98 FERC ¶ 62,209

**UNITED STATES OF AMERICA**
**FEDERAL ENERGY REGULATORY COMMISSION**

City of Black River Falls, Wisconsin

Project No. 3052-003
Wisconsin

**ORDER ISSUING SUBSEQUENT LICENSE**
(MINOR PROJECT)

(March 27, 2002)

INTRODUCTION

Pursuant to Part I of the Federal Power Act (FPA),[1] the City of Black River Falls, Wisconsin (City or Licensee) filed an application on August 27, 1999, for a subsequent minor license to continue to operate the existing 920-kilowatt (kW) Black River Falls Hydroelectric Project No. 3052. The project is located on the Black River[2] in the City of Black River Falls, Jackson County, Wisconsin. There are no Federal lands within the project boundary. The City proposes no new capacity.

BACKGROUND

The Commission issued a public notice accepting the application for filing on March 2, 2000. No motions to intervene were filed. The Commission issued a Scoping Document to solicit written comments on issues to be considered in the Environmental Analysis (EA) on October 16, 2000.[3] No comments on the Scoping Document were received. The Commission then issued a public notice on December 6, 2001, indicating the project was ready for environmental analysis and soliciting comments, recommendations, prescriptions, and terms and conditions. The Commission received

[1] 16 U.S.C. §§ 791a - 825r.

[2] The Black River is a navigable waterway of the United States. See 16 FERC ¶ 62,307 (1981). Therefore, Section 23 (b) (1) of the FPA, 16 U.S.C. § 817 (1), requires the project to be licensed.

[3] We indicated in the Scoping Document that if no substantive comments were received on the EA, it would serve as our Final EA. No substantive comments were received.

On January 23, 2002, the Commission's staff made available for public comment the EA. The EA recommended that the project be licensed with certain additional environmental measures, and found that licensing the project would not constitute a major federal action significantly affecting the quality of the human environment. The comments on the EA filed by WDNR and Interior have been fully considered and addressed in this order in determining whether, and under what conditions, to issue this license.

## PROJECT DESCRIPTION

The Black River Falls Hydroelectric Project, owned and operated by the City of Black River Falls, is an existing licensed hydroelectric project located on the Black River in Jackson County, Wisconsin. The existing facilities consist of a 198-acre reservoir, concrete dam, and powerhouse with a total installed capacity of 920 kilowatts . A more detailed description can be found in ordering paragraph (B)(2).

## COMPLIANCE HISTORY PURSUANT TO SECTION 15(a)(3)(A)

Commission staff has reviewed the City's compliance with the terms and conditions of the existing license. Staff found that the City's overall record of making timely filings and compliance with its license is satisfactory.

## WATER QUALITY CERTIFICATION

Under Section 401(a)(1) of the Clean Water Act (CWA), the Commission may not issue a license for a hydroelectric project unless either the licensee obtains a water quality certificate (WQC) from the certifying agency of the state in which the project discharge will originate, or the certifying agency waives certification. Section 401(a)(1) states that certification is deemed waived if the certifying agency fails to act on a water quality certification request within a reasonable period of time, not to exceed one year.[4] Section 401(d) of the CWA provides that state certification shall set forth conditions necessary to ensure that licensees comply with specific portions of the CWA and with appropriate requirements of state law.[5]

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[4] Section 401(a)(1) requires an applicant for a federal license or permit to conduct any activity that may result in any discharge into navigable waters to obtain from the state in which the discharge originates certification that any such discharge will comply with applicable water quality standards.

[5] 33 U.S.C. Section 1341(d).

The City requested a WQC from WDNR for the Black River Falls Project on November 25, 1998. This request was denied without prejudice by WDNR on November 30, 1998, due to lack of information. The City provided additional information and again requested a WQC on September 17, 1999. WDNR then requested additional information from the City by letters dated October 4, 1999, and January 5, 2000, in order to make the WQC application complete. The City responded to WDNR by letters dated December 14, 1999, and January 12, 2000. WDNR denied the second request for a WQC without prejudice on February 9, 2000, due to lack of information. In May and June of 2000, the City and WDNR conducted negotiations with assistance from FERC non-decisional staff, in an effort to resolve outstanding issues concerning the WQC. On August 11, 2001, WDNR issued a WQC for the Black River Falls Project. In a letter dated August 25, 2001, the City accepted the conditions of the WQC. The WQC includes conditions which are set forth in Appendix A of this order, [6] and incorporated in the license (see ordering paragraph E).[7]

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[6]As the Commission has acknowledged in Kennebec Water Power Company, 81 FERC ¶ 61,254 (1997), it is required by the decision of the United States Court of Appeals in American Rivers, *et al.* v. FERC, 129 F.3d99 (D.C. Cir. 1997), to accept all conditions in a water quality certification as conditions on a license, even if it believes that the conditions may be outside the scope of Section 401. While I have included certain of the provisions as license articles, all of the Section 401 conditions are conditions to this license. In any event, nothing in the conditions of the water quality certification shall be viewed as restricting the Commission's ability or the licensee's obligation, under the FPA, to take timely action necessary to protect human life or the environment.

[7]The Wisconsin Department of Natural Resources filed comments (letter filed March 6, 2002) on the EA stating that the precise standards required as part of the WQC were not listed in the summary of enhancement measures in the EA. WDNR also clarified that the purpose of the compliance plan is not to re-examine the agreed upon compliance standard or monitoring protocols, but instead to develop and conduct tests to monitor compliance and identify any operational problems or constraints that may complicate or prevent compliance with conditions of the WQC. As stated above, all the conditions of this WQC are conditions to this license. Article 403 requires an operating and compliance plan and does not advise the licensee to re-examine the compliance standard but to consult with the agencies and Commission if the requirements of the plan cannot be met.

## THREATENED AND ENDANGERED SPECIES

Section 7(a) of the Endangered Species Act of 1973 (ESA)[8] requires federal agencies to ensure that their actions are not likely to jeopardize the continued existence of federally listed threatened and endangered species, or result in the destruction or adverse modification of designated critical habitat. Interior recommended that the City prepare a Bald Eagle Management and Protection Plan (BEMPP) for project land that protects bald eagles and their potential nest and perch trees from human disturbance or otherwise incompatible land uses. Article 406 requires the City to develop and implement a BEMPP. Additionally, Interior concluded that the continued operation of the Black River Falls Project will not affect federally-listed threatened or endangered species. This precludes the need for further action on this project as required by the ESA.[9]

## FISHWAY PRESCRIPTIONS

Section 18 of the FPA[10] provides that the Commission shall require the construction, maintenance, and operation by a licensee of such fishways as the Secretaries of the U.S. Departments of Commerce and of the Interior may prescribe. By letter filed February 2, 2001, Interior requested the Commission to reserve Interior's authority to prescribe fish passage facilities for the project. Consistent with the Commission's policy, Article 401 of this license reserves the Commission's authority to require fishways that may be prescribed by Interior for the Black River Falls Project.

## RECOMMENDATIONS OF FEDERAL AND STATE FISH AND WILDLIFE AGENCIES

Section 10(j)(1) of the FPA[11] requires the Commission, when issuing a license, to include conditions based upon recommendations of federal and state fish and wildlife

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[8] 16 U.S.C. § 1536(a).

[9] U.S. Department of the Interior filed comments (letter filed February 26, 2002) on the EA reemphasizing the need to protect any perch trees on project lands. The City filed response comments (letter filed March 6, 2002) clarifying that all large or super-canopy trees located in proximity to the project are not on project lands.

[10] 16 U.S.C. § 811.

[11] 16 U.S.C. § 803(j)(1).

agencies submitted pursuant to the Fish and Wildlife Coordination Act,[12] to "adequately and equitably protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat)" affected by the project. If the Commission believes that any such recommendations may be inconsistent with the purpose and requirements of Part I of the FPA, or other applicable law, Section 10(j)(2) of the FPA requires the Commission and the agencies to attempt to resolve such inconsistencies, giving due weight to the recommendations, expertise, and statutory responsibilities of such agencies. If the Commission still does not adopt a recommendation, it must explain how the recommendation is inconsistent with Part I of the FPA or other applicable law and how the conditions imposed by the Commission adequately and equitably protect, mitigate damages to, and enhance fish and wildlife resources.

Interior filed recommendations for license conditions that were considered in the Section 10(j) process in this proceeding.[13] Included in this license are conditions based on Interior's recommendations (in addition to the City's proposal and WQC conditions) including requirements relating to: (1) an operating and compliance plan (Article 403); (2) consultation with Interior (in addition to WDNR as required by the WQC) after operating emergencies that affect water level and flow releases and before maintenance drawdowns (Articles 403 and 404); and (3) a bald eagle management and protection plan (Article 406).

In a telephone conversation with a representative from Interior,[14] Interior clarified a few of their recommendations: (1) they no longer recommend a water quality monitoring plan; (2) they no longer recommend a staff gage and monitoring of flows in the bypassed river reach; and (3) that the downstream USGS gage was sufficient and an additional tailwater elevation sensor was not necessary. After the clarification and modification of Interior's recommendations, Staff agreed with all Interior's recommendations filed pursuant to Section 10(j) of the FPA.

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[12]16 U.S.C. § 661 *et seq.*

[13]See letter filed February 2, 2001, for Interior recommendations submitted under Section 10(j) of the FPA.

[14]See Telephone conversation with Laurel Bennet of the U.S. Fish and Wildlife Service, U.S. Department of the Interior, Green Bay, WI. January 7, 2002.

## COMMENTS ON THE ENVIRONMENTAL ASSESSMENT

Comments on the Environmental Assessment (EA) were filed by Interior (letter filed February 26, 2002), WDNR (letter filed March 6, 2002), and the City (letter filed March 6, 2002). Comments on the WQC are noted above in that section. Comments on threatened and endangered species are noted above in that section. Other comments are addressed here. There is no need for a separate final EA to be prepared to address the agencies' concerns.

### A. Fisheries Resources

The EA states that fish species found in project tailwater are similar to those found in the project impoundment. WDNR takes issues with this characterization.[15] WDNR requests that the state listed species upstream and downstream of the project be recognized when describing the fisheries resources of the Black River. The City responded that since some of the species of concern found in the upstream reach also occur downstream, WDNR's assertion that there is a difference between the upstream and downstream reaches is unsubstantiated.

Although there are additional species of state concern, staff analysis of the environmental effects to the fisheries resources remain the same. Fisheries resources are adequately protected by the requirements of Articles 401, 402, 403, 404, and 405.

## CONSISTENCY WITH COMPREHENSIVE PLANS

Section 10(a)(2)(A) of the FPA[16] requires the Commission to consider the extent to which a hydroelectric project is consistent with federal and state comprehensive plans

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[15]WDNR references page E-11 of the final license application for the Black River Falls Project, which lists fish species with state special concern, threatened or endangered status. WDNR also notes that Appendix 7 of the final license application provides recent fish stocking practices and a more accurate representation of WDNR's fisheries management practices within the past decade. WDNR did not request any changes to the conclusions set forth in the EA.

[16]16 U.S.C. § 803(a)(2)(A).

for improving, developing, or conserving waterways affected by the project.[17] Nine plans address resources relevant to the Black River Falls Project.[18] No conflicts were found.

COMPREHENSIVE DEVELOPMENT

In determining whether a proposed hydroelectric power project will be best adapted to a comprehensive plan for developing a waterway for beneficial public uses, pursuant to Section 10(a)(1) of the FPA, the Commission considers a number of public interest factors, including the projected economic benefits of project power.

