88 FERC ¶ 62,006

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Dunkirk Water Power Company, Inc.) Project No. 11549-001
Wisconsin

ORDER GRANTING EXEMPTION FROM LICENSING
(5 MW or Less)

(Issued July 6, 1999)

On January 21, 1997, the Dunkirk Water Power Company, Inc. (Dunkirk or applicant) filed an application to exempt the proposed 345-kilowatt Dunkirk Hydroelectric Project from the licensing requirements set forth under Section 408 of the Energy Security Act and Part I of the Federal Power Act (FPA). The proposed project is located on the Yahara River, in Dane County, Wisconsin. Dunkirk proposes to refurbish existing facilities that operated between 1915 and 1984. The project would not occupy any United States lands. 1/

BACKGROUND

Notice of the application was published on August 20, 1997, soliciting protests and motions to intervene, stating that the application was ready for environmental analysis, and setting October 20, 1997, as the deadline for filing comments, recommendations, terms and conditions, prescriptions, protests, and motions to intervene. A timely motion to intervene was filed in this proceeding by the River Alliance of Wisconsin on October 20, 1997, and a late motion to intervene was filed by the Wisconsin Department of Natural Resources (Wisconsin DNR) on October 27, 1997. 2/ No one objected to issuance of an exemption. Comments received from interested agencies and individuals have been fully considered in determining whether and under what conditions to issue this exemption.

The Commission's staff issued a draft environmental assessment (EA) for this project on April 24, 1998. No comments were filed on the draft EA. The final EA is attached to and made part of this exemption order.

MANDATORY TERMS AND CONDITIONS

Article 2 of this exemption requires compliance with the terms and conditions filed by Federal and state fish and wildlife agencies to protect fish and wildlife resources. Mandatory terms

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1/ For a detailed description of the project, see section III.A.1. of the final environmental assessment attached to this order.

2/ A notice granting Wisconsin DNR's late motion to intervene was issued on June 18, 1999.

and conditions for the project were filed and are attached in Appendix A, except as discussed below.

On October 27, 1997, pursuant to section 4.34(b) of the Commission's regulations (18 C.F.R. § 4.34(b) (1998)) and Section 30(c)of FPA, 16 U.S.C. § 823a(c), Wisconsin DNR filed terms and conditions for the project to prevent loss of or damage to fish and wildlife resources (see EA, section III.A.3). Subsequently, Wisconsin DNR filed on June 10, 1998, an amendment to the terms and conditions which included a condition for fish passage at the project.

I find that Wisconsin DNR's fish passage condition is not mandatory. Pursuant to Section 4.34(b) of the Commission's regulations, mandatory exemption conditions under FPA Section 30(c) must be filed no later than 60 days after issuance by the Commission of the notice declaring that the application is ready for environmental analysis. As noted, the "ready for environmental analysis" notice in this case was issued August 20, 1997, making the deadline for filing mandatory terms and conditions October 20, 1997. Wisconsin DNR filed its fish passage condition on June 10, 1998, 3/ approximately eight months late. In the interim, the Commission issued the draft EA, which, as noted, received no comments.

In its June 10, 1998 letter to the Commission, Wisconsin DNR predicated its request to amend its exemption conditions on changed circumstances at the Dunkirk Dam occasioned by major construction and repairs at the dam to be financed in part by the dam owner and the State of Wisconsin. However, pursuant to Section 4.34(b)(4)(ii) of the Commission's regulations, to trigger a new opportunity for filing mandatory conditions, any newly-proposed construction must be a material amendment to the exemption application, as provided in Section 4.35 of the Commission's regulations, which it is not. To constitute a material amendment, the proposed changes to the project must change the project's plans of development in a material way, such as by moving the location of the project 4/ or by changing the type or location of major project features. 5/ By contrast, the

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3/ Wisconsin DNR specified upstream and downstream fish passage for its proposed condition in its letter to the applicant filed November 30, 1998.

4/ See, e.g., Trans Mountain Construction Company, 33 FERC ¶ 61,231 (1985).

5/ See Hy-Tech Company, 40 FERC ¶ 61,346 (1987), where the applicant proposed a new enlarged reservoir (rather than a diversion), an enlarged dam, a rerouted penstock, a

(continued...)

applicant is proposing only to rehabilitate the Dunkirk Dam by closing one of its two tainter gates and rehabilitating the second as a gated, controlled, spillway, and by refurbishing some of the dam's spillway sections. 6/ Applicant's rehabilitation work -- which is similar in kind to the type of rehabilitation of the existing project facilities that applicant had initially proposed -- will not materially change the project's plans of development. 7/

Accordingly, Wisconsin DNR's fish passage requirement will not be adopted as a mandatory condition, but will instead be considered on its merits.

FISH PASSAGE

Wisconsin DNR's fish passage recommendation will not be included as a condition of this exemption. There is not sufficient evidence that fish passage measures would provide any substantial benefit to the fishery. The need for and usefulness of providing fish passage for the fish inhabiting the Yahara River, as recommended by Wisconsin DNR, is questionable, especially since dams immediately upstream and downstream currently do not have fish passage. 8/ Further, there exists a

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5/(...continued)
relocated powerhouse, and new access roads.

6/ See the Director's July 24, 1998 letter to the applicant requesting a description of the dam-rehabilitation work and applicant's reply letter, filed August 21, 1998. Applicant is opposed to including fish passage as a condition of the exemption. See the applicant's letter filed October 30, 1998. The dam owner has agreed "in principal" to Wisconsin DNR's request to installing fish passage, but it is opposed to including fish passage as a condition to the exemption. See the letter from Dunkirk Dam Lake District to the Commission, filed June 24, 1998.

7/ Moreover, applicant's rehabilitation work will not increase the height of the dam or enlarge the impoundment, and therefore will not create a "new dam," which would otherwise exclude the project from the exemption for small hydroelectric facilities. See 18 C.F.R. §§ 4.101 and 4.30(b)(29).

