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ORIGINAL

May 8, 1998

Mr. David Boergers, Secretary
Federal Energy Regulatory Commission
Mail Code: DLC, HL-11
888 First Street, N.E.
Washington, DC 20426

Re: *Oconto Falls (Lower) Project, No. 2689, N.E.W. Hydro, Inc.*
Water Quality Monitoring Plan - FERC Article 404

FILED
OFFICE OF THE SECRETARY
98 MAY 14 PM 2:55
FEDERAL ENERGY
REGULATORY COMMISSION

Dear Mr. Boergers:

Enclosed we submit for filing our Water Quality Monitoring Plan Per License Article 404 for the Oconto Falls (Lower) Hydroelectric Project, FERC Project #2659, 2689 N.E.W. Hydro, Inc. The plan has been provided in fulfillment of the Order Issuing New License that was issued May 11, 1994.

I am available at the convenience of the Commission if there are any questions or if discussion is desired.

Sincerely,

North American Hydro, Inc.

Loyal Gake, P.E.
Director of Development and
Regulatory Compliance

Enclosure - as noted

Cc: Ron Lesniak, CRO
Tom Thuemler, WDNR
Jim Fossum, USFWS

98-05-08 loyal ocfls lower water quality mon plan cov let ferc.doc

all
FERC-DOCKETED

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MAY 14 1998

FILED
OFFICE OF THE SECRETARY
98 MAY 14 PM 2:56
FEDERAL ENERGY
REGULATORY COMMISSION

**Water Quality Monitoring Plan
Per License Article 404**

for the

**Oconto Falls (Lower) Hydroelectric Project
FERC Project # 2689 — 015
N.E.W. Hydro, Inc.**

Oconto River, Oconto County, Wisconsin

Submitted By:
**North American Hydro, Incorporated
116 North State Street
Neshkoro, Wisconsin 54960**

May, 1998

Introduction

This Water Quality Monitoring Plan for the Oconto Falls (Lower) Hydroelectric Project, FERC Project # 2689, City of Oconto Falls, Oconto County, Wisconsin has been written in generic terms in order to encompass technological advancements and potential agency personnel changes during the 30-year term of license. Therefore, current equipment manufacturers, equipment model specifications and reference to specific Wisconsin Department of Natural Resources (WDNR), United States Department of the Interior – Fish and Wildlife Service (USFWS) and Federal Energy Regulatory Commission (FERC) agency personnel have purposely been excluded from this plan.

Prior to the execution of a Water Quality Study, the licensee will refine the Water Quality Monitoring Plan in consultation with the WDNR and the USFWS. The plan refinement will specify the sampling equipment to be used during the study period and the specific agency personnel to whom data and report submissions will be sent. It will be submitted in the form of an addendum to the Water Quality Monitoring Plan and will be sent to all designated agency personnel on or before May 31 of the sampling year in order to provide timely notice of the sampling event and reporting requirements.

**Water Quality Monitoring Plan
Per License Article 404**

for the

**Oconto Falls (Lower) Hydroelectric Project
FERC Project # 2689
N.E.W. Hydro, Inc.**

Oconto River, Oconto County, Wisconsin

Requirement for Studies

The Federal Energy Regulatory Commission (FERC), has stipulated as a requirement of the Oconto Falls (Lower) Hydroelectric Project License (Article 404), issued May 11, 1994, that a Water Quality Study shall be performed beginning five (5) years after license issuance and once every five (5) years thereafter for the thirty (30) year term of license. Article 404 also requires that a monitoring plan should be filed with the Commission within four (4) years of license issuance.

Purpose of Studies

The license states that "the purpose of the monitoring plan is to ensure that streamflows downstream of the Oconto Falls Project, as measured immediately downstream of the project tailrace, maintain the state minimum DO concentration standard of 5.0 milligrams per liter, a maximum water temperature of 89°F, and a pH between 6.0 and 9.0 units in the Oconto River at the same locations as the DO monitoring".

Study Sampling Periods

Study sampling will be conducted July 1, 1999 through September 30, 1999 and every 5th year interval thereafter for the term of the license. The July through September sampling period represents the typical annual period of minimum dissolved oxygen levels in the Oconto River resulting from a combination of high ambient temperature, low river flow, and aerobic oxygen consumptive processes.

Study Design

Sampling Protocol

Sampling protocol will be consistent with the 1990 pre-licensing Water Quality Study data collection protocol as outlined in the June 23, 1993 letter from Mr. Al Stranz, WDNR to Ms. Lois Cashell, Secretary, FERC - Page 7, Section 8(d).

Monitoring Parameters (Reservoir):

1. Dissolved Oxygen Concentration
2. Water Temperature
3. Stream Flow
4. Time of Day

Monitoring Parameters (Tailwater):

1. Dissolved Oxygen Concentration
2. Water Temperature
3. pH
4. Stream Flow
5. Time of Day

Reservoir Sampling:

One (1) reservoir sampling event per week will be conducted for dissolved oxygen concentration and water temperature in a surface to bottom profile at one (1) meter intervals at one (1) pre-determined location representing the maximum depth in the reservoir.

Sampling will be performed manually from a boat with position determined by two (2) measured lines attached to marked locations on opposing embankments and/or structures to provide location repeatability for each of the weekly samplings. Reservoir surface to bottom depth will be recorded during each sampling period at the pre-determined sampling location. Dissolved oxygen concentration and water temperature will be sampled with an approved and properly calibrated electronic sampling device at one (1) meter depth profile intervals including a reading at 100mm below the surface and 100mm above the bottom of the reservoir. Power production log data for the sampling day will be obtained from the Oconto Falls (Upper) Hydroelectric Project (FERC Project # 2523) and Oconto Falls (Lower) Hydroelectric Project (FERC Project # 2689) in order to calculate river flow volume during the sample day.

Tailwater Sampling:

Continuous thirty (30) minute interval sampling of dissolved oxygen concentration, pH, and water temperature will be taken in the river immediately below the project tailrace.

Sampling will be performed by an approved and properly calibrated self-contained submersible sampling and data-logging device placed in a location representative of the release of water in the tailrace. The monitoring device will be located downstream of the dam, approximately ten (10) feet from the south embankment of the Oconto River at a point approximately twenty (20) feet upstream of the Oconto Falls Municipal Sewage Treatment Facility discharge pipe. (This location represents the placement location selected by Laura J. Herman, WDNR Water Quality Specialist, for the Hydrolab DataSonde 1 deployment used in the 1990 pre-licensing Water Quality Study.) The sampling/logging device will include a sensor array containing standard dissolved oxygen, pH, and water temperature sampling probes. The logging device will be programmed to record dissolved oxygen concentration, pH, and water temperature measurements at thirty (30) minute intervals for the continuous period from July 1 through September 30. A maintenance check will be performed on the sampling/logging device once per week. This check will include removal of any accumulated debris and aquaculture, verification of device placement, verification of operation and device calibration. Maintenance procedures are based on the use of presently available equipment. Future maintenance activities could differ due to changes in equipment development. Power production log data for the sampling period will be obtained from the Oconto Falls (Upper) Hydroelectric Project (FERC # 2523) and Oconto Falls (Lower) Hydroelectric Project (FERC # 2689) in order to calculate river flow volume during the sampling period. Accumulated sampling data will be downloaded from the sampling/logging device once per month (during the first week of the following month) for intermediate analysis.

