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

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Docket File
orb#1 Reading
SMSheppard

February 4, 1977

Docket No. 50-305

U.S. Environmental Protection Agency
Federal Activities Branch
Region V Office
ATTN: EIS COORDINATOR
230 South Dearborn Street
Chicago, Illinois 60604

Gentlemen:

WISCONSIN PUBLIC SERVICE CORPORATION (Kewaunee Plant)

The following documents concerning our review of the subject facility are transmitted for your information:

- ☐ Notice of Receipt of Application.
- ☐ Draft/Final Environmental Statement, dated _____.
- ☐ Safety Evaluation, or Supplement No. _____, dated _____.
- ☐ Notice of Hearing on Application for Construction Permit.
- ☐ Notice of Consideration of Issuance of Facility Operating License.
- ☐ Application and Safety Analysis Report, Vol. _____.
- ☐ Ameudment No. _____ to Application/SAR, dated _____.
- ☐ Constrnction Permit No. CPPR-_____. dated _____.
- ☐ Facility Operating License No. DPR-_____, NPF-_____, dated _____.
- ☐ Amendment No. _____ to CPPR-_____ or DRR-_____, dated _____.
- ☒ Other: Environmental Tech Spec Report 76-10 concerning turbine building sump. Letter dated December 30, 1976.
- ☐ _____

Office of Nuclear Reactor Regulation

Enclosures:
As stated

EC 1

cc: Chief, Energy Systems
Analyses Branch (AW-459)
Office of Radiation Programs
U.S. Environmental Protection Agency
Room 645, East Tower
401 M Street, SW.,
Washington, D.C. 20460

OFFICE ▶		DOR:ORB#1		
SURNAME ▶		SMSheppard:lb		
DATE ▶		2/4/77		

NRC-21 (6-76)

Dist.
Docket
OR-1 Rd.
SMS

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

December 23, 1976

Docket No. 50-305

U.S. Environmental Protection Agency
Federal Activities Branch
Region V Office
ATTN: EIS COORDINATOR
230 South Dearborn Street
Chicago, Illinois 60604

Subject: WISCONSIN PUBLIC SERVICE CORPORATION (Kewaunee Plant)

The following documents concerning our review of the subject facility are transmitted for your information:

- ☐ Notice of Receipt of Application.
- ☐ Draft/Final Environmental Statemeut, dated _____.
- ☐ Safety Evaluation, or Supplement No. _____, dated _____.
- ☐ Notice of Hearing on Application for Construction Permit.
- ☐ Notice of Consideration of Issuance of Facility Operating License.
- ☐ Application and Safety Analysis Report, Vol. _____.
- ☐ Amendment No. _____ to Application/SAR, dated _____.
- ☐ Construction Permit No. CPPR-_____. dated _____.
- ☐ Facility Operating License No. DPR-_____, NPF-_____, dated _____.
- ☐ Amendment No. _____ to CPPR-_____ or DRR-_____, dated _____.
- ☐ Other: Environmental Tech Spec Report ETSR 76-7, ltr dtd October 8, 1976.
- ☐ _____

Office of Nuclear Reactor Regulation

Euclosures:
As stated

cc: Chief, Energy Systems
Analyses Branch (AW-459)
Office of Radiation Programs
U.S. Enviornmental Protection Agency
Room 645, East Tower
401 M Street, SW
Washington, D.C. 20460

Dr. Philip F. Gustafson
Argonne National Laboratory
9700 South Cass Avenue
Argonne, Illinois 60439

50-305
Ltr 2

OFFICE ▶					
SURNAME ▶		SMS			
DATE ▶		12/23/76			

NRC—21 (6—76)

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

DISTRIBUTION
Docket
ORB#1 Reading
SMSheppard

December 29, 1976

Docket No. 50-305

U.S. Environmental Protection Agency
Federal Activities Branch
Region V Office
ATTN: EIS COORDINATOR
230 South Dearborn Street
Chicago, Illinois 60604

Subject: WISCONSIN PUBLIC SERVICE CORPORATION (Kewaunee Nuclear Plant)

The following documents concerning our review of the subject facility are transmitted for your information:

- ☐ Notice of Receipt of Application.
- ☐ Draft/Final Environmental Statemeut, dated _____.
- ☐ Safety Evaluation, or Supplement No. _____, dated _____.
- ☐ Notice of Hearing on Application for Construction Permit.
- ☐ Notice of Consideration of Issuance of Facility Operating License.
- ☐ Application and Safety Analysis Report, Vol. _____.
- ☐ Amendment No. _____ to Application/SAR, dated _____.
- ☐ Construction Permit No. CPPR-_____. dated _____.
- ☐ Facility Operating License No. DPR-_____, NPF-_____, dated _____.
- ☐ Amendment No. _____ to CPPR-_____ or DRR-_____, dated _____.
- ☒ Other: Environmental Tech Spec Report #ETSR 76-8 re Failure in the Plant Computer Causing Monitoring Program to stop; ltr dtd. November 9, 1976
- ☐

Office of Nuclear Reactor Regulation

Enclosures:
As stated

cc: Dr. Philip F. Gustafson
Argonne National Laboratory
9700 South Cass Avenue
Argonne, Illinois 60439

Chief, Energy Systems
Analyses Branch (AW-459)
Office of Radiation Programs
U.S. Environmental Protection Agency
Room 645, East Tower
401 M Street, SW
Washington, D.C. 20460

50-305
Env. 2

OFFICE ▶			DOR:ORB#1			
SURNAME ▶			SMS			
DATE ▶			12/29/76			

NRC-21 (6-76)

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

CENTRAL FILES

JUL 2 1976

Wisconsin Public Service Corporation
ATTN: Mr. E. W. James
Senior Vice President
Power Supply & Engineering
P. O. Box 1200
Green Bay, Wisconsin 54305

Docket No. 50-305

Gentlemen:

This is to acknowledge your letter dated June 11, 1976, which conveyed Environmental Technical Specification Reports ETSR 76-1 (renumbered) and ETSR 76-2.

We concur with your interpretation of the necessity of reporting these occurrences based on the existing wording of Appendix B Technical Specifications. At the same time, we share your concerns regarding efficient utilization of manpower. In this case, it appears that the only purpose served by the act of reporting is to make a demonstration of the quality of the internal review program which identifies minor occurrences.

Your letter refers to additional guidance in preparation by the NRC staff relating to Appendix B Technical Specification reporting requirements. These matters are addressed in Regulatory Guide 4.8, "Environmental Technical Specifications for Nuclear Power Plants", which was issued for comment in December 1975. Section 5.6.2 of Regulatory Guide 4.8 addresses "Nonroutine Reports" in the categories of "Prompt Report" and "30-Day Report." The criteria of the Regulatory Guide appear to be a departing from all-inclusive 24-hour notification requirements of the type currently found in the Kewaunee "B" Technical Specifications. Instead, certain significant parameters will be identified as "Limiting Conditions for Operation" (See Section 2), for each of which the reporting requirement for specification noncompliance shall also be specified, whether "Prompt" or "30-Day." The Regulatory Guide is currently silent with respect to special reporting of variances from monitoring requirements.

We believe it to be in our interest and in yours to have reasonable, clear, and consistent reporting requirements. Our

policy has been, and will continue to be, to seek clarity and consistency in Technical Specifications, and to identify areas in which specifications may warrant improvement. Responsibility and authority for initiating Technical Specification changes, of course, rests with you.

Sincerely yours,

James G. Keppler
Regional Director

bcc w/ltr dtd 6/11/76:
Central Files
PDR
Local PDR
NSIC
TIC
IE Mail and File Unit

WISCONSIN PUBLIC SERVICE CORPORATION

P.O. Box 1200, Green Bay, Wisconsin 54305

June 11, 1976

Mr. J. G. Keppler, Regional Director
Office of Inspection & Enforcement
Region III
U. S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

Dear Mr. Keppler:

Subject: Docket 50-305
Operating License DPR-43
Environmental Technical Specification
Reports ETSR 76-1 and ETSR 76-2

Reference: Letter to Mr. J. G. Keppler from Mr. E. W. James
Dated May 28, 1976, with enclosure Licensee
Event Report RO 76-12

The referenced letter and Licensee Event Report was incorrectly submitted as Reportable Occurrence 76-12. The subject report should have been submitted as Environmental Technical Specification Report ETSR 76-1. Enclosed is an updated report ETSR 76-1, reported in accordance with Environmental Technical Specifications, ES 5.2a and ES 5.4b and c. Reportable Occurrence 76-12 submitted May 28, 1976, is hereby corrected. The next Reportable Occurrence per Appendix A of the Technical Specifications will be assigned number RO 76-12.