8/ Wisconsin DNR states generally that the downstream Stebbinsville Dam will undergo repairs and that fish passage will be part of Wisconsin DNR's recommendations to the Commission if Commission-authorized hydropower operations are sought there. See Wisconsin DNR's letter to the

(continued...)

fish consumption advisory in the area of the confluence of the Yahara and Rock Rivers, downstream of the Stebbinsville Dam. Providing fish passage could spread the contamination to areas upstream of the Dunkirk Dam, should fish passage also be provided for at Stebbinsville Dam in the future. We conclude that there is not sufficient need at this time to require the exemptee to provide fish passage at the Dunkirk Dam. 9/

As noted, the dam owner and the State of Wisconsin are considering jointly financing installation of fish passage facilities at the dam. It appears that the operations of such facilities and the operations of the project would not conflict with one another. This order is not a bar to the efforts of Wisconsin DNR and the dam owner to install fish passage at the dam.

OTHER CONDITIONS

Based on our independent review and evaluation of the proposed project, agency recommendations, and the no-action alternative, we are issuing an exemption from licensing for the Dunkirk Hydroelectric Project with one additional enhancement measure. Article 11 requires the exemptee to install the proposed canoe portage, including a take-out and put-in point, and a exhibit map or drawing showing the location of these facilities.

FINDING OF NO SIGNIFICANT IMPACT

Based on the staff's independent assessment, issuance of this order is not a major federal action significantly affecting the quality of the human environment.

The Director orders:

(A) The Dunkirk Hydroelectric Project is exempted from the licensing requirements set forth under Section 408 of the Energy

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8/(...continued)
Commission filed November 30, 1998 at p. 2. However, Wisconsin DNR's statements about fish passage at the Stebbinsville Dam under a Commission-issued hydropower license are too speculative a basis for including fish passage as an exemption requirement here. The Director of the Office of Hydropower Licensing rejected as patently deficient Wisconsin Edison Corporation's license application, filed February 10, 1995, for the Stebbinsville Project No. 11520, by letter issued April 18, 1995. Rehearing was not sought.

9/ See section V.B.3.b. of the final EA.

Security Act and Part I of the FPA, subject to the attached standard articles and the following additional articles:

Article 10. The exemptee shall pay the United States an annual charge, effective as of the date of commencement of project construction, for the purpose of reimbursing the United States for the Commission's administrative costs, 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 345 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 11. The exemptee shall, within one year after issuance of this exemption order, submit a recreational plan to the Commission, for approval.

The plan shall include, at a minimum, provisions for the construction and maintenance of a canoe portage, including a take-out and put-in point and appropriate signs that serve to both mark the canoe portage points and warn canoeists and anglers of the powerhouse and dam.

The plan shall include: (a) plan design drawings or map showing the location of these facilities; (b) a description of all signs used to identify the portage routes; (c) drawings and specifications for erosion and sediment controls that would be implemented during the construction of the recreation facilities; (d) a description of the compatibility of the construction materials for the recreation facilities with the natural and historic character of the surroundings; (e) a discussion of how the plan considers the needs of the disabled; (f) cost estimates of the recreation facilities; (g) identification of the individual or entity responsible for operating and maintaining the portage routes and access areas; and (h) an implementation schedule for the plan.

The exemptee shall prepare the plan after consultation with the Wisconsin Department of Natural Resources. The exemptee shall include with the plan documentation of consultation, copies of the comments and recommendations on the completed plan after it has been prepared and provided to the resource agency, and specific descriptions of how the agency's comments are accommodated by the plan. The exemptee shall allow a minimum of 30 days for the agency to comment and to make recommendations before filing the plan with the Commission. If the exemptee does not adopt a recommendation, the filing shall include the exemptee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Implementation of the plan, including the construction of

the canoe portage, shall not begin until the exemptee is notified by the Commission that the plan is approved. Upon Commission approval, the exemptee shall implement the plan, including any changes required by the Commission.

(B) The exemptee 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.

(C) This order constitutes final agency action. Requests for rehearing by the Commission may be filed within 30 days from the date of issuance, pursuant to 18 C.F.R. § 385.713.

J. Mark Robinson
Director
Division of Licensing and Compliance

Appendix A

Attached Mandatory Terms and Conditions Filed by Federal and State Fish and Wildlife Agencies To Protect Fish and Wildlife Resources For the Dunkirk Hydroelectric Project.

A. By the Wisconsin Department of Natural Resources filed October 27, 1997.

1. Communications: The operator of the Dunkirk Dam be required to report flow changes to the operator of the Stebbensville Dam. This would be consistent with the communication between the dam operators on the river now.

2. Project Repairs: Based on inspection and recent visits to the dam, many repairs are still needed: (a) a dam warning sign be placed on the dam which meets Wisconsin Administrative Code NR 330; (b) the embankment vegetation be mowed and grass established so monitoring of rodents, erosion and seepage can be done; (c) erosion on the downstream side of the gated section be monitored and repaired as needed; (d) tainter gate seals be replaced; (e) water level gage be placed at the dam visible by the public; and (f) railings or fencing be placed in areas that have sudden drop offs and would be dangerous for unknowing visitors.

3. Minimum Flow: The minimum flow requirement at this dam will be 25 cfs. This flow through the tainter gate section is necessary to keep flow in the three separated channels downstream of the dam. Wisconsin DNR will conduct an in-stream low flow study to see if 25 cfs flow can be divided between the tainter gate section and the powerhouse. Until this study is completed, the entire minimum flow must be passed through the gated section.

4. Impoundment Water Levels: The maximum allowable level is 832.3 feet and the minimum allowable level is 831.7 feet. The normal water level for the impoundment is considered the mid-range at 832.0 feet. This is consistent with levels proposed in the application.

5. Run-of-river Mode: The instantaneous discharge from the dam must equal the instantaneous inflow. This is necessary to protect the aquatic life and habitat.

B. By the United States Department of the Interior filed January 13, 1997.

1. Reservation of Fishways Pursuant to Section 18 of the FPA:

The FWS, through the Department of the Interior (Department), reserves its authority to prescribe the construction, operation, and maintenance of upstream and downstream fishways at the Dunkirk Water Power Project, pursuant

to Section 18 of the FPA. When deeemed appropriate by the Department, the exemptee shall install appropriate upstream and downstream fish passage facilities. The Department requests that the Commission acknowledge such reservation in any license issued for the project. Any initiative for fish passage will be consistent with the goals and objectives of a Yahara River Fisheries Management Plan.

