

ORIGINAL



Upper Peninsula Power Company
(a subsidiary of WPS Resources Corporation)
P.O. Box 19001
Green Bay, WI 54307-9001

FILED
OFFICE OF THE
SECRETARY

2006 FEB -8 P 1:33

RECEIVED
REGULATORY DIVISION

February 3, 2006

FERC No. 1864

Ms. Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
Mail Code: DTCA, HL 21.3
888 First Street, N.E.
Washington, DC 20426

Dear Secretary Salas:

Bond Falls Hydroelectric Project - Revised Water Quality Monitoring Plan

As per the Order Approving Settlement and Issuing New License for the Bond Falls Hydroelectric Project (FERC Project No. 1864) dated October 3, 2002, Upper Peninsula Power Company (UPPCO) is enclosing a revised Water Quality Monitoring Plan for review and approval by the Commission.

As reported to the Commission in the annual water quality monitoring summary report, dated December 5, 2005, water quality deviations from the license requirements were observed in 2005, due in part to the abnormally warm and dry conditions observed throughout the Upper Peninsula of Michigan and northern Wisconsin. It was agreed upon by the Bond Falls Implementation Team that additional monitoring should be conducted prior to developing plans to mitigate water quality problems, with some changes to the monitoring plan. Proposed changes to the Water Quality Monitoring Plan include the following:

1. Cease water quality monitoring at the Cisco Dam monitoring location, as there is little flow over the dam for most of the summer and no license requirement for a minimum flow.
2. When deviations from the dissolved oxygen water quality standard are observed below the Victoria Powerhouse, UPPCO will attempt to document the downstream extent of the deviations. This will be performed by walking downstream with a hand held dissolved oxygen meter and measuring the DO concentration at various points in the river when monitoring equipment is being calibrated and deployed.

Ms. Magalie R. Salas, Secretary

February 3, 2006

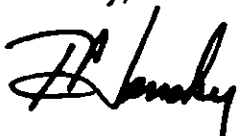
Page 2

- 3. In order to evaluate if additional flow through a bypass pipe at the Bond Falls Reservoir main dam could help mitigate temperature deviations, UPPCO will monitor temperature in the discharge of the bypass pipe from June 1 through September 30, 2006.**
- 4. Dissolved oxygen and temperature profiles of the Bond Falls Reservoir will be taken by boat in the deepest part of the impoundment in order to assess the approximate size of the pool of cool water that could be used to mitigate warm water temperatures in the Middle Branch of the Ontonagon River.**

A revised water quality monitoring plan with the changes mentioned in this letter is attached for your review and approval. Water quality monitoring is scheduled to be conducted in 2006 and 2007 as described in the enclosed plan. Documentation of Agency Consultation is included in Appendix A. Written responses to agency comments and recommendations for each plan are also included in Appendix A.

Should you have any questions or concerns, please do not hesitate to call Mr. Mark Metcalf at (920) 433-1833. Thank you for your time and consideration.

Sincerely,



**Terry P. Jensky
Assistant Vice President - Energy Supply Operations
for Wisconsin Public Service Corporation
Telephone: (715) 355-2047**

Enc.

**cc: Bond Falls Implementation Team
Mr. Gil Snyder, WPSC - D2 (cover only)
Mr. Don Bussiere, UPPCO - UVD (cover only)
Mr. Kevin Poissant, UPPCO - UVD (cover only)
Ms. Joan Johaneck, WPSC - D2 (File)**

Bond Falls Hydroelectric Project
Water Quality Monitoring Plan

FERC License No. 1864

Article 409

Upper Peninsula Power Company

February 2, 2006

Revision No. 1

Water Quality Monitoring Plan

Bond Falls Hydroelectric Project - FERC License No. 1864

Article 409.

"Within six months after the issuance of a new license, the licensee shall file with the commission, for approval, a Water Quality Monitoring Plan, to document compliance with the water quality requirements of Article 408. The monitoring plan shall include a three-year monitoring period for dissolved oxygen and temperature, provisions for subsequent monitoring based on the results of the initial three-year monitoring period, and provisions for mitigation as described herein. All water quality monitoring shall be funded by the Mitigation Enhancement Fund described in Settlement Condition 7. If the fund is exhausted, the licensee shall fund the remaining activities as determined in the Water Quality Monitoring Plan."

1. Requirements - Temperature and Dissolved Oxygen

A. Continuous Temperature Monitoring - Requirements

Bond Falls Development and Victoria Powerhouse

Upper Peninsula Power Company (UPPCO) shall not discharge water from the license projects that are in excess of the following monthly average temperatures downstream from the Victoria Powerhouse and Bond Falls Dams.

Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec
38°F	38	43	54	65	68	68	68	63	56	48	40

Bergland Dam

Upper Peninsula Power Company (UPPCO) shall not discharge water from the license projects that are in excess of the following monthly average temperatures into the riverine reaches of the Ontonagon River downstream of the Bergland Dam.

Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec
38°F	38	41	56	70	80	83	81	74	64	49	39

Temperature data will be collected hourly from June 1 through September 30 each monitoring year using portable, programmable recording instrumentation (see dissolved oxygen monitoring equipment).

B. Continuous Dissolved Oxygen (D.O.) Monitoring - Requirements

Bond Falls Development and Victoria Powerhouse

UPPCO shall not cause the dissolved oxygen concentration measured in the Middle Branch of the Ontonagon River and in Roselawn Creek downstream of the Bond Falls Dams and in the West Branch of the Ontonagon River downstream of the Victoria Powerhouse to be less than 7.0 mg/L.

Bergland Development

UPPCO shall not cause the dissolved oxygen concentrations in the West branch of the Ontonagon River downstream of the Bergland Dam to be less than 5.0 mg/L. Dissolved oxygen will be monitored from June 1 to September 30 each monitoring year.

C. Continuous Monitoring - Reporting Deviations

In the event of deviations from the water quality standards, UPPCO shall notify the Water Division of the Michigan Department of Environmental Quality (MDEQ) and members of the Bond Falls Implementation Team (Implementation Team) within one working day of the observation of the incident, and take all reasonable steps necessary to ensure that compliance with the water quality limits are achieved, consistent with the water quality mitigation requirements of Article 409.

A report will be filed within 30 days of the observation of the incident with the Commission in the event that the project deviates from state water quality standards. The report shall identify, to the extent possible, the cause, severity and duration of the observed incident.

2. Temperature and Dissolved Oxygen Monitoring Locations and Schedule

To demonstrate compliance with the temperature and dissolved oxygen requirements, UPPCO proposes to monitor for temperature and dissolved oxygen during the summer months of each monitoring year. Temperature and dissolved oxygen data will be collected on an hourly basis (24 measurements per day, per location) at four sites within the Bond Falls Project.

UPPCO consulted with the Implementation Team in 2005 to determine exact stream locations to assure optimal monitoring capability in areas where complete mixing has occurred and adequately represents the mixing zones. UPPCO will monitor dissolved oxygen and temperature from June 1 through September 30, 2006 and 2007. The following monitoring locations were selected to monitor for compliance with the requirements set forth in the project license:

- A. Downstream of Bond Falls Flowage, in Roselawn Creek, UPPCO will monitor temperature and dissolved oxygen downstream of where Bond Falls Road crosses Roselawn Creek (T46N, R39W, Sec. 11, SE ¼, GPS coordinates N46 24.662, W089 07.961).
- B. Downstream of Bond Falls Flowage, UPPCO will monitor temperature and dissolved oxygen in the Middle Branch of the Ontonagon River (T46N, R39W, Sec. 1, SW ¼) downstream of the walkway below Bond Falls (GPS coordinates N46 24.124, W089 09.788).
- C. Downstream of the Bergland Dam, UPPCO will monitor temperature and dissolved oxygen below the Bergland Dam in the West Branch of the Ontonagon River (T48N, R 42W, Sec. 3, NE ¼, GPS coordinates N46 35.143, W089 32.233).
- D. Downstream of the Victoria Powerhouse, UPPCO will monitor temperature and dissolved oxygen below the Victoria Powerhouse in the West Branch of the Ontonagon

River (T50N, R39W, Sec 29, SE ¼) near of the confluence of the discharge channel and the main river channel (GPS coordinates N46 41.869, W089 12.317).

Dissolved oxygen deviations from the water quality standard were observed at the Victoria Powerhouse monitoring location in 2005. In the event that D.O. deviations are observed when equipment is being calibrated and deployed during future monitoring seasons, UPPCO will attempt to determine the downstream extent of the deviations by walking downstream with a hand held dissolved oxygen meter and taking readings at various locations in the river.

Temperature deviations from the License monthly maximum average were observed at the Bond Falls monitoring location in the Middle Branch of the Ontonagon River. In order to assess possible mitigation activities at the site, UPPCO will monitor temperature in the Middle Branch of the Ontonagon River in the discharge of a bypass pipe near the main dam that withdraws water from the Bond Falls reservoir a depth of approximately 25 feet. Temperature monitoring will occur from June 1 through September 30, 2006.