Monthly Data Submissions:

Collected data from reservoir/tailwater sampling events and hydroelectric power production logs will be returned to North American Hydro, Incorporated's (NAH) corporate headquarters for analysis and electronic or optical storage. Compiled data files will be imported into a computer program or customized spreadsheet document for data analysis and graphing.

Within ten (10) days of monthly downstream data recovery, a cover letter, printed copies of the tabular text files and graphed results of the compiled data for the preceding month will be forwarded to the designated WDNR and USFWS representatives for review and comment. A mutually accepted computer storage media containing accumulated sampling data, furnished in a formatted tabular text file will accompany monthly data submissions. The WDNR and USFWS representatives will mail NAH any comments regarding needs or concerns on submitted data within thirty (30) days of receipt of the NAH furnished data.

Special Notifications:

WDNR and USFWS representatives will be notified verbally via telephone communication with a written follow-up letter via United States Postal Service delivery of any of the following occurrences within 48 hours of discovery:

1. Any data logged below minimum State of Wisconsin Water Quality Standards
2. Conditions delaying or preventing accurate data logging
3. Equipment loss or failure

Reports

Within ninety (90) days following NAH's final monthly data submission to WDNR and USFWS, a draft report will be generated by NAH and forwarded to the designated WDNR and USFWS representatives for requested written comment. The WDNR and USFWS representatives will mail NAH any written comments to the draft report within thirty (30) days of receipt of the draft report from NAH.

If there is a substantive disagreement with draft report conclusions, a joint meeting will be held between disagreeing parties within sixty (60) days of NAH's receipt of written comments from the disagreeing agency. Written resolution and/or a written matrix of any unresolved issue(s) may conclude the joint meeting.

Within sixty (60) days of receipt of the WDNR and USFWS representative's written comments to the draft report and conclusion of any requested joint meeting(s), NAH will generate and mail copies of the "Water Quality Study Report for the Oconto Falls (Lower) Hydroelectric Project – FERC Project # 2689" for the appropriate study year to designated WDNR, USFWS and FERC representatives.

Each "Water Quality Study Report for the Oconto Falls (Lower) Hydroelectric Project – FERC Project # 2689" will comprise an executive summary, study design, study results, discussion, location and sampling maps, bibliography, data listings in tabular form, data listings in graphic form, and study-related correspondence pertinent to the current study report.

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION
Scott Paper Company

Project No. 2689-001
Wisconsin

ORDER ISSUING NEW LICENSE
(Major Project)

(Issued May 11, 1994)

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From Page 12 of ORDER ISSUING NEW LICENSE:

.....

Article 404. Within 4 years after the date of issuance of this license, the Licensee shall file with the Commission, for approval, a plan to monitor dissolved oxygen (DO), temperature, and pH in the Oconto Falls Project impoundment and tailrace beginning 5 years after license issuance and every 5 years thereafter. The purpose of the monitoring plan is to ensure that streamflows downstream of the Oconto Falls Project, as measured immediately downstream of the project tailrace, maintain the state minimum DO concentration standard of 5.0 milligrams per liter, a maximum water temperature of 89°F, and a pH between 6.0 and 9.0 units in the Oconto River at the same locations as the DO monitoring.

The monitoring plan shall include a schedule for: (1) implementation of the program; (2) consultation with the appropriate federal and state agencies concerning the results of the monitoring; and (3) filing the results, agency comments, and Licensee's response to agency comments with the Commission.

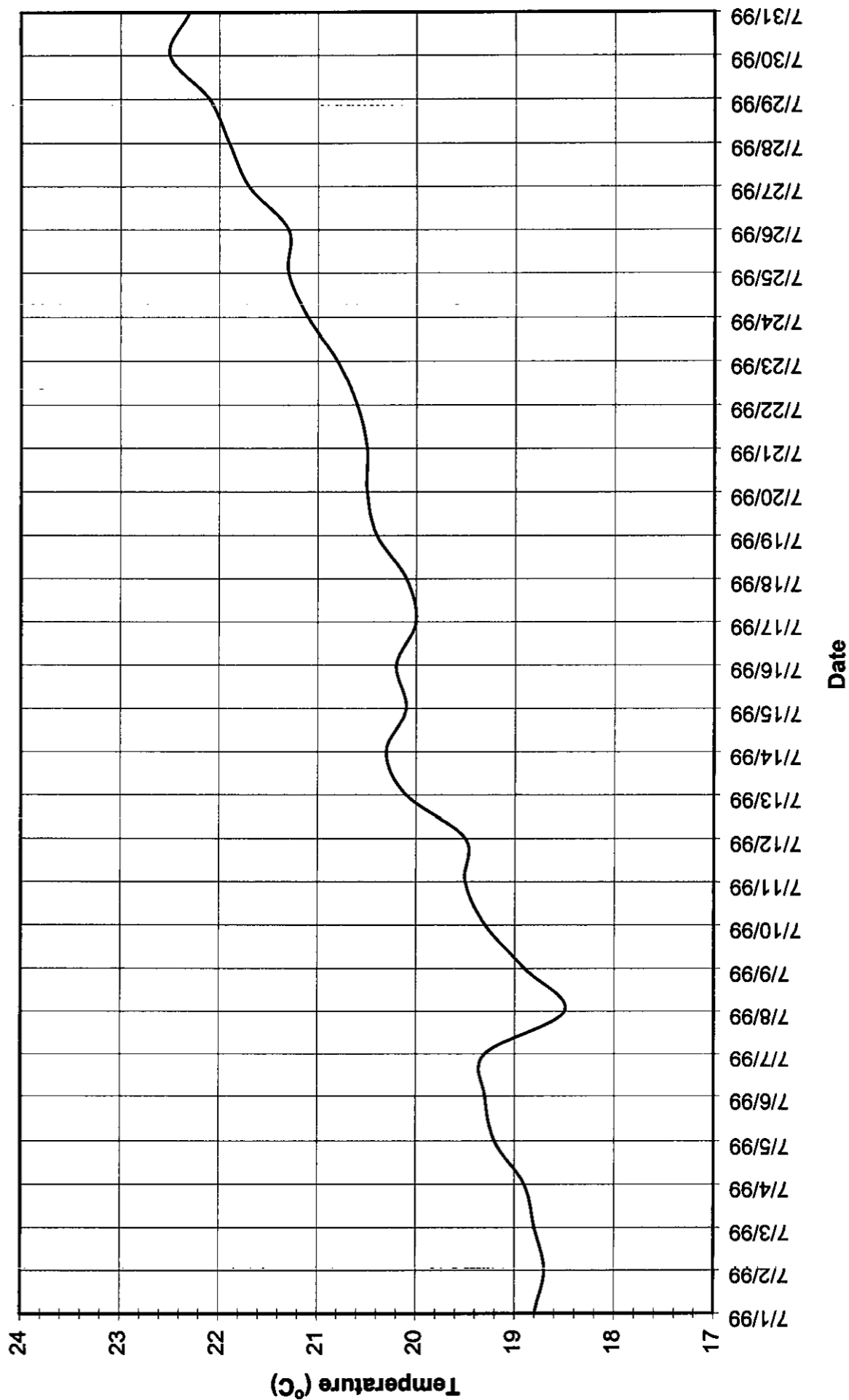
..... The Licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' are accommodated by the plan. The Licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the Licensee does not adopt a recommendation, the filing shall include the Licensee's reasons, based on project-specific information. The Commission reserves the right to require changes to the plan. Upon Commission approval, the Licensee shall implement the plan, including any changes required by the Commission.