ATTACHMENT
E-2 Form

FEDERAL ENERGY REGULATORY COMMISSION

§ 4.106 Standard terms and conditions of exemption from licensing

Any exemption from licensing granted under this subpart for a small hydroelectric power project is subject to the following standard terms and conditions:

(a) **Article 1**. The Commission reserves the right to conduct investigations under sections 4(g), 306, 307, and 311 of the Federal Power Act with respect to any acts, complaints, facts, conditions, practices, or other matters related to the construction, operation, or maintenance of the exempt project. If any term or condition of the exemption is violated, the Commission may revoke the exemption, issue a suitable order under section 4(g) of the Federal Power Act, or take appropriate action for enforcement, forfeiture, or penalties under Part III of the Federal Power Act.

(b) **Article 2**. The construction, operation, and maintenance of the exempt project must comply with any terms and conditions that the United States Fish and Wildlife Service and any state fish and wildlife agencies have determined are appropriate to prevent loss of, or damage to, fish or wildlife resources or to otherwise carry out the purposes of the Fish and Wildlife Coordination Act, as specified in Exhibit E of the application for exemption from licensing or in the comments submitted in response to the notice of the exemption application.

(c) **Article 3**. The Commission may revoke this exemption if actual construction of any proposed generating facilities has not begun within two years or has not been completed within four years from the date on which this exemption was granted. If an exemption is revoked under this article, the Commission will not accept from the prior exemption holder a subsequent application for exemption from licensing or a notice of exemption from licensing for the same project within two years of the revocation.

(d) **Article 4**. This exemption is subject to the navigation servitude of the United States if the project is located on navigable waters of the United States.

(e) **Article 5**. This exemption does not confer any right to use or occupy any Federal lands that may be necessary for the development or operation of the project. Any right to use or occupy any Federal lands for those purposes must be obtained from the administering Federal agencies. The Commission may accept a license application by any qualified license applicant and revoke this exemption, if any necessary right to use or occupy Federal lands for those purposes has not been obtained within one year from the date on which this exemption was granted.

(f) **Article 6**. In order to best develop, conserve, and utilize in the public interest the water resources of the region, the Commission may require that the exempt facilities be modified in structure or operation or may revoke this exemption.

(g) **Article 7**. The Commission may revoke this exemption if, in the application process, material discrepancies, inaccuracies, or falsehoods were made by or on behalf of the applicant.

(h) **Article 8**. Any exempted small hydroelectric power project that utilizes a dam that is more than 33 feet in height above streambed, as defined in 18 CFR 12.31(c) of this chapter, impounds more than 2,000 acre-feet of water, or has a significant or high hazard potential, as defined in 33 CFR Part 222, is subject to the following provisions of 18 CFR Part 12, as it may be amended:

(1) Section 12.4(b)(1)(i) and (ii), (b)(2)(i) and (iii), (b)(iv), and (b)(v);

(2) Section 12.4(c);

(3) Section 12.5;

(4) Subpart C; and

(5) Subpart D.

For the purposes of applying these provisions of 18 CFR Part 12, the exempted project is deemed to be a licensed project development and the owner of the exempted project is deemed to be a licensee.

(i) **Article 9**. Before transferring any property interests in the exempt project, the exemption holder must inform the transferee of the terms and conditions of the exemption. Within 30 days of transferring the property interests, the exemption holder must inform the Commission of the identity and address of the transferee.

FINAL
ENVIRONMENTAL ASSESSMENT FOR EXEMPTION FROM HYDROPOWER LICENSING

DUNKIRK HYDROELECTRIC PROJECT

(FERC Project No. 11549-001)

WISCONSIN

Federal Energy Regulatory Commission
Office of Hydropower Licensing
Division of Licensing and Compliance
888 First Street, NE
Washington, D.C.

June 1999

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SUMMARY

On January 21, 1997, Dunkirk Water Power Company, Inc. (Dunkirk) filed an application for an exemption from licensing under Section 408 of the Energy Security Act and Part I of the Federal Power Act (FPA) to construct and operate the 345-kilowatt Dunkirk Hydroelectric Project No. 11549, located on the Yahara River, in Dane County, Wisconsin. Dunkirk plans to sell the power to a local utility.

On October 27, 1997, pursuant to section 4.34(b) of the Commissions regulations, Wisconsin Department of Natural Resources (Wisconsin DNR) filed terms and conditions for the project to prevent loss of or damage to fish and wildlife resources (see section III.A.3). Wisconsin DNR filed an amendment to the terms and conditions on June 10, 1998.

This final environmental assessment (FEA) analyzes the effects of the proposed action and various alternatives to the proposed action, including denial of an exemption from licensing, for the proposed Dunkirk Project. The FEA recommends all measures included in the terms and conditions -- but not the condition for fish passage in the amendment to the terms and conditions -- and others we deem necessary to reduce or avoid adverse impacts to environmental resources. These measures are discussed in sections III.A.2 and V.B, and summarized in section VI of the FEA.

Overall, these measures along with the standard articles provided in an exemption issued for the project, would protect, enhance, or mitigate for adverse impacts to geology and soils, water quality, fisheries, terrestrial, aesthetic, recreation, and cultural resources, and protect existing and undiscovered archeological sites. In addition, electricity generated from the proposed project would reduce the use of fossil-fueled, steam-electric generating plants.

Based on our independent review and evaluation of the proposed project, agency recommendations, and the no-action alternative, we recommend issuing an exemption from licensing for the Dunkirk Hydroelectric Project as proposed with additional staff recommended measures. We recommend this alternative because: (1) the project's renewed operation would have minor environmental effects; (2) our recommended measures would adequately protect and/or enhance geology and soils, water quality, fisheries, terrestrial, aesthetic, recreation, and cultural resources; and (3) about 1.0 gigawatt-hour of energy that would be generated annually from a renewable resource would reduce the use of fossil-fuels, conserve nonrenewable energy resources, and reduce atmospheric pollution.