In accordance with Environmental Technical Specifications ES 5.2a, ES 5.4b and c, Environmental Technical Specifications Report ETSR 76-2, attached, is being submitted.

The incident being reported by ETSR 76-2 was failure of the plant computer to log the circulating water temperatures hourly. The computer continued to log data during the period of failure, however, the data registers were not being updated by the computer. This failure of the computer to scan its inputs was not accompanied by an alarm. The resulting logging of plant data by the computer remained constant for the failure period. The operators noted the problem after three logging cycles (3 hours), reinitialized the computer and verified proper computer operation, thereby correcting the failure. During this period, plant load remained constant and operating limits on circulating water temperature were not exceeded. This incident is of no significance. No damage or threat of damage to the environment occurred. Proper attention by the operating staff detected the computer logging failure in the three cycles.

The report of ETSR 76-2 is provided because of our literal interpretation of the Technical Specifications. We do not believe incidents of this nature require reporting and we fail to see what useful purpose this report accomplishes. We are concerned about the waste of our manpower and the NRC's on such trivial matters which are of no consequence and are not worthy of a report. We have been informed that additional guidance is being prepared in regards to Appendix B Technical Specification analogous to Regulatory Guide 1.16 for Appendix A Technical Specifications. While this statement of the staff's position on Appendix B Technical Specifications was scheduled for completion early last fall, it has not been provided to date. We would appreciate any assistance provided in expediting this guidance and a clarification of our interpretation of the current specifications in regards to reporting incidences such as this failure of the computer.

Very truly yours,

E W James BJB

E. W. James
Senior Vice President
Power Supply & Engineering

EWJ:sna
Enc.
cc - Director, Office of Inspection & Enforcement
US NRC, Washington, D. C. 20555

Director, Office of Management Information
& Program Control
US NRC, Washington, D. C. 20555

Mr. Dwane Boyd, Resident Inspector
US NRC

LICENSEE EVENT REPORT PREVIOUS REPORT DATE 05/28/76

CONTROL BLOCK: [ ] (PLEASE PRINT ALL REQUIRED INFORMATION)
1 6

LICENSEE NAME	LICENSE NUMBER	LICENSE TYPE	EVENT TYPE
01 WIKNP 1	00-00000-00	4 1 1 1 1	0 4
7 8 9 14	15 25	26 30	31 32

CONT	CATEGORY	REPORT TYPE	REPORT SOURCE	DOCKET NUMBER	EVENT DATE	REPORT DATE
01	P 0	P	L	0 5 0 - 0 3 0 5	0 5 1 8 7 6	0 5 2 8 7 6
7 8	57 58	59	60	61 68	69 74	75 80

EVENT DESCRIPTION

02 Kewaunee Environmental Technical Specifications requires a grab sample to be analyzed for
03 pH and total suspended solids during the regeneration of a water softening unit. The
04 water softening units are set up on an automatic recycle process. The 1B water soft-
05 ner automatically cycled and the regeneration wastes discharged to the lake without
06 the required grab sample and analysis being performed. (ETSR 76-1)

	SYSTEM CODE	CAUSE CODE	COMPONENT CODE	PRIME COMPONENT SUPPLIER	COMPONENT MANUFACTURER	VIOLATION
07	W D	A	Z Z Z Z Z Z	Z	Z 9 9 9	Y
7 8 9	10	11	12 17	43	44 47	48

CAUSE DESCRIPTION

08 The operator who checked the 1B water softener misjudged when the automatic regenera-
09 tion would occur. A factor leading to this misjudgement was the abnormal high rate of
10 use of the laundry facilities due to amount of work going on in containment. (Cont.
on attached sheet)

	FACILITY STATUS	% POWER	OTHER STATUS	METHOD OF DISCOVERY	DISCOVERY DESCRIPTION
11	H	0 0 0	NA	a	NA
7 8	9	10 12	13 44	45	46 60

	FORM OF ACTIVITY RELEASED	CONTENT OF RELEASE	AMOUNT OF ACTIVITY	LOCATION OF RELEASE
12	Z	Z	NA	NA
7 8	9	10	11 44	45 60

PERSONNEL EXPOSURES

	NUMBER	TYPE	DESCRIPTION
13	0 0 0	Z	NA
7 8 9	11	12	13 80

PERSONNEL INJURIES

	NUMBER	DESCRIPTION
14	0 0 0	NA
7 8 9	11	12 80

OFFSITE CONSEQUENCES

15 NA

LOSS OR DAMAGE TO FACILITY

	TYPE	DESCRIPTION
16	Z	NA
7 8 9	10	80

PUBLICITY

17 NA

ADDITIONAL FACTORS

18 There are no implications to a non-radiological release of this nature, since Tech-
19 nical Specifications requires a sample only to characterize the discharge wastes.

NAME: Mark L. Marchi PHONE: 414-432-3311

GPO 881-667

Cause Description Continued

This is the first occurrence of this type. This problem has been anticipated since the change in Technical Specifications required the sampling of the regeneration discharges. Prior to the event a design change had been approved to remove the automatic regeneration feature of the water softeners.

ENVIRONMENTAL TECHNICAL SPECIFICATION REPORT

Number ETSR 76-2

June 13, 1976

Kewaunee Nuclear Power Plant

Docket: 50-305

Operating License: DPR-43

Description of Event: The plant computer operated in an impaired condition with no computer failure alarm. All readings remained the same for a three hour period except for time and Electrical Generated Power. As a result of this, the recorded circulating water box temperatures cannot be verified as accurate, although they were recorded as required by Environmental Technical Specification monitoring requirements.

Cause of Event: Impaired computer condition with no alarm. If it had been known that the plant computer had failed, manual monitoring could have been accomplished.

Environmental Implications: None -- Plant was at a constant power, therefore, the circulating water discharge temperatures should have remained constant. The intent of the monitoring requirement is to insure that CW discharge temperature and rate of change of temperature does not exceed limits. The plant was not operated in a condition that would have changed the discharge temperature.

Corrective Measures: Discharge CW temperature continuous monitoring recorder has been budgeted. (DCR 543) Design change is in progress! This will then give two separate monitoring systems besides a manual back-up system.

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

March 4, 1976

Distribution:
Docket File (Environ)
EP-1 Rdg
C. Haupt
M. Slater

Docket No. 50-305

Addressees: See next page

Subject: Kewaunee Nuclear Power Plant
(Wisconsin Public Service Corporation)

The following documents concerning our review of the subject facility are transmitted for your information:

- ☐ Notice of Receipt of Application.
- ☐ Draft/Final Environmental Statement, dated _____.
- ☐ Safety Evaluation, or Supplement No. _____, dated _____.
- ☐ Notice of Hearing on Application for Construction Permit.
- ☐ Notice of Consideration of Issuance of Facility Operating License.
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- ☐ Amendment No. _____ to Application/SAR, dated _____.
- ☐ Construction Permit No. CPPR-_____, dated _____.
- ☐ Facility Operating License No. DPR-_____, dated _____.
- ☐ Amendment No. _____ to CPPR-_____ or DRR-_____, dated _____.
- ☒ Other: WPSC ltr dtd 2/26/76 fwdg semi-annual operating report July 1 - Dec. 31, 1975
- ☐ _____

Office of Nuclear Reactor Regulation

Enclosures:
As stated

EC

cc:

bcc: P. Gustafson

OFFICE ▶	DSE:EP-1					
SURNAME ▶	MSlater					
DATE ▶	3/4/76					

NRC-21 (8-75)

Addressees:

Chairman, Advisory Committee
on Reactor Safeguards
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Chief, Division of River Basin Studies
Bureau of Sport Fisheries & Wildlife
U. S. Department of the Interior
Washington, d. C. 20240

Director, National Oceanographic Data Center
Environmental Data Service
National Oceanic & Atmospheric Administration
U. S. Department of Commerce
Washington, d. C. 20235

Dr. Charles F. Jelinek, Director
Division of Chemical Technology
Food and Drug Administration
U. S. Department of Health,
Education and Welfare
Washington, D. C. 20204

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

JAN 23 1976

Docket No. 50-305

Wisconsin Public Service Corporation
ATTN: Mr. E. W. James
Senior Vice President
P. O. Box 1200
Green Bay, Wisconsin 54305

Gentlemen:

In response to your requests dated August 4, 1975 and September 10, 1975, we have issued Amendment No. 8 to Facility Operating License No. DPR-43 for the Kewaunee Nuclear Power Plant. This amendment includes Change No. 10 to the Environmental Technical Specifications (Appendix B) for the plant.

