

ORIGINAL



Wisconsin Public Service Corporation
(a subsidiary of WPS Resources Corporation)
600 North Adams Street
P.O. Box 19002
Green Bay, WI 54307-9002

May 5, 1998

The Secretary
Federal Energy Regulatory Commission
Mail Code: DLC, HL-11.2
888 1st Street N.E
Washington, DC 20426
Attention: Director, Office of Hydropower Licensing

FILED
OFFICE OF THE SECRETARY
98 MAY -6 PM 4:06
FEDERAL ENERGY
REGULATORY COMMISSION

Dear Secretary:

P-2433-019

Project No. 2443 - Grand Rapids

Enclosed is the original and eight copies of the Water Quality Monitoring Plan for the Grand Rapids Hydroelectric Project (FERC Project No. 2433) as per Article 407 of the Order Issuing New License dated May 7, 1997.

Documentation of Agency Consultation with responses to the agency comments are included with this submittal.

If you have any questions, please call me at (920) 433-1293 or you can contact Mr. W. A. Bloczynski, Hydro Operations Coordinator, at (715) 539-4016.

Sincerely,

Thomas P. Mainz
Vice President - Power Supply & Engineering

WAB/jfj

- cc - Ronald A. Lesniak, FERC (Chicago)
- W. A. Bloczynski, WPSC (Merrill Hydro)
- B. E Crocker, WPSC (Crivitz)
- R. H. Schmidt, WPSC (D2)

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FERC - DOCKETED

MAY 6 - 1998

Grand Rapids Hydroelectric Project - FERC License No. 2433

Article 407 The licensee shall file with the Commission, for approval, a plan to monitor dissolved oxygen (DO), water temperature, and pH of the Menominee River at the project.

Water Quality Monitoring Plan

Objective: To ensure that flow releases from the Grand Rapids Project maintain the state standards below except when the river flow in the Menominee River is less than the 95 percent exceedance flow or when natural conditions prohibit attainment of the standards.

(1) Monthly average temperatures downstream of the Grand Rapids Dam shall be no greater than those listed below:

January, February	38°F
March	41°F
April	56°F
May	70°F
June	80°F
July	83°F
August	81°F
September	74°F
October	64°F
November	49°F
December	39°F

(2) Temperature downstream of the Grand Rapids Project Dam shall not exceed 89°F at any time.

(3) DO concentrations downstream of the project powerhouse must not be less than 5.0 milligrams per liter (mg/L) at any time.

(4) Maintain pH within the range of 6.0 to 9.0, with no change greater than 0.5 units outside the estimated natural seasonal maximum and minimum.

I. Methods

A. The monitoring parameters will include, pH, dissolved oxygen, and temperature. The temperature, pH and dissolved oxygen data will be collected at one hour intervals continuously during the months of June, July, August, and September (Critical periods of low flow and high temperatures) using a Hydrolab Brand Datasonde or equivalent. The summer monitoring will be conducted once every five years for the duration of the license.

II. Location of Monitoring

- A. The monitoring equipment will be sited directly in front of the intake and in the tailrace. The exact location of the monitoring equipment in the intake and the tailrace will be determined through consultation with Wisconsin Department of Natural Resources water quality personnel.

III. Monitoring

- A. The water quality due to operation of the Grand Rapids Hydroelectric Project may be dependent upon the operation of the two upstream projects, Chalk Hill and White Rapids. The issue regarding the operation of these two projects is currently unresolved. Therefore, monitoring will begin in the summer of the year following notification from the WDNR that the issue regarding the operation of the two upstream projects has been resolved.

IV. Data Submittal and Review

- A. The results of the monitoring will be supplied to the FERC, Wisconsin Department of Natural Resources (WDNR), Michigan Department of Natural Resources (MDNR), and the U. S. Fish and Wildlife Service (USFWS) in a excel spreadsheet format every three weeks during the summer monitoring period.