Under the Commission's approach to evaluating the economics of hydropower projects, as articulated in Mead Corp.,[19] the Commission employs an analysis that uses current costs to compare the costs of the project and likely alternative power, with no forecasts concerning potential future inflation, escalation, or deflation beyond the license issuance date. The basic purpose of the Commission's economic analysis is to provide a general estimate of the potential power benefits and the costs of a project, and of reasonable alternatives to project power. The estimate helps to support an informed decision concerning what is in the public interest with respect to a proposed license. In making its decision, the Commission considers the project power benefits both with the applicant's proposed measures and with the Commission's modifications and additions to the applicant's proposal.

The levelized annual cost of maintaining and operating the project currently would be about $132,352 (30.09 mills/kWh). The cost of alternative power is 37.76 mills/kWh; therefore the project would produce about 4.398 gigawatt-hours (GWh) annually, having a total value of about $166,070. The net annual benefit of the Black River Falls Hydroelectric Project would be about $33,718 (7.67 mills/kWh).

Under the applicant's proposal with staff-recommended enhancements, the levelized annual cost of producing the power would be about $143,378 (32.60 mills/kWh). The project would produce power with an annual value of about $166,070 (37.76 mills/kWh) as stated above. The net annual benefit of the Black River Falls Hydroelectric Project would be about $22,692 (5.16 mills/kWh). Under staff's proposal, annual net benefits would decrease by about $11,026.

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[17]Comprehensive plans for this purpose are defined at 18 C.F.R. § 2.19 (1997).

[18]See Section IX of the EA.

[19]72 FERC ¶ 61,027 (1995).

In analyzing public interest factors, the Commission takes into account that hydroelectric projects offer unique operational benefits to the electric utility system (ancillary benefits). These benefits include their value as almost instantaneous load-following response to dampen voltage and frequency instability on the transmission system, system-power-factor-correction, and as a source of power available to help in quickly putting fossil-fuel based generating stations back on line following a major utility system or regional blackout.

Ancillary benefits are now mostly priced at rates that recover only the cost of providing the electric service at issue, which does not resemble the prices that would occur in competitive markets. As competitive markets for ancillary benefits begin to develop, the ability of hydroelectric projects to provide ancillary services to the system will increase the benefits of the project.

Based on our independent review and evaluation of the Black River Falls Project, recommendations from the resource agencies and other stakeholders, and the no-action alternative, as documented in the EA, the Black River Falls Project, with the staff-recommended measures, is the preferred alternative.

This alternative was selected because: (1) issuance of a new license would serve to maintain a beneficial, dependable, and an inexpensive source of electric energy; and (2) the required environmental measures would protect and enhance fish and wildlife, water quality, recreational, and cultural resources.

The preferred alternative includes the following measures:

(1) reserve the Commission's authority to require fishways as may be prescribed by Interior under Section 18 of the FPA (Article 401);

(2) operate the project in a run-of-river mode and maintain reservoir water surface elevations between 762.4 to 761.4 feet from April 1 to October 31 and 761.7 to 760.7 feet from November 1 to March 31 of each calendar year (Article 402);

(3) develop an operating and compliance plan, including the conditions of the WQC and recommendations from Interior (reservoir levels, discharge requirements, passing flow in event of project shutdown, gaging requirements, automatic water level recording device, minimum flow requirement in the bypassed river reach, hourly logs and maintenance of records of operations, and a staff gage) (Article 403);

(4) consult with WDNR and Interior after operating emergencies (Article 404);

(5) develop a fish stranding/rescue procedure, to immediately inspect the spillway channel area for stranded fish whenever the project Taintor gates are opened and immediately upon closure (Article 405);

(6) develop a bald eagle management and protection plan (Article 406);

(7) develop a historic resources management plan (Article 407); and

(8) develop a recreation plan, including maintenance, improvements, and signage (Article 408).[20]

OTHER ISSUES

A. Administrative Conditions

Section 10(e) of the FPA[21] provides that the Commission shall assess licensees annual charges to reimburse the United States for the costs of administering Part I of the FPA. However, the Commission does not assess administrative annual charges for projects less than 1,500 kW authorized installed capacity[22]; accordingly, since the installed capacity for this project is 425 kW, no annual administrative charge will be assessed.

B. Project Boundary Map

Minor license applicants are not required to file a project boundary map delineating the project works such as the dam, powerhouse, and reservoir. Therefore, no project boundary map is required for this project.

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[20]Form L-9 identifies standard articles to be included in the license for this project. The EA for this proceeding references a standard license article regarding future recreation development at the project. This referenced article is not included in Form L-9. As such, we have included a provision within article 408 that addresses future recreation development at the project.

[21]16 U.S.C. § 803(e).

[22]18 CFR § 11.(b)(1).

LICENSE TERM

Section 15(e) of the FPA[23] specifies that any license issued shall be for a term which the Commission determines to be in the public interest, but the term may not be less than 30 years nor more than 50 years. A 30-year license is issued for projects with little or no redevelopment, new construction, or new environmental mitigation and enhancement measures; a 40-year license is issued for projects with a moderate amount of such activities; and a 50-year license is issued for projects with extensive measures.

This license authorizes a moderate amount of new environmental mitigation measures relative to the size of the project. Accordingly, this license will be issued for a term of 40 years, effective the first day of the month in which the license is issued.

SUMMARY OF FINDINGS

The EA contains background information, analysis of effects, support for related license articles, and the basis for a finding of no significant impact on the environment. The design of this project is consistent with the engineering standards governing dam safety. The project would be safe if operated and maintained in accordance with the requirements of this license.

The Director orders:

(A) This license is issued to the City of Black River Falls, Wisconsin (licensee) for a period of 40 years, effective the first day of the month in which this order is issued, to operate and maintain the Black River Falls Hydroelectric Project. This license is subject to the terms and conditions of the Federal Power Act (FPA), which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the FPA.

[23] 16 U.S.C. §808(e)

(B) The project consists of:

(1) All land, to the extent of the licensee's interests in those lands, shown by Exhibit G filed August 27, 1999:

| Exhibit G Drawing | FERC No. | Showing |
|---|---|---|
| G-1 | 3052-1004 | Project Map |

(2) The Black River Falls Hydroelectric Project consists of the following facilities: (1) a 198-acre reservoir with a total storage capacity of 1,980 acre-feet; (2) a 382-foot-long dam consisting of (a) a 103-foot-long concrete gravity nonoverflow dam with crest elevation at 773.0 feet, mean sea level 1929 datum, (b) a 196-foot-long Taintor gate spillway, containing eight 20-foot-wide by 14-foot-high steel Taintor gates, and (c) a 83-foot-long flashboard spillway with 11-inch-high flashboards; (3) a nonoverflow concrete wall forming the left side of the powerhouse forebay; (4) headworks consisting of (a) six 5-foot-wide by 11-foot-high steel vertical slide head gates with 2½-inch spaced trashracks, (b) a forebay, and (c) powerhouse intake with a trashrack system with 1½-inch clear bar spacing; (5) a 75-foot by 85-foot powerhouse containing two generating units rated at 600 and 320 kilowatts, for a total installed capacity of 920 kilowatts, producing about 4.398 gigawatt-hours annually; (6) a nonoverflow concrete gravity section extending from the headworks to the right retaining wall; (7) a concrete retaining wall; (8) transmission lines connecting to a substation adjacent to the powerhouse; and (9) other appurtenances.

The project works generally described above are more specifically described in amended Exhibit A and shown by amended Exhibit F filed June 1, 2000:

| Exhibit F Drawing | FERC No. | Showing |
|---|---|---|
| F-1 | 3052-1001 | Typical Cross Sections and Site Plan |
| F-2 | 3052-1002 | Plan and Elevation of Dam |
| F-3 | 3052-1003 | Powerhouse Plan and Sections |

(3) All of the structures, fixtures, equipment, or facilities used to operate or maintain the project, all portable property that may be employed in connection with the

project, all riparian or other rights that are necessary or appropriate in the operation or maintenance of the project.

(C) The Exhibits A, F, and G described above are approved and made part of the license.

(D) The following sections of the FPA are waived and excluded from the license for this minor project:

> 4(b), except the second sentence; 4(e), insofar as it relates to approval of plans by the Chief of Engineers and the Secretary of the Army; 6, insofar as it relates to public notice and to the acceptance and expression in the license of terms and conditions of the FPA that are waived here; 10(c), insofar as it relates to depreciation reserves; 10(d); 10(f); 14, except insofar as the power of condemnation is reserved; 15; 16; 19; 20; and 22.

(E) This license is subject to the water quality certification conditions submitted by the Wisconsin Department of Natural Resources pursuant to Section 401(a) of the Clean Water Act, as those conditions are set forth in Appendix A to this order.

(F) This license is subject to the articles set forth in Form L-9 (October 1975), entitled "Terms and Conditions of License for Constructed Minor Project Affecting Navigable Waters of the United States," and the following additional articles:

Article 201. The licensee shall pay the United States the following annual charges, effective as of the first day of the month in which the license is issued:

For the purposes of reimbursing the United States for the Commission's administrative costs, pursuant to Part I of the Federal Power Act, a reasonable amount as determined in accordance with the provisions of the Commission's regulations in effect from time to time. The authorized installed capacity for that purpose is 920 kilowatts (kW). Under the regulations currently in effect, projects with authorized installed capacity of less than or equal to 1,500 kW will not be assessed an annual charge.

Article 202. The licensee shall file, within 45 days of the license issuance, three sets of aperture cards of the approved exhibit drawings. The sets must be reproduced on silver or gelatin microfilm and mounted on type D (3 1/4" X 7 3/8") aperture cards.

Prior to microfilming, the FERC Drawing Numbers (3052-1001 through 3052-1004) shall be shown in the margin below the title block of the approved drawing. After

mounting, the FERC Drawing Number must be typed on the upper right corner of each aperture card. Additionally the Project Number, FERC exhibits (e.g., F-1, G-1, etc.), Drawing title, and date of this order must be typed on the upper left corner of each aperture card. See Figure 1.

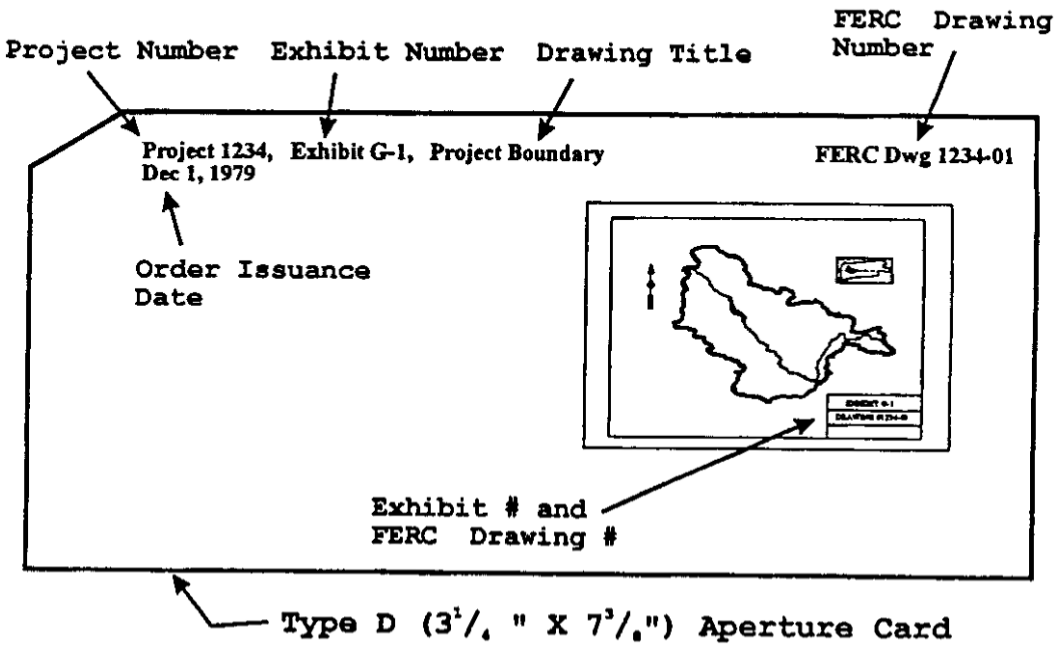


**Figure 1. Sample Aperture Card Format**

The original and one duplicate set of aperture cards shall be filed with the Secretary of the Commission, ATTN: OEP/DHAC. The remaining duplicate set of aperture cards shall be filed with the Commission's Chicago Regional Office.