This amendment involves changes in environmental protection conditions and monitoring requirements which are consistent with realistic plant operating characteristics and the National Pollutant Discharge System (NPDES) permit issued by the Wisconsin Department of Natural Resources on December 31, 1974. In addition, certain administrative changes have been made to Section 4.0, Environmental Surveillance and Special Studies and Section 5.0, Administrative Controls. These changes include a revision to fish sampling techniques so as to improve the statistical analysis of data and a change in plant reporting requirements to provide an Annual Environmental Operating Report consistent with Regulatory Guide 10.1.

This amendment does not involve 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. The Commission has also concluded that there is reasonable assurance that the health and safety of the public will not be endangered by the proposed action.

Certain changes, however, that you requested have not been granted because they were not supported by an environmental impact assessment and there was no well-documented basis to justify the change requested. Those changes denied include the following:

OFFICE▶						
SURNAME▶						
DATE▶						

JAN 23 1976

1. Increase in the temperature differential across the condenser cooling system to 22°F for two circulating pump operation and 30°F for single pump operation.

2. Revision of the maximum temperature of the condenser cooling discharge water to 89°.

3. Revision to the rate of change of the condenser temperature differential to 20°F per hour during power increase and 15°F per hour during power decrease. The staff's reasons for not approving these requested changes are discussed in the enclosed environmental impact appraisal.

Copies of the Negative Declaration, Environmental Impact Appraisal and the Federal Register Notice are also enclosed.

Sincerely,

Voss A. Moore, Assistant Director
for Environmental Projects
Division of Site Safety and
Environmental Analysis

Enclosures:
1. Amendment No. 8 to DPR-43
2. Negative Declaration
3. Environmental Impact Appraisal
4. Federal Register Notice

cc: See next page

CRESS N/L OFFICE ▶	RL:EP-1	RL:EP-1	RL:OR	OELD	RL:AD/EP
MC# 866216 1/7/76 SURNAME ▶	CAHaupt:ls	GKnighton	DNeighbors	BORDenton	VAMoore
DATE ▶	1/22/76	1/22/76	1/19/76	1/15/76	1/22/76

Form AEC-318 (Rev. 9-53) AECM 0240 ☆ U.S. GOVERNMENT PRINTING OFFICE: 1973—499-253

cc: Mr. Carl Giesler
Superintendent of Nuclear Power
Wisconsin Public Service Corporation
P.O. Box 1200
Green Bay, Wisconsin 54305

Steven E. Keane, Esq.
Foley, Sammond and Lardner
735 North Water Street
Milwaukee, Wisconsin 53202

Bruce W. Churchill, Esq.
Shaw, Pittman, Potts, Trowbridge & Madden
910 17th Street, N. W.
Washington, D. C. 20006

Mr. Arden Koehler
Chairman, Town of Carlton
Route 1
Kewaunee, Wisconsin 54216

Mr. Donald E. Quistorff
Chairman, Kewaunee County Board
Kewaunee County Courthouse
Kewaunee, Wisconsin 54216

Mr. Gary Williams (w/incoming)
Federal Activities Branch
Environmental Protection Agency
230 South Dearborn Street
Chicago, Illinois 60604

Partick DeWane, Esq.
Attorney, Town of Two Creeks
Manitowoc, Wisconsin 54241

Mr. Neill Thomasson (w/incoming)
ATTN: Ms. Loretto Long
Office of Radiation Programs
Room 647A East Tower Waterside
Environmental Protection Agency
401 M Street, N. W.
Washington, D. C. 20460

Mr. Norman M. Chappity (w/incoming)
Public Service Commission of Wisconsin
Hill Farms State Office Building
Madison, Wisconsin 53702

bcc: JRBuchanan, HNL
TBAbernathy, TIC-ERDA
ARosenthal, ASLAB
NHGoodrich, ASLBP
HJMcAlduff, ORO

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I&E Region III
MJOestmann-Region III

OFFICE▶						
SURNAME▶						
DATE▶						

WISCONSIN PUBLIC SERVICE CORPORATION

WISCONSIN POWER AND LIGHT COMPANY

MADISON GAS AND ELECTRIC COMPANY

DOCKET NO. 50-305

KEWAUNEE NUCLEAR POWER PLANT

AMENDMENT OF FACILITY OPERATING LICENSE

Amendment No. 8
License No. DPR-43

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

   A. The application for amendment by Wisconsin Public Service Corporation, Wisconsin Power and Light Company, and Madison Gas and Electric Company for the Kewaunee Nuclear Power Plant, dated August 4 and September 10, 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-43 is hereby amended to read as follows:

OFFICE ➤						
SURNAME ➤						
DATE ➤						

"(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 Changes No. 10."

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

FOR THE NUCLEAR REGULATORY COMMISSION

/s/

Voss A. Moore, Assistant Director
for Environmental Projects
Division of Site Safety and
Environmental Analysis

Attachment:
Changes No. 10 to the Technical
Specifications

Date of Issuance: JAN 23 1976

CRESS OFFICE ▶	RL:EP-1	RL:EP-V	RL:OR	OELD	RL:AD/EP
MC# 030847 1/7/76 SURNAME ▶	CAHaupt:rs	GKnighton	DNeighbors	B. Boyd	VAMoore
DATE ▶	1/22/76	1/22/76	1/ /76	1/15/76	1/22/76

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 8 TO FACILITY OPERATING LICENSE NO. DPR-43

CHANGE NO. 10 TO TECHNICAL SPECIFICATIONS

WISCONSIN PUBLIC SERVICE CORPORATION

WISCONSIN POWER AND LIGHT COMPANY

MADISON GAS AND ELECTRIC COMPANY

KEWAUNEE NUCLEAR POWER PLANT

DOCKET NO. 50-305

Revise Appendix B as follows:

Remove pages ES 2.1-1, ES 2.2-1, ES 2.2-3, ES 2.2-4, ES 2.2-5, ES 2.2-6, ES 4.1-1, ES 4.1-3, ES 4.1-4, ES 4.1-5, ES 4.2-1, ES 4.2-3, ES 5.1-1, ES 5.2-1, ES 5.3-1, ES 5.4-1, ES 5.4-2, ES 5.5-1.

Insert pages ES 2.1-1, ES 2.2-1, ES 2.2-3, ES 2.2-4, ES 2.2-5, ES 2.2-6, ES 4.1-1, ES 4-1-3, ES 4.1-4, ES 4.1-5, ES 4.2-1, ES 4.2-3, ES 5.1-1 ES 5.2-1, ES 5.3-1, ES 5.4-1, ES 5.4-2, ES 5.5-1.

OFFICE▶						
SURNAME▶						
DATE▶						

2.0 ENVIRONMENTAL PROTECTION CONDITION

2.1 Thermal

2.1.1 Maximum ΔT across the condenser

Objective: Limit the temperature rise across the condenser.

Specification: During normal power operation, the maximum ΔT across the condenser shall not exceed 20F° when the forebay temperature is greater than 40°F. When the forebay temperature is 40°F or less, the maximum ΔT across the condenser shall not exceed 28 F°. 10

Whenever the temperature increment (ΔT) is above the specified limits for more than one hour, action shall be taken to determine the reason for the temperature increase and its expected duration, and corrective action shall be taken to reduce the ΔT to within the specified limits. These occurrences shall be recorded and reported in accordance with the Plant Reporting Requirements.

Bases: The rise of intake water temperature across the condenser is a fixed value based upon initial condenser design, circulating water pump operation, and the plant's power level.

3.0 MONITORING EQUIPMENT

3.1 Thermal

3.1.1 Maximum ΔT across the condenser

Objective: To monitor the intake and discharge temperatures to assure that the allowable ΔT across the condenser is not exceeded.

Specification: The intake water temperature shall be measured from one temperature element located in the forebay and recorded every hour. The discharge temperature shall be measured in the four water boxes of the condenser. These four points shall be recorded every hour.

The backup system consists of a continuous printout of the average from two temperature elements in the forebay. The discharge temperature shall be read locally at the condenser. Both intake and discharge temperatures shall be recorded hourly when the computer is out of service.

Bases: The intake and discharge temperature will be computer monitored in the control room which will provide a reliable method for determination of temperature differential across the condenser.

Change No. 10
Date: JAN 23 1976

2.0 ENVIRONMENTAL PROTECTION CONDITION

2.2 Chemicals

2.2.1 Chlorination of Circulating Water System

Objective: To limit the amount of residual chlorine discharged to the lake.

Specification: Should the circulating water system be chlorinated, the duration of chlorination shall not exceed 2 hours during any 24 hour day. The concentration of the total residual chlorine in the effluent circulating water shall not exceed 0.1 mg/l. Should the total residual chlorine in the effluent exceed 0.1 mg/l, all practicable measures to reduce it to below that level shall be taken.