3. Monitoring Equipment and Quality Assurance

Temperature and dissolved oxygen data will be collected using portable water quality monitoring equipment manufactured by Hydrolab, Inc., or equivalent. All monitoring equipment will be calibrated for dissolved oxygen prior to deployment according to the manufacturer instructions. The instruments shall be cleaned and calibrated at least once every two weeks during the annual monitoring period. At the time the monitoring equipment is removed from monitoring, a post deployment calibration will be performed per the manufacturer instructions to determine loss of calibration, with a goal of less than 1.0 mg/l drift or error at least 70% of the time over the monitoring season. UPPCO shall consult with the resource agencies to determine the cause and downstream extent of deviations from water quality standards and determine appropriate corrective action.

Per the equipment manufacturer, the monitoring equipment has a precision of 0.20 mg/L, excluding any bio-fouling or water quality problems. The data collected will be corrected for

any loss of calibration greater than 0.20 mg/L. Raw data will be adjusted assuming a linear degradation of calibration based upon a post calibration of the equipment.

4. Dissolved Oxygen and Temperature Profiles

At the Victoria and Bond Falls Developments, vertical temperature and dissolved oxygen profiles will be performed monthly in June, July, August, and September. Secchi disk depth measurements will be made at the same time as the profile. At the Victoria Reservoir, the profile will be performed from a safe and easily accessible location on the top of the dam. Dissolved oxygen and temperature profiles of the Bond Falls Reservoir will be taken by boat in the deepest part of the impoundment in order to assess the approximate size of the pool of cool water that could be used to mitigate warm water temperatures in the Middle Branch of the Ontonagon River. When secchi disk readings are taken, weather conditions will be noted on field sheets (time of day, cloud cover, wave conditions, etc.).

Profiles will be performed at 0.5 meter intervals using a hand held dissolved oxygen monitoring device (manufactured by YSI, Inc. or equivalent). Temperature and dissolved oxygen measurements will be replicated by using a second hand held device at both surface and bottom of the basin. In the event that replicate analyses differ by more than 1.0 mg/L D.O or 1.8°F (1°C), the meters will be recalibrated and the profile will be repeated. Results of the profiles and secchi disk readings will be included in the annual report.

5. Annual Monitoring Results - Reports

All temperature and corrected dissolved oxygen data will be compiled and summarized in an annual report submitted to the Commission, Water Division of the MDEQ, and to members of the Team. A hard copy of the report will be filed with the Commission, and electronic copies of the data will be provided to the MDEQ and Implementation Team members in Excel format. A report will be submitted within 30 days of the completion of the annual monitoring period to the MDEQ and members of the implementation Team. A final report, including comments from the MDEQ and the Implementation Team, will be filed with the Commission by December 31st of

the monitoring year. For each continuous monitoring location, the following information will be provided:

- A. A summary of all data collected with a determination of the monthly minimum, maximum, and average temperature and dissolved oxygen concentration at each monitoring location. All DO data corrected for calibration drift and raw temperature data will be presented in tabular and graphical form. All data gaps, if they occur, shall be explained.
- B. A comparison of temperature and DO data with the state water quality standard will be presented in graphical form. Any deviations from the water quality standard shall be explained, including environmental factors and operational conditions that may have contributed or mitigated water quality conditions.
- C. All quality assurance data.
- D. A summary of the frequency and magnitude of any values that exceed the limits at each station.

6. Monitoring Schedule Amendments

In the event that monitoring studies demonstrate that the water quality limits of Article 408 are exceeded, UPPCO shall consult with the Water Division of the MDEQ and the Implementation Team to determine any operational measures to be implemented to improve water quality. The licensee shall bear the cost of any operational measures to improve water quality. If operational measures fail to improve water quality, least cost structural solutions shall be the next option. All water quality mitigation measures shall be developed and implemented in consultation with the MDEQ and other members of the Implementation Team. The Mitigation Enhancement Fund shall fund any required structural mitigation until the fund is exhausted, at which point UPPCO will fund the remaining costs. Structural mitigation plans shall be

developed in consultation with the MDEQ and Implementation Team. UPPCO shall file construction plans with the Commission for approval prior to any construction of modifications.

After the initial three-year period of dissolved oxygen and temperature monitoring, UPPCO will consult with the Water Division of the MDEQ and the Implementation Team to determine any actions to be taken based upon the results of the initial three-year monitoring period. Any additional monitoring or other actions may be implemented by UPPCO through agency consultation and upon written approval by the Commission. The Mitigation Enhancement Fund will fund any additional monitoring until the fund is exhausted, at which point UPPCO will fund the remaining costs.

