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Revised 10-10-74 EJW

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Wis. Public Service Corp. Green Bay, Wis. 54305 Mr. E.W. James	10-3-74	10-7-74	X			

TO:	ORIG	CC	OTHER	SENT AEC PDR	SENT LOCAL PDR
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	XXX		XXX	40	50-305

DESCRIPTION:

Ltr notarized 10-4-74...trans the following...

ENCLOSURES:

Proposed changes to the Environmental Tech Specs.....

ACKNOWLEDGED

(40 cys encl rec'd)

DO NOT REMOVE

PLANT NAME: Kewaunee

FOR ACTION/INFORMATION 10-7-74 JB

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WISCONSIN PUBLIC SERVICE CORPORATION

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

October 3, 1974

Mr. Edson Case, Acting Director
Directorate of Licensing
Office of Regulation
U.S. Atomic Energy Commission
Washington, D.C. 20545

Dear Mr. Case:

Subject: Amendment No. 5 to Operating License DPR-43
Kewaunee Nuclear Power Plant
Docket 50-305

We submit herewith, thirty-seven (37) copies of a request for change in our Environmental Technical Specifications titled, Amendment No. 5 to the Technical Specifications - Operating License DPR-43.

This submittal consists of changes to Appendix B - Environmental Technical Specifications. These changes are required as a result of changing the treatment of secondary water from coordinated phosphate control to all volatile treatment.

Attached is our justification for the change and our assessment of the environmental impact.

Very truly yours,

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

EWJ:jm

Attach:

Subscribed and Sworn to
Before Me This 4TH Day
of October 1974

Notary Public, State of Wisconsin

My Commission Expires
9-13-76

10376

ATTACHMENT A

Reason for Change

The present Environmental Technical Specification requirement for total annual release of total solids is 125 tons. This value was determined on the requirements for secondary make-up water based on the original design for secondary chemistry requirements. In changing the treatment of secondary water from coordinated phosphate control to all volatile treatment (AVT), it necessitates an increase in steam generator blowdown, during normal operation, from approximately 5 to 10 gpm per steam generator to approximately 25 gpm per steam generator. This will increase the total annual solids released to 300 tons. During startup, hot stand-by and hot shutdown conditions, blowdown of the steam generators may be increased to ensure zero solids build-up on the steam generator tube sheet to prevent tube failure. We therefore are requesting that the Environmental Technical Specifications limit in Section ES 2.2.2 be increased from 125 tons to 325 tons, for total solids allowed to be released annually.

Environmental Impact

With the new all volatile treatment of secondary water, phosphates will not be released to the lake from the Kewaunee Plant, thereby negating the requirements on phosphates per Section 2.2.3 of the Environmental Technical Specifications. Present studies being conducted by Wisconsin Public Service of the discharges from the plant have indicated no deleterious effect on the aquatic plant and animal life in the sampling area of Lake Michigan as shown on Figure ES 4.1-1 of the Environmental Technical Specifications. The results of present studies, as required by Section 4.0, Environmental Surveillance and Special Studies, of the Environmental Technical Specifications will be used to determine the effect of the increased discharge of total solids. These results will be evaluated on a monthly basis, and will be reported in future semi-annual operating reports.

Superseded per Changes To Enviro. Tech Specs 10-3-74

50-305

2.0 ENVIRONMENTAL PROTECTION CONDITION	3.0 MONITORING REQUIREMENTS
2.2.2 Suspended and Dissolved Solids	3.2.2 Suspended and Dissolved Solids
Objective: To limit the total amount of solids discharged to the lake.	Objective: To monitor 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 8 before dilution in the circulating water system. For normal 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 125 tons of total solids.	Specification: The pH of the solution in the neutralizing tank shall be taken from a permanently installed pH monitor located in the tank and the resulting pH recorded in the discharge log book. Should the pH monitor fail, a representative sample shall be taken prior to the release for pH determination. 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.
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 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 two days while 3600 gallons of neutralized waste from the mixed bed regenerations will be discharged twice	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. 21 Monitoring the pH of the water solution will ensure that the wastes are neutralized before release.

2.0 ENVIRONMENTAL PROTECTION CONDITION	3.0 MONITORING REQUIREMENTS
Bases: a month. It is possible, however, 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.	

2.0 ENVIRONMENTAL PROTECTION CONDITION

2.2.3 Treatment Chemicals

Objective: To identify and quantify all treatment chemicals and to limit the quantity of phosphate discharged to the lake.

Specification: The average incremental concentration of phosphate, after dilution in the circulating water, shall not exceed 0.025 mg/l when calculated during periods of discharge.

The annual addition of phosphate (PO_4) to
21 Lake Michigan shall not exceed 2000 pounds.

The total amounts of all raw chemicals added or used in the plant, identified below, shall be reported annually at the end of the calendar year in the Semi-Annual Operating Report.

1. Primary System
   a. Boric acid
2. Secondary treatment chemicals
   a. Phosphates
   b. Morpholine
   c. Hydrazine
3. Pre-treatment system chemicals
   a. Alum
21 b. Ferric Sulfate
   c. Lime
   d. Polyelectrolyte
   e. Hypochlorite
   f. Sodium Sulfite

3.0 MONITORING REQUIREMENTS

3.2.3 Treatment Chemicals

Objective: To monitor the quantity of phosphate (PO_4) discharged to the circulating water and the total amount of treatment chemicals.

Specification: Steam generator water (blowdown) samples shall be analyzed three times per week for phosphates (PO_4) and the average incremental concentration of phosphate after dilution in the circulating water shall be calculated and recorded.

A record shall be kept of all raw treatment chemicals used in plant unit 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

Specification:

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

21

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

Phosphate, hydrazine, and morpholine are used to chemically treat the secondary system. Of these chemicals, only morpholine and phosphates are expected to enter the circulating water via the blowdown, since hydrazine breaks up into a gas at high temperatures. Morpholine is used to increase condensate pH, while phosphates are used to aid in fluidizing scale and sludge forming contaminants. Wisconsin Department of Natural Resources water quality standards allow industrial discharges to contain up to 8,750 pounds per year of phosphorus before any removal of this element is required. The phosphates added from plant blowdown is well below the state standards and should not cause over-fertilization of the surface waters around the Kewaunee Plant. The chemicals added to the pre-treatment system are alum to

21