Bases: Based on the intake water turbidity plus the lack of a need for chlorination during the first 18 months of operation of Point Beach Unit 1, chlorination might not be necessary to control slime in the Kewaunee Plant condenser.

However, should chlorination be necessary, the total residual chlorine in the discharge water should not exceed 0.1 mg/l for a maximum of 2 hours/day. The concentration in the discharge stream is permitted to be twice the 2 hour level in the receiving water in view of the expected rapid decline in concentration after discharge, by dilution and reaction with chlorine demand constitutents in the lake. This specification would be consistent with meeting the 0.05 mg/l for a maximum of 2 hours/day recommended by the United States Environmental Protection Agency.

3.0 MONITORING REQUIREMENTS

3.2 Chemicals

3.2.1 Chlorination of the Circulating Water System

Objective: To monitor the amount of total residual chlorine in the discharge water.

Specification: During periods of chlorination, samples of circulating water shall be taken five (5) minutes before and 5 minutes after the start of chlorination, at the mid-point and at the end of the chlorination period.

Samples shall be taken immediately following the condenser and shall be analyzed for total residual chlorine using the amperometric method of analysis. In the event the amperometric instrument is being serviced, a colorimetric method of analysis may be utilized for a period not to exceed one week. 10

Bases: The amperometric method of analysis will ensure accurate results which will allow for complete documentation of chlorine residuals in the circulating water system and receiving waters.

The colorimetric method of analysis will serve as a backup should the amperometric titrator fail.

Change No. 10
Date: JAN 22 1976

2.0 ENVIRONMENTAL PROTECTION CONDITION

2.2.2 Suspended and Dissolved Solids

Objective: To limit the total amount of solids discharged to the lake.

Specification: The pH of the solution released from the neutralizing tank shall be within the range of 6 to 9 before dilution in the circulating water system.

For normal power operation, the average incremental increase in the concentration of total solids in the circulating water resulting from the neutralizing tank discharge shall not exceed 2.0 mg/l when calculated during periods of each discharge.

The total annual release from the neutralizing tank shall not exceed 325 tons of total solids.

Bases: The demineralizer system consists of twin cation, anion, and mixed bed units used to ensure that the product water is high quality water capable of meeting stringent Nuclear Steam Supply System Specifications.

During normal power operation, it is expected that approximately 22,000 gallons of neutralized waste will be discharged from the primary cation and anion regeneration process once every day while 3600 gallons of neutralized waste from the mixed bed regenerations will be discharged three

3.0 MONITORING REQUIREMENTS

3.2.2 Suspended and Dissolved Solids

Objective: To monitor the total amount of solids discharged to the lake.

Specification: Neutralizing Tank

The pH of the solution in the neutralizing tank shall be determined on a representative sample and the resulting pH recorded in the discharge log book.

Prior to release of waste from the neutralizing tank, a representative sample shall be analyzed for suspended, dissolved and total solids. The total amount in gallons released and the time required for discharge shall be recorded.

Miscellaneous Discharge

The pH and total suspended solids shall be determined for condenser hotwell prior to discharge to the circulating water system. The determination shall be made from a representative grab sample.

The discharges from the turbine building sump water softening unit and the water pretreatment system lagoon shall be characterized by daily grab samples. These daily grab samples shall be analyzed for pH and total suspended solids.

Change No. 10
Date: JAN 23 1976

2.0 ENVIRONMENTAL PROTECTION CONDITION

Bases: times a month. It is possible that on any given day, the chemical discharges from the neutralizing tank may contain wastes from both the primary cation and anion units and mixed bed units.

3.0 MONITORING REQUIREMENTS

Specification: Miscellaneous Discharge

A record of the pH and suspended solids analyses shall be maintained, along with the total amounts of solids and fluids discharged. | 10

Bases: Analysis of a representative sample from the waste neutralizing tank, before dilution with the circulating water system, by Standard Methods or its equivalent will ensure that each batch discharged from the neutralizing tank is documented. Laboratory measurement of the pH of the water solution will ensure that the wastes are neutralized before release. | 10

Analysis of a representative sample of the miscellaneous discharges, before dilution with the circulating water system, by Standard Methods or its equivalent, will ensure that each discharge path is characterized. | 10

Change No. 10
Date: JAN 22 1976

2.2.3 Treatment Chemicals

Objective: To identify and quantify all treatment chemicals.

Specification: The total amounts of all raw chemicals added or used in the plant, identified below, shall be reported annually.

10

1. Primary System
   a. Boric acid
2. Secondary treatment chemicals
   a. Hydrazine
3. Pre-treatment system chemicals
   a. Ferric Sulfate
   b. Lime
   c. Polyelectrolyte
   d. Hypochlorite
   e. Sodium Sulfite
4. Demineralizer System
   a. Caustic Soda
   b. Sulphuric acid
5. Potable Water Softeners
   a. Salt
6. Condenser
   a. Hypochlorite
7. Component Cooling System
   a. Chromates

3.2.3 Treatment Chemicals

Objective: To monitor the total amount of treatment chemicals discharged to the circulating water.

Specification: A record shall be kept of all raw treatment chemicals used in plant operations.

Bases: The chemicals used in the different processes within the plant are required to provide safe and efficient operation of the various unit operations. All chemicals are added to these systems on an "as needed" basis.

2.0 ENVIRONMENTAL PROTECTION CONDITION

3.0 MONITORING REQUIREMENTS

Bases: Boric acid is used as chemical shim during plant operation in order to control reactivity within the primary cycle.

Hydrazine is used as a reducing agent to remove oxygen in the steam cycle system. At high temperatures, hydrazine decomposes to ammonia which in turn is used to control the pH in the steam cycle system. No other chemicals are introduced to the steam cycle system for treatment. The chemicals added to the pre-treatment system are ferric sulfate to coagulate the turbidity in the water, lime to presoften the water, polyelectrolyte to aid in the development of the floc, hypochlorite solution to kill bacteria and sterilize the water and sodium sulfite to reduce any free chlorine before entering the demineralizers.

Caustic soda and sulphuric acid are used in the demineralizer system regeneration process while salt is used to regenerate the water softener.

Change No. 10
Date: JAN 23 1976

4.0 ENVIRONMENTAL SURVEILLANCE AND SPECIAL STUDIES

4.1 Biological

4.1.1 Aquatic

a. General Ecological Survey to evaluate the contribution of the plant discharges on the biotic stresses in the lake and including possible long term effects.

Objective: The specific aims of the general survey are as follows:

1. Identify certain physical characteristics such as water temperature, local lake currents, and bottom contours in the immediate plant influence.
2. Investigate benthic macroinvertebrates, zooplankton, phytoplankton, and periphyton populations and their distribution within the area of the thermal plume, intake, and in nearby control areas.
3. Characterize the distribution of fish at different seasons in the vicinity of the intake and discharge.
4. Determine whether the warm water discharge or intake of cooling water is having an adverse impact on the life history of fish in the vicinity of the plant.
5. Determine changes in the bacteriological and chemical makeup of the Lake Michigan waters in the vicinity of the plant.
6. Determine a numerical predictive model for the thermal plume and measure the shape and extent of the thermal plume during plant operation.

Specification:

1. A general ecological survey shall be undertaken for two years after the plant becomes operational.
   a. Data collected during the two years of the program shall be reviewed and evaluated by the licensee and the NRC to determine whether the program should be modified or discontinued.
   b. The program may be modified as necessary to accommodate changes occurring during the survey. These changes shall be reported in accordance with Plant Reporting Requirements. 10
   c. A summary of the progress and results of these studies shall be reported in accordance with Plant Reporting Requirements.
   d. The frequency of the field sampling program shall be in accordance with Table ES 4.1.1-1.
   e. Sampling locations and the parameters sampled shall be established in accordance with Figure ES 4.1.1-1.
2. Water Column Profile Locations
   a. Seventeen profile sampling locations shall be established in accordance with Figure ES 4.1.1-1. Five

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Copper	Solids, Total Dissolved
Fluoride	Solids, Total Suspended
Hardness, Total	Sulfate
Hydrazine	Temperature Profiles
Iron	Turbidity
Iron, Total	Zinc
Lead	

5. Lake Currents - Lake currents in the vicinity of the thermal plume shall be measured continuously by current meters and current direction by drogues during the sampling period and during special studies. 10
6. Phytoplankton
   a. Duplicate water samples for phytoplankton analysis shall be collected at seven stations at a depth of one meter below the lake surface.
   b. A species checklist and enumeration shall be compiled for each sample
7. Zooplankton
   a. Zooplankton samples shall be collected from fifteen locations.
   b. Four replicate samples shall be taken at each location.
   c. Organisms shall be identified to the lowest positive taxonomic level and enumerated.
   d. Populations shall be analyzed to determine the difference between locations.
8. Periphyton
   a. Periphyton samples shall be collected from naturally occurring rock substrates at each of the three sampling locations.
   b. The color, species composition, and abundance of the attached algae and the type of substrate upon which it grows shall be noted.
   c. A species checklist, including the relative abundance of each species, shall be prepared for each sample to determine differences and similarities among locations.
9. Benthos
   a. Benthos samples shall be taken at nine locations.
   b. Organisms shall be identified to the lowest positive taxonimic level and enumerated in abundance per square meter.
10. Fish
   a. Gill nets shall be used to sample fish populations at three locations.
   b. Minnow seining shall be conducted at three locations.
   c. Fish eggs and larvae shall be sampled and identified at six locations during the spawning season for local species.
   d. All fish, except alewife and smelt, shall be identified and measured, those fish larger than 10 inches shall also be weighed and checked for parasite markings and disease. A subsample of 20 individuals of each species (alewife and smelt) shall be taken to determine the size range of the catch and to provide ample data for calculation of mean lengths, weights and condition. 10

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e. Scale samples shall be taken for age and growth analysis for selected species.
f. Stomach samples shall be taken from selected species for food habit determination.