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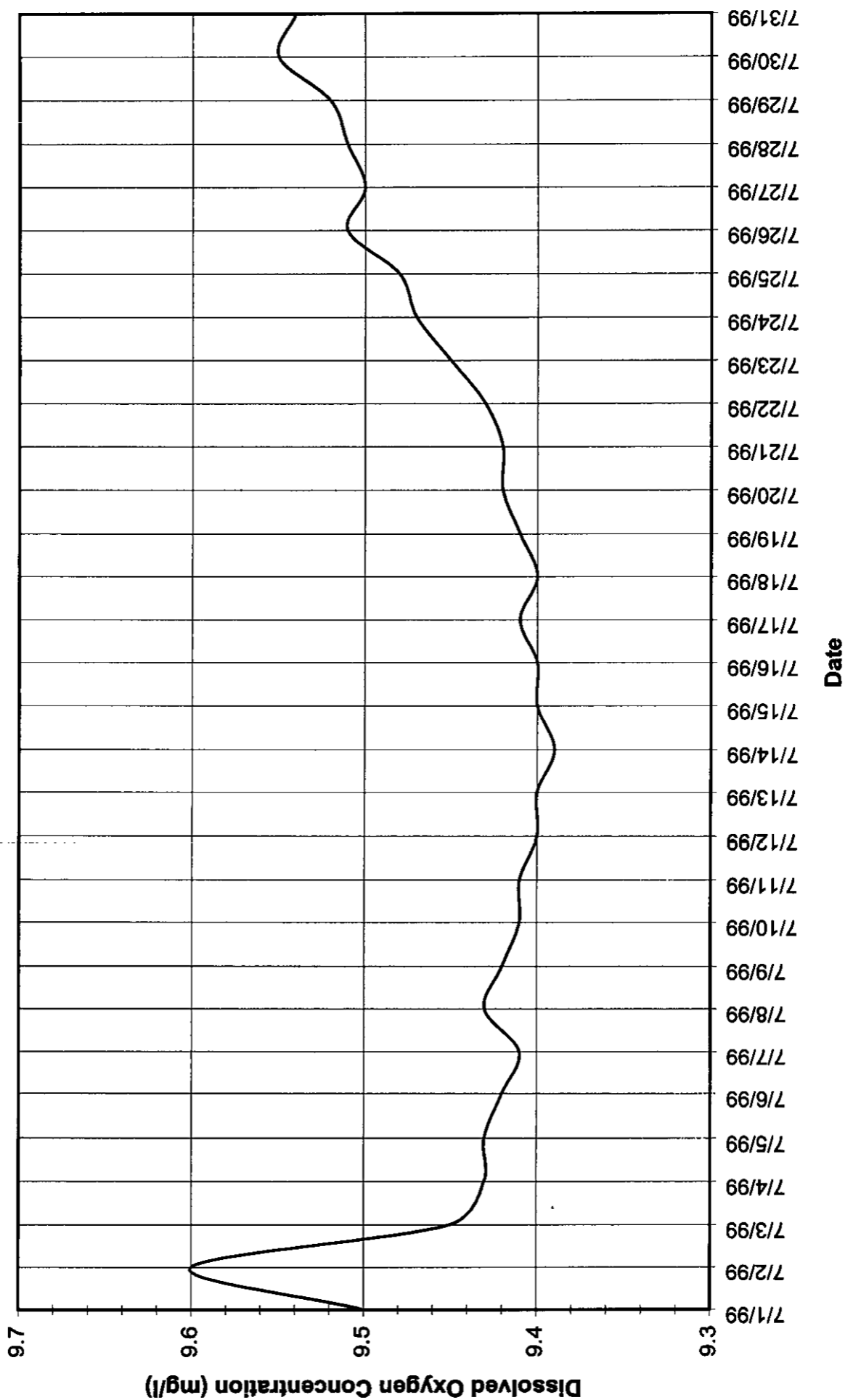
Sample of Printed Tabular Report Format

