anderson
Office of Federal Activities
U. S. Environmental Protection
Agency
401 M Street, S. W.
Washington, D. C. 20460

Mr. Gary Williams
Federal Activities Branch
U. S. Environmental Protection
Agency
230 South Dearborn Street
Chicago, Illinois 60604

Mr. Bruce Blanchard, Director
Environmental Projects Review
Department of the Interior
Room 5321
18th & C Streets, NW.
Washington, D. C. 20240

OFFICE	RL:EP-1	RL:EP-1	RL:EP	OELD	LWR 2-2	LWR 2-2
SURNAME	PCota:mh	GWKnighton	DRMuller	Gallo	RBenedict	KKneil
DATE	5/7/75	5/7/75	5/8/75	5/13/75	5/19/75	5/19/75

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INDIANA AND MICHIGAN ELECTRIC COMPANY

INDIANA AND MICHIGAN POWER COMPANY

DOCKET NO. 50-315

DONALD C. COOK NUCLEAR PLANT, UNIT 1

FACILITY OPERATING LICENSE

License No. DPR-58
Amendment No. 6

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

   A. The application for amendment by Indiana and Michigan Electric Company and Indiana and Michigan Power Company (the licensees) dated February 26, 1975, complies 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 license, 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: and

   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.

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

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"(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications, as revised by issued changes thereto through Change No. 6 ."

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

FOR THE NUCLEAR REGULATORY COMMISSION

Karl Kniel, Chief
Light Water Reactors Branch 2-2
Division of Reactor Licensing

Attachment:
Change No. 6 to the Technical Specifications

Date of Issuance: JUN 11 1975

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ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 6 TO FACILITY OPERATING LICENSE NO. DPR-58

CHANGE NO. 6 TO TECHNICAL SPECIFICATIONS

DONALD C. COOK NUCLEAR PLANT, UNIT 1

DOCKET NO. 50-315

Revise Appendix B as follows:

Remove pages 2.2-5, 2.2-6, 4.2-9, and 4.2-10

and insert the revised pages 2.2-5, 2.2-6, 4.2-9 and 4.2-10.

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TABLE 4.2-1 (Continued)

RADIOLOGICAL
ENVIRONMENTAL MONITORING PROGRAM
DONALD C. COOK NUCLEAR PLANT

Sample Type	No. Stations Ind.	Bkg.	Collection Frequency	Analysis Frequency	Type Analysis	Remarks
Aquatic Organisms or Vegetation (as available)	2	2	2/year	2/year	Gamma Spectral Sr-89, 90	
Milk	4*	3	Monthly	Monthly	I-131	
				Monthly	Gamma Spectral, Sr-89, Sr-90	
Sediment	2	2	2/year	2/year	Gamma Spectral Sr-89, Sr-90	
TLD	6	4	Quarterly	Quarterly	Total Dose	
Human Food Crops			Annually	Annually	Gamma Spectral	

* The four indicator stations shall be within five miles of the plant. If fewer than four locations meeting this requirement are available, the number of indicator stations may be reduced.

TABLE 4.2-1

RADIOLOGICAL
ENVIRONMENTAL MONITORING PROGRAM
DONALD C. COOK NUCLEAR PLANT

Sample Type	No. Stations Ind.	Bkg.	Collection Frequency	Analysis Frequency	Type Analysis	Remarks
Air Particulate	6	4	Weekly	Weekly	Gross Beta	By indicator and background samples
				Every 4 wks	Gamma Spectral Composite of Weekly Samples	
				Quarterly	Sr-89, SR-90 (Composite)	
Airborne I-131	6	4	Weekly	Weekly	Gamma Spectral	By indicator and background samples
Precipitation	6	4	Every 4 wks	Monthly	Gamma Special Composite	By indicator and background samples
				Semi-annually	SR-89, Sr-90 (Composite)	
Lake Water	5	2	Every 4 wks. or 24 hours after a batch release *	Quarterly	Tritium Sr-89,90 (Composite of collected samples)	By indicator and background samples
				Every 4 wks	Gamma Spectral (Composite of collected samples)	Two indicator stations wi include the nearest publi water intakes on the lak north and south of the plant.
Well Water	7	0	Every 18 wks	Every 18 wks	Tritium	
Fish	2	2	2/year	2/year	Gamma Spectral Gamma Spectral Sr-89, 90	Edible portion only

* Weather permitting

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 to
Sodium Sulfate (1)	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 (Tri-and Di-sodium) (2)	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 hydroxide 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.