Bases: The general ecological survey of the aquatic environment in the vicinity of the Kewaunee Plant will provide the necessary information to compare three years of pre-operational study with data taken during the two years of operational study.

Bottom contours of the discharge area will help to analyze the effect that the circulating water velocity has upon the bottom.

The primary source of data on currents has been with continuous measurements with current meters. Drogues are used to obtain current direction data for comparison with current meter data and when specialized studies such as obtaining time-temperature data or defining eddy circulation patterns are required. 10

By using a benthic pump and a diver to collect benthos samples, a very reliable sample is obtainable which will allow better determination of the thermal influence of the plume upon benthic organisms.

The setting of gill nets with one 300 foot panel of 2½ inch stretched mesh, one 300 foot panel of 3½ inch stretched mesh, one 300 foot panel of 5½ inch stretched mesh and one 50 foot panel of 1½ inch stretched mesh for a twelve hour period will allow a representative sampling of fish, which will aid in the determination of fish density before and after plant operation.

Water Column Profile data will be examined to determine the degree of similarity in the water masses which make up the study area. Seasonal differences will be noted.

Water quality data will be determined and compared to state and federal standards and data collected from other areas of the lake.

Bacteriological data, along with BOD results, will aid to determine the presence of domestic and/or agriculture wastes near the site.

Phytoplankton data will assist in determining the water quality and nutrient levels to support algae growth near the site. Abundance of specific species will present a basis for comparing the study area to other regions where similar surveys are being conducted.

Periphyton data will be used to determine the effect of the discharge on growth and species composition of the aufwuchs community.

4.1.1 Aquatic

b. Entrainment and Impingement

Objective: To determine the effects of entrainment of phytoplankton and zooplankton and the impingement of fish on the traveling screens.

Specification: Entrainment and impingement studies shall continue for two years after the plant becomes operational. A summary of the progress and results of these studies shall be reported in accordance with Plant Reporting Requirements. Data collected during the two years of the program shall be evaluated by the licensee and the NRC to determine whether the program should be modified or discontinued. 10

1. Fish Impingement
   The number, size and weight of all individual fish collected in a 24 hour period in the circulating cooling water trash basket shall be identified and quantified by plant personnel a minimum of twice per week during circulating water pump operation. An inspection of the trash basket shall be made at least once per shift. If the number of a particular species of fish captured in the trash basket exceeds 50, the average size and weight and an estimate of the total number shall be determined from a subsample of approximately 10% of the impinged species. No subsamples shall be taken when the number of a particular species of fish is 50 or less. 10

2. Phytoplankton Entrainment
   a. Phytoplankton analysis shall be conducted on samples from six locations; at the intake in the forebay, in the discharge, at two locations in the plume, and at one sampling location in a control area outside of the plume influence.
   b. Duplicate samples shall be taken and the concentration of chlorophyll a and photosynthetic rate as determined by ^{14}C uptake shall be determined at 7, 24, 48 and 72 hours after collection. Species composition and density shall be determined for selected sampling locations.

3. Zooplankton Entrainment
   a. Duplicate samples shall be collected from the same stations as the phytoplankton samples.

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Date: JAN 23 1976

4.2 Physical

4.2.1 Aquatic Thermal Plume Mapping

Objective: To develop a numerical predictive thermal plume model and measure the shape and extent of the thermal plume during plant operation.

Specification:

1. A numerical predictive thermal plume model for the condenser cooling water discharge shall be developed. This model shall include temperature isolines and velocity contours within the plume influence. The model shall consider the following:
   a. It shall be a three-dimensional numerical model.
   b. Bottom topography.
   c. Influence of the Point Beach Plume.
   d. Seasonal and spatial temperature variations.
   e. Near-shore currents.
   f. Sinking plume.
   g. One and two pump operation.
   h. Possibility of discharge waters causing a temperature rise at the intake structure.

2. The shape and extent of the discharge plume shall be determined during the first year of operation when the plant is at full power. The objectives of the plume measurement shall be to:
   a. Locate the center line of the plume.
   b. Measure the rate of excess temperature decay along the centerline.
   c. Measure the plume width and depth.
   d. Evaluate the effects of ambient currents on the location of the plume centerline.
   e. Evaluate the effect of the thermal bar on the plume.
   f. Attempt to define the extent of the sinking plume in the winter.

3. A summary of the results (analysis and conclusions) of this study shall be included in the Annual Environmental Operating Report.

Bases: As part of the Lake Michigan thermal standards adopted by the Division of Environmental Protection of the Wisconsin Department of Natural Resources, it is required that a predictive model and measurements of the Kewaunee Thermal Plume be analyzed.

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4.2.2 Erosion

Objective: To determine the amount of shoreline erosion in the vicinity of the plant.

Specification:
1. Aerial photographs of the shoreline shall be taken quarterly for two years after the plant becomes operational to aid in determining the effect of local erosion on the lake shoreline in the vicinity of the plant.
2. A comparison of pre-operational and operational photographs shall be made.
3. Discussion of the results of these observations shall be made annually in the Annual Environmental Operating Report. 10

Bases: Aerial photographs will provide reliable data in order to determine the amount of erosion taking place along the lake shoreline in the vicinity of the plant as compared with the shoreline beyond the area of the plant influence.

4.2.3 De-icing Operation

Objective: To document periods of de-icing the circulating water intake structure.

Specification: Periods of de-icing operation and inlet temperatures of the incoming water shall be recorded on an hourly basis and documented in the Annual Environmental Operating Report. 10

Bases: De-icing operations will occur when the intake waters approach the freezing point or when off-shore winds carry slush over the intakes. During these periods, approximately 3000 gpm of water will be sprayed over the intake cones. An additional 15,000 gpm and 10,000 gpm, depending on two or one pump operation, will be continuously added to the forebay by gravity feed from the discharge structure.

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5.0 ADMINISTRATIVE CONTROLS

5.1 Organization, Review and Audit

a. Organization

1. The Plant Superintendent has onsite responsibility for the operation of the facility and to assure that the limits as noted in the environmental specification as defined herein are not exceeded.
2. The Plant Superintendent shall report to the Superintendent - Nuclear Power. In the absence of the Plant Superintendent, an Assistant Superintendent will assume his reponsibilities.
3. The Staff Environmental Engineer, reporting to the Senior Vice President - Power Supply and Engineering, has primary responsibility for the initiation and execution, by technically competent personnel, of the environmental surveillance and special studies which are required by the environmental technical specifications. In the absence of the Staff Environmental Engineer, the Environmental Specialist will assume his responsibilities. 10
4. The Staff Environmental Engineer has primary responsibility for directing the testing work as assigned to independent consultants who have the task of sampling and performing the studies.

b. Review and Audit

1. The Plant Operations Review Committee (PORC), as described in the Plant Technical Specifications, Appendix A, Section 6, shall have the responsibility of performing the review and audit of those sections of the program which refer to the allowable limits for temperature and chemical discharges. 10

2. The Nuclear Safety Review and Audit Committee, as described in the Plant Technical Specificati, Appendix A, Section 6.0, supplemented as necessary by technically qualified personnel, shall have the responsibility of performing the review and audit of the environmental monitoring, surveillance, and special studies programs as they pertain to plant operations.