Article 203. The licensee shall clear and keep clear to an adequate width all lands along open conduits and shall dispose of all temporary structures, unused timber, brush, refuse, or other material unnecessary for the purposes of the project which result from maintenance, operation, or alteration of the project works. All clearing of lands and disposal of unnecessary material shall be done with due diligence to the satisfaction of the authorized representative of the Commission and in accordance with appropriate federal, state, and local statutes and regulations.

Article 204. If the licensee's project was directly benefitted by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other

headwater improvement during the term of the original license (including extensions of that term by annual licenses), and if those headwater benefits were not previously assessed and reimbursed to the owner of the headwater improvement, the licensee shall reimburse the owner of the headwater improvement for those benefits, at such time as they are assessed, in the same manner as for benefits received during the term of this license.

Article 401. Authority is reserved to the Commission to require the licensee to construct, operate, and maintain, or to provide for the construction, operation, and maintenance of, such fishways as may be prescribed by the Secretary of the Interior under Section 18 of the Federal Power Act.

Article 402. The licensee shall operate the Black River Falls Project in a run-of-river (R-O-R) mode for the protection of water quality, and aquatic and recreational resources, such that the reservoir elevation is maintained between 762.4 to 761.4 feet from April 1 through October 31, and 761.7 to 760.7 feet from November 1 through March 31 of each calendar year.

The licensee shall at all times act to minimize the fluctuation of the reservoir surface elevation by maintaining a discharge from the project so that, at any point in time, flows, downstream of the project tailrace, approximate the sum of the inflows to the project reservoir. The licensee shall not use the operating band width for peaking purposes.

The R-O-R mode of operation may be temporarily modified if required by operating emergencies beyond the control of the licensee and for short periods (less than three weeks) upon mutual agreement between the licensee, the U.S. Fish and Wildlife Service and the Wisconsin Department of Natural Resources. If project operations are so modified, the licensee shall notify the Commission as soon as possible, but no later than 10 days after each incident.

The Commission reserves the right to require changes to the operating mode and reservoir elevations.

Article 403. The licensee shall file, within 6 months of license issuance, for Commission approval, an operating and compliance plan to monitor the run-of-river (R-O-R) operating mode required by Article 402. Compliance with Article 402 shall be determined in the following manner:

(a) Travel time will be estimated by applying the time shifts necessary to obtain the best alignment between the Hatfield outflow hydrograph and the Black River Falls outflow hydrograph.

If outflow measured from Hatfield hydro is less than 300 cfs the following shall apply:

At all times Black River Falls must discharge at least 100% and not more than 150% of the measured Hatfield Project outflow, corrected for time of travel.

If outflow measured from Hatfield hydro is greater than 300 cfs the following shall apply:

At all times Black River Falls must discharge at least 100% and not more than 135% of the measured Hatfield Project outflow, corrected for time of travel.

Rare deviations would be strictly limited to the "not more than" percentile change if Black River Falls could demonstrate that a condition existed which was beyond their control (including localized rain events and discharges from cranberry bogs directly upstream of the Black River Falls Project).

(b) Project inflow must be documented either by obtaining discharge measurements in cfs from the upstream Hatfield hydro outflow gage that meets the U.S. Geological Survey (USGS) gaging standards, or by installing a separate inflow gage immediately upstream of the Black River Falls flowage.

(c) Project outflow must be gaged, measured in cfs, and be located within 4,000 feet downstream of the project powerhouse.

(d) Both the inflow and outflow gages must be in place for the entire term of this license. If, for any reason either or both of the above gages are inoperable/unavailable, the City should within 30 days consult with Wisconsin Department of Natural Resources (WDNR) and the U.S. Fish and Wildlife Service (FWS) and develop a plan for alternate gaging and file the alternative plan for Commission approval within 6 months. In addition to operating the project in a run-of-river mode, the City shall at all times minimize the fluctuations of the reservoir surface elevations and tailwater reaches.

(e) Temporary excursions from the run-of-river standard (for maintenance drawdowns or other reasons) may be allowed on a case-by-case basis with prior approval from WDNR and FWS. If project operations are so modified, the licensee shall notify the

Commission as soon as possible, but no later than 10 days after each incident. The Commission reserves the right to require changes to the operating mode and reservoir elevations.

(f) Upon issuance of this license, a one-year test period shall be used to determine compliance with the run-of-river conditions. At the end of the one-year test period, the City shall prepare a report to WDNR, FWS, and the Commission documenting their ability to meet the above run-of-river compliance standard. If during the course of the test period, the City finds it regularly cannot comply, they must immediately consult with WDNR in effort to resolve compliance matters. If the City has made all reasonable efforts to comply and are routinely not able to meet the prescribed operating standard due to circumstances beyond their control, the Commission reserves the right to re-evaluate and make any necessary changes to the prescribed run-of-river operating compliance standard.

(g) Install and maintain an automatic water level sensor that continuously monitors and records headwater elevations. If the USGS gage located 1,300 feet downstream from the project dam is not used to monitor tailwater elevations, then a tailwater elevation gage that continuously monitors and records tailwater elevation must be installed and maintained.

(h) Maintain a calibrated staff gage, clearly labeled and notched with minimum and maximum water levels in the project reservoir at a location visible to the public.

(i) In the event of project shutdown, the City shall pass river inflow through the project within a few minutes, to prevent dewatering of the tailwater area.

(j) Maintain a minimum flow of 50 cfs in the bypassed river reach. The licensee shall consult with WDNR and FWS prior to any project modifications that could reduce the seepage flow at the dam.

The operating and compliance plan shall also include protocols for recording monitoring data. Hourly operating data including turbine operations, headwater and tailwater elevations, gaging records of inflows and outflows, spillway flows, calculated bypassed river reach flows, provisions for maintaining and filing a log of naturally-occurring high flows and ice jams that may hinder compliance with R-O-R operations, and the success to maintain compliance with R-O-R be summarized in an annual report to be submitted to the Commission, WDNR, and FWS. The operating and compliance plan should be updated every 5 years. If the City determines that it cannot comply with the

recommended operational requirements, it should, after consultation with USGS, FWS, and WDNR, propose alternative requirements and submit them to the Commission.

The licensee shall prepare the plan after consultation with FWS and WDNR. 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' comments 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.

Article 404. The City shall consult with the U.S. Fish and Wildlife Service (FWS) and the Wisconsin Department of Natural Resources (WDNR) as soon as possible after operating emergencies to determine appropriate response measures, including whether it is best to return to run-of-river operation immediately. Operating emergencies are defined as changes to project operations that affect water levels and flow releases. If project operations are so modified, the licensee shall notify the Commission as soon as possible, but no later than 10 days after each incident. The Commission reserves the right to require changes to the operating mode and reservoir elevations.

Article 405. The licensee shall immediately inspect the spillway channel area for stranded fish whenever the project Taintor gates are opened and immediately upon closure. Any stranded fish below the dam shall be immediately collected live and released to an area downstream of the dam where the fish would be able to escape.

The licensee, within 1 year of license issuance, shall develop and submit a report to the Commission for approval, documenting: (1) the results of any fish stranding inspection/rescue efforts; (2) evaluating the need for additional impact avoidance measures; and (3) evaluating the need for future annual reports to the Commission.

The licensee shall prepare the report after consultation with the U.S. Fish and Wildlife Service and the Wisconsin Department of Natural Resources. The licensee shall include with the report documentation of consultation, copies of comments and recommendations on the report after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are addressed in the report. The

licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the report 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 implementation and protocol of the fish stranding/rescue efforts and to the report. Upon Commission approval of the report, the licensee shall implement any continuing measures outlined in the report, including any changes required by the Commission.

Article 406. The licensee, within 1 year of license issuance, shall file a Bald Eagle Management and Protection Plan (BEMPP), with the Commission for approval. The BEMPP shall include measures to educate the public such as pamphlets and signage posted in the project area. The licensee shall use state and federal bald eagle management guidelines in preparing the plan.

The licensee shall prepare the BEMPP after consultation with the U.S. Fish and Wildlife Service and the Wisconsin Department of Natural Resources. 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. The licensee shall include with the BEMPP documentation of consultation, copies of comments and recommendations on the plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are addressed in the plan. 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.

Article 407. Upon the effective date of this license, the licensee shall implement the "Programmatic Agreement Among the Federal Energy Regulatory Commission, the Advisory Council on Historic Preservation, and the State of Wisconsin, State Historic Preservation Officer, and the State of Michigan, State Historic Preservation Officer, For Managing Historic Properties That May Be Affected By New and Amended Licenses Issuing For The Continued Operation Of Existing Hydroelectric Projects in the State of Wisconsin and Adjacent Portions Of The State of Michigan," executed on December 30, 1993, including but not limited to filing, for Commission approval, within one year of the effective date of this license the Historic Resources Management Plan (HRMP) for the project. In the event that the Programmatic Agreement is terminated, the licensee shall

implement the provisions of its approved HRMP. The Commission reserves the authority to require changes to the HRMP at any time during the term of the license. If the Programmatic Agreement is terminated prior to Commission approval of the HRMP, the licensee shall obtain approval before engaging in any ground-disturbing activities or taking any other action that may affect any Historic Properties within the project's Area of Potential Effect.

Article 408. Within six months of the date of issuance of this license, the licensee, in consultation with the Wisconsin Department of Natural Resources, including the Black River Falls Fisheries Manager; the Department of the Interior; and the Jackson County Forestry and Parks Department, shall file, for Commission approval, a recreation plan for the project.

The plan shall address the construction, operation, and maintenance of existing and proposed recreation facilities and areas at the project. Proposed facilities and improvements include upgrades to existing signage marking the canoe portage route; the installation of a new informational sign at the canoe portage take-out site to direct canoeists to the canoe put-in facility; and the installation of a fishing facility that is accessible for people with disabilities. The fishing facility shall consist of a concrete platform with railing and be located adjacent to the boat launch ramp.

The plan shall include, at a minimum, the following information: (1) a description of the type and location of existing recreation facilities and areas at the project; (2) a description of the type and location of all proposed recreation facilities and improvements, including its proposed design, construction materials and methods, and schedule for implementation; (3) a description of how the needs of people with disabilities were considered in the design of the fishing facility; (4) a description of any specific proposed measures for minimizing potential construction impacts associated with the proposed facilities and areas; (5) identification of the entity or entities responsible for constructing, operating, and maintaining the project's existing and proposed recreation facilities and areas; (6) a description of the operation and maintenance schedule for the project's existing and proposed recreation facilities and areas; (7) provisions to evaluate the need for changes or improvements to the project's recreation facilities in conjunction with the submission of project's Form 80 Report (Licensed Hydropower Recreational Development Report) throughout the license term; and (8) drawings showing the type and location of the project's existing and proposed recreation facilities and areas.