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 Semiannual 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 Semiannual 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

NEGATIVE DECLARATION REGARDING

OPERATING LICENSE NO. DPR-58

FOR THE

DONALD C. COOK NUCLEAR PLANT, UNIT-1

DOCKET NO. 50-315

The U.S. Nuclear Regulatory Commission (the Commission) has considered the issuance of a change to the Environmental Technical Specifications, Appendix B, of Facility Operating License No. DPR-43. This change would authorize Indiana and Michigan Electric Company and Indiana and Michigan Power Company to increase the maximum discharge concentrations of sodium sulfate, boron, phosphate, and detergents from 535 ppm to 10,000 ppm, from .0002 to .03 ppm, from 750 to 5300 ppm, and from .051 to .15 ppm respectively. The estimated maximum annual discharge of boron is increased from 105 to 600 pounds per year. The estimated maximum annual discharges of sodium sulfate, phosphate, and detergents are unchanged. The change would eliminate the requirement to collect lake water for radiological analysis 24 hours after a batch release, if the lake sampling stations are covered with ice, and eliminate the requirement to analyze lake water radiological samples upon collection. The change also clarifies the types of radiological analysis to be performed on lake water samples.

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The Commission's Division of Reactor Licensing has prepared an environmental impact appraisal for the proposed changes to the Environmental Technical Specifications, Appendix B, appended to Facility Operating License No. DPR-58 for the Donald C. Cook Nuclear Plant, Unit 1, described above.

On the basis of this appraisal presented in this document, we have concluded that an environmental impact statement for this particular action is not warranted because, pursuant to the Commission's regulations in 10 CFR 51 and the Council of Environmental Quality's Guidelines, 40 CFR 1500.6, the Commission has determined that this change in Technical Specifications is not a major federal action significantly affecting the quality of the human environment. The environmental impact appraisal is available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C. 20555 and at the Maude Preston Palenske Memorial Library, 500 Market Street, St. Joseph, Michigan 49085.

Dated at Rockville, Maryland, this 11th day of June 1975.

FOR THE NUCLEAR REGULATORY COMMISSION

George W. Knighton, Chief
Environmental Projects Branch No. 1
Division of Reactor Licensing

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ME▶						

ENVIRONMENTAL IMPACT APPRAISAL BY THE DIVISION OF REACTOR LICENSING

SUPPORTING AMENDMENT NO. 6 TO DPR-58

CHANGE NO. 6 TO TECHNICAL SPECIFICATIONS

INDIANA AND MICHIGAN ELECTRIC COMPANY

INDIANA AND MICHIGAN POWER COMPANY

DONALD C. COOK NUCLEAR PLANT, UNIT 1

DOCKET NO. 50-315

1. DESCRIPTION OF THE PROPOSED ACTION

On February 21, 1975, Indiana and Michigan Power Company requested a proposed change to the Environmental Technical Specifications, Appendix B to Facility Operating License No. DPR-58 for the Donald C. Cook Nuclear Plant, Unit 1. The proposed change involved the following:

a. An increase in the estimated maximum discharge concentration of sodium sulfate discharged to the onsite absorption field, from 535 ppm to 10,000 ppm;

b. an increase in the estimated maximum discharge concentration of boron discharged to Lake Michigan (in the form of boric acid), from .00023 ppm to .03 ppm;

c. an increase in the estimated maximum annual discharge of boron into the Lake, from 105 lb/year to 600 lb/year;

d. an increase in the estimated maximum discharge concentration of phosphate discharged to the onsite absorption field, from 750 ppm to 5300 ppm;

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e. an increase in the estimated maximum discharge concentration of detergent discharged into the Lake, from .051 ppm to .15 ppm;

f. elimination of the requirement to collect Lake water, for radiological analysis, 24 hours after a batch release, when the Lake stations are covered with ice;

g. elimination of the requirement to analyze Lake water radiological samples upon collection;

h. clarification of type of envelopes to be performed on Lake water samples, from "composite" to "composite of collected samples".

Items (a), (b), (d), and (e) were requested because the values tabulated under the heading "Estimated Maximum Discharge Concentrations" (in Table 2.2-1 of the Environmental Technical Specifications) are actually average rather than maxima. According to the applicant, they were calculated using the estimated maximum annual discharge quantities averaged over the year. The proposed values have been "corrected" to estimate maximum discharge concentrations. The corrected values are based on discharging these chemicals in batches since this is the actual method of release.

Item (c) was requested so that the limit on boron discharge conforms with the estimated annual discharge.

Item (f) was requested because the applicant has been unable, on one occasion, to collect Lake water samples because of ice on the Lake.

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Item (g) was requested to make the analysis frequency for Lake water samples consistent with that for air particulates.

Item (h) was requested to clarify the meaning of the requirement (table 4.2-1 of the Environmental Technical Specifications).

The proposed change does not result in an increase in power levels permitted by the license.

2. A SUMMARY DESCRIPTION OF THE PROBABLE IMPACTS OF THE PROPOSED ACTION ON THE ENVIRONMENT

The maximum discharge concentration of sodium sulfate in this proposed change (10,000 ppm) was considered in the Final Environmental Statement for the Cook Plant (pp. V-8 and V-9) and found acceptable. No great adverse environmental impact is expected. The staff concluded that the principal adverse impact of the discharge will be a degradation of a potable groundwater resource near the disposal site, "even though the area affected probably will be limited and certainly small in relation to the surface area and volume of the entire groundwater aquifer of the Grand Marais Embayment."