V. Correction of Potential Problems

- A. If monitoring provides information to indicate water quality is not within the accepted standards due to project operations at times other than when natural conditions prohibit attainment of the standards, or when the river flow is less than 95 percent exceedance flow, WPSC will consult with the agency water quality personnel on methods to correct periods when the water quality is not within the accepted standards. Explanations of the periods of non-compliance due to plant operations, if identified, will be provided to FERC by November 30th of each year that monitoring occurred. The November 30th submittal will also include proposed strategies to eliminate future occurrences of the periods.

VI. Documentation of Consultation

- A. Initial consultation on the design of this plan was conducted with the WDNR on March 23, 1998. Further consultation was solicited from the WDNR, MDNR and USFWS on March 25, 1998. Copies of the letters requesting comments on the proposed plan are included in Appendix A.

Appendix A
Documentation of Consultation



Wisconsin Public Service Corporation
(a subsidiary of WPS Resources Corporation)
700 North Adams Street
P.O. Box 19002
Green Bay, WI 54307-9002

March 25, 1998

Ms. Jan Fenske
Michigan Dept. of Natural Resources
Stevens T. Mason Building
P. O. Box 30028
Lansing, MI 48909-7528

Dear Ms. Fenske:

Re: Draft Water Quality Monitoring Plan for the Grand Rapids Hydroelectric Project

We would appreciate your comments and concerns associated with the enclosed Draft Water Quality Monitoring Plan for the Grand Rapids Hydroelectric Project (FERC Project No. 2433).

Could you please provide comments and concerns to me within thirty days of receiving this letter. Thank-you, and I look forward to hearing from you very soon.

Sincerely,

A handwritten signature in black ink, appearing to read "Shawn C. Puzen".

Shawn C. Puzen
Environmental Analyst
(920) 433-1094

vav

Enclosure

**NATURAL RESOURCES
COMMISSION**

JERRY C. BARTNIK
KEITH J. CHARTERS
NANCY A. DOUGLAS
L. THORNTON EDWARDS, JR.
PAUL EISELE
WILLIAM U. PARFET
LLOYD F. WEEKS



JOHN ENGLER, Governor
DEPARTMENT OF NATURAL RESOURCES
STEVENS T MASON BUILDING, PO BOX 30028, LANSING MI 48909-7528
WEBSITE: www.dnr.state.mi.us
K. L. COOL, Director

REPLY TO:

FISHERIES DIVISION
PO BOX 30446
LANSING MI 48909-7946

Refer to: 4202.2.41a

April 9, 1998

Mr. Shawn Puzen
Wisconsin Public Service Corporation
P.O. Box 19002
Green Bay, WI 54307

Re: Grand Rapids Hydro Project (FERC No. 2433)
Article 407 - Water Quality Monitoring Plan

Dear Mr. Puzen:

This is in reference to Article 407 of your license for the Grand Rapids Project which requires filing of a water quality monitoring plan. We have reviewed the draft plan sent to us on March 25, 1998. Following is our review.

The location of monitoring equipment in the tailrace is acceptable. However, the upstream monitoring location should not be in the vicinity of the intake, but rather, it should be located upstream of the reservoir where the river is in a riverine type stretch (as opposed to impounded) so that the water quality of the river prior to entering the Project can be determined. Changes in water quality caused by impounding the water are generally held to be effects of the Project.

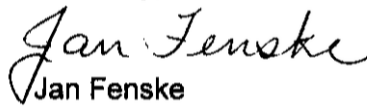
As FERC is the agency that will resolve the issue relating to the operation of the two upstream projects, Chalk Hill and White Rapids, it is appropriate that FERC, rather than the Wisconsin Department of Natural Resources, notify you when this issue has been resolved and that monitoring should commence. Once monitoring has started, it should continue for the four summer months identified (June through September) for a period oftwo years? and subsequently be conducted every five years for the duration of the license.

We would prefer to receive the data in raw form in addition to or instead of summarization as summarizing often masks problems. The data should be provided electronically in either ASCII text or as an Excel or Lotus Spreadsheet file.

All non-compliance occurrences should be reported to the agencies regardless of the cause. Agencies should be notified of non-attainment of water quality standards within two weeks of the occurrence.