The licensee shall prepare the plan after consultation with the Wisconsin Department of Natural Resources, including the Black River Falls Fisheries Manager; the

Department of the Interior; and the Jackson County Forestry and Parks Department. 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' comments 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.

Article 409. (a) In accordance with the provisions of this article, the licensee shall have the authority to grant permission for certain types of use and occupancy of project lands and waters and to convey certain interests in project lands and waters for certain types of use and occupancy, without prior Commission approval. The licensee may exercise the authority only if the proposed use and occupancy are consistent with the purposes of protecting and enhancing the scenic, recreational, and other environmental values of the project. For those purposes, the licensee shall also have continuing responsibility to supervise and control the use and occupancies for which it grants permission, and to monitor the use of, and ensure compliance with the covenants of the instrument of conveyance for, any interests that it has conveyed under this article.

If a permitted use and occupancy violates any condition of this article or any other condition imposed by the licensee for protection and enhancement of the project's scenic, recreational, or other environmental values, or if a covenant of a conveyance made under the authority of this article is violated, the licensee shall take any lawful action necessary to correct the violation. For a permitted use or occupancy, that action includes, if necessary, canceling the permission to use and occupy the project lands and waters and requiring the removal of any non-complying structures and facilities.

(b) The types of use and occupancy of project lands and waters for which the licensee may grant permission without prior Commission approval are: (1) landscape plantings; (2) non-commercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 water craft at a time and where said facility is intended to serve single-family type dwellings; (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline; and (4) food plots and other wildlife enhancements.

To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the licensee shall require multiple use and occupancy of facilities for access to project lands or waters. The licensee shall also ensure, to the satisfaction of the Commission's authorized representative, that the use and occupancies for which it grants permission are maintained in good repair and comply with applicable state and local health and safety requirements. Before granting permission for construction of bulkheads or retaining walls, the licensee shall: (1) inspect the site of the proposed construction, (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site, and (3) determine that the proposed construction is needed and would not change the basic contour of the reservoir shoreline. To implement this paragraph (b), the licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the licensee's costs of administering the permit program. The Commission reserves the right to require the licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and to require modification of those standards, guidelines, or procedures.

(c) The licensee may convey easements or rights-of-way across, or leases of, project lands for: (1) replacement, expansion, realignment, or maintenance of bridges or roads where all necessary state and federal approvals have been obtained; (2) storm drains and water mains; (3) sewers that do not discharge into project waters; (4) minor access roads; (5) telephone, gas, and electric utility distribution lines; (6) non-project overhead electric transmission lines that do not require erection of support structures within the project boundary; (7) submarine, overhead, or underground major telephone distribution cables or major electric distribution lines (69-kV or less); and (8) water intake or pumping facilities that do not extract more than one million gallons per day from a project reservoir. No later than January 31 of each year, the licensee shall file three copies of a report briefly describing for each conveyance made under this paragraph (c) during the prior calendar year, the type of interest conveyed, the location of the lands subject to the conveyance, and the nature of the use for which the interest was conveyed.

(d) The licensee may convey fee title to, easements or rights-of-way across, or leases of project lands for: (1) construction of new bridges or roads for which all necessary state and federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary federal and state water quality certification or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary federal and state approvals have been obtained; (5) private or

public marinas that can accommodate no more than 10 water craft at a time and are located at least one-half mile (measured over project waters) from any other private or public marina; (6) recreational development consistent with an approved Exhibit R or approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from project waters at normal surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d)(7) in any calendar year.

At least 60 days before conveying any interest in project lands under this paragraph (d), the licensee must submit a letter to the Director, Office of Energy Projects, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked exhibit G or K map may be used), the nature of the proposed use, the identity of any Federal or state agency official consulted, and any Federal or state approvals required for the proposed use. Unless the Director, within 45 days from the filing date, requires the licensee to file an application for prior approval, the licensee may convey the intended interest at the end of that period.

(e) The following additional conditions apply to any intended conveyance under paragraph (c) or (d) of this article:

(1) Before conveying the interest, the licensee shall consult with Federal and state fish and wildlife or recreation agencies, as appropriate, and the State Historic Preservation Officer.

(2) Before conveying the interest, the licensee shall determine that the proposed use of the lands to be conveyed is not inconsistent with any approved exhibit R or approved report on recreational resources of an exhibit E; or, if the project does not have an approved exhibit R or approved report on recreational resources, that the lands to be conveyed do not have recreational value.

(3) The instrument of conveyance must include the following covenants running with the land: (i) the use of the lands conveyed shall not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use; (ii) the grantee shall take all reasonable precautions to insure that the construction, operation, and maintenance of structures or facilities on the conveyed lands will occur in a manner that will protect the scenic, recreational, and environmental values of the project; and (iii) the grantee shall not unduly restrict public access to project waters.

(4) The Commission reserves the right to require the licensee to take reasonable remedial action to correct any violation of the terms and conditions of this article, for the protection and enhancement of the project's scenic, recreational, and other environmental values.

(f) The conveyance of an interest in project lands under this article does not in itself change the project boundaries. The project boundaries may be changed to exclude land conveyed under this article only upon approval of revised exhibit G or K drawings (project boundary maps) reflecting exclusion of that land. Lands conveyed under this article will be excluded from the project only upon a determination that the lands are not necessary for project purposes, such as operation and maintenance, flowage, recreation, public access, protection of environmental resources, and shoreline control, including shoreline aesthetic values. Absent extraordinary circumstances, proposals to exclude lands conveyed under this article from the project shall be consolidated for consideration when revised exhibit G or K drawings would be filed for approval for other purposes.

(g) The authority granted to the licensee under this article shall not apply to any part of the public lands and reservations of the United States included within the project boundary.

(F) The licensee shall serve copies of any Commission filing required by this order on any entity specified in this order to be consulted on matters related to that filing. Proof of service on these entities must accompany the filing with the Commission.

(G) This order is issued under authority delegated to the Director and is final unless a request for a rehearing is filed within 30 days from the date of its issuance, pursuant to 18 CFR § 385.713. The filing of a request for a rehearing does not operate as a stay of the effective date of this license or of any other date specified in this order, except as specifically ordered by the Commission. The licensee's failure to file a request for rehearing of this order shall constitute acceptance of the license.

J. Mark Robinson
Director
Office of Energy Projects

**State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES**

Tommy G. Thompson, Governor
George E. Meyer, Secretary
Scott A. Humrickhouse, Regional Director

West Central Region Headquarters
1300 W. Clairemont Avenue
PO Box 4001
Eau Claire, Wisconsin 54702-4001
Telephone 715-839-3700
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TDD 715-839-2786



August 11, 2000

ORIGINAL

Mr. Loren Radcliffe
Black River Falls Municipal Utilities
119 North Water Street
Black River Falls, WI 54615

Subject: Water Quality Certification for the Black River Falls Hydro Project, FERC Project #3052

Dear Mr. Radcliffe:

Attached is the final water quality certification for the Black River Falls hydroelectric project.

I have also included some, but not all of the comments that I received from Mead and Hunt Inc. from a letter dated June 22, 2000. The comments that I received did not effect the terms and conditions that we discussed previously and which we had agreed upon during the conflict resolution process in May and June of 2000. Those terms and conditions which will be adopted into the new FERC license are the reflective of the discussion that we had in late May and Early June. Considering that, I am optimistic all parties are satisfied with the outcome of the water quality certification for the Black River Falls Project.

If you believe you have the right to challenge this decision, you should know that Wisconsin statues and administrative rules establish time periods and formal process's which arey highlighted on page 19 of this document.

If you have any questions feel free to call me at (715) 839-3709.

Sincerely,

Heath Benike
Regional Large Rivers Specialist
West Central Region-Eau Claire

Cc: Mead and Hunt Inc.
FERC



000907.0118.3

Water Quality Certification
(P.L. 92-500, Section 401)

In the matter of: Black River Falls Municipal Utilities
119 North Water Street
Black River Falls, WI 54615

APPLICATION FOR A SUBSEQUENT LICENSE FOR THE BLACK RIVER FALLS HYDROELECTRIC PROJECT

The Wisconsin Department of Natural Resources (the Department) has reviewed an initial request for Water Quality Certification (WQC) dated November 25, 1998 for Black River Falls Municipal Utilities (applicant). This request was denied without prejudice by Department letter dated November 30, 1998 due to lack of information. Applicant subsequently provided additional information, including a copy of its Federal Energy Regulatory Commission (FERC) license application filed with FERC dated August 26, 1999. FERC regulations require license applicants to obtain WQC approval (or waiver) from the state in which the project is located to make the FERC license application complete for processing. The applicant again requested WQC by letter dated September 17, 1999. The Department subsequently requested additional information from the applicant by letters dated October 4, 1999 and January 5, 2000 in order to make the (WQC) application complete. Applicant responded by letters dated December 14, 1999 and January 12, 2000. By a letter dated February 9, 2000 the Department again denied the applicants request for water quality certification without prejudice due to lack of information. In May and June of 2000 the applicant and the Department met three times to discuss outstanding issues. Based on a review of the available information and subsequent agreement and consultation with the applicant the Department has made the following findings:

**I. Background/General Setting**

1. On August 26, 1999, the applicant applied to FERC for a (re)license of the Black River Falls Hydroelectric Project (project) located on the Black River in the town of Black River Falls, Jackson County. The project is located near river mile 50 on the Black River. If issued, FERC licenses typically cover 30-50 year terms.

2. The mainstem of the Black River is formed at the confluence of its Main Branch and East Fork of the Black River near Hatfield, Wisconsin. These streams have their origins primarily within the Chequamegon National Forest in northcentral Wisconsin and the Jackson County Forest in central Wisconsin. From the project dam the river flows in a southwesterly direction until it discharges into the Mississippi River near La Crosse, Wisconsin.

3. The total area of the Black River watershed is about 2400 square miles. The total length of the mainstem of the Black River downstream of the project is approximately 50 miles.

4. The project is one of two hydroelectric projects located on the Black River. The Hatfield Project (FERC No. 10805) is located approximately 12 miles upstream from the Black River Falls Project. The Hatfield project controls discharges from 82 percent of the watershed above the Black River Falls project. The Hatfield reservoir is approximately four times larger than the Black River Falls reservoir. The Black River Falls Project is the lowermost hydro facility on the river. The river downstream of the project is free-flowing (i.e. no additional dams).

5. At the project dam the river is routed either through hydroelectric generation equipment at the powerhouse or through spillway gates at the dam (see next section, # 7). Except for leakage (estimated by applicant to be 50 cubic feet per second) and during runoff events when spilling flows exceeding the hydraulic capacity of hydro turbines, an approximately 1200 foot section of the original river channel is bypassed when all flow is routed through the powerhouse. Also, Town Creek, a small tributary, enters the tailwater of the powerhouse discharge area before it reconverges with the bypass channel.

**II. Project and Civil Works**

6. The Black River Falls dam consists of a 103 foot-long concrete gravity dam that extends from the left shoreline to the left end of the tainter gate spillway. The crest of this concrete gravity dam is three feet wide at an elevation of 733.0 feet. The dowsntream face has a 1H:2V slope with minimal backfill against it. The upstream face is vertical. This section has a maximum height of approximately 17 feet.