FINAL ENVIRONMENTAL ASSESSMENT

FEDERAL ENERGY REGULATORY COMMISSION
OFFICE OF HYDROPOWER LICENSING, DIVISION OF LICENSING AND COMPLIANCE

Dunkirk Hydroelectric Project
FERC Project No. 11549-001, Wisconsin
June 1999

I. APPLICATION

On January 21, 1997, Dunkirk Water Power Company, Inc. (Dunkirk) filed an application with the Federal Energy Regulatory Commission (Commission) for an exemption from licensing for the Dunkirk Hydroelectric Project No. 11549. The existing, but unoperational project is located on the Yahara River, in the Township of Dunkirk, Dane County, Wisconsin (Figure 1). Dunkirk proposes to refurbish existing facilities that operated between 1915 and 1984. The project would not occupy any United States lands.

II. PURPOSE AND NEED FOR POWER

Section 408 of the Energy Security Act of 1980 provides the Federal Energy Regulatory Commission (Commission) authority to grant this project an exemption from the licensing requirements of the Federal Power Act (FPA). The Commission must decide whether to grant Dunkirk an Exemption, and what, if any, conditions, besides mandatory fish and wildlife conditions, to place on such an exemption to protect or enhance existing environmental resources and to mitigate for any adverse environmental impacts that would occur from project construction and operation. In this Final Environmental Assessment (FEA), the Commission staff assesses the effects of refurbishing and operating the facility, and makes recommendations on whether, and under what conditions, to grant an exemption from licensing for the project.

Under Section 213 of the Public Utility Regulatory Policies Act (PURPA), the authority of the Commission to grant an exemption from licensing is not limited by a determination of the need for power. See Briggs Hydroelectric, 32 FERC ¶ 61,399 (1985). See also David Cereghino, 35 FERC ¶ 61,067 (1986).

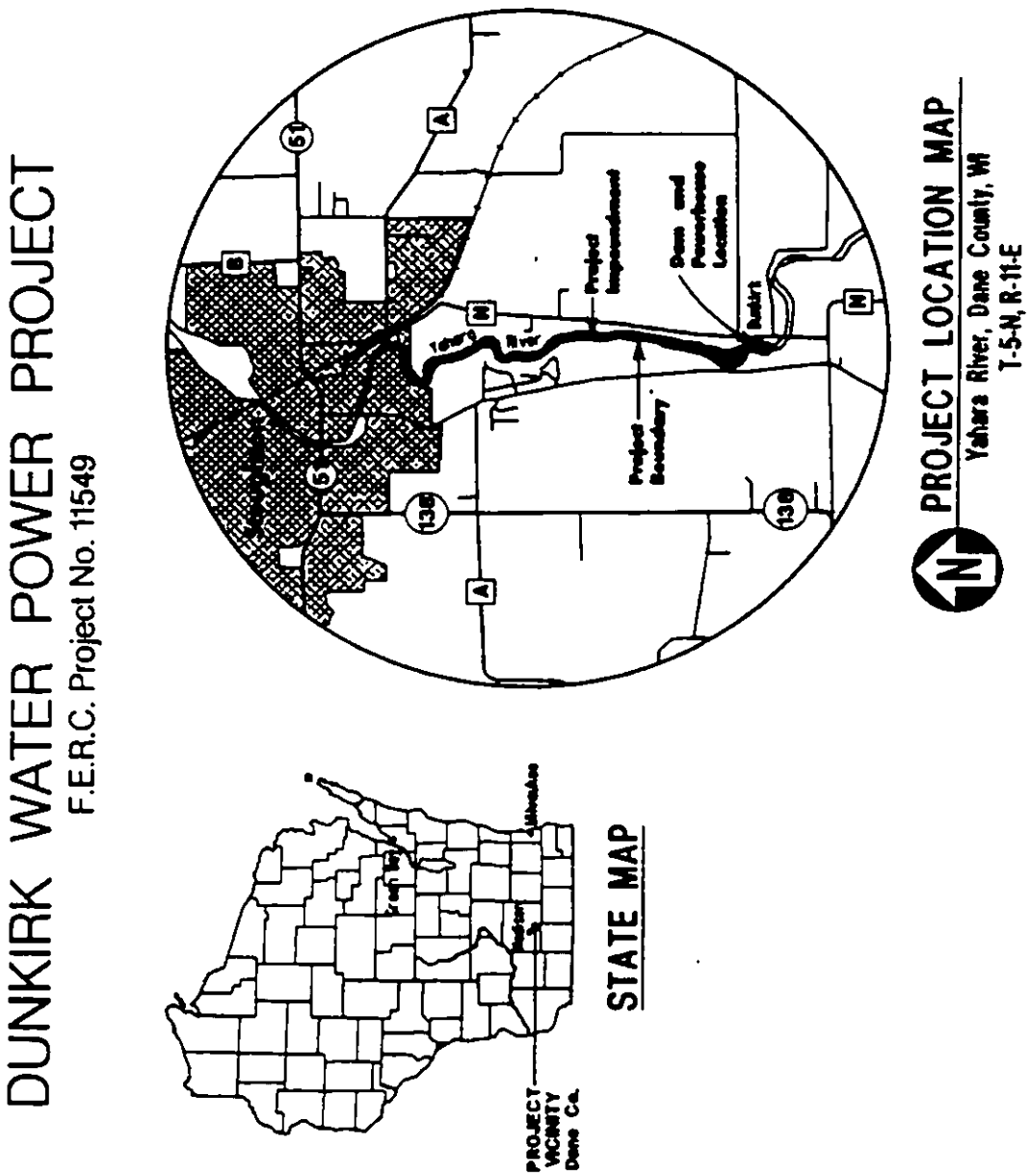

Figure 1. Location of Dunkirk Hydroelectric Project (Source: Dunkirk, 1997a).