Thank you for the opportunity to review this draft document. Please contact us if you have any questions on our comments.

Sincerely,



Jan Fenske
MI DNR FERC Project Coordinator
Fisheries Division
517-373-1280

cc: Angie Tornes, National Park Service
Jim Fossum, U.S. Fish and Wildlife Service
Tom Thuemler, Wisconsin Department of Natural Resources
Gary Schnicke, Michigan Hydropower Relicensing Coalition
John Suppnick, Michigan Department of Environmental Quality

Grand Rapids Hydroelectric Project
Responses to MDNR Water Quality Monitoring Plan Comments

Comments on the Water Quality Monitoring Plan

The location of monitoring equipment in the tailrace is acceptable. However, the upstream monitoring location should not be in the vicinity of the intake, but rather, it should be located upstream of the reservoir where the river is in a riverine type stretch (as opposed to impounded) so that the water quality of the river prior to entering the Project can be determined. Changes in water quality caused by impounding the water are generally held to be effects of the Project.

Response: Wisconsin Public Service (WPSC) contends the types of water quality changes associated with the reservoir (changes in pH due to algal blooms and changes in dissolved oxygen content due to stratification) are naturally occurring phenomena. The Michigan Department of Natural Resources (MDNR) is attempting to hold WPSC liable for natural changes which occur in most bodies of water. The reservoir is an existing feature which has been present since 1909 and it provides a tremendous amount of benefits in addition to hydropower, such as benefits to the fishery and recreation which cannot be ignored. The project is operated under the Run-of-River operating scenario. Therefore, WPSC cannot change the amount of water released from the project at will. The amount of water released from the project is entirely dependent upon the amount of water flowing into the project from upstream. Any changes in water quality due to a change in the amount of water released from the project is due to natural streamflow. Obtaining natural streamflow is a major goal of the agencies.

WPSC does not agree with the agency request for placement of a monitoring device upstream of the reservoir. Article 407 states "The purpose of this monitoring plan is to ensure releases from the Grand Rapids Project maintain the state standards..." Therefore, if assurance of the releases needs to be provided, there is no need to provide monitoring upstream of the reservoir and risk loss of expensive monitoring equipment. If the agencies wish to know the water quality upstream of the reservoir, they simply must view the results of the water quality data from the tailrace of the Chalk Hills Project (FERC Project No. 2394) upstream which will be monitored for the same parameters and submitted to the agencies by Wisconsin Electric Power in the Summer of 1998 and 1999.

As FERC is the agency that will resolve the issue relating to the operation of the two upstream projects, Chalk Hill and White Rapids, it is appropriate that FERC, rather than the Wisconsin Department of Natural Resources, notify you when this issue has been resolved and that monitoring should commence. Once monitoring has started, it should continue for the four summer months identified (June through September) for a period of.....two years? and subsequently be conducted every five years for the duration of the license.

Response: WPSC originally proposed that Wisconsin Department of Natural Resources (WDNR)

notify them that the operation issue has been resolved upstream because during initial consultation they mentioned monitoring information would be more valuable if monitoring occurred after resolution of the issue. Therefore, WPSC was under the impression WDNR was following the issue and could easily notify them to begin monitoring. However, WPSC does not have a position on who should notify them to begin monitoring as long as they are kept informed by those who are following the non-WPSC-owned project. The final monitoring plan has been amended to include monitoring on a five year schedule per WDNR suggestion.

We would prefer to receive the data in raw form in addition to or instead of summarization as summarizing often masks problems. The data should be provided electronically in either ASCII text or as an Excel or Lotus Spreadsheet file.

Response: WPSC is merely responding to provision (2) of Article 406 which states the following: "Prepare a summary of temperature, DO, pH, and any other data collected pursuant to this plan to be submitted to the Commission, Michigan Department of Natural Resources (Michigan DNR), Wisconsin Department of Natural Resources (Wisconsin DNR), and U.S. Fish and Wildlife Service (FWS).