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Date: JAN 23 1976

5.2 Actions to be Taken in the Event of Violation of the Environmental Technical Specifications

a. Any occurrence in violation of any portion of the environmental technical specifications shall be reported and promptly reviewed by the Plant Operations Review Committee. The occurrence shall be reported to the Superintendent - Nuclear Power, Superintendent - Kewaunee Plant and the Staff Environmental Engineer. 10

b. The Plant Operations Review Committee (PORC) shall prepare a separate report for each such occurrence. This report shall include an evaluation of the cause of the occurrence and also recommendations for appropriate action to prevent or reduce the probability of a re-occurrence.

c. The Staff Environmental Engineer responsible for the program shall prepare a report of his findings. 10

d. Copies of all such reports shall be submitted to the Superintendent - Nuclear Power, and to the Superintendent - Steam Plants for review and approval of any recommendations.

e. The Plant Superintendent or his designee shall notify the NRC within 24 hours; as specified in Specification 6.9, Appendix A, of the circumstances of any occurrences. A written report shall follow in accordance with the requirements of Specification 6.9 of Appendix A. 10

f. All such occurrences shall be reported in accordance with Plant Operating Requirements.

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Date: JAN 23 1976

5.3 Operating Procedures

a. Detailed written procedures including check-off lists and instructions, where applicable, shall be prepared, approved, and adhered to for the following:

1. Control of additions of chemicals for both the primary and secondary systems.
2. Control of release of chemicals in the circulating water discharge.
3. Control the flow of discharge waters to remain within the allowable rate of change and discharge temperatures.
4. Sampling methods, frequencies and locations.
5. Preventive or corrective procedures which could have an effect on the environmental aspects of the plant.
6. Calibration procedures for various instruments used in measuring and analyzing the samples which ar required by these specifications.

b. All procedures, as they pertain to these specifications, shall be reviewed by the PORC and approved by the Plant Superintendent prior to implementation. Temporary changes to procedures which do not change the intent of the original procedure may be made provided such changes are approved by a member of the plant management staff and the Staff Environmental Engineer responsible for the program. Such changes shall be documented and subsequently reviewed by the PORC and approved by the Plant Superintendent. 1

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Date: JAN 23 1976

5.4 Plant Reporting Requirements

In addition to reports required by applicable regulations, Wisconsin Public Service Corporation shall provide the following information:

a. Annual Environmental Operating Report

An Annual Environmental Operating Report covering the previous twelve month's operations and surveillance monitoring shall be submitted within 60 days after January 1 of each year.

b. Reporting Requirement - 24 Hours

Any occurrence as noted in Section 5.2a shall be reported to the Nuclear Regulatory Commission within 24 hours by telephone and telegraph to the Director, Region III, Office of Inspection & Enforcement.

c. Reporting Requirement - 10 Days

A written report shall be submitted within 10 days to the Director, Region III, Office of Inspection & Enforcement, with a copy to the Director, Office of Nuclear Reactor Regulation, USNRC, Washington, D.C. 20555, of any event previously reported under the provision of 5.4.b above. The report shall describe the event, determine the cause of the violation, analyze and evaluate the implications, and prepare an outline of the corrective measures taken or planned to prevent re-occurrence. In addition, the report shall relate any violation of these specifications to any significant environmental impact. 10

d. Changes to the Plant or Procedures

A written report should be forwarded to the Director, Office of Nuclear Reactor Regulation, USNRC, Washington, D.C. 20555 with a copy to the Director, Region III, Office of Inspection & Enforcement, in the event of:

1. Proposed changes to the plant that would result in more severe environmental impact than evaluated in the Environmental Report and the Environmental Statement should be submitted for NRC approval. These changes do not preclude making changes on short notice that are significant in terms of decreasing the adverse environmental impact.

2. Changes to environmental monitoring equipment or procedures.

3. Changes or additions to permits and certificates requested by Federal, State, Local and Regional authorities for the protection of the environment. When submittals of the changes are made to the concerned agency, the copy shall be submitted to the NRC as noted above. The report shall include an evaluation of the impact of the change. 10

4. Request for approval of changes in the environmental technical specifications. The request shall include an evaluation of the impact of the change.

e. General Reporting Requirements

If harmful effects or evidence of irreversible damage are detected by the monitoring programs, the licensee will provide to the NRC an analysis of the problem and plan of action to be taken to eliminate or significantly reduce the detrimental effects or damage. 10

Change No. 10
Date: JAN 23 1976

5.5 Record Retention

a. Record Retention - 5 years 10

Records and/or logs relative to the following items shall be kept in a manner convenient for review and retained for five years.

1. Records of normal plant operation, including power levels and periods of operation at each power level.
2. Records of principal maintenance activities, including repair, substituion or replacement of principal items of equipment pertaining to environmental impact.
3. Records of occurrences in violation of environmental technical specifications.
4. Records of periodic checks, inspections and calibrations performed to verify that environmental surveillance requirements are being met.
5. Records of any special operational modes (tests or experiments).
6. Records of changes made to procedures, equipment, permits and certificates. 10
7. Records of changes to operating procedures.

b. Record Retention - Life of Plant

Records relative to the following items shall be kept in a manner convenient for review and retained for the life of the plant.

1. Records of a complete set of as-built drawings for the plant as originally licensed and all print changes showing modifications made to the plant.
2. Records of offsite environmental monitoring surveys.
3. Plant Operations Review Committee meeting minutes.
4. Nuclear Safety Review and Audit Committee meeting minutes. 10

Change No. 10

Date: JAN 23 1976

NEGATIVE DECLARATION REGARDING PROPOSED CHANGE TO THE ENVIRONMENTAL TECHNICAL SPECIFICATIONS (APPENDIX B) OF LICENSE NO. DPR-43

KEWAUNEE NUCLEAR POWER PLANT

DOCKET NO. 50-305

The U.S. Nuclear Regulatory Commission has reviewed the proposed change to the Environmental Technical Specifications (Appendix B) of Facility Operating License No. DPR-43, submitted by the Wisconsin Public Service Corporation, Wisconsin Power and Light Company and Madison Gas and Electric Company (the licensee) for the Kewaunee Nuclear Power Plant. The change will involve revisions in the following areas:

a) A number of chemicals are no longer used in plant operation and, therefore, have been deleted from the treatment chemical inventory since the secondary coolant system was converted to an all-volatile treatment. The licensee is also permitted to use a colorimetric method of analysis for the determination of total residual chlorine, provided the method used has an accuracy and precision comparable to the amperometric method which has been used previously. In addition, pH measurements are to be taken on grab samples from the neutralizing tank because of higher accuracy of laboratory pH measurements than those taken from the installed pH monitor which requires excessive maintenance. Monitoring of discharges from the condenser hotwell and other plant systems which were not previously monitored is now required.

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b) Changes in weighing and measuring very large numbers of individual species of fish such as alewife and smelt collected in the fish impingement studies have also been made, since the results of three years of preoperational and over a year of postoperational studies have indicated that there has been no deleterious effect on plant and animal life in the sampling area of Lake Michigan surrounding the Kewaunee Plant.

c) Changes in administrative controls and reporting requirements have been made to be consistent with NRC guidelines and a Company reorganization. Various editorial corrections have also been made.

The Commission's Division of Reactor Licensing has appraised the environmental impact of this proposed change. On the basis of this appraisal, the Commission has 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 to the Environmental Technical Specifications is not a major federal action significantly affecting the quality of the human environment. In addition, there will be no significant environmental impact attributable to the proposed action other than those impacts described in the Commission's Final Environmental Statement of December 1972 concerning the operation of the Kewaunee Nuclear Power Plant.

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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 Kewaunee Public Library, 314 Milwaukee Street, Kewaunee, Wisconsin 54216.

Dated at Rockville, Maryland, this 23rd day of January 1976.

FOR THE NUCLEAR REGULATORY COMMISSION

George W. Knighton, Chief
Environmental Projects Branch No. 1
Division of Site Safety and
Environmental Analysis

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ENVIRONMENTAL IMPACT APPRAISAL BY THE DIVISION OF REACTOR LICENSING
SUPPORTING AMENDMENT NO. 8 TO NO. DPR-43
CHANGE NO. 10 TO TECHNICAL SPECIFICATIONS
WISCONSIN PUBLIC SERVICE CORPORATION
WISCONSIN POWER AND LIGHT COMPANY
MADISON GAS AND ELECTRIC COMPANY
KEWAUNEE NUCLEAR POWER PLANT
DOCKET NO. 50-305

I. DESCRIPTION OF PROPOSED ACTION

By letters dated August 4 and September 10, 1975, Wisconsin Public Service Corporation, Wisconsin Power and Light Company and Madison Gas and Electric Company (licensee) requested a change in the Environmental Technical Specifications, appended to Facility Operating License No. DPR-43 for the Kewaunee Nuclear Power Plant. The proposed change involves the following items:

(1) Specification 2.1.1 Maximum ΔT across the Condenser - The wording has been changed to note that the maximum temperature differential across the condenser is 20F° when the temperature in the forebay is greater than 40°F and is increased to 28F° when the temperature in the forebay is less than 40°F. The request to increase the temperature differentials by 2F° has been denied.