III. PROPOSED ACTION AND ALTERNATIVES

A. Proposed Action

1. Project Facilities and Operations

Dunkirk proposes to rehabilitate and operate an existing, but currently inoperative, hydropower development. Repairs would be made to the existing power canal, dam, gatehouse structure, and powerhouse equipment. The proposed project consists of: (1) an existing 20-foot-high and 800-foot-long earthen dam complex comprising two concrete overflow spillways and three embankment sections with a crest elevation of 833.65 feet National Geodetic Vertical Datum (NGVD) 1/; (2) an existing 70-acre reservoir with a storage capacity of 270 acre-feet at normal pool elevation 832.0 NGVD; (3) an approximately 20-foot-wide, 14-foot-deep, and 93-foot-long concrete headrace canal; (4) a 35-foot by 60-foot concrete and brick powerhouse housing one 125-kilowatt (kW) generator/turbine rated at 166-horsepower with a rated hydraulic capacity of 142 cfs and one 220-kW generator/turbine rated 282-horsepower with a rated hydraulic capacity of 242 cfs, for a total project installed capacity of 345-kW; (5) an approximately 327-foot-long bypassed reach; (6) a 135-foot-long underground transmission line; and (7) appurtenant facilities. The applicant estimates that the average annual electric generation of the project would be 1,000 megawatt hours. The proposed project would have a maximum hydraulic capacity of 384 cubic feet per second (cfs).

The proposed project would operate in a run-of-river mode, with outflow equaling inflow as nearly as practicable within the project's headwater control tolerance capabilities. The applicant has secured a long term lease (50 years) from the owner of the dam, Dunkirk Dam Lake District, P.O. Box 83, Stoughton, WI 53589, which provides all necessary real property interests to develop and operate the project.

2. Proposed Environmental Measures

To protect, mitigate adverse impacts to, and enhance project-related environmental resources, Dunkirk proposes to:

a. Operate the project in a run-of-river mode, and attempt to maintain a normal headpond elevation of 832.0 ± 0.3 feet.

b. Maintain a minimum flow of 25 cfs or inflow, whichever is less, through the sluiceway at all times.

1/ All elevations are in National Geodetic Vertical Datum unless otherwise specified.

c. Monitor compliance with run-of-river and minimum flow requirements using continuously recorded lake levels, turbine gate opening, and electrical output.

d. Cooperate with Dunkirk Dam Lake District (District) and Wisconsin Department of Natural Resources (Wisconsin DNR) for their installation of fish passage facilities.

e. Install public safety measures at the site to include signs, fencing, lighting, boat barriers, and other safety features.

f. Improve the canoe portage to include take-out and put-in points and directional signs.

g. Install measures to control sedimentation and erosion during construction by using the Wisconsin Construction Site Best Management Practices.

3. Recommendations

Pursuant to section 4.34(b) of the Commissions regulations and section 2407(c) of the Energy Policy Act of 1992, Wisconsin DNR and the U.S. Fish and Wildlife Service (FWS) filed recommendations, terms, and conditions for the project to prevent loss of or damage to fish and wildlife resources (Wisconsin DNR, 1997; FWS, 1997). These measures include:

a. Provide at all times, when the project is operating, a minimum flow of 25 cfs through the tainter gate section or another portion of the dam. 2/

b. Operate the project in a run-of-river mode with outflow equaling inflow.

c. Maintain an impoundment elevation of 832.0 ± 0.3 feet at all times.

d. Report flow changes to the Stebbinsville dam operator for the protection of aquatic resources.

e. Install safety warning signs that meet Wisconsin Administrative Code NR 330.

f. Maintain proper height of embankment vegetation so rodents, erosion and seepage can be identified.

g. Replace tainter gate seals.

2/ Location will be determined as a result of a future Wisconsin DNR Instream Flow Incremental Methodology (IFIM) study.

h. Install a water level gage at the dam that is visible to the public.

i. Provide rail and fencing safety features around areas of steep inclines to protect the public.

j. FWS requested that reservation of authority to prescribe fishways under section 18 of the FPA be included in any license for the Dunkirk Project.

k. Cooperate with Dunkirk Dam Lake District (District) and Wisconsin Department of Natural Resources (Wisconsin DNR) for their installation of fish passage facilities. 3/

B. Alternatives

1. Proposed Action with Additional Staff Recommended Measures

In consideration of environmental mitigative and enhancement measures for the Dunkirk Project, staff evaluated the measures recommended by Dunkirk, the state and federal agencies, and local government. Based on these evaluations, which are presented in section III.A.2 and III.A.3, staff made its recommendations for mitigative and enhancement measures in section V. Staff's additional recommended measures include operational compliance monitoring for run-of-river, stream gauging and impoundment-level monitoring, and minimum flow releases.

2. No-Action

Under the no-action alternative (denial of an exemption from licensing), the project would not be rehabilitated or become operational and no changes to the existing environment would occur. The electricity that would have been generated by the project would not be available to displace the energy produced by other alternative generating sources.

3/ On June 5, 1998, Wisconsin DNR filed an amendment to the terms and conditions which included installation of fish passage facilities. The District and Wisconsin DNR have agreed to fund the installation of upstream fishways at the Dunkirk Project (Wisconsin DNR, 1998a). Since this amendment was filed late, the fish passage condition will be considered as not being mandatory.

IV. AGENCIES AND ENTITIES CONTACTED

A. Agency Consultation

The following entities commented on the Dunkirk Project's application, either in response to the draft application or notice that the application is ready for environmental analysis which specified October 19, 1997, as the deadline to respond. All comments received from concerned entities become part of the record and are considered during the staff's analysis of the proposed action.

Commenting agencies and other entities	Date of Comment
Dane County Regional Planning Commission	07/02/97
Department of Interior, Fish and Wildlife Service, Green Bay, WI	01/13/97
Wisconsin DNR	10/27/97

B. Interventions

The following entities filed motions to intervene for the Dunkirk Hydroelectric Project, but not in opposition, in the proceeding.

Intervener	Date of Motion
Wisconsin DNR	10/27/97
River Alliance of Wisconsin	10/20/97

C. Comments on the Draft Environmental Analysis

No comments were filed on the draft environmental analysis in response to the Commission's notice of availability, which was issued on April 24, 1998. The comment period ended on May 24, 1998.

D. Coastal Zone Management Act

The proposed Dunkirk project is not located in the coastal zone boundary designated by Wisconsin's Coastal Zone Management Program (Wisconsin Department of Administration, 1987). Our assessment is that no coastal zone consistency certification is needed for this project.