All non-compliance occurrences should be reported to the agencies regardless of the cause. Agencies should be notified of non-attainment of water quality standards within two weeks of the occurrence.

Response: WPSC is proposing to download data from the necessary equipment every two weeks and wishes to propose submitting the results to the agencies within one week from downloading the information. This will allow WPSC one week to prepare the required summary and if a period of non-compliance occurs, WPSC will have time to review operational records and begin to determine the cause and answer some of the agency questions at the immediate time they are asked.



Wisconsin Public Service Corporation
(a subsidiary of WPS Resources Corporation)
700 North Adams Street
P.O. Box 19002
Green Bay, WI 54307-9002

March 25, 1998

Mr. Tom Thuemler
Wisconsin Dept. of Natural Resources
101 N. Ogden Road
Peshtigo, WI 54157

Dear Mr. Thuemler:

Re: Draft Water Quality Monitoring Plan for the Grand Rapids Hydroelectric Project

We would appreciate your comments and concerns associated with the enclosed Draft Water Quality Monitoring Plan for the Grand Rapids Hydroelectric Project (FERC Project No. 2433).

Could you please provide comments and concerns to me within thirty days of receiving this letter. Thank-you, and I look forward to hearing from you very soon.

Sincerely,

A handwritten signature in black ink, appearing to read "Shawn C. Puzen".

Shawn C. Puzen
Environmental Analyst
(920) 433-1094

vav

Enclosure



Wisconsin Public Service Corporation
(a subsidiary of WPS Resources Corporation)
700 North Adams Street
P.O. Box 19002
Green Bay, WI 54307-9002

March 25, 1998

Ms. Mary Gansberg
Wisconsin Dept. of Natural Resources
P. O. Box 10448
Green Bay, WI 54307-0448

Dear Mary:

Re: Draft Water Quality Monitoring Plan for the Grand Rapids Hydroelectric Project

We would appreciate your comments and concerns associated with the enclosed Draft Water Quality Monitoring Plan for the Grand Rapids Hydroelectric Project (FERC Project No. 2433).

Could you please provide comments and concerns to me within thirty days of receiving this letter. Thank you, and I look forward to hearing from you very soon.

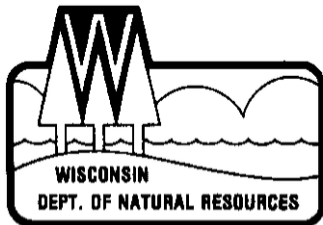
Sincerely,

A handwritten signature in black ink, appearing to read "Shawn C. Puzen".

Shawn C. Puzen
Environmental Analyst
(920) 433-1094

vav

Enclosure



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Tommy G. Thompson, Governor
George E. Meyer, Secretary
William R. Seibig, District Director

Department of Natural Resources
Box 127, 101 N. Ogden Rd.
Peshtigo, Wisconsin 54157
TELEPHONE 715-582-5000
FAX 582-5005

April 6, 1998

IN REPLY REFER TO: 3600

Mr. Shawn Puzen
Wisconsin Public Service Corporation
700 N. Adams
P.O. Box 19002
Green Bay, WI 54307

SUBJECT: Comments on Proposed Water Quality Monitoring Plan for the Grand Rapids Project (FERC No. 2433)

Dear Shawn:

We have reviewed your proposed water quality monitoring plan for the Grand Rapids Project (FERC No. 2433) and have the following comments.

Under the section of the proposed plan entitled **Location of Monitoring**, there should be some monitoring that occurs immediately upstream from the Grand Rapids Flowage and in the immediate area of the tailrace. Monitoring, as proposed in the plan, directly in front of the project intake will not characterize 'natural water quality conditions' above the project. License Article 407 requires the project to meet water quality standards, unless natural conditions prohibit attainment of these standards. We would define natural conditions as the water quality conditions of the Menominee River where it enters the Grand Rapids Flowage. We do not consider the water quality immediately above the intake to represent natural conditions. At the intake location water has already passed through the flowage and the power canal of the Grand Rapids Project, water quality has already been modified from natural conditions. Water quality should be monitored at the Koss Bridge location, which is immediately above the flowage, and this data should be used to represent natural conditions.