7. The tainter gate spillway section is 221 feet in length. It contains eight 20-foot-wide by 14 foot high steel tainter gates. The sill elevation is 748.3 feet.

8. The flashboard spillway is located to the right of the tainter gate spillway. It is an 83-foot-long concrete gravity section with an 1.8-foot wide sluiceway and 12 inch high flashboards. The crest elevation of this 4-foot wide section is 761.1 feet. The downstream face has a 1H:5V slope. The upstream face is vertical. The structure is approximately 4 feet high and rests on a natural rock outcrop.

9. A nonoverflow concrete dam wall forms the left side of the powerhouse forebay. The crest of this section is 4 feet wide at an average elevation of 773.0 feet (top elevation slopes). The forebay face has a 1H:2V slope. The face towards the river is vertical.

10. The headworks consists of six head gates, a forebay, and the powerhouse intake. The head gate section has three openings, each containing two 5-foot-wide by 11-foot-high steel vertical slide gates. Water flows through the head gates into the forebay, which is approximately 160 feet by 160 feet in size. Trashracks at the

headworks have 2 ½ - inch spacing.

11. The powerhouse intake is divided into six bays, with three bays servicing each unit. Each bay has a stoplog slot in which steel bulkhead gates can be inserted to dewater one or both of the generating units. There is also a trashrack system on the upstream side of the powerhouse intake with 1 ½ inch clear spacing.

12. The concrete gravity nonoverflow section extends from the headworks to the right retaining wall. The crest of this section is 2 feet 3 inches wide at the top elevation of 773.0 feet. The downstream face has a 1H:4V slope with backfill against more than half its height. The upstream face is vertical.

13. The right retaining wall is constructed of concrete with a crest width of 3 feet 3 inches at a top elevation of 776.2 feet. The downstream face has a 1H:2V slope and is founded on timber piles. The upstream face of the retaining wall is vertical.

14. The powerhouse is 75 feet by 85 feet and is located by the right end of the dam and abuts the right shoreline.

15. The Black River Falls project consists of two generating turbine units rated at 600 and 320 kW. The estimated hydraulic capacity of unit #1 is 280-430 cubic feet per second (cfs). For turbine #2 the hydraulic capacity is estimated to be 180-250 cfs. Except for leakage through the dam all inflow less than about 700 cfs is passed through the turbines, and any additional inflow is passed through spillway gates.

16. The generators are electrically connected to a substation adjacent to the powerhouse. The substation feeds the municipal distribution grid for the City of Black River Falls.

17. The Black River Falls Reservoir (flowage) created by the Black River Falls dam has a surface area of 198 acres.

18. Recreational facilities associated with the Black River Falls project include the boat launch area just upstream of the project on the east side of the river, a canoe portage with a take-out area at the boat launch and put-in area .6 miles downstream from the project. Bank fishing opportunities are also provided immediately downstream and upstream of the project.

**III. Existing and Proposed Operations, Other Improvements**

19. The existing FERC license (issued August 28, 1981 for a 20-year term) states that "The Black River Falls Project is operated as a run-of-river". The run-of-river

operation is intended to mimic the natural stream flow and thereby avoid and minimize adverse hydro project operational impacts to aquatic and terrestrial organisms as well as recreational use opportunities. Applicant has historically limited flowage water level fluctuations to within a one-foot operating band as their method of complying with the existing FERC license run-of-river requirement. The Department has anecdotal file information indicating historic operations have resulted in substantial project induced flow fluctuations downstream of the project into the 50-mile tailwater reach of the Black River.

20. On October 31, 1996 the applicant, consistent with FERC regulations, provided concerned parties an Initial Consultation Package (ICP) indicating its intent to seek (re)license the project and to continue to operate as it historically had over the term of the existing license. Applicant proposed to maintain flowage water levels within a one-foot operating band (elevation 761.4-762.4 feet during the summer and 760.7-761.7 feet winter). By letter dated January 4, 1997, the Department commented on the ICP and informed the applicant of concerns relating to historic operations causing downstream water level fluctuations and their associated impacts. To address this concern, the Department recommended that the applicant conduct studies to determine: a) the physical extent of river channel downstream of the project that would be subject to fluctuations if existing operations were to be continued (i.e. zone of influence study); and b) evaluate habitat suitability on aquatic resources under the existing and alternate flow regimes discharged from the project (i.e. in-stream flow studies using dual flow modeling techniques). Or, if applicant preferred, they could propose an alternate operating plan and run-of river compliance standard(s) which reduce flowage and tailwater fluctuations to ranges acceptable to the Department. During subsequent consultations applicant opted not to conduct the recommended studies and instead decided to develop an operations plan in effort to address Department concerns.

21. In consultation with the Department, the applicant developed a draft and final Powerhouse Trial Operations Plan (June 13 and July 11, 1997) designed to reduce daily fluctuations in powerhouse flow releases. The plan would be tested for three months starting in July, 1997 and results were to be evaluated to determine run-of-river performance. Operating logs from both the Black River Falls and upstream Hatfield projects and upstream and downstream USGS stream gage records were reviewed at joint meetings after four weeks and at the end of the trial. In addition, outflow from the Hatfield project was estimated for selected periods based on calculated outflow at various gate settings adjusted for assumed leakage of 100 cubic feet per second. The applicant identified events when turbine setting was reduced by 40 % or more. The Department identified any events they considered to be unacceptable run-of river performance because of excessive project induced fluctuations (inflow did not match outflow by more than 20%). In identifying

unacceptable events the Department eliminated external factors such as runoff events or substantial variations in Hatfield project discharge that could have influenced Black River project operations or performance. Unacceptable events were examined to determine if the Operations Plan protocol(s) had been followed. Despite following the protocols there were still events where inflow and outflow varied 20% or more. Parties agreed to continue the test for several more months in effort to improve performance and applicant tested additional operational adjustments. Though performance improved over the trial test, project induced tailwater flow fluctuations exceeding 20% could not be eliminated.

22. Consultation meetings were held and correspondence traded in early 1998, mainly in effort to resolve differences over what should constitute run-of-river compliance. These mostly focused on applicant preference that following the operations plan should constitute compliance and a Department position that a comparison of measured inflow and outflow should be used.

23. The applicant proposes to continue to operate the Black River Falls project manually. Trained operators are on site from 8 to 16 hours each day, 7 days per week. Adjustments to wicket and tainter gate settings are made in response to changes in inflow and headwater elevation in effort to ensure outflow reasonably duplicates inflow and to maintain headwater elevations within the operating limits. Guidance concerning the amount and rate of change of flows in the river is provided by operating personnel at the Hatfield Project who notify Black River Falls operating personnel by telephone when changes in discharge are made. During off-duty hours, water level sensors notify Per Mar – a 24-hour security company when reservoir elevations exceed a predetermined operating range. The security company then notifies operating personnel by pager. Response time is typically within 15 minutes. In addition, during off-duty hours at the Black River Falls project, operating personnel at Hatfield notify the Jackson County Sheriffs' office of changes in discharge. The Sheriffs' office then notifies Black River Falls operators via pagers.

24. Applicant initially proposed a Plan of Operation and a run-of-river compliance standard in their August, 1999 final FERC license application of at all times discharging 100% of the measured Hatfield outflow during ice-free periods and 90% of the measured Hatfield outflow during ice-effected periods. An alternate compliance standard, that outflow be maintained equal to or greater than 70% of the calculated inflow, was proposed by applicant letter dated December 14, 1999. Applicant is requesting WQC on actions proposed in the FERC license application supplemented by its December 14, 1999 letter.

25. Several other issues were discussed by applicant, the Department and others over

the last four years during FERC relicensing consultation and were resolved. These include: maintenance of a minimum flow of 50 cfs in the bypass channel, maintenance of summer and winter water levels ranges in the project flowage, fish stranding inspections below spillway gates and operational gaging requirements. Agreements are included at the end of this correspondence as conditions of WQC approval.

26. The time it takes for water discharged from the upstream Hatfield project to reach the Black River Falls project is approximately 3.5-4.0 hours. Based on the additional size of the watershed drainage area, additional tributary inflow between the two projects is estimated to add about 18% to the total discharge under steady state conditions. Thus, if the outflow from the Hatfield project is 300 cubic feet per second (cfs), the estimated inflow at the Black River Falls project is approximately 354 cfs. Project inflow at Black River Falls can be determined either by using the above calculation or by installing a stream flow gage immediately upstream of the Black River Falls flowage and adding any additional tributary inflow between there and the dam.

27. The Black River is considered "flashy", meaning stream flow may vary abruptly. Based on applicant's review of USGS flow gage records and prepared flow duration curves, the median annual flow (50% exceedance) at the project is 398 cfs. Annual flow exceeds 102 cfs 90% of the time and 945 cfs 10% of the time.

**IV. Standards Designation**

28. Wisconsin state water quality standards are designed to protect the public interest, which includes the protection of public health and welfare and the present and prospective uses of all waters of the state for public and private water supplies, propagation of fish and other aquatic life and wild and domestic animals, domestic and recreational purposes, and agricultural, commercial, industrial, and other legitimate uses. In all cases where the potential uses are in conflict, water quality standards shall protect the general public interest. These water quality standards serve as a basis for developing and implementing control strategies to achieve legislative policies and goals. Water quality standards serve as a basis for decisions in other regulatory, permitting or funding activities that impact water quality.

29. To preserve and enhance the quality of waters, standards are established to govern water management decisions. Practices attributable to municipal, industrial, commercial, domestic, agricultural, land development or other activities shall be controlled so that all waters including the mixing zone and the effluent channel meet the following conditions at all times and under all flow conditions:

(a) Substances that will cause objectional deposits on the shore or in the bed of a body of water, shall not be present in such amounts as to interfere with public rights in waters of the state.

(b) Floating or submerged debris, oil, scum or other material shall not be present in such amounts as to interfere with public rights in the waters of the state.

(c) Materials producing color, odor, taste or unsightliness shall not be present in such amounts as to interfere with public rights in the waters of the state.

(d) Substances in concentrations or combinations which are toxic or harmful to humans shall not be present in amounts found to be of public health significance, nor shall substances be present in amounts which are acutely harmful to animal, plant or aquatic life.

30. It should be recognized that these standards may be revised as new information or advancing technology indicate that revisions are in the public interest.

31. The Department classifies all surface waters into one of five fish and aquatic life subcategories. The Black River immediately below the Black River Falls project is classified as *a Warm water sport fish community - Fish and Aquatic Life.* This subcategory includes surface waters capable of supporting a community of warm water sport fish or serving as a spawning area for warm water sport fish.

32. Except for natural conditions, all waters classified for fish and aquatic life, subcategory *Warm water sport fish community* shall meet the following criteria (NR 102.04 Wisconsin Administrative Code):

*Dissolved oxygen* - The dissolved oxygen content in surface waters may not be lowered to less than 5 mg/l at any time.

*Temperature* -

1. There shall be no temperature changes that adversely affect aquatic life.

2. Natural daily and seasonal temperature fluctuations shall be maintained.

3. The temperature shall not exceed 89° F for warm water fish.

*pH* - 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.

**V. Water Resources**

33. The applicant made an assessment of the fish populations in the Black River Falls flowage in 1997. This survey showed that the primary gamefish populations present in the flowage were Walleye, Smallmouth Bass, Rock Bass, Northern Pike, Black and White Crappie and Yellow Perch. Other species captured during sampling events included: Common Carp, Unidentified Redhorse, White Sucker, Quillback, Northern Hog Sucker and Log Perch. Survey results generally compared favorably to earlier Department fish surveys. Historic Department data has documented presence of the Gilt Darter (state threatened) and American Eel (state special concern) upstream of the Black River Falls Project.