1999 Water Quality Study Downstream Tabular Data for Month of July, 1999 Oconto Falls (Lower) Hydroelectric Project - FERC Project # 2689				
Date	Time	D.O. (mg/l)	Temp. (°C)	pH (units)
7/1/99	0:00	9.45	18.81	7.5
7/1/99	0:30	9.43	18.81	7.5
7/1/99	1:00	9.43	18.81	7.5
7/1/99	1:30	9.42	18.81	7.51
7/1/99	2:00	9.43	18.81	7.5
7/1/99	2:30	9.42	18.81	7.51
7/1/99	3:00	9.41	18.81	7.51
7/1/99	3:30	9.41	18.8	7.52
7/1/99	4:00	9.4	18.8	7.51
7/1/99	4:30	9.4	18.8	7.51
7/1/99	5:00	9.39	18.8	7.51
7/1/99	5:30	9.4	18.8	7.51
7/1/99	6:00	9.4	18.8	7.49
7/1/99	6:30	9.41	18.79	7.49
7/1/99	7:00	9.4	18.79	7.49
7/1/99	7:30	9.41	18.79	7.47
7/1/99	8:00	9.42	18.79	7.47
7/1/99	8:30	9.42	18.79	7.45
7/1/99	9:00	9.43	18.79	7.46
7/1/99	9:30	9.45	18.79	7.45
7/1/99	10:00	9.47	18.79	7.43
7/1/99	10:30	9.48	18.8	7.44
7/1/99	11:00	9.51	18.8	7.44
7/1/99	11:30	9.5	18.8	7.43
7/1/99	12:00	9.51	18.8	7.42
7/1/99	12:30	9.52	18.81	7.4
7/1/99	13:00	9.55	18.81	7.41
7/1/99	13:30	9.54	18.81	7.4
7/1/99	14:00	9.55	18.81	7.41
7/1/99	14:30	9.55	18.81	7.41
7/1/99	15:00	9.58	18.82	7.41
7/1/99	15:30	9.57	18.82	7.41
7/1/99	16:00	9.59	18.82	7.42
7/1/99	16:30	9.61	18.83	7.42
7/1/99	17:00	9.6	18.83	7.41
7/1/99	17:30	9.59	18.83	7.41
7/1/99	18:00	9.58	18.83	7.4
7/1/99	18:30	9.59	18.83	7.42
7/1/99	19:00	9.57	18.83	7.41
7/1/99	19:30	9.56	18.82	7.41
7/1/99	20:00	9.56	18.82	7.42
7/1/99	20:30	9.54	18.82	7.41
7/1/99	21:00	9.53	18.81	7.41
7/1/99	21:30	9.54	18.81	7.42
7/1/99	22:00	9.48	18.81	7.41
7/1/99	22:30	9.48	18.81	7.41
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7/1/99	23:30	9.47	18.81	7.39

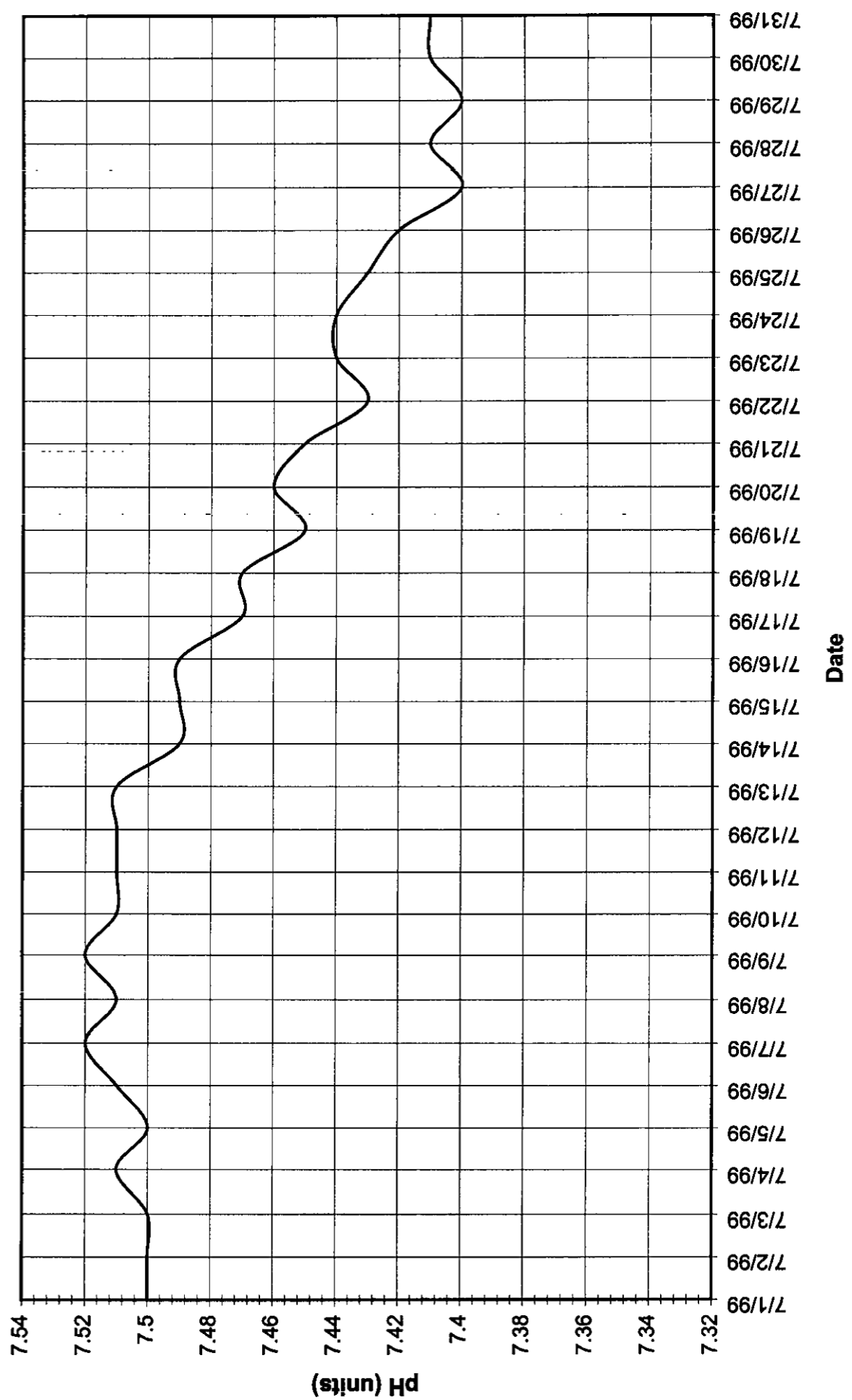
- SAMPLE -
1999 Water Quality Study
Downstream Temperature Sampling
Oconto Falls (Lower) Hydroelectric Project - FERC Project #2689



- SAMPLE -
1999 Water Quality Study
Downstream D.O. Sampling
Oconto Falls (Lower) Hydroelectric Project - FERC Project #2689



- SAMPLE -
1999 Water Quality Study
Downstream pH Sampling
Oconto Falls (Lower) Hydroelectric Project - FERC Project #2689





George E. Meyer
Secretary

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Lake Michigan District Headquarters
1125 N. Military Avenue
P.O. Box 10448
Green Bay, Wisconsin 54307-0448
TELEPHONE: (414)492-5800
TELEFAX: (414)492-5913

June 23, 1993

IN REPLY REFER TO: 1600

Ms. Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol St., NE
Washington, D.C. 20426:

SUBJECT: Comments and Recommendations for Terms and Conditions, FERC Project No. 2689, Oconto Falls Project, Scott Paper Company, Oconto River, Wisconsin.

Dear Ms. Cashell:

We have received the license application prepared by Mead and Hunt for Scott Paper Company for the above referenced project. Outlined below are the Wisconsin Department of Natural Resources (WDNR) comments on the application, as well as our recommended license terms and conditions for your consideration. In accordance with the Commission's regulations, we have enclosed this original plus fourteen (14) copies.