APPENDIX A

From: Mark Metcalf
To: Deephouse, Bill; Deloria, Christie; Evans, Robert A; Fedora, Mark; Martini, Bob; Mensch, Gene; Meyers, Robert; Mistak, Jessica; Suppnick, John
Date: 12/20/2005 9:24:38 AM
Subject: Bond Falls water quality monitoring plan

Good morning,

As discussed during the October 11th Bond Falls Implementation Team meeting, UPPCO is providing a revised water quality monitoring plan for your review and comment. Please review the attached cover letter and revised monitoring plan. If you have any questions, please feel free to call me at (920) 433-1833.

Happy Holidays!

Mark

Mark Metcalf
Environmental Consultant\Chemist
Wisconsin Public Service Corp.
920-433-1833
mmetcal@wpsr.com

CC: Puzen, Shawn



Upper Peninsula Power Company

(a subsidiary of WPS Resources Corporation)

P.O. Box 19001

Green Bay, WI 54307-9001

December 20, 2005

FERC No. 1864

To: **Bond Falls Implementation Team**

Ms. Christie Deloria, U.S. Fish and Wildlife Service

Ms. Jessica Mistak, Michigan Department of Natural Resources

Mr. Bill Deephouse, Michigan Hydro Relicensing Coalition

Mr. Bob Evans, U.S. Forest Service

Mr. Mark Fedora, U.S. Forest Service

Mr. Bob Martini, Wisconsin Department of Natural Resources

Mr. Gene Mensch, Keweenaw Bay Indian Community

Mr. John Suppnick, Michigan Department of Environmental Quality

Mr. Robert Meyers, Upper Peninsula Power Company

Re: Bond Falls Hydroelectric Project – Revised Water Quality Monitoring Plan

As discussed at the October 11, 2005 Bond Falls Implementation Team meeting, Upper Peninsula Power Company (UPPCO) is pleased to submit a revised water quality-monitoring plan for your review and comment.

Water quality deviations from the license requirements were observed in 2005, due in part to the abnormally warm and dry conditions observed through out the Upper Peninsula of Michigan and northern Wisconsin. It was agreed upon by the Team at the meeting that additional monitoring should be conducted prior to developing plans to mitigate water quality problems. Water quality monitoring will be conducted in 2006 and 2007 as described in the plan.

Deviations from the dissolved oxygen water quality standards were observed at the Victoria Powerhouse tailrace and Cisco Branch of the Ontonagon River monitoring locations. The water quality standards are 7.0 mg/l and 5.0 mg/l DO, respectively. After discussing the results, two modifications to the water quality-monitoring plan were proposed:

1. Cease water quality monitoring at the Cisco Dam monitoring location, as there is little flow over the dam for most of the summer and no license requirement for a minimum flow.
2. When deviations from the dissolved oxygen water quality standard are observed below the Victoria Powerhouse, UPPCO will attempt to document the downstream extent of the

deviations. This will be performed by walking downstream with a hand held dissolved oxygen meter and measuring the DO concentration at various points in the river when monitoring equipment is being calibrated and deployed.

Additionally, the monthly average water temperature recorded at the Bond Falls, Roselawn Creek, and Victoria Powerhouse tailrace was in excess to the License maximum monthly average temperature limit during the months of July, August, and September. Currently, the Bond Falls main dam is the only facility that has a structural feature that could possibly help mitigate high temperatures downstream of the a Project development. A bypass intake discharges water into the Middle Branch of the Ontonagon River near the Bond Falls Visitor Center. The bypass intake currently withdraws water from approximately 25 feet below the normal maximum water surface elevation (normal maximum elevation = 1475.9' MSL, bypass intake = 1450.9' MSL). In order to evaluate if additional flow through the bypass could help mitigate temperature deviations, UPPCO will monitor temperature in the discharge of the bypass pipe from June 1 through September 30, 2006.

A revised water quality monitoring plan with the changes mentioned in this letter is attached for your review and comment. Please review the enclosed data and make any comments you may have by January 31, 2006. Should you have any questions or concerns, please do not hesitate to call me at (920) 433-1833. Thank you for your time and consideration.