34. The Black River below the Black River Falls project has a diverse fishery and numerous state listed endangered and threatened aquatic resources. Based on applicant surveys in 1997 and historic Department information gamefish present include Walleye, Northern Pike, Smallmouth Bass, Black Crappie and Rock Bass. Other rare and unique species, which have been documented below the project, include the following state listed endangered, threatened and special concern resources. Blue Sucker (T), Gilt Darter (T), Pallid Shiner (E), Redfin Shiner (T), River Redhorse (T), Speckled Chub (T), Weed Shiner (SC) and American Eel (SC).

35. Applicant conducted a survey in 1997 to characterize aquatic vegetation in the flowage and tailwater. No aquatic vascular plants were located. A few isolated pockets totaling less than 2 acres of common wetland plants typical of floodplain forest and wet meadow communities were identified.

36. The Black River below the project is free flowing and extends approximately 50 miles to the confluence of the Mississippi River. This stretch of river is used extensively for diverse public recreation activities, primarily fishing, canoeing, hunting and hiking/nature study. Two state wildlife areas are present: North Bend Bottoms (1900 acres near river mile 25) and Van Loon (3981 acres near river mile 5). Several improved and unimproved boat landings are present. The extent that project operations impacts water levels and associated recreation uses in this 50 mile stretch of river has not been studied.

37. Immediately below the project spillway gates near the east bank is a bypassed section of the original channel of the Black River. This channel provides habitat for aquatic organisms and public recreational angling and recreational use opportunities. Except during spillage the only flow discharged to the channel is via leakage through the dam and a "fish gate" that is always in the open position. Applicant estimates the total

amount of discharge that is occurring in the bypass channel when all spillway gates are closed is 50 cubic feet per second. The continued maintenance of this amount of discharge has been determined by the Department to be adequate to protect existing aquatic habitat and provide for reasonable recreational angling opportunities.

**VI. Water Quality**

38. Water quality in project waters is generally good, and no project related water quality issues are known to exist. Point source dischargers (ie municipal sewage treatment plants) exist upstream and downstream but do not typically pose problems provided effluent standards are met. Isolated and localized non-point source pollution also occurs in the basin. Fish have been found to have high levels of mercury and fish eating advisories have been established in the river basin. Applicant assembled historic data and conducted select water quality chemistry sampling in 1997. Data showed that temperatures ranged from 50.4 to 65.7 degrees Fahrenheit, pH values from 6.4 to 7.4 and dissolved oxygen concentrations from 7.7 to 12.1.

39. As a condition of this water quality certification, the applicant will be required to meet current state water quality standards as described in sections 28-32 above. As with all other affected dischargers, the applicant may be required to make changes in order to meet any future revised state water quality standards.

**VII. Water Quantity**

40. The twelve-mile upstream Hatfield hydroelectric project was licensed by FERC in 1997, but is not yet operational. The Hatfield project is licensed to operate in a run-of-river mode. The run-of-river operation is intended to minimize water level fluctuations in the flowages and tailwater reaches and mimic a natural hydrograph for the protection of aquatic life and recreational use opportunities. The Black River Falls project will be licensed to operate in a run-of-river mode.

41. Water level fluctuations from hydropower 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 tends to stabilize environmental conditions both upstream and downstream from the dam. 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. The literature reports substantial adverse affects to riverine

aquatic habitat from fluctuating water levels and hydroelectric peaking. Jourdonnais (1993) stated that hydropower regulation in the lower Flathead River, Montana, created a broad expanse of river channel between the high water and low water mark that experiences daily inundation and dewatering. Further, studies by Bain and Finn (1988), Nelson (1986), and Cushman (1985) all documented that peaking operations destabilize daily flow patterns on riverine systems. Adverse impacts to stream fishes from peaking include reduction in river productivity and recruitment failure. Layzer, et. al. (1993) reported that many mussel species occur only over a relatively narrow range of a physical habitat gradient, such as water velocity, and that the richest mussel assemblages typically occur in riffle or shoal areas- precisely those habitats most affected by dams. Layzer further states that mussels cannot tolerate prolonged and frequent periods of dewatering below hydroelectric projects. Gilason, (1985) studied the effects of fluctuating and stable stream flows relative to the abundance of aquatic invertebrates. This study showed that under stable flow conditions, the abundance and densities of macroinvertebrates were 1.9-59 times higher. Englund, (1996) analyzed the effects of altered flow patterns on invertebrate communities. The author suggested that avoiding large and rapid flow changes can increase both the abundance and diversity of invertebrates.

42. Enforcement and compliance of run-of-river has been a challenging issue in recent years for state and federal regulatory agencies, and caused frustration for dam operators. In 1995 a FERC hearing examiner found during a Wisconsin project enforcement case that the term "run-of-river" by itself (ie without a numeric compliance standard) provided insufficient guidance in that it failed to apprise the dam operator of what quantity of flow fluctuations would be permissible to be in compliance. A run-of-river standard that only limits flowage water level operating range does not ensure that downstream flow delivery will be stable or reflect the natural river hydrograph. Even a few inches of change in flowage water levels can result in significant flow fluctuations in downstream discharge. Such fluctuations can result in significant adverse environmental and recreation impacts. In order to effectively monitor and determine run-of-river compliance, a detailed and measurable (ie-numeric) compliance standard needs to be developed, so all parties involved are fully aware of what is required. In most cases run-of-river compliance is best determined by comparing measured (ie-gaged) inflow and outflow. This compliance standard is considered reasonably reflective of what the river would normally deliver if a hydro project or other dam was not present (ie the natural hydrograph), and would normally best protect public interest values as compared to greater, project-induced, unnatural flow fluctuations .

43. FERC staff have also recognized the importance in defining run-of-river and accurately monitoring compliance (Welch and LoVullo, 1997).

44. Historically, the applicant has complied with its FERC license requirements by maintaining water levels within a 1' flowage operating range (elevation 761.4-762.4 summer, 760.7-761.7 winter). Without additional operational restrictions, this type of historic operation, as confirmed by the operations test in 1997, would not guarantee elimination of substantial fluctuations in downstream flows. As such, flowage water level operating limits, by themselves, would not mimic the natural hydrograph and would not constitute run-of-river compliance. Recognizing the Department would likely require in its WQC a run-of-river compliance standard comparing inflow to outflow, applicants' latest (December 14, 1999 letter) proposal is that they would maintain an outflow equal to or greater than 70% of the calculated inflow (multiplying measured Hatfield outflow by 1.18) or discharge at least 100% of Hatfield hydro outflow during ice-free periods and at least 90% of the measured Hatfield outflow during ice-affected periods.

45. Under the applicants' proposal they would not be held accountable for discharges that could be substantially greater than what is discharged from Hatfield project. In essence applicant could, at their discretion, deliver any flow that is higher than 70% of its calculated inflow or 100% or 90% of the measured Hatfield outflow. Under an extreme scenario, if applicant lowered the flowage water level to the minimum allowed, and calculated inflow was 300 cfs, applicant could deliver an outflow of 210 cfs (includes 50 cfs leakage) for as long as it took to raise flowage water level one foot (to the maximum high flowage elevation allowed), then discharge 700 cfs (maximum hydraulic capacity of existing two turbines) until such time as flowage water level dropped back down one foot to the minimum allowed, at which time the discharge could be reduced again to 210 cfs and the cycle repeated. The result would be that downstream flows would vary over a few hours time between 210 and 700 cfs. Even under the most conservative interpretations, an operating mode that would allow the river flow to be increased and decreased more than 300% over a few hours time, would not reflect a run-of-river operating mode. It should be noted that Applicants' historic operations do not reflect such significant flow changes or that, if their proposal was approved by state WQC or FERC re(license), applicant would operate in such extremes. It would be inappropriate for the Department to approve a proposal that could create such large changes in river discharge, without site specific in-stream flow studies (which the applicant opted not to conduct) and when the available scientific literature suggests water level fluctuations of this nature can have substantial adverse impacts to aquatic habitat, organisms and recreational use opportunities.

46. There are other reasons why the Department believes that a run-of-river compliance standard comparing inflow to outflow is needed. For instance, in a letter dated

October 4, 1999 the Department requested from the applicant additional information describing project operations. The Department noted that in the operations plan when river flow falls below 230 cfs the smaller unit (turbine) would be taken off-line. The operations plan indicates run-of-river conditions would be maintained by allowing flowage water levels to rise ultimately to a point that water would overtop the uncontrolled spillway/flashboards. The Department noted that if the flowage is not at full pool when the turbine is taken off line, the only downstream discharge in the Black River would be from leakage for as long as it took the flowage water level to rise and overtop the spillway. Past review of operational records have shown that under low flow conditions is could take as long as 16 hours for the flowage to rise to overflow elevation. Applicant responded to the Departments concerns by letter dated December 14, 1999. Applicant proposed to provide an operating procedure to provide for minimal opening of a tainter gate before the last operating generating unit is shut down. The amount of flow discharged through the opened gate would vary from about 60 to 100 cfs. After the generating unit is shut down, total discharge (including tainter gate and wicket gate leakage) would be approximately 130 to 170 cfs. This procedure would be followed whenever temperatures permit ice-free operation of the tainter gates. Although applicant provided an operational procedure during times of the year when tainter gates are operable, they did not provide any operational procedure to address Department concerns when tainter gates are inoperable, such as during ice over conditions in winter. Other examples as described in applicants license application are when: there are plant outages, shut-downs or power failures; installing/removing flashboards; cleaning trash racks; when clearing ice in the powerhouse forebay and when changing from one turbine to the other. The Department recognizes the need for temporary excursions of reasonable run-of river compliance standard due to unavoidable emergencies. We would also consider allowances for project maintenance activities provide reasonable opportunities for consultation are provided. We do not feel it is appropriate to exempt routine operational situations/activities, such as those described above, from adhering to reasonable run-of-river compliance standards.

47. From a letter dated December 14, 1999 and the final operations plan, applicant is proposing to obtain discharge data from the upstream Hatfield hydroelectric project for use as a gage for measuring inflow into the Black River Falls project. The applicant has indicated that they are willing to cost-share the funding or maintenance of this flow gage with Hatfield hydro for monitoring purposes and for use in helping demonstrate compliance with run-of-river operating conditions. The Hatfield gage is not yet in place. The Department is receptive to Black River Falls proposed gaging plan with Hatfield hydro. But, if over the term of the license the Hatfield gage is not installed, if a cost-share arrangement cannot be reached allowing applicant to access the data, if the Hatfield gage provides unacceptable monitoring data or if for some reason it is taken out of service, applicant is responsible for installing, calibrating and

maintaining a flow gage to measure project inflow that meets USGS gaging standards. As an alternative, applicant can propose a different gaging plan that will provide accurate gaging data necessary to determine compliance with run-of-river operations. Any such plan must be approved by the Department to be acceptable for determining compliance with run-of-river operating conditions.

48. From a letter dated January 12, 2000 applicant has proposed to contract with the USGS to provide funding to maintain operation of the existing USGS gage located approximately ½ mile downstream of the Black River Falls powerhouse. From a letter dated January 5, 2000 it appears that Black River Falls will contract with the USGS to make low-flow discharge measurements, provide a rating table over the entire range of flows (during the ice free period) and add a discharge graph to the USGS home page during the open water periods. The agreement reached would appear to only cover the year 2000. The Department concurs with the applicants gaging plan for measuring project outflow at this existing USGS gage for use in monitoring compliance with run-of-river operations, provided the agreement is extended for full term of the FERC (re)license.