GENERAL COMMENTS

In general, the application adequately addresses most of the issues we identified in the first two stages of the pre-application consultation. Following are some additional issues which need to be addressed.

1. Compliance with Chapters 30 and 31, Wis. Stats., and Wisconsin Administrative Code NR 116 and NR 333.
 - a. Minimum spillway capacity. The required minimum capacity varies between the 50 and 1,000 year event depending on the land use controls in place below the structure. In the absence of land use controls, all dams are assumed to be high hazard and must have a minimum spillway capacity of the 1,000 year event. Appendix 21 shows that the Q1000 flow is not available. The largest recorded flood is 6,790 cfs, which is greater than the spillway capacity of 6,600 cfs. The Oconto County Flood Insurance Study lists the Q500 at 7,850 cfs. The spillway does not meet the requirements of NR 333.
 - b. Stability calculations. In 1989 the Department requested calculations sufficient to demonstrate that the structure will be stable up to the design flood. These are not included in the application package.

- c. Operation and maintenance plan. The Operations Plan included in Appendix 21 is complete and meets Department requirements.
- d. Emergency Action Plan. The operations Plan in Appendix 21 does not meet the Emergency Action Plan requirements in NR 333 since it does not include a dam break analysis.
- e. The Department's dam safety inspection program exempts federally inspected dams provided the inspection reports are made available to the Department. There should be an inspection schedule and provision included in the application to ensure those reports are transmitted to the Department. The most recent FERC dam inspection report we have in our files is from 1983.
- f. Chapter 30, Wis. State Stats., regulates construction (other than the dam construction) within and around navigable waters. Issuance of a FERC license will not impair the state's ability to regulate these areas, and the full substantive and procedural requirements of this chapter will remain in force.
- g. Chapter 31, Wis. State Stats., regulates dam construction, operation and maintenance. The state recognizes that the Federal Government has superior jurisdiction in matters of dam safety and operation. We request, through the license procedure, that the project be bound by the substantive requirements of Chapter 31 in effect at the time of licensing, but remain free from the procedural requirements. This requirement will allow the state to retain its review authority while allowing the project to remain free from the hearing requirements contained within Chapter 31.

RECOMMENDED LICENSE TERMS AND CONDITIONS PURSUANT TO SECTION 10(j) OF THE FEDERAL POWER ACT

The WDNR has expressed concerns to the applicant relative to this project and its operation and the associated potential impacts on non-power values including fish, wildlife, water quality, and recreation. Accordingly, we recommend the following conditions be incorporated as articles into any license issued for this project to protect and enhance biological resources and public use of the Oconto River. If the Commission determines that any of our recommendations are inconsistent with the purposes and requirements of the Federal Power Act, as amended by the Electric Consumer Protection Act of 1986, or other applicable law, we request the Commission contact the WDNR to resolve the inconsistencies prior to issuance of a license.

1. Project Operations

- a. The WDNR concurs with the applicant's commitment to operate the Oconto Falls Project in a run-of-river mode with no peaking. Instantaneous inflow to the project should be passed as instantaneous outflow.
- b. The target pond elevation shall be 701.7 \pm 0.3 feet.
- c. Instantaneous run of river operation may be temporarily modified if required by operating emergencies beyond the control of the licensee. If an emergency occurs that

affects water levels and flow releases, the licensee shall notify the Wisconsin Department of Natural Resources office in Marinette, Wisconsin, so they can be prepared to respond to public inquiries.

Justification: Fluctuations of flow from peaking operations have been shown to reduce river productivity, reduce the food base of aquatic plants and bottom dwelling invertebrates on which the fish populations depend, and reduce wildlife populations which depend on the river for food and cover. A run-of-river mode with minimal fluctuation in the flowage tends to stabilize environmental conditions both upstream and downstream from the dam. While the tailwater may undergo weekly and monthly changes in flow, the habitat for fish and other aquatic life is not subjected to large daily changes in flow. Consequently, with a run-of-river operation, the riverine habitat is typically available on a day to day basis. Accordingly the habitat provides relatively dependable living conditions for fish and other aquatic life on a daily and seasonal basis. Further, a run-of-river mode of operation closely mimics an unimpounded river flowing under natural conditions, which are the conditions to which fish and other aquatic life have evolved and adapted.

2. Operational Compliance Monitoring

- a. A large visible staff gauge shall be installed in the headwater of this project. The target elevation of the reservoir and the band width shall be painted on the staff gauge. The exact location of the gauge should be identified with concurrence from the WDNR and the U.S. Fish and Wildlife Service (the agencies).
- b. Maintain an automatic water level sensor to continuously monitor and record headwater elevation for the period of the license.
- c. The applicant shall maintain a daily record (log) of operation and provide any pertinent information to the agencies upon request, including turbine operation, headwater elevations, and flow releases through the power house and spillway updated on a 30 minute basis. This data shall be provided to the agencies upon request.

Justification: This recommendation is intended to demonstrate compliance with run-of-river operation. Compliance at all times with recommended operating conditions is necessary to provide relatively stable living conditions for fish and wildlife species and protect the habitats on which they depend (i.e., spawning areas, wetlands), as well as to provide adequate flows for public recreational and navigation opportunities.

3. Reservoir Drawdowns

The applicant shall coordinate with the WDNR on all emergency and planned maintenance drawdowns as follows:

- a. Applicant shall notify the WDNR at the earliest possible opportunity, but no later than twenty-four (24) hours of any proposed or already enacted emergency flowage

drawdown done to prevent dam failure and/or imminent risk to public health and safety. If possible, applicant shall consult with the WDNR in determining appropriate response measures. After the emergency is passed, applicant shall consult with the WDNR on proposed remedial action and flowage level restoration. Within thirty (30) days after the emergency drawdown, applicant shall consult with and submit a report to the WDNR describing the emergency, action taken, remedial measures proposed, and measures proposed to prevent reoccurrence.

- b. For proposed reservoir drawdowns (and refills) for dam maintenance purposes, applicant shall consult with and follow WDNR prescriptions aimed at minimizing potential adverse environmental and social effects. Applicant shall provide at least two (2) months advance notice of its proposed drawdown to allow a reasonable time for the WDNR consideration of alternatives to prevent or minimize adverse impacts.

Justification: The timing, duration and rate of drawdowns can have significant adverse impacts to aquatic and wildlife resources and their habitats, public recreation use, and water quality. Consultation with the agencies could minimize or avoid such impacts. Sufficient advance notice of planned drawdowns is needed to assess possible adverse impacts and identify suitable avoidance measures.