V. ENVIRONMENTAL ANALYSIS

A. General Description of the Yahara River Basin

The Dunkirk Project is located on the Yahara River, in the Town of Dunkirk, Dane County, Wisconsin. The Yahara River originates near De Forest, Wisconsin, approximately 40 miles north of the Dunkirk Dam. It terminates about 10 miles south of the facility, where it flows into the Rock River. The drainage area for the Dunkirk Project includes approximately 414 square miles.

The Yahara River Basin lies in a region characterized by flat to gently rolling hills. The surrounding area along the Yahara River corridor is primarily agricultural, consisting of cultivated crops and pasture lands. Only a narrow band of trees and shrubs borders the river.

Two other water resource developments are present within the Yahara River watershed. The Stoughton Hydroelectric Project (FERC No. 11519), owned by the City of Stoughton and leased to Wisconsin Edison Company (WEC), is located on the Yahara River three miles upstream of the Dunkirk Project. The Commission issued a preliminary permit for the Stoughton Project on August 14, 1997. Another water resource development is the Stebbinsville Project (FERC No. 11520) located on the Yahara River, four miles downstream of the Dunkirk Project. The project is an unlicensed facility also owned and operated by WEC.

B. Proposed Action

Only the resources that are involved in project-related issues are analyzed in detail in this FEA. The rehabilitation and operation of the proposed Dunkirk Project would not affect Terrestrial Resources, Threatened and Endangered Species, Historic and Archeological Resources, Scenic and Aesthetic Resources, and Socioeconomic Resources. We have excluded these resources from our detailed analysis for the reasons below.

Terrestrial Resources: The construction activities required to repair and refurbish the existing components of the power plant would have very minor adverse effects on weedy plant species present. Operation of the project in a run-of-river mode, with reservoir elevations between 831.7 and 832.3 feet NGVD should have no adverse effect on terrestrial resources.

Threatened and Endangered Species: The only federally listed threatened species in the project vicinity is the bald eagle (*Haliaeetus leucocephalus*), but it is not known to nest in the immediate project vicinity. The federally listed endangered peregrine falcon (*Falco peregrinus*) might also occur in the project vicinity, but only during its breeding season. Also, two

federally listed threatened plant species in the project area are the prairie bush-clover (*Lespedeza leptostachya*) and eastern prairie fringed orchid (*Plathanthera leucophaea*); however, neither occur in the immediate project vicinity.

The FWS states that the operation of the project will not affect federally listed threatened and endangered species (FWS, January 8, 1997). We agree with that determination. No further consultation with the FWS is necessary.

Historical and Archeological Resources: No historical or archeological resources are known to exist in the project area. Therefore, rehabilitation and operation of the project will not have any adverse effects on these resources.

Scenic and Aesthetic Resources: The new powerhouse superstructure and rehabilitated ancillary facilities will greatly improve the appearance of the site. Dunkirk intends to cooperate with the Lake District and the Wisconsin DNR to preserve other aesthetic resources associated with the site.

Proposed project operation will continue to impound the Yahara River and thus maintain the existing aesthetic benefits of the impoundment. Post-development tailwater conditions will essentially remain as they are currently. Therefore, the proposed project is anticipated to improve the scenic and aesthetic resources of the area.

Socioeconomics: Rehabilitation and operation of the project would have a positive effect on the socioeconomic condition of the Dunkirk community. Local contractors and materials/equipment suppliers would be given an opportunity of providing services during construction. At least two local citizens would be employed on a part time basis to provide daily operation and maintenance duties at the site. The project would also be an attraction for visitors to the area.

1. Geology and Soils

a. Affected Environment

Historically in the Yahara River Valley, glacial deposits over 350 feet deep in places dammed up valleys forming a chain of lakes and wetlands. Today, the topography in the project area is characterized by flat to gently rolling hills. Area soils range from deep, poorly drained, silty loams of the Orion series to

shallow, excessively drained sandy loams of the Rodman series. Deep peat deposits are prevalent in the area.

b. Environmental Impacts and Recommendations

Some minor excavation would be required to install the new transmission cables for the project and rehabilitate the other components. This minor disturbance is not anticipated to have any adverse effects on project area soils and geologic resources.

During construction, Dunkirk proposes to implement measures to control sedimentation and erosion by using the Wisconsin Construction Site Best Management Practices. The use of these measures would minimize and control sedimentation and erosion.

c. Unavoidable Adverse Impacts

None.

2. Water Resources

a. Affected Environment

The Dunkirk Project, located at river mile 10.0 on the Yahara River, impounds 70-acre Dunkirk Lake, and provides 270 acre-feet of storage volume. The Yahara River is the only source of inflowing water that enters from the north.

Located about 10 miles upstream of the proposed project in McFarland, Wisconsin, is the U.S. Geological Survey (USGS) stream gage number 05429500. The river upstream of the gaging station has a drainage area of 327 square miles and a period of record from September 1930 to September 1994. By adjusting for the difference in drainage area at the Dunkirk dam (i.e., 414 square miles), the mean annual discharge at the development is approximately 193 cfs. The percent exceedance flows in the Yahara River at the Dunkirk Project are shown in Table 1.

Table 1. Percent of time flows are exceeded in the Yahara River at the Dunkirk Project (Source: Dunkirk, 1997a).

Percentage of time exceeded (%)	Flow (cfs)
10	383
50	171
90	35
95	22

Wisconsin classifies the Yahara River upstream and downstream of the Dunkirk dam as warmwater. Such waters are capable of supporting the propagation and maintenance of warm water fish species. Wisconsin sets the minimum water quality standards for the Yahara River for recreation, fish and other aquatic life uses. These standards include:

a) a minimum dissolved oxygen (DO) concentration of 5.0 milligrams per liter (mg/l); b) a maximum daily average temperature of 31.7° C (89.0° F); and c) pH between 6.0 and 9.0.