49. In May of 2000, the applicant, Mead and Hunt representatives, FERC and the Department meet to discuss remaining outstanding issues. The applicant and the Department agreed to the following compliance standard that was prescribed in section D of page 17 of this document. In addition, the Department indicated that they would include a re-opener provision prescribed in Section I, Page 18 of this document that would allow the compliance standard to be modified if it could be demonstrated to the Department that the current compliance standard could not be met due to conditions beyond the control of the applicant.

**VIII. State Comprehensive River Plans**

50. *The Black River Basin Draft Water Quality Management Plan*

The goal of this plan is to identify areas of water quality concerns and identify management objectives for the water resources of the Black River Basin. The plan focuses on issues which require a comprehensive approach both within the Department and with other agencies and public and private groups. A specific goal for the Black River Falls project is that it be operated in a run-of-river mode.

51. *Wisconsin's Biodiversity as a Management Issue*

This report presents the Department's strategy for the conservation of biological diversity. In the aquatic community section of this report, past

and present dam construction is considered the number one impact on our state's large rivers. Impacts on rivers caused by dams include fragmentation of river habitats, elimination of higher gradient riffle and rapids habitat, increased temperatures and reduced dissolved oxygen levels in waters discharged below dams, interference with natural flooding and sedimentation, interference with the natural downstream transport of woody debris. Hydroelectric dams also pose mortality threats to downstream migrating fish species and block natural upstream movements of fish and interfere with the colonization of macroinvertebrates and mussel species. Hydroelectric facilities which conduct peaking operations have a negative effect on habitat for fish and other aquatic species. Changes in discharge due to peaking cause changes in substrate, velocity and depth conditions. This translates into changing habitat conditions for aquatic species.

The report lists possible actions that would be consistent with ecosystem management and would correct some of the negative impacts that dams have on rivers. These include providing both up and downstream fish passage at dams when and where it is appropriate and providing adequate minimum flows to protect recreation, water quality and fish and aquatic life.

## ACTION OF THE DEPARTMENT

The Department has the authority to issue Water Quality Certification (WQC) under Chapter NR 299 of the Wisconsin Administrative Code. WQC procedures have been adopted pursuant to Section 401 of the Clean Water Act (33 USC 1341) and Sections 144.025 and 147.0, Wis. Stats. It is the policy of the Department to review all activities, which require a federal license or permit which may result in any discharge to waters of the state and to:

1. Deny certification for any activity where the Department does not have reasonable assurance that any discharge will comply with effluent limitations, water quality related concerns or any other appropriate requirements of state law as outlined in NR 299.04;

2. Grant or grant conditionally certification for any activity where the Department has reasonable assurance that any discharge will comply with effluent limitations, water quality related concerns or any other appropriate requirements of state law as outlined in NR 299.04; or

3. Waive certification for any activity which the Department finds will result in no discharge, any wastewater discharge associated with an activity which will be regulated by the permit authority under ch. 283, Wis. Stats., or any activity that does not fall within the purview of the Department's authority.

The Department shall determine whether it has reasonable assurance that the proposed activity complies with the following water quality standards;

1. Effluent limitations adopted under s. 283.13, Wis. Stats., and 33 USC 1311, for categories of discharges;

2. Water based related effluent limitations adopted under s. 283.13 (5), Wis. Stats., and 33 USC 1312;

3. Water quality standards adopted under s. 281.15, Wis. Stats., and 33 USC 1313;

4. Standards of performance adopted under s. 283.19, Wis. Stats., and 33 USC 1316;

5. Toxic and pretreatment effluent standards adopted under s. 283.21, Wis. Stats., and 33 USC 1317;

6. Public interest and public rights standards, related to water quality, set forth in ss. 30.03, 30.10, 30.11, 30.12, 30.123, 30.13, 30.15, 30.18, 30.19, 30.195, 30.196, 30.20, 30.202, 30.206, 30.21, 31.02, 31.05, 31.06, 31.07, 31.08, 31.12, 31.13, 31.18, 31.23, 88.31 and 281.15, Wis, Stats., and made applicable by 33 USC 1341 (d);

7. Any other appropriate requirements of state law as provided in 33 USC 1341 (d).

Based on its review of the applicant's proposal and the above findings, the Department concludes that there is reasonable assurance that operation and maintenance of the Black River Falls Hydroelectric Project, as proposed by the applicant in the August 26, 1999 FERC (re)license application and subsequent supplemental information and consultation, as modified by the following conditions, will not cause a violation of Wisconsin Water Quality Standards and will be in compliance with sections 301, 302, 303, 306, and 307 of the Federal Clean Water Act, P.L. 92-500, as amended, and other appropriate requirements of state law:

A. The applicant shall comply with all federal, state and local permit requirements.

B. For the full term of the FERC (re)license applicant must meet the most current State Water Quality Standards that apply to this project. As with all other affected operations, the applicant would be required to meet any future revised state water quality standards.

C. To protect aquatic habitat, allow for reasonable and quality public recreation use and otherwise protect public interest values throughout the term of the FERC (re)license, the applicant must operate the Black River Falls Project in a run-of-river mode to reasonably mimic the natural river flow. Run-of-river operation may be temporarily modified if

required by emergencies beyond the control of the applicant. The applicant must make all reasonable attempts to return to run-of-river operation as soon as possible. If an emergency occurs that affects water levels and flow releases, the applicant shall notify the Department's office in Eau Claire, Wisconsin, as soon as possible so they can be prepared to respond to public inquiries. After the emergency has past, applicant must consult with the Department in determining appropriate response measures.

D. Compliance with Condition C above, shall be determined in the following manner.

Travel Time will be estimated by applying the time shifts necessary to obtain the best alignment between the Hatfield outflow hydrograph and the Black River Falls outflow hydrograph.

If outflow measured from Hatfield hydro is less than 300 cubic feet per second the following shall apply.

At all times Black River Falls must discharge at least 100% and not more than 150% * of the measured Hatfield Project outflow, corrected for time of travel.

If the outflow measured from Hatfield hydro is greater than 300 cubic feet per second the following shall apply.

At all times Black River Falls must discharge at least 100% and not more than 135% * of the measured Hatfield Project outflow, corrected for time of travel.

* 1.) Rare deviations would be strictly limited to the **"not more than"** percentile change if Black River Falls could demonstrate that a condition existed which was beyond the their control. Examples of such deviation could include, but not be limited to the following.

A. A localized rain event that did not effect Hatfield outflow discharges, but increased tributary inflow between Hatfield and Black River Falls and made it impossible to meet the "not more than" compliance standard.

B. There was a discharge from cranberry bogs in the watershed between Hatfield and Black River Falls that contributed additional inflow that made it impossible for Black River Falls to meet the "not more than" compliance standard.

E. Project inflow must be documented either by obtaining discharge measurements in cubic feet per second from the upstream Hatfield hydro outflow gage that meets USGS gaging standards, or by installing a separate inflow gage that measures flow in cubic feet per second that meets USGS gaging standards, immediately upstream of the Black River Falls flowage to document inflow into the Black River Falls project.

F. Project outflow must be gaged, measured in cubic feet per second, and be located within 4,000 feet downstream of the project powerhouse. This outflow gage must provide accurate data that meets USGS gaging standards.

G. Both the inflow and outflow gages must be in place for the entire term of the FERC (re)license. If, for any reason after the FERC (re)license is issued, either or both of the above gages are inoperable/unavailable, applicant should within 30 days consult with the Department and develop a plan for alternate gaging for Department approval. In addition, the applicant in operating the project in a run-of-river mode, shall at all times act to minimize the fluctuations of the reservoir surface elevations and tailwater reaches for the protection of water quality, fish and wildlife resources in the Black River.

H. Temporary excursions from the run-of-river compliance standard described in part C and D above, such as drawdowns for non-emergency project maintenance, habitat enhancement or other reasons, may be allowed on a case-by-case basis but only with prior Department approval. Any such proposals should be made at least 30 days in advance of the scheduled activity to allow reasonable time for Department review. The Department would consider an expedited review on a case by case basis.

I. After the FERC (re)license is issued, a one-year test period shall be used to determine the ability of the applicant to maintain compliance with the above run-of-river conditions. At the end of the one-year test period, the applicant shall prepare a report to the Department documenting their ability to meet the above run-of-river compliance standard. If during the course of the test period, the applicant finds it regularly cannot comply, they must immediately consult with the Department in effort to resolve compliance matters and avoid enforcement problems. If the applicant has made all reasonable efforts to comply with the current run-of-river operational compliance standard that was prescribed in item number D and are routinely not able to meet the prescribed operating standard due to circumstances beyond their control, the Department reserves the right reopen the water quality certification and/or FERC License to re-evaluate and make any necessary changes to the prescribed run-of-river operating compliance standard.

J. Within one year of license issuance the applicant must install and maintain automatic water level sensors that continuously monitor and record headwater and tailwater elevation for the full term of the FERC (re)license. They shall continue to maintain a daily record (log) of operations and provide any pertinent information to the Department upon request, including turbine operation, headwater and tailwater elevations, and flow releases through the powerhouse and spillway updated on an hourly basis.

K. Unless pre-approved by the Department, applicant shall maintain flowage water levels between 762.4 and 761.4 from April 1-October 31 and 761.7 to 760.7 from November 1-

March 31 each calendar for the full term of the FERC (re)license.

L. At all times during the full term of the FERC (re)license, the applicant shall provide a minimum flow of 50 cubic feet per second into the spillway/bypass channel. This minimum flow will protect existing aquatic habitat and resources and provide recreational angling opportunities for the public.

M. If over the term of the FERC (re)license major modifications to existing project works or replacement of generating equipment is planned or undertaken, applicant must first consult with the Department and develop a plan to minimize impacts to aquatic resources in the Black River. Examples of such changes could include but, are not limited to: new or replacement of turbines, trashracks, tainter gates and flashboards.

N. Applicant should install, operate and maintain appropriate upstream or downstream fish passage facilities as may be prescribed by the United States Department of Interior-Fish and Wildlife Service throughout the term of the FERC (re)license.

O. Over the full term of the FERC (re)license applicant, whenever project tainter gates are opened and immediately upon closure, the applicant must inspect the spillway channel area and rescue any fish that are stranded and release such fish to an area where they would be able to escape. Within one year of FERC (re)license applicant should develop and submit to the Department a report documenting the results of the fish stranding inspection/rescue efforts. Upon completion of the report applicant should consult with the Department to evaluate the need for additional impact avoidance measures.

P. Throughout the FERC (re) license term, any proposals for non-emergency project maintenance or repair work involving a physical disturbance or discharge to the Black River, including reservoir drawdowns to facilitate repair/maintenance work, shall be filed with the Department for prior review and approval.

Q. The applicant shall allow the Department to inspect the project area at any time during the FERC (re)license term to monitor compliance with certification conditions. In addition, the applicant must provide the Department with monitoring data needed to determine compliance with their prescribed operating conditions.

R. Any change to the project that would have a significant or material effect on the findings, conclusions, or conditions of this WQC, including project operation, must be submitted to the Department for prior review and written approval.

S. The Department may request, at any time, that FERC reopen the (re)license to consider modifications necessary to assure compliance with Wisconsin Water Quality Standards.