4. Flow Continuation During Power Outages

- a. The applicant shall be required to pass river inflow instantaneously or within a few minutes in case the turbine or turbines are shut down because of a total plant blackout.

Justification: This recommendation is intended to avoid any interruption of flow below the dam which would dewater aquatic habitat in the tailwater area and could kill small fish and other aquatic life. It would be particularly harmful if a power outage caused fish habitat to be dewatered during spring and early summer when several species of fish are spawning in the tailwater.

5. Compliance with Applicable State Laws

The Department requests that the FERC include, as an article within the license, the requirement that the applicant perform a dambreak analysis which meets the requirements of Wisconsin Administrative Code NR 116 "Wisconsin's Floodplain Management Program" and NR 333 "Dam Design and Construction Standards". Copies of the relevant regulations are attached. We believe this request is reasonable and necessary to protect the State's interest in protection of life, health and property.

Justification:

- a. The applicant has failed to show that they have complied with the substantive requirements of NR 333. This code was designed to be used in conjunction with NR 116 "Wisconsin's Floodplain Management Program" to identify flood prone areas below dams and to actively regulate these areas by requiring municipal governments to zone affected areas. These

regulations are intended to fix or control the downstream development and hazard potential. The state hopes to minimize loss of life and property by controlling hazard area development resulting from flooding and dam failures. The area delineated by a dam break analysis is a potential hazard area which the State requires communities to address in their zoning ordinances.

b. CFR 18, Section 12.20 requires the applicant to develop an emergency action plan (EAP) "...in consultation and cooperation with appropriate Federal, State and local agencies responsible for public health and safety". The State Department of Natural Resources and local units of government are responsible for implementing programs to protect life, health and property. It is necessary to perform the analysis consistent with NR 333 to characterize the flood prone areas below the dam in accordance with the mandatory concerns of state and local regulations. The applicant has not provided any information which would allow the agencies to implement its flood protection programs below this dam.

c. Executive Order No. 11988 directed Federal agencies to implement programs to minimize the impact of floods on human safety, health and welfare. The E.O. directed agencies to take floodplain management into account when formulating or evaluating any water and land use plans and required agencies to evaluate land and water resources plans appropriate to the degree of hazard involved. While FERC has apparently not directly implemented this E.O., FERC recognized in its 1979 draft regulation that the goals of the E.O. are consistent with the public interest. Accordingly the application requirements in CFR 18, section 4.51(f)(1) require that applicants identify as part of Exhibit "E", "...the presence of any floodplain and the occurrence of flood events in the vicinity of the project, and any other subjects helpful to an understanding of the setting." Wisconsin Administrative Code NR 116 requires that areas downstream of dams be delineated and regulated assuming failure of the dam during the regional event. Although the applicant's EAP includes a dambreak analysis, they have not demonstrated it is sufficient and consistent with NR 116. To date, the applicant has not provided complete information which would allow the State and local agencies to implement appropriate floodplain zoning below the dam to protect life, health and property. In accordance with the facts outlined above, we respectfully request that you require the applicant to submit information which satisfies the requirements of Wisconsin Administrative Code NR 116 and NR 333.

6. Recreation Use and Enjoyment

The applicant shall develop the following facility for free, safe, and enjoyable public recreation use of project lands and associated waters, within twelve months of license issuance:

- a. A handicapped accessible canoe access site shall be developed in the tailwaters of this project.
- b. A handicapped accessible four car parking area should be developed to provide parking for the canoe access.
- c. The applicant shall continue to operate and maintain all of the recreational facilities associated with this project.

Justification: This project has the potential to provide a significant amount of additional recreation with the development of a safe handicap accessible canoe portage, access parking site and appropriate signage.

7. Upstream Fish Passage

- a. The licensee, upon request by the WDNR to the Commission and with Commission approval of that request, shall complete an upstream fish passage plan. This plan shall include the following: 1) contracting with a consultant experienced in the design of fish passage devices; 2) design and conduct an evaluation of all potential devices to provide fish passage at the Oconto Falls Project in consultation with the WDNR; 3) design and conduct an evaluation of all potential construction materials and methods, including costs for each material and method, to be potentially used in the development of fish passage at the Oconto Falls site in consultation with the WDNR; and 4) determine if any of the potential fish passage devices can pass fish at this project in consultation with the WDNR. If a device is determined to provide economical fish passage at this site by the WDNR, the licensee shall design and construct such a device within 24 months of such a request. All design criteria shall be specified in consultation with the WDNR and with approval of the Commission.

All fish passage facility effectiveness will be determined by a study designed and conducted by the licensee with WDNR consultation and approval by the Commission. All modifications to the passage devices to meet both engineering and biological design specifications shall be done by the licensee.

Justification: It is known that many of the fish species that inhabit coolwater river systems such as the Oconto, utilize large amounts of riverine habitat and undertake long movements throughout the year. Smallmouth bass, walleye, lake sturgeon, channel catfish, brown trout, and yellow perch all have been documented to undertake long distance migrations. The disruption of these movements by dams may have significant implications for the fish populations in these rivers. The location of spawning habitat, overwinter habitat, and foraging habitat may be blocked by the presence of dams, hence these fish populations have to use alternate less desirable habitats. In the State of Wisconsin, we have State Statutes (31.02(4)) which requires the owner of a dam to provide adequate fish passage when the WDNR deems it necessary. This is one of the oldest resource laws in Wisconsin, dating back to 1839, which shows that we have always considered the presence of dams on our river systems to be an obstacle to fish movement.

The WDNR is requesting that the licensee provide appropriate fish passage at this site if and when the WDNR requests that passage be provided. Any such request would be based on the development of a river management plan on the Oconto River, which would address the question of fish passage. Any such plan would be submitted as a comprehensive plan to the Commission.

8. Water Quality Monitoring

Except for natural conditions, the licensee shall maintain the following state water quality standards for dissolved oxygen, temperature, and pH in the project waters (Wisconsin Administrative Code NR 102.04):

- a. The dissolved oxygen shall not be lowered to less than 5 mg/L at any time.
- b. There shall be no temperature changes that may adversely affect aquatic life. Natural daily and seasonal temperature fluctuations shall be maintained. The maximum temperature rise at the edge of the mixing zone above the existing natural temperature shall not exceed 5°F. The temperature shall not exceed 89°F at any time.
- c. The pH shall be 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.
- d. The licensee shall begin a water quality monitoring program within five years after a new license is issued. This monitoring program shall then be repeated every five years thereafter for the period of the license. Dissolved oxygen, pH and temperature readings shall be taken every 30 minutes starting on July 1 and continuing through September 30. Monitoring shall take place in a location representative of the release water in the tailrace. Reservoir dissolved oxygen and temperature profile measurements shall be taken at one meter intervals, in the deepest part of the reservoir, once per week during the same period as described above.