Hydroelectric projects can affect water quality by decreasing the spillage of water over a dam or movement of water over a naturally high gradient area, and thus reducing the aeration of flows. Additionally, while organic nutrients present in a river can be dispersed downstream, much of the material eventually sinks to the bottom, decomposes, and is retained within the impoundment. The impoundments are ideal for pooling organic nutrients and increasing nutrient production, which causes accelerated eutrophication 4/ (Army Corp of Engineers, 1978). An excess sediment load via overland transport and nutrient run-off in the Yahara River results from agricultural practices. Water quality may also be affected by the biological oxygen demand (BOD) 5/ from other point and non-point sources within the Yahara River.

At present, there are no point discharges in the Yahara River within the vicinity of Dunkirk dam. However, because of impacts predominately from human development, excess sediment load via overland transport and nutrient run-off from agriculture, DO levels near the Dunkirk dam have the potential to fall below ambient pristine water conditions.

A water quality study conducted daily in August 1992 during morning and evening hours indicated that water quality in the Yahara River above and below the Dunkirk Project met state standards. The maximum temperature recorded during the study was 26.0° C, and DO concentrations were between 6.8 and 10.0 mg/l.

b. Environmental Impacts and Recommendations

Dissolved Oxygen and Temperature

Conversion of the river from a free-flowing system into a river system with impoundments has altered the normal temperature and heat flux in the river, as well as significantly changed processes involved with DO consumption and replenishment. If the river were free-flowing, DO would normally be near saturation from the headwaters to the mouth (barring BOD loading). Heavy nutrient loading and BOD consumption may result in low or depleted oxygen concentrations in the impoundment; this was not

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4/ The increase in plant productivity caused by the increased input of nutrients.

5/ The oxygen required to degrade organic material and oxidize reduced substances in water.

shown from samples collected from above and below the Dunkirk dam.

We do not expect that operation of the Dunkirk Project would contribute to violations of state water quality standards for DO concentrations and temperature in the Yahara River. The water quality data showed that during the August study, which is the time of the year that low stream flow and high ambient water temperatures are most probable, water quality was not prevented from obtaining state standards. We assess that DO concentrations throughout the project area would continue to be above state minimum standards at any flow regime. In addition, water temperature would remain within the acceptable state standards for supporting a warm water fishery in the river.

c. Unavoidable Adverse Impacts

None.

3. Fishery Resources

a. Affected Environment

Sport fish populate the Yahara River in the project area, both in the impoundment and the free-flowing sections. Common fish species include largemouth bass, northern pike, black crappie, and white sucker, with common carp and yellow bullhead catfish also present (Wisconsin DNR, 1991a).

b. Environmental Impacts and Recommendations

Project Operation

Dunkirk proposes to install automated operating and control systems for the tainter gate and sluiceway that would be remotely controlled from the powerhouse. Dunkirk proposes to operate the project in a run-of-river mode, so that the sum of outflows from the project would equal the sum of inflows at the project dam (Dunkirk, 1997a).

Dunkirk's proposal to operate the facility so that water levels are stabilized (i.e., the impoundment is maintained within a narrow operating band) would provide numerous long-term benefits to resource areas, including reduced erosion, and enhanced water quality, fisheries, recreation, and aesthetic resources relative to historic operations. The run-of-river operation proposed would be changed from the project's historic peaking reservoir fluctuation. Dunkirk proposes to operate the project facilities at a headpond elevation of 832.0 ± 0.30 feet year round.

Wisconsin DNR agrees with Dunkirk's proposal and recommends that the Dunkirk Project operate in a run-of-river mode. Run-of-river operation, as proposed, would ensure that the project maintain natural water levels essential for fish spawning, recruitment, and production. If deviations occur from the run-of-river operation, Wisconsin DNR recommends that Dunkirk cooperate with the downstream Stebbinsville hydroelectric facility to help minimize fluctuating river flow patterns. This recommendation would provide long term benefits in protecting aquatic life and habitat downstream of the Dunkirk dam. Further, the Wisconsin DNR recommends that the project's tainter gate seals be replaced, which would minimize leakage and provide for efficient flow regulation downstream of the project.

Run-of-river operation would allow all outflows from the impoundment into the tailrace area to approximate all inflows into the impoundment. This would minimize impoundment fluctuation and provide additional benefits to aquatic resources relative to historic operation. Limiting impoundment fluctuation to a ± 0.30-foot-band width, as proposed, would protect nearshore aquatic habitat, stabilize water levels for recreationists and landowners, and allow the limited flexibility needed for efficient project operation. The run-of-river operation, with more strict impoundment fluctuation limits than during historical operation, would minimize dewatering of important shoreline and wetland habitats utilized by fish, waterfowl, and shorebirds.

We recommend that Dunkirk operate the project in a run-of-river mode, maintaining an impoundment elevation of 832.0 ± 0.30 feet, to minimize impoundment fluctuations and prevent large and frequent fluctuations in flow downstream of the project. We further recommend that the project tainter gate seals be replaced to allow for efficient project operation and maintenance of downstream flows. Additionally, we recommend that Dunkirk coordinate with Wisconsin DNR and operators of the Stebbinsville facility if there are any deviations from required project operations.

Bypassed Reach

Dunkirk proposes to release a continuous minimum flow through the project's sluiceway of 25 cfs, or inflow, whichever is less, to the Yahara River downstream of the project dam (Dunkirk, 1997a).

Wisconsin DNR agrees with the proposed minimum flow of 25 cfs and stipulates that Dunkirk should release the minimum flow through the tainter gate section during initial operation. This would provide for flows in the three separated channels downstream of the dam to protect fish and wildlife habitat. Wisconsin DNR is planning on conducting a low flow IFIM study to

determine if flows can be divided between the tainter gate, sluiceway and powerhouse structure (Wisconsin DNR, 1997). If feasible, Wisconsin DNR may recommend an alternative allocation of the 25 cfs minimum flow.

Maintaining a minimum flow of 25 cfs in the bypassed reach would ensure flows for fish and wildlife habitat downstream of the project's dam. We agree that Dunkirk release the 25 cfs minimum flow through the tainter gate section until any such time that Wisconsin DNR conducts an IFIM study to determine the best possible route for the protection of fisheries and wildlife resources. We recommend that upon final determination (based upon the IFIM study), Dunkirk should file with the Commission a minimum flow release plan if the project operation would be changed. The plan should include the exact location and procedures for releasing and measuring the minimum flow. Based upon the plan, the Commission reserves the right to modify changes to project operation in order to adequately protect fish and wildlife habitat. Upon Commission approval, Dunkirk should implement the approved plan, including any changes to the plan made by the Commission.