According to Toxicity of Power Plant Chemicals to Aquatic Life compiled by C. D. Becker and T. O. Thatcher for U.S.A.E.C., June 1973 (WASH-1249), boric acid becomes lethal to fish at boron concentrations of 3,000 ppm. Thus concentrations of .03 ppm and less would not constitute a threat to aquatic life. WASH-1249 further comments that "boron in drinking water is not generally regarded as a hazard to human

beings, and concentrations up to 30 mg/1 (30 ppm) in drinking water are said not to be harmful."

In the Final Environmental Statement for the Zion Nuclear Power Station, the staff calculated an increase in the boron levels in Lake Michigan of 10^{-5} ppm per century, resulting from the discharge of 1260 pounds of borate per year (p. XII -15). Thus the release of 600 lb/year of boron would result in an increase in Lake concentrations of boron of 2.7×10^{-5} ppm per century, by the same method of calculation. We conclude that the discharge of 600 lb/year of boron would have no adverse impact.

According to WASH-1249, the 72 hr TLm for Salmo gairdneri at 21°C is 350 ppm of trisodium phosphate. Since the phosphate will be discharged to the absorption field, a maximum discharge concentration of 5300 ppm is unlikely to cause mortality of aquatic life in Lake Michigan. Since the estimated total amount of phosphate discharged per year will not change, we conclude that the proposed increase in estimated maximum discharge concentration of phosphate will have no adverse impact.

The proposed estimated maximum discharge concentration of detergent discharged into Lake Michigan is nontoxic. Since the proposed quantity of detergent discharged per year will not change, and in view of the low concentrations involved, we conclude that the proposed increase in estimated maximum discharge concentration of detergent discharged will have no adverse impact.

Items (f), (g), and (h) will have no adverse impact. Their effect will be to clarify the subject table in the Environmental Technical Specifications and make the requirements more internally consistent.

3. CONCLUSION AND BASIS FOR NEGATIVE DECLARATION

On the basis of the foregoing analysis and discussion, we have concluded that there will be no significant environmental impacts attributable to the proposed action other than that already predicted and described herin and in the Commission's FES for the Donald C. Cook Nuclear Plant, Unit 1 and is not a major Commission action significantly affecting the quality of the human environment, pursuant to the Council of Environmental Quality Guidelines, 40 CFR 1500.6. Having reached this conclusion, we have further concluded that no environmental impact statement for the proposed action, pursuant to 51.51(b) of the Commission's regulations, need be prepared, and that a negative declaration to that effect is appropriate. We have also concluded that there are no significant hazards considerations in this proposed action and that there is reasonable assurance (1) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (2) that such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Phillip C. Cota, Project Manager
Environmental Projects Branch No. 1
Division of Reactor Licensing

OFFICE ➤			George W. Knighton, Chief	
SURNAME ➤	JUN 11 1975		Environmental Projects Branch No. 1	
DATE ➤			Division of Reactor Licensing	

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

Date:

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-315

DONALD C. COOK NUCLEAR PLANT UNIT 1

INDIANA AND MICHIGAN ELECTRIC COMPANY

INDIANA AND MICHIGAN POWER COMPANY

NOTICE OF ISSUANCE OF FACILITY LICENSE AMENDMENT

Notice is hereby given that the U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 6 to Facility Operating License No. DPR-58, issued to Indiana and Michigan Electric Company and Indiana and Michigan Power Company, which revised Technical Specifications for operation of Donald C. Cook Nuclear Plant Unit No. 1, located in Berrien County, Michigan. The amendment is effective as of its date of issuance.

The amendment permits the licensee to increase the maximum discharge concentrations of sodium sulfate, boron, phosphate, and detergent from 535 ppm to 10,000 ppm, from .0002 to .03 ppm, from 750 to 5300 ppm, and from .051 to .15 ppm respectively. The estimated maximum annual discharge of boron is increased from 105 pounds per year to 600 pounds per year. The estimated maximum annual discharges of sodium sulfate, phosphate, and detergents are unchanged. The amendment eliminates the requirement to collect lake water for radiological analysis 24 hours after a batch release, if the lake sampling stations are covered with ice, and eliminates the requirement to analyze lake water radiological samples upon collection. The amendment also clarifies the types of radiological

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a
analysis to be performed on lake water samples.

The application for the amendment complies 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 is not required since the amendment does not involve a significant hazards consideration.

For further details with respect to this action, see: (1) the application for the amendment, dated February 21, 1975, (2) Amendment No. 6 to License No. DPR-58 with its attachment, and (3) the Commission's Negative Declaration with supporting Environmental Impact Appraisal.

All of the above items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D. C. 20555, and at the Maude Preston Palenske Memorial Library, 500 Market Street, St. Joseph, Michigan 49085.

A copy of items (2) and (3) may be obtained upon request addressed to the United States Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Reactor Licensing.

Dated at Bethesda, Maryland, this 11th day of June 1975.

FOR THE NUCLEAR REGULATORY COMMISSION

Original signed by
K. Kniel

Karl Kniel, Chief
Light Water Reactors Branch 2-2
Division of Reactor Licensing

FR Notice attached

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