The sampling protocol shall follow the 1990 data collections. Raw data shall be submitted to the WDNR along with graphed results.

If violations of the state surface water quality standards occur, the licensee and the WDNR, shall jointly discuss and agree upon appropriate mitigation measures to be taken by the licensee.

Justification: The above surface water quality standards are those that all waters in this category (Fish and Aquatic Life) have to meet by state statute. The continuous monitoring of dissolved oxygen, temperature and pH is needed to ensure compliance with these state water quality standards and to protect the aquatic resources.

9. Reopener Article

- a. The licensee shall for the conservation and development of fish and wildlife resources, construct, maintain, and operate, or arrange for the construction, maintenance, and operation of such reasonable modifications of the project structures and operation, as may be ordered by the Commission upon its own motion or upon the recommendation of the Secretary of the Interior or the fish and wildlife agencies or agencies of any state in which the project or a part thereof is located, after noticed and opportunity for hearing.

Justification: This license article is recommended to provide for unexpected resource problems that may occur during the license period. It is critical that this license article be incorporated into the license to ensure that future fish and wildlife issues have a mechanism to be resolved.

The Department appreciates the opportunity to review, comment, and make recommendations on this license application. If you or your staff have questions on this letter or need additional information, please contact me at (414) 492-5818.

Sincerely,



Al Stranz
FERC Project Coordinator

CC: D. Gebken EA/6
R. Roden WZ/6
K. Scheidegger FM/4
M. Gansberg LMD
D. Rogers LMD
J. Holzward LMD
R. Fassbender LMD
M. Gansberg LMD
T. Thuemler Marinette
R. Langhurst Shawano
D. Heath NCD
R. Rosenberger Marinette
Janet Smith USFWS - Green Bay

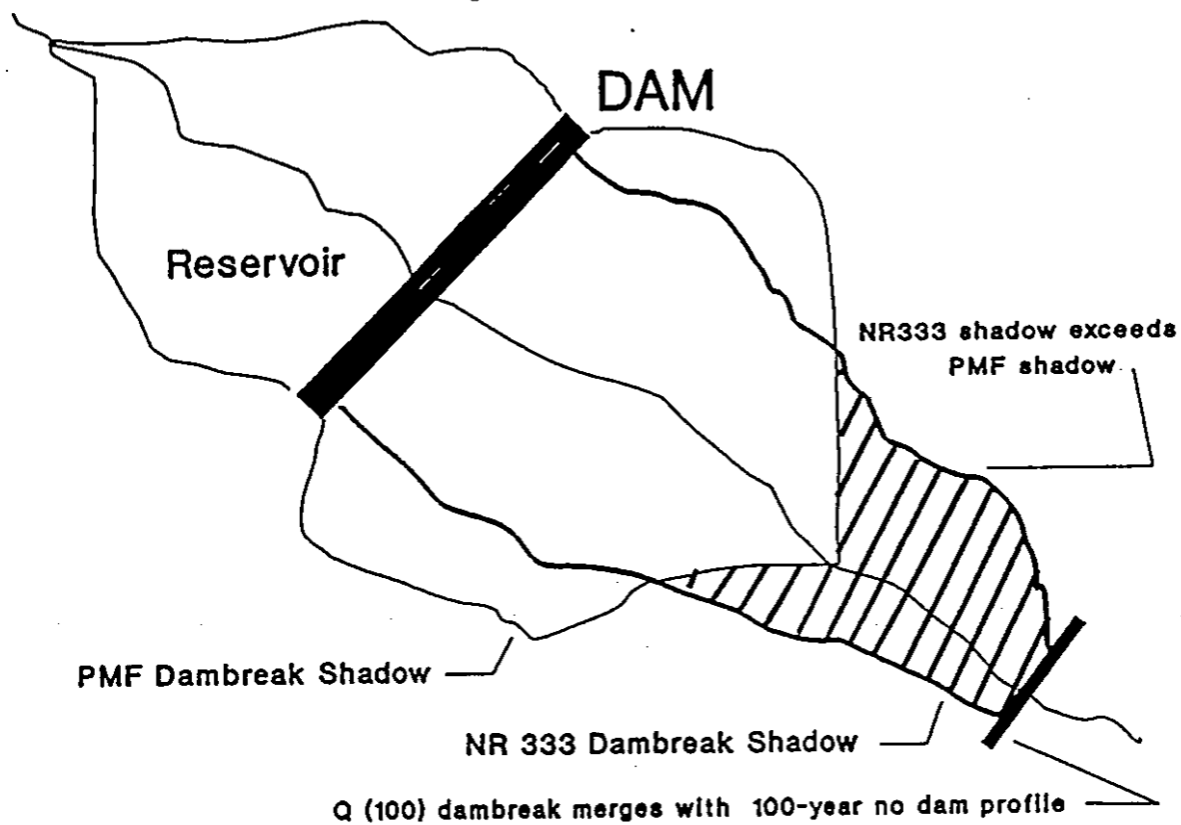
Michael Goodnough - Scott Paper Company
106 East Central Avenue
Oconto Falls, WI 54154

Dennis Geary - Mead and Hunt, Inc.
605 Watts Road, Suite 101
Madison, WI 53719-2700

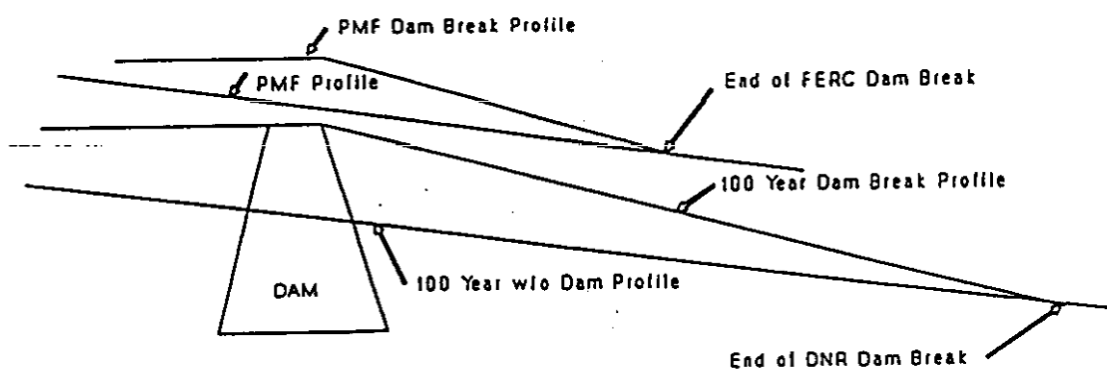
Dean Shumway - Director, Division of Project Review,
Office of Hydropower Licensing, Federal Energy Regulatory
Commission, Room 1027,
825 North Capitol Street NE, Washington, DC 20426

ATTACHMENTS

Floodplain Zoning



Oconto Falls Hydroelectric on the Oconto River, FERC #2689 - June 22, 1993 6.