(2) Specification 2.1.2 Maximum Discharge Temperature - The request to increase the maximum temperature of the condenser cooling discharge water from 86°F to 89°F has been denied.

(3) Specification 2.1.3 Rate of Temperature Change of Condenser Cooling Water ΔT - The request to increase the rate of temperature change (a) from 15F° per hour to 20F° per hour during normal power increase, and (b) from 8F° per hour to 15F° per hour during normal power decreases has been denied.

(4) Specification 3.2.1 Chlorination of Circulating Water System - The use of a colorimetric method for analysis of total residual chlorine is approved for a period not to exceed one week when the amperometric instrument is being serviced.

(5) Specification 3.2.2 Suspended and Dissolved Solids - The pH of the solution in the neutralizing tank can be taken on grab samples rather than taken from the installed pH monitor which

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requires extensive maintenance. In addition, measurements of pH and total suspended solids from the condenser hotwell, turbine building sump, water softening unit and water pretreatment system lagoon which were not previously monitored are now required.

(6) Specification 2.2.3 Treatment Chemicals - A number of chemicals no longer used in plant operation have been deleted.

(7) Specification 4.1.1.a Biological-Aquatic - Changes under Specification 5 in Section 4.1.1.a have been made to indicate that drogues are used to obtain current direction data. In Specification 10 in this section, changes in weighing and measuring very large numbers of individual species such as alewife and smelt collected in the fish impingement studies have also been made. Also changes in reporting requirements have been made for submittal of the environmental report from a semiannual to an annual basis throughout Specification 4.1.1.a and 4.1.1.b Entrainment and Impingement, 4.2.1 Aquatic Thermal Plume Mapping, 4.2.2 Erosion, and 4.2.3 Deicing Operation.

(8) Section 5.0 Administrative Controls - This section has been modified to reflect a Company reorganization.

The power rating of the plant has not been changed because of these changes to the Environmental Technical Specifications.

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

A. Thermal Discharges and Monitoring Requirements

In assessing the impacts of the various changes presented above (items (1) through (3)), the licensee claims that the reasons for changes include permission to operate the Kewaunee Nuclear Power Plant with greater flexibility in plant operation during the different seasons of the year and to perform maintenance on the circulating water system or pumps without the necessity of shutting down the plant. However, the request for the increase of the temperature differential across the condenser from 20F° to 22F° during the summer conditions and from 28F° to 30F° during the winter conditions was not supported with any data or detailed assessment of the impact on the environment to warrant granting it. The assessment of thermal discharges carried out in the FES for this plant was based on

a temperature differential of 20F° and 28F°, respectively. A new assessment of the potential impact on the aquatic environment for the proposed 2F° increment in temperature differential would need to be carried out by the licensee prior to our taking action on the request.

The licensee has also proposed that permission to operate with one pump be dependent on the water temperatures in the forebay, rather than on specified months of the year. We approve the rewording of the Specification 2.1.1 to read, "When the forebay temperature is 40°F or less, the maximum ΔT across the condenser shall not exceed 28F°."

The licensee also proposed the upper limit of the allowable maximum discharge temperature be increased from 86°F to 89°F. This proposed increase does not appear to be consistent with the thermal standards for Lake Michigan (Chapter NR 102.05 of the Water Quality Standards For Wisconsin Surface Waters) promulgated by the Wisconsin Department of Natural Resources. Until such time as the State of Wisconsin finds this increase in discharge temperature is consistent with the Water Quality Standards for the State and amends the WPDES permit for Kewaunee, the NRC cannot take further action on this request.

In a meeting with the Regulatory staff on April 17, 1975, the licensee stated that he would like to recalibrate and relocate the primary and secondary temperature sensors used in the intake and discharge structures. These actions would provide more accurate and representative measurements of intake temperatures, discharge temperatures and ΔT across the condenser. In its August 4, 1975 letter, the licensee has indicated that the discharge monitors have been relocated after operational experience has shown that variations in temperature measurements existed due to flow patterns and mixing. The present location is reported to provide measurements for determining the optimum readings of the discharge temperatures. The licensee is required to identify and defend the proposed relocations and report the accuracy and precision of his instruments in a separate letter to the Commission.

In reference to item (3) above, the licensee also has proposed to increase the allowable rates for temperature changes of cooling water (ΔT) as follows: (1) from 15F° per hour to 20F° per hour during normal power increases and (2) from 8F° per hour to 15F° per hour during normal power reduction. The

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licensee reports the monitoring of the rate of temperature change is tied to scheduled power decreases to allow for changes due to system demand. On this basis, the licensee is required to provide an expanded discussion of this relationship considering the frequency with which the present limiting conditions of operation affect scheduled power reductions and interfere with meeting normal power demands. The present Environmental Technical Specification (ETS) limits for ΔT across the condenser are based upon reducing the potential for biological impact. The licensee has not provided the NRC with an assessment of actual monitoring data or research data to support the acceptability of these proposed increases upon the environment. As such, the licensee's proposal for this modification to Specification 2.1.3 cannot be granted until such data are provided to, reviewed and found acceptable by, the NRC.

The licensee has also proposed to modify the monitoring requirements under Specification 3.1.3 to make temperature recording mandatory only during scheduled power decreases, rather than during all power decreases. From the licensee's proposal it is inferred that there is difficulty in monitoring condenser intake and discharge water temperatures at 15-minute intervals during unscheduled power decreases of 25% or greater per hour. It appears that temperature readings are not measured continuously. If this is so, then the licensee is required to install continuous temperature recorders in the intake and discharge so that a complete record of temperatures is available during all modes of plant operation. If, for some reason, this is impossible, the licensee should submit a separate report which indicates the instruments used presently and previously and reasons why a continuous recorder could not be put into operation and provide accurate measurements. Until this report is reviewed by the staff, the licensee's proposed modification cannot be adopted.

B. Chemical Discharges and Monitoring Requirements

(1) Chlorination of Circulating Water System (Section 2.2.1)

The licensee has been using the amperometric method of analysis for determining total residual chlorine. He proposes to modify the ETS to allow that total residual chlorine may be determined by a colorimetric method of analysis during the period when the amperometric instrument is being serviced. This proposal is approved since

the colorimetric method will be utilized only as a substitute secondary technique in the event of failure and/or servicing of the amperometric instrument and its use will be authorized for a period not to exceed one week.

(2) Suspended and Dissolved Solids (Section 2.2.2)

The existing ETS requires the licensee to monitor the pH of the solution in the neutralizing tank by using a permanently installed pH monitor located in the tank and to record pH readings in a log book. During the first year of plant operation, the installed pH monitor required excessive maintenance and calibration. The licensee found that laboratory measurement of pH from solutions taken from the neutralizing tank were often more accurate than readings from the installed pH monitor. The licensee proposed to change the ETS to allow use of laboratory measurements to monitor the pH of the neutralizing tank. Since the release of the contents of the tank is a scheduled batch operation, there will be sufficient time to permit a complete analysis of the contents prior to the release. The proposed change is considered to be acceptable.

The licensee has also proposed a revision to this section which would include monitoring and recording miscellaneous discharges from the condenser hotwell, turbine building sump, water softening unit and water pretreatment system lagoon which have not been previously monitored. The licensee was directed to prepare this amendment by our letter dated June 27, 1975. The proposed changes are acceptable for the following reasons:

1. The pH and total amount of solids and fluids, released from the condenser hotwell are to be determined prior to discharging these wastes.

2. The licensee's intent to "characterize" wastes discharged from the turbine building sump, water softening unit and the water pretreatment system includes determination of pH and total suspended solids on grab samples taken daily. The licensee had proposed to sample periodically which was unacceptable since such a frequency was indefinite. The licensee is required to provide a list of the major constituents of these releases so that they can be evaluated to determine whether only pH and total solids are adequate.

The total amounts of solids and fluids will also be determined and recorded. In addition, all determinations are required to be made prior to each release.

The above discharges have been made in the past as dictated by plant conditions. The licensee has reported that no deleterious effect on the plant and animal life in the sampling area of Lake Michigan surrounding the Kewaunee Plant has been indicated from past studies, and no additional effects are expected. If any effect is detected by future studies, data on these discharges will be available through the new requirement of analyzing, monitoring and recording these discharges.