Under the section of the proposed plan entitled **Monitoring**, it should not be the responsibility of the Wisconsin Department of Natural Resources (WDNR) to notify the licensee when monitoring should start at this project. The Federal Energy Regulatory Commission (FERC) is currently reviewing the rehearing request made by the licensee for the Chalk Hill and White Rapids Projects. Once a decision on the operation of these two upstream projects is made by FERC, they should be responsible for notifying the licensee of the Grand Rapids Project on the schedule for water quality monitoring at Grand Rapids. In addition to the monitoring that will take place when the operation of the White Rapids and Chalk Hill

Projects is determined by FERC, water quality monitoring should also be conducted once every five years thereafter for the duration of the license.

Under the section of the proposed plan entitled **Data Submittal and Review**, the WDNR would like to see all water quality data submitted to the agencies in both tabular and graphic format and in electronic format on disk as either an ASCII text file, or an Excel or Lotus spreadsheet file.

Under the section of the proposed plan entitled **Correction of Potential Problems**, we are concerned with the phrase "when isolated conditions occur". State water quality standards should be met at **all times**, accept when natural conditions prevent attainment. If isolated conditions occur when water quality does not meet state standards, these conditions need to be remedied so occurrences of this nature are not repeated. If periods of non-compliance take place, this information needs to be presented to the resource agencies as soon as possible. The datasoundes which are collecting the water quality data should be downloaded every seven to ten days. Therefore any violations of water quality standards should be reported to the resource agencies within twelve days of the event occurring. The cause for the violation and the proposed remedy to eliminate future violations should also accompany the notification of non-compliance to the resource agencies.

If you have any questions regarding these comments please feel free to contact me.

Sincerely,



Thomas F. Thuemler
Regional FERC Coordinator

cc: Mary Gansburg - WDNR
Greg Sevener - WDNR
Jim Fossum - FWS
Gary Whelan - MDNR
Jan Fenske - MDNR
Gary Schnicke - MHRC/RAW

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Grand Rapids Hydroelectric Project
Responses to WDNR Water Quality Monitoring Plan Comments

Comments on the Water Quality Monitoring Plan

Under the section of the proposed plan entitled **Location of Monitoring**, there should be some monitoring that occurs immediately upstream from the Grand Rapids Flowage and in the immediate area of the tailrace. Monitoring, as proposed in the plan, directly in front of the project intake will not characterize 'natural water quality conditions' above the project. License Article 407 requires the project to meet water quality standards, unless natural conditions prohibit attainment of these standards. We would define natural conditions as the water quality conditions of the Menominee River where it enters the Grand Rapids Flowage. We do not consider the water quality immediately above the intake to represent natural conditions. At the intake location water has already passed through the flowage and the power canal of the Grand Rapids Project, water quality has already been modified from natural conditions. Water quality should be monitored at the Koss Bridge location, which is immediately above the flowage, and this data should be used to represent natural conditions.

Response: The reservoir is an existing feature which has been present since 1909 and it provides a tremendous amount of benefits in addition to hydropower, such as benefits to the fishery and recreation which cannot be ignored. The project is operated under the Run-of-River operating scenario. Therefore, Wisconsin Public Service (WPSC) cannot change the amount of water released from the project at will. The amount of water released from the project is entirely dependent upon the amount of water flowing into the project from upstream. Any changes in water quality due to a change in the amount of water released from the project is due to natural streamflow. Obtaining natural streamflow is a major goal of the agencies.

WPSC contends the types of water quality changes associated with the reservoir (changes in pH due to algal blooms and changes in dissolved oxygen content due to stratification) are naturally occurring phenomena. The Wisconsin Department of Natural Resources (WDNR) is attempting to hold WPSC liable for natural changes which occur in most bodies of water. Therefore, WPSC is continuing to propose to place one monitoring device in front of the trash racks to determine natural conditions and to place one device in the tailwater to determine effects due to project operations. WPSC does not wish to risk loss of expensive monitoring equipment near the Koss Bridge. If the agencies wish to know the water quality upstream of the reservoir, they simply must view the results of the water quality data from the tailrace of the Chalk Hills Project (FERC Project No. 2394) upstream which will be monitored for the same parameters and submitted to the agencies by Wisconsin Electric Power in the Summer of 1998 and 1999.