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Schofield Operations:
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Fax: 715-359-1049

February 24, 1998

FILE COPY

Mr. Thomas Thuemler, Regional FERC Coordinator
Wisconsin Department of Natural Resources
Box 127, 101 N. Ogden Rd.
Peshtigo, WI 54157

Re: *Oconto Falls (Lower) Project, No. 2689, N.E.W. Hydro, Inc.*
Water Quality Monitoring Plan - FERC Article 404

Dear Tom:

Enclosed are three (3) copies of our proposed Water Quality Monitoring Plan for the above referenced project. Care was taken to write the plan consistent with the suggestions of the WDNR per your agency's correspondence.

The plan is being submitted to you for your review and comment in fulfillment of Article 404 in the Order Issuing New License issued May 11, 1994. The article requires that "within 4 years after the date of issuance of this license, the Licensee shall file with the Commission, for approval, a plan to monitor dissolved oxygen (DO), temperature and pH in the Oconto Falls Project impoundment and tailrace beginning 5 years after license issuance and every 5 years thereafter".

Please contact me at your convenience if you have any questions or wish discussion. Your cooperation is appreciated.

Sincerely,

North American Hydro, Inc.

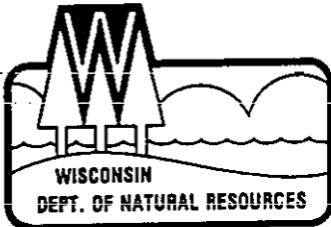
A handwritten signature in black ink, appearing to read "Loyal Gake", written over a horizontal line.

Loyal Gake, P.E.

Director of Development and
Regulatory Compliance

Enclosure

Cc: Secretary, FERC
Ron Lesniak, CRO



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

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

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

March 19, 1998

IN REPLY REFER TO: 3600

Mr. Loyal Gake
North American Hydro, Inc.
P.O. Box 167
Neshkoro, WI 54960

RECEIVED
NORTH AMERICAN HYDRO
MAR 20 1998

SUBJECT: Review of Water Quality Monitoring Plan - Oconto Falls Project FERC No. 2689

Dear Loyal:

We have reviewed your proposed Water Quality Monitoring Plan for the Lower Oconto Falls Project (FERC No. 2689) and have the following comments.

In general we felt that this was a very well thought out and presented plan. One item of concern is that the agencies would not know if there were any water quality violations at this project until we receive the monthly report, which would be at least ten days after the end of the month. We would appreciate a call that would inform us of any water quality violations as soon as these become apparent to you. At that time, if the problem still existed, we could jointly work out a remedy to prevent the continuation or the recurrence of any violation.

On page 5 of the proposed plan, under monthly data submissions, it states that "The WDNR and USFWS representatives will mail NAH a cover letter and a written report of findings and any comments on submitted data within thirty (30) days of receipt of the NAH furnished data." I would propose that this wording be changed to state that the agencies may mail NAH a cover letter.... If the agencies see no problems in the monthly data, there is no reason to have them send a report back to NAH.

One final comment would be that we would like to see you coordinate future years monitoring between the Lower Oconto Falls Project (FERC No. 2689) with the Upper Oconto Falls Project (FERC No. 2523). A water quality monitoring plan is also required in the recent license that was issued for the upper project. The timing of the water quality monitoring surveys every five years should be scheduled so that they coincide in the same years. This would allow for a more holistic look at the water quality in the Oconto River.

If you have any questions on these comments please feel free to give me a call.

Sincerely,

Thomas F. Thuemler
Regional FERC Coordinator

cc: Jim Fossum - FWS
c:\data\wp\tom\2689#1.wqm

Mary Gansberg - NERH

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May 8, 1998

Mr. Thomas Thuemler, Regional FERC Coordinator
Wisconsin Department of Natural Resources
Box 127, 101 N. Ogden Rd.
Peshtigo, WI 54157

Re: *Oconto Falls (Lower) Project, No. 2689, N.E.W. Hydro, Inc.*
Water Quality Monitoring Plan – FERC Article 404

Dear Tom:

Enclosed are three (3) copies of our Water Quality Monitoring Plan Per License Article 404 for the Oconto Falls (Lower) Hydroelectric Project, FERC Project #2689, N.E.W. Hydro, Inc. recently submitted to the Federal Energy Regulatory Commission. In response to your March 19, 1998 letter to our proposed Water Quality Monitoring Plan for the Lower Oconto Falls Project (FERC No. 2689), we made the following revisions to accommodate your comments:

A "Special Notifications" paragraph has been added on page 6, stating that WDNR and USFWS will be notified within 48 hours via telephone, with a written follow-up via US Postal Service delivery, following discovery of any data logged below minimum State of Wisconsin Water Quality Standards, conditions delaying or preventing accurate data logging, and/or equipment loss or failure.

The wording on page 5, under "Monthly Data Submissions" stating that "The WDNR and USFWS representatives will mail NAH a cover letter and a written report of findings and any comments on submitted data within thirty (30) days of receipt of the NAH furnished data." has been changed to read "The WDNR and USFWS representatives will mail NAH any comments regarding needs or concerns on submitted data within thirty (30) days of receipt of the NAH furnished data". This eliminates the need for monthly agency response *unless* the data indicates an agency need or concern.



At this time it appears we would be able coordinate future monitoring of the Upper Oconto Falls Project (FERC No. 2325) and Lower Oconto Falls Project (FERC No. 2689) to coincide during the same years. Coordination would require a revision of the Upper Oconto Falls license by the FERC to delay water quality monitoring one year in order to fall on the 5th year (year 2004) of the Lower Oconto Falls Project monitor plan. We ask for your recommendation to the FERC to implement this change to the Upper Oconto Falls Project license when sought.

Because of the impending deadline, the "final" version of the water quality monitoring plan had to be submitted to the Commission. We would be willing to consider amending the plan if you have a concern about the latest changes.

Please contact me at your convenience if you have any questions or wish discussion. Your cooperation and understanding are appreciated.

Sincerely,

North American Hydro, Inc.

A handwritten signature in black ink, appearing to read "Loyal Gake", written in a cursive style.

Loyal Gake, P.E.
Director of Development and
Regulatory Compliance

Enclosure - as noted

Cc: Secretary, FERC
Ron Lesniak, CRO
Jim Fossum, USFWS

98-04-05 loyal ocfls lower prop water quality mon plan cov let dnr.doc