(3) Treatment Chemicals (Section 2.2.3)

The licensee has proposed to delete various treatment chemicals no longer used in the operation of the plant from the chemical inventory list identified in the ETS since the secondary coolant chemistry has now been changed to an all-volatile treatment. These include secondary treatment chemicals such as phosphates and pretreatment system chemicals such as alum. This proposed modification is approved.

C. Nonradiological Monitoring and Surveillance Requirements (Sections 4.1.1 and 4.1.2)

The licensee has proposed several changes to these sections of the ETS.

(1) In Section 4.1.1 as Specification 1.a., the reporting requirements have been revised to be consistent with present NRC guidelines for the submittal of environmental reports.

(2) Under Specification 5, of Section 4.1.1.a, the requirements indicate that drogues will be used to obtain current direction data. It is clear under Bases (p. 4.1-4) that such data are essential and are being compared with current meter data which are generated from special studies.

(3) Under Specification 10.d of Section 4.1.1a and Section 4.1.1.b, the change in the ETS on weighing and measuring each alewife and smelt is warranted in view of the very

large effort required in carrying out this task. The requirement to take a subsample of 20 individuals of each species (except alewife and smelt) to determine the size range of the catch should be sufficient and should to provide ample data for calculations of mean lengths, weights and conditions of other fish species. The reasons for discontinuing counting individual alewife and smelt include the following:

a. The various meshes of net used in the experimental gill nets are selective to the size of fish they will catch. Alewives and smelt are caught primarily in the 1-1/2" panel net which selects fish from a narrow size range. Weighing and measuring all these fish result in excessive data on one select size group of fish;

b. Data obtained from individual lengths and weights are useful only as indicators of which size groups are most abundant and for determining mean values of lengths and weights and coefficients of condition.

The licensee also proposed to change the ETS to require that if the number of a particular species of fish (primarily smelt or alewife) captured in the trash basket exceeds fifty (50), then the average size and an estimate of the total number will be determined from a subsample of approximately 10% of the impinged species. No subsamples shall be made when the number of collected fish of a particular species is less than 50.

The most important aspect of keeping frequent and accurate records of fish impinged at the intake is to determine the total effect of impingement on the fish populations of Lake Michigan. A monitoring frequency of twice per week or greater (i.e., the trash basket collects 50 or more fish) should provide the information desired. The new monitoring criterion (50 or more fish) should provide more frequent sampling than previously required. The licensee is presently required to make the same determination whenever the depth of smelt and alewife captured in the trash basket exceeds twelve inches. Twelve inches of fish in the trash basket are equivalent to about 5,000 alewives or 4,500 smelt. In general, this increase in the frequency of impingement monitoring should increase the number of yearly observations and thereby reduce the variability of estimates of yearly impingement and increase the precision

with which impingement losses can be estimated. The limits on fish impingement sampling are consistent with requirements of the State of Wisconsin. Since the environmental monitoring studies are continuing, the licensee has reported that the results will continue to be evaluated on a monthly basis and any change which may have an environmental impact on the lake will be evaluated and corrective action taken to reduce any potential or apparent impact.

E. Section 5.0 Administrative Controls

The licensee proposed a number of changes in Section 5.0 because of a change in the Company organization. The reporting requirements for the radioactive discharges are still on a semiannual basis in accordance with the Commission's regulations 10 CFR Part 50. However, the environmental operating report shall be submitted on an annual basis as indicated in Regulatory Guide 10.1.

F. Editorial Changes

Several editorial changes have been made, particularly in Sections 4.0, to change the reporting requirements.

III. CONCLUSION AND BASIS FOR NEGATIVE DECLARATION

The staff has concluded, based on the reasons discussed in the sections above, that authorization for this change to the ETS does not involve significant environmental impacts affecting the quality of the environment, and such authorization is in accordance with the Commission's regulations and the Council of Environmental Quality's guidelines. In addition, there will be no significant environmental impacts attributable to the proposed action other than those impacts already described in the Commission's Final Environmental Statement of December 1972 concerning operation of the Kewaunee Nuclear Power Plant. The staff has also concluded that no environmental impact statement for the proposed action need be prepared and that, pursuant to 10 CFR 51.51(c), a negative declaration to this effect is appropriate. In addition, the staff has determined that there are no significant hazards considerations associated with this proposed action and that there is reasonable assurance (1) that the activities authorized by this licensee

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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.

Dated: JAN 23 1976

for Clifford A. Haupt, EPM
Environmental Projects Branch 1.1
Division of Site Safety and
Environmental Analysis

George W. Knighton, Chief
Environmental Projects Branch 1, ...
Division of Site Safety and
Environmental Analysis

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UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-305

KEWAUNEE NUCLEAR POWER PLANT

WISCONSIN PUBLIC SERVICE CORPORATION

WISCONSIN POWER AND LIGHT COMPANY

MADISON GAS AND ELECTRIC COMPANY

NOTICE OF ISSUANCE OF AMENDMENT TO FACILITY OPERATING LICENSE

Notice is hereby given that the U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 8 to Facility Operating License No. DPR-43, issued to Wisconsin Public Service Corporation, Wisconsin Power and Light Company, and Madison Gas and Electric Company (licensee), which revised the Environmental Technical Specifications (Appendix B) for operation of the Kewaunee Nuclear Power Plant, located in Kewaunee County, Wisconsin. The amendment is effective as of its date of issuance.

This amendment involves revisions to the Environmental Technical Specifications in the following areas:

A number of chemicals are no longer used in plant operation and, therefore, have been deleted from the treatment chemical inventory since the secondary coolant system has been converted to an all-volatile treatment. The licensee is also permitted to use a colorimetric method of analysis for the determination of total residual chlorine, provided the method used has an accuracy and precision comparable to the amperometric method. In addition, pH measurements shall be made on grab samples taken from the neutralizing tank because of

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higher accuracy of pH laboratory measurements than those taken from the installed pH monitor which requires excessive maintenance. Monitoring of discharges from the condenser hotwell and other plant systems which were not previously monitored is also now required.

Changes in weighing and measuring very large numbers of individual species such as alewife and smelt collected in the fish impingement studies have also been made since the results of three years of preoperational and over a year postoperational studies have indicated that there has been no deleterious effect on plant and animal life in the sampling area of Lake Michigan surrounding the Kewaunee plant.

Reporting requirements and administration controls have been changed to be consistent with NRC guidelines and a Company reorganization. Editorial corrections have also been made.

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.

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For further details with respect to this action, see: (1) the applications for the amendment dated August 4, 1975 and September 10, 1975; (2) Amendment No. 8 to License No. DPR-43 with Change No. 10 and (3) the Commission's Negative Declaration with the 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 Kewaunee Public Library, Kewaunee, Wisconsin 54216.

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: Office of Nuclear Reactor Regulation.

Dated at Rockville, Maryland, this 23 day of Javary 1976.

FOR THE NUCLEAR REGULATORY COMMISSION

Original Signed by
George W. Knighton

George W. Knighton, Chief
Environmental Projects Branch 1
Division of Site Safety and
Environmental Analysis

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Docket No. 50-305

Wisconsin Public Service Corporation
ATTN: Mr. E. W. James, Senior Vice President
P. O. Box 1200
Green Bay, Wisconsin 54305

Gentlemen:

The staff has under review your 1974 Annual Report (4 volumes) on ecological monitoring but was not able to find daily fish impingement data. Monthly impingement data for different species were reported in the semi annual operating reports for the January-June 1974 and July-December 1974 periods. However, the staff needs the impingement data on a daily basis in order to carry out a statistical analysis to determine whether or not the frequency of counting impinged fish can be further reduced. We would appreciate receiving any fish impingement data you have by August 20, 1975. This matter was discussed on July 22, 1975, with one of your Company's representatives, who reported such data were available.

Sincerely,

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

Enviro 2

See previous yellow for concurrences

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DATE	8/5/75	8/5/75	8/ /75	8/ /75		

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Wisconsin Public Service Corporation
ATTN: Mr. E. W. James, Senior Vice President
Power Generation and Engineering
P. O. Box 1200
Green Bay, Wisconsin 54305

Gentlemen:

The staff has under review your 1974 Annual Report (4 volumes) on ecological monitoring but was not able to find daily fish impingement data. Monthly impingement data for different species were reported in the environmental operating report for the January-June 1974 period. However, the staff needs the daily impingement data for a statistical analysis to determine whether or not the frequency of counting impinged fish can be further reduced. We would appreciate receiving any fish impingement data you have by August 6, 1975. This matter was discussed on July 22, 1975, with one of your Company's representatives, who reported such data were available.

Sincerely,

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

OFFICE ➤	RL:EP-1	RL:EP-1	ESB	ESB		
SURNAME ➤	MJOestmann:ccGWKnighton		W. Knapp	R. Ballard		
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