Under the section of the proposed plan entitled **Monitoring**, it should not be the responsibility of the Wisconsin Department of Natural Resources (WDNR) to notify the licensee when monitoring should start at this project. The Federal Energy Regulatory Commission (FERC) is currently reviewing the rehearing request made by the licensee for the Chalk Hills and White Rapids Projects. Once a decision

on the operation of these two upstream projects is made by FERC, they should be responsible for notifying the licensee of the Grand Rapids Project on the schedule for water quality monitoring at Grand Rapids. In addition to the monitoring that will take place when the operation of the White Rapids and Chalk Hills Projects is determined by FERC, water quality monitoring should also be conducted once every five years thereafter for the duration of the license.

Response: WPSC originally proposed that Wisconsin Department of Natural Resources (WDNR) notify them that the operation issue has been resolved upstream because during initial consultation they mentioned monitoring information would be more valuable if monitoring occurred after resolution of the issue. Therefore, WPSC was under the impression WDNR was following the issue and could easily notify them to begin monitoring. However, WPSC does not have a position on who should notify us to begin monitoring as long as we are kept informed by those who are following the status of the non-WPSC-owned project. The final plan has been amended to include monitoring once every five years for the duration of the license.

Under the section of the proposed plan entitled **Data Submittal and Review**, the WDNR would like to see all water quality data submitted to the agencies in both tabular and graphic format and in electronic format on disk as either an ASCII text file, or an Excel or Lotus spreadsheet file.

Response: Any data submitted to the agencies will be in Excel Spreadsheet format.

Under the section of the proposed plan entitled **Correction of Potential Problems**, we are concerned with the phrase “when isolated conditions occur”. State water quality standards should be met at **all times**, except when natural conditions prevent attainment. If isolated conditions occur when water quality does not meet state standards, these conditions need to be remedied so occurrences of this nature are not repeated. If periods of non-compliance take place, this information needs to be presented to the resource agencies as soon as possible. The datasondes which are collecting the water quality data should be downloaded every seven to ten days. Therefore any violations of water quality standards should be reported to the resource agencies within twelve days of the event occurring. The cause for the violation and the proposed remedy to eliminate future violations should also accompany the notification of non-compliance to the resource agencies.

Response: The phrase “when isolated incidents occur.” has been removed from the plan. WPSC is proposing to download data from the necessary equipment every two weeks and wishes to propose submitting the results to the agencies within one week from downloading the information. This will allow WPSC one week to prepare the required summary and if a period of non-compliance occurs, WPSC will have time to review operational records and begin to determine the cause and answer some of the agency questions at the immediate time they are asked.



Wisconsin Public Service Corporation
(a subsidiary of WPS Resources Corporation)
700 North Adams Street
P.O. Box 19002
Green Bay, WI 54307-9002

March 25, 1998

Mr. Jim Fossum
U. S. Fish and Wildlife Service
1015 Challenger Court
Green Bay, WI 54311

Dear Mr. Fossum:

Re: Draft Water Quality Monitoring Plan for the Grand Rapids Hydroelectric Project

We would appreciate your comments and concerns associated with the enclosed Draft Water Quality Monitoring Plan for the Grand Rapids Hydroelectric Project (FERC Project No. 2433).

Could you please provide comments and concerns to me within thirty days of receiving this letter. Thank-you, and I look forward to hearing from you very soon.

Sincerely,

A handwritten signature in black ink, appearing to read "Shawn C. Puzen", with a long horizontal line extending to the right.

Shawn C. Puzen
Environmental Analyst
(920) 433-1094

vav

Enclosure

The U.S. Fish and Wildlife Service did not respond with comments.