Dated at Eau Claire, WI: **August 11, 2000**

STATE OF WISCONSIN DEPARTMENT OF NATURAL RESOURCES

By _____
Heath Benike
Regional Large Rivers Specialist
West Central Region-Eau Claire

NOTICE OF APPEAL RIGHTS

If you believe you have a right to challenge this decision, you should know that Wisconsin statutes and administrative rules establish time periods within which requests to review Department decisions must be filed. For judicial review of a decision pursuant to ss. 227.52 and 227.53, Stats., you have 30 days after the decision is mailed, or otherwise served by the Department, to file your petition with the appropriate circuit court and serve the petition on the Department. Such a petition shall name the Department of Natural Resources as the respondent.

To request a contested case hearing pursuant to s. 227.42, Stats., you have 30 days after the decision is mailed, or otherwise served by the Department, to serve a petition for hearing on the Secretary of the Department of Natural Resources. The filing of a request for a contested case hearing is not a prerequisite for judicial review and does not extend the 30 day period for filing a petition for judicial review. Unless a written request for a hearing is filed with the Department within 30 days after mailing of the notice, the Department's decision will become final without public hearing at the end of the 30 day period.

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**State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES**

Tommy G. Thompson, Governor
George E. Meyer, Secretary
Scott A. Humrickhouse, Regional Director

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PO Box 4001
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August 22, 2000

Mr. Loren Radcliffe
Black River Falls Municipal Utilities
119 North Water Street
Black River Falls, WI 54615

Dear Mr. Radcliffe:

As a condition of the 401 certification for the Black River Falls Hydroelectric Project, state law requires that you:

1. Publish this as a Class 1 notice, at your expense by August 28, 2000 in the Black River Falls Local Newspaper.

2. Obtain, and send to me at the above address, an affidavit from the newspaper providing proof that the notice has been published.

The Department's water quality certification decision becomes final 30 days after it is published, unless a hearing is requested. We will contact you only if a hearing is requested.

If you have any questions, please contact me at 715-839-3709.

Sincerely,

Heath Benike
Regional Large Rivers Specialist
West Central Region-Eau Claire

Cc: FERC

**Notice for State Water Quality Certification**
Black River Falls Hydroelectric Project

Black River Falls Municipal Utilities, 119 North Water Street, Black River Falls, WI 54615 has filed an application with the Wisconsin Department of Natural Resources for water quality certification under section 401, Federal Clean Water Act, and Chapter NR299, Wisconsin Administrative Code.

The project is located in the City of Black River Falls, Jackson County.

The project consists of relicensing of the Black River Falls hydroelectric project operations under the Federal Energy Regulatory Commission re-licensing process. The Federal Energy Regulatory Commission (FERC) requires that the applicant obtain state water quality certification or waiver thereof before a new license can be issued. The projects future operations will impact 50 miles of the lower Black River and the Black River Falls Flowage.

The Department has evaluated this proposal and determined that this activity will meet the standards found in section NR 299.04 and certification is granted with the following conditions.

If you would like to know more about this project, contact Heath Benike, West Central Region Headquarters, 1300 West Clairemont Avenue, Eau Claire, WI 54702. Reasonable accommodations, including the provision of informational materials in an alternative format, will be provided for qualified individuals with disabilities upon request.

The following conditions are part of the certification.

A. The applicant shall comply with all federal, state and local permit requirements.

B. For the full term of the FERC (re)license applicant must meet the most current water quality standards that apply to this project. As with all other affected operations, the applicant would be required to meet any revised state water quality standards.

C. The protect aquatic habitat, allow for reasonable and quality public recreation use and otherwise protect public interest values throughout the term of the FERC (re)license. the applicant must operate the Black Rive Falls Project in a run-of-river mode to reasonably mimic natural river flow. Run-of-river operation may be temporally modified if required by emergencies beyond the control of the applicant. The applicant must make all reasonable attempts to return to run-of-river operation as soon as possible. If an emergency occurs that affects water levels and flow releases, the applicant shall notify the Department's office in Eau Claire, Wisconsin, as soon as possible so they can be prepared to respond to public inquires. After the emergency has past, applicant must consult with the Department in determining appropriate response measures.

D. Compliance with Condition C above, shall be determined in the following manner.

Travel Time will be estimated by applying the time shifts necessary to obtain the best alignment between the Hatfield outflow hydrograph and the Black River Falls outflow hydrograph.

If outflow measured from Hatfield hydro is less than 300 cubic feet per second the following shall apply.

At all times Black River Falls must discharge at least 100% and not more than 150% * of the measured Hatfield Project outflow, corrected for time of travel.

If the outflow measured from Hatfield hydro is greater than 300 cubic feet per second the following shall apply.

At all times Black River Falls must discharge at least 100% and not more than 135% * of the measured Hatfield Project outflow, corrected for time of travel.

* 1.) Rare deviations would be strictly limited to the **"not more than"** percentile change if Black River Falls could demonstrate that a condition existed which was beyond the their control. Examples of such deviation could include, but not be limited to the following.

A. A localized rain event that did not effect Hatfield outflow discharges, but increased tributary inflow between Hatfield and Black River Falls and made it impossible to meet the "not more than" compliance standard.

B. There was a discharge from cranberry bogs in the watershed between Hatfield and Black River Falls that contributed additional inflow that made it impossible for Black River Falls to meet the "not more than" compliance standard.

E. Project inflow must be documented either by obtaining discharge measurements in cubic feet per second from the upstream Hatfield hydro outflow gage that meets USGS gaging standards, or by installing a separate inflow gage that measures flow in cubic feet per second that meets USGS gaging standards, immediately upstream of the Black River Falls flowage to document inflow into the Black River Falls project.

F. Project outflow must be gaged, measured in cubic feet per second, and be located within 4,000 feet downstream of the project powerhouse. This outflow gage must provide accurate data that meets USGS gaging standards.

G. Both the inflow and outflow gages must be in place for the entire term of the FERC

(re)license. If, for any reason after the FERC (re)license is issued, either or both of the above gages are inoperable/unavailable, applicant should within 30 days consult with the Department and develop a plan for alternate gaging for Department approval. In addition, the applicant in operating the project in a run-of-river mode, shall at all times act to minimize the fluctuations of the reservoir surface elevations and tailwater reaches for the protection of water quality, fish and wildlife resources in the Black River.

H. Temporary excursions from the run-of-river compliance standard described in part C and D above, such as drawdowns for non-emergency project maintenance, habitat enhancement or other reasons, may be allowed on a case-by-case basis but only with prior Department approval. Any such proposals should be made at least 30 days in advance of the scheduled activity to allow reasonable time for Department review. The Department would consider an expedited review on a case by case basis.

I. After the FERC (re)license is issued, a one-year test period shall be used to determine the ability of the applicant to maintain compliance with the above run-of-river conditions. At the end of the one-year test period, the applicant shall prepare a report to the Department documenting their ability to meet the above run-of-river compliance standard. If during the course of the test period, the applicant finds it regularly cannot comply, they must immediately consult with the Department in effort to resolve compliance matters and avoid enforcement problems. If the applicant has made all reasonable efforts to comply with the current run-of-river operational compliance standard that was prescribed in item number D and are routinely not able to meet the prescribed operating standard due to circumstances beyond their control, the Department reserves the right reopen the water quality certification and/or FERC License to re-evaluate and make any necessary changes to the prescribed run-of-river operating compliance standard.

J. Within one year of license issuance the applicant must install and maintain automatic water level sensors that continuously monitor and record headwater and tailwater elevation for the full term of the FERC (re)license. They shall continue to maintain a daily record (log) of operations and provide any pertinent information to the Department upon request, including turbine operation, headwater and tailwater elevations, and flow releases through the powerhouse and spillway updated on an hourly basis.

K. Unless pre-approved by the Department, applicant shall maintain flowage water levels between 762.4 and 761.4 from April 1-October 31 and 761.7 to 760.7 from November 1-March 31 each calendar for the full term of the FERC (re)license.

L. At all times during the full term of the FERC (re)license, the applicant shall provide a minimum flow of 50 cubic feet per second into the spillway/bypass channel. This minimum flow will protect existing aquatic habitat and resources and provide recreational angling opportunities for the public.

M. If over the term of the FERC (re)license major modifications to existing project works or replacement of generating equipment is planned or undertaken, applicant must first consult with the Department and develop a plan to minimize impacts to aquatic resources in the Black River. Examples of such changes could include but, are not limited to: new or replacement of turbines, trashracks, tainter gates and flashboards.

N. Applicant should install, operate and maintain appropriate upstream or downstream fish passage facilities as may be prescribed by the United States Department of Interior-Fish and Wildlife Service throughout the term of the FERC (re)license.

O. Over the full term of the FERC (re)license applicant, whenever project tainter gates are opened and immediately upon closure, the applicant must inspect the spillway channel area and rescue any fish that are stranded and release such fish to an area where they would be able to escape. Within one year of FERC (re)license applicant should develop and submit to the Department a report documenting the results of the fish stranding inspection/rescue efforts. Upon completion of the report applicant should consult with the Department to evaluate the need for additional impact avoidance measures.

P. Throughout the FERC (re) license term, any proposals for non-emergency project maintenance or repair work involving a physical disturbance or discharge to the Black River, including reservoir drawdowns to facilitate repair/maintenance work, shall be filed with the Department for prior review and approval.

Q. The applicant shall allow the Department to inspect the project area at any time during the FERC (re)license term to monitor compliance with certification conditions. In addition, the applicant must provide the Department with monitoring data needed to determine compliance with their prescribed operating conditions.

R. Any change to the project that would have a significant or material effect on the findings, conclusions, or conditions of this WQC, including project operation, must be submitted to the Department for prior review and written approval.

S. The Department may request, at any time, that FERC reopen the (re)license to consider modifications necessary to assure compliance with Wisconsin Water Quality Standards.

**NOTICE OF APPEAL RIGHTS**

If you believe that you have the right to challenge this decision, you should know that the Wisconsin Statues and Wisconsin Administrative Code establish time periods within which requests to review Department decisions must be filed. For judicial review of a decision pursuant to sections 227.52 and 227.53, Wis. Stats., you have 30 days after the decision is mailed, or otherwise served by the Department, to file your petition with the appropriate circuit court and serve the petition on the Department. Such a petition for judicial review must name the Department of Natural Resources as the respondent.

To request a contested case hearing pursuant to section 227.42, Wis. Stats., you have 30 days after the decision is mailed, or otherwise served by the Department, to serve a petition for hearing on the Secretary of the Department of Natural Resources. The filing of a request for a contested case hearing is not a prerequisite for judicial review and does not extend the 30-day period for filing a petition judicial review.

All requests for contested case hearings must be made in accordance with section NR 2.05(5), Wis. Adm. Code. This section of the code requires that the grounds for the petition for hearing be identified. Pursuant to section NR 2.05(5), Wis. Adm. Code, and section 227.42, Wis. Stats., you are required to include specific information demonstrating all four of the following:

1. The substantial interest of the petitioner which is injured in fact or threatened with injury by the Department's action or inaction;

2. That there is no evidence of legislative intent that this interest is not to be protected.

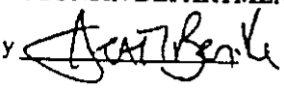
3. That the injury to the petitioner is different in kind or degree from the injury to the general public caused by the Department's action or inaction; and

4. That there is a dispute of material fact (you must specify the disputed facts).

This notice is provided pursuant to section 227.48(2), Wis. Stats.

Dated at Eau Claire, WI on August 22, 2000

**WISCONSIN DEPARTMENT OF NATURAL RESOURCES**

By 

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Regional Large Rivers Specialist
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