Sincerely,



Mark W. Metcalf
Environmental Consultant – Chemist
for Wisconsin Public Service Corp.
Telephone: (920) 433-1833

Attach.

cc: Mr. Shawn Puzen, WPSC - D2

From: "Jessica Mistak" <mistakjl@michigan.gov>
To: "Mark Metcalf" <MMETCAL@wpsr.com>
Date: 1/10/2006 11:40:54 AM
Subject: Re: Bond Falls water quality monitoring plan

Mark,
The Michigan Department of Natural Resources has reviewed the Bond Falls Revised Water Quality Monitoring Plan and concur with the plan as written.
Jessica

<> <> <> <> <> <> <> <>
Jessica Mistak, Senior Fisheries Biologist
MDNR Marquette Fisheries Station
484 Cherry Creek Rd
Marquette, MI 49855
906-249-1611 ext. 308
FAX 906-249-3190.
>> >> >> >> >> >> >> >>

>>> "Mark Metcalf" <MMETCAL@wpsr.com> 12/20/2005 10:24:38 AM >>>

Good morning,

As discussed during the October 11th Bond Falls Implementation Team meeting, UPPCO is providing a revised water quality monitoring plan for your review and comment. Please review the attached cover letter and revised monitoring plan. If you have any questions, please feel free to call me at (920) 433-1833.

Happy Holidays!

Mark

Mark Metcalf
Environmental Consultant\Chemist
Wisconsin Public Service Corp.
920-433-1833
mmetcal@wpsr.com

**Response to Comments from the
Michigan Department of Natural Resources**

Comment: The Michigan Department of Natural Resources has reviewed the Bond Falls Revised Water Quality Monitoring Plan and concur with the plan as written.

Response: Comment noted.

From: "John Supnick" <SUPPNICJ@michigan.gov>
To: "Mark Metcalf" <MMETCAL@wpsr.com>
Date: 1/11/2006 3:42:55 PM
Subject: Re: Bond Falls water quality monitoring plan

Mark,
After discussing this plan with others I have just one comment on your Bond Falls Water Quality Monitoring Plan. Your profiles should be in the deepest parts of the impoundments. I'm not sure you'll get that by sampling off the dams. Usually a boat is required. We have profiled the Bond Falls Impoundment three times since 1980 and found maximum depths of 27 feet, 28 feet and 33 feet. If you are not finding at least 27 feet off the top of the dam at the Bond Falls Impoundment you should use a boat to get the profile. These measurements are important for defining the approximate size of the pool of cool water, especially in the Bond Falls Impoundment.

John

John Supnick
Michigan Department of Environmental Quality
Water Bureau
517-335-4192
suppnicj@michigan.gov

>>> "Mark Metcalf" <MMETCAL@wpsr.com> 12/20/05 10:24 AM >>>
Good morning,

As discussed during the October 11th Bond Falls Implementation Team meeting, UPPCO is providing a revised water quality monitoring plan for your review and comment. Please review the attached cover letter and revised monitoring plan. If you have any questions, please feel free to call me at (920) 433-1833.

Happy Holidays!

Mark

Mark Metcalf
Environmental Consultant\Chemist
Wisconsin Public Service Corp.
920-433-1833
mmetcal@wpsr.com

CC: <Robert.E.Martini@dnr.state.wi.us>, <mfedora@fs.fed.us>, <raevans@fs.fed.us>, <christie_deloria@fws.gov>, "Jessica Mistak" <MISTAKJL@michigan.gov>, <kbnrdsh@up.net>, <troutkpr@up.net>, "Robert Meyers" <RMEYERS@wpsr.com>, "Shawn Puzen" <SPUZEN@wpsr.com>

Response to Comments from the Michigan Department of Environmental Quality

Comment: After discussing this plan with others I have just one comment on your Bond Falls Water Quality Monitoring Plan. Your profiles should be in the deepest parts of the impoundments. I'm not sure you'll get that by sampling off the dams. Usually a boat is required. We have profiled the Bond Falls Impoundment three times since 1980 and found maximum depths of 27 feet, 28 feet and 33 feet. If you are not finding at least 27 feet off the top of the dam at the Bond Falls Impoundment you should use a boat to get the profile. These measurements are important for defining the approximate size of the pool of cool water, especially in the Bond Falls Impoundment.

Response: Comment noted. The plan has been modified to include the following language:

“At the Victoria and Bond Falls Developments, vertical temperature and dissolved oxygen profiles will be performed monthly in June, July, August, and September. Secchi disk depth measurements will be made at the same time as the profile. At the Victoria Reservoir, the profile will be performed from a safe and easily accessible location on the top of the dam. Dissolved oxygen and temperature profiles of the Bond Falls Reservoir will be taken by boat in the deepest part of the impoundment in order to assess the approximate size of the pool of cool water that could be used to mitigate warm water temperatures in the Middle Branch of the Ontonagon River.”