Operational Compliance Monitoring

Dunkirk proposes to monitor run-of-river operation by continuously recording lake level, turbine gate opening, and electrical output. However, Dunkirk has not provided specific details for ensuring compliance with the minimum flow requirement.

Wisconsin DNR recommends that, in addition to the proposed monitoring techniques, a water level gage be placed at the dam for the public to view. The gage would provide a visible means of operational compliance with the required water surface elevation for the public and governmental agencies.

We conclude that Dunkirk's monitoring methods are not sufficient to verify all project operation requirements. Monitoring is necessary to verify the operation of the Dunkirk Project, including gaging requirements to validate compliance with any flow requirements. Dunkirk would need to develop an operational compliance monitoring program which specifically outlines how the minimum flow requirement would be released, calibrated and monitored to ensure compliance with any flow requirement.

We assess that Dunkirk should, in consultation with Wisconsin DNR, develop and implement a plan to monitor compliance with the proposed minimum flow release, which would record and adjust river flows for project operation. Further, Dunkirk should install a water level gage at the dam in the public view. This would ensure a visual means of maintaining water surface

elevations. Therefore, we recommend that Dunkirk submit to the Commission, for approval, an operational monitoring plan and implementation schedule which would include the measures to monitor the minimum flow release, provisions for the gage on the upstream side of dam, and the aforementioned proposed measures to monitor run-of-river operation. Upon Commission approval, Dunkirk should implement the final plan, including any changes to the plan made by the Commission, according to the approved schedule. Additionally, we recommend that Dunkirk coordinate with Wisconsin DNR if there are any deviations from the minimum flow requirement.

Fish Passage

As previously mentioned, Wisconsin DNR filed an amendment to their original terms and conditions to include provisions for fish passage (Wisconsin DNR, 1998a). Wisconsin DNR asserts that the proposed major dam construction or necessary dam repairs, along with financing of the reconstruction by the state and the dam owner, would make the Dunkirk Dam a candidate for installing fish passage facilities. The District filed a letter (District, 1998) opposing Wisconsin DNR's request to amend the terms and conditions because it would require more governmental regulation, delay the project, and add unnecessary costs. Further, Dunkirk (1998) submitted a letter stating that the condition is not warranted because the request is linked to the state funding program and not on a biological basis.

Since Wisconsin DNR's amendment was filed late, we do not consider the fish passage condition to be mandatory. There is also not sufficient evidence that fish passage measures would provide any substantial benefit to the fishery. The diverse fish community consists of popular sport fish including largemouth bass, northern pike, and black crappie, as well as bluegill, pumpkinseed, and channel catfish. This indicates that the project area has a productive fishery. Additionally, we find the need for and usefulness of providing fish passage for these resident fish inhabiting the project area of the Yahara River, as recommended by Wisconsin DNR, to be questionable, especially with dams immediately upstream and downstream that currently do not have fish passage (little additional habitat would be made accessible). Further, we note the fish consumption advisory 6/ in the area of the confluence of the Yahara and Rock Rivers, downstream of the Stebbinsville Dam (Dunkirk, 1999). Providing

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6/ Certain species of fish contain levels of toxic chemicals that may be harmful to humans if those fish are eaten too often. For the area downstream of the Stebbinsville Dam, there is a state advisory to limit consumption of catfish and carp to only one meal per week due to contamination of polychlorinated biphenyls (Wisconsin DHFS, 1999).

fish passage could spread the contamination to areas upstream of the Dunkirk Dam, should fish passage also be provided for at Stebbinsville Dam in the future. We conclude that there is not sufficient need at this time to require Dunkirk to provide fish passage at the Dunkirk Dam.

c. Unavoidable Adverse Impacts

None.

4. Recreation and Land Use

a. Affected Environment

Existing recreational uses of the project impoundment include boating, fishing, swimming, snowmobiling and ice skating.

The Wisconsin Statewide Comprehensive Outdoor Recreation Plan (SCORP) (Wisconsin DNR, 1991b) identifies a variety of recreational needs for the Southern District of Wisconsin, that includes the project area. The highest priority needs include hiking and fishing, which are expected to grow in the 1990's. Also, there is a high priority for launch facilities for boaters, including canoeist.

b. Environmental Impacts and Recommendations

Operation of the project in a run-of-river mode would not affect existing water-based recreational activities because stable impoundment levels and natural downstream flow patterns would be maintained. However, such stable levels are an improvement over the historic peaking operation. Dunkirk intends to preserve the recreational resources associated with the site.

Rehabilitation and operation of the project is not anticipated to have any effects on local land use and does not conflict with the Town of Dunkirk Land Use Plan or the Dane County Parks and Open Space Plan. In addition, Dunkirk proposes to enhance recreational facilities by installing a canoe portage to include take-out and put-in points (Dunkirk, 1997b).

Dunkirk's proposal to install a canoe portage that includes take-out and put-in points would enhance recreation in the project area. This would also serve to fulfill the high priority need for launch facilities identified in the Wisconsin SCORP. Therefore, we conclude that Dunkirk should submit a recreational plan to the Commission within one year after issuance of any exemption order, with provisions for the installation of the proposed canoe portage, including a take-out and put-in point, and a map or drawing showing the location of these facilities.

c. Unavoidable Adverse Impacts

None.

C. No-Action

Under the no-action alternative, the project would not be developed and the power that would have been produced by the Dunkirk Project would have to be generated by alternative resources (possibly fossil-fueled generating plants), which would release varying amounts of pollutants into the atmosphere. Furthermore, no measures would be implemented to protect or enhance the existing environment.

VI. COMPREHENSIVE DEVELOPMENT AND RECOMMENDED ALTERNATIVES

Based on our independent review and evaluation of the three alternatives analyzed--the proposed action, the proposed project with additional staff recommended measures, and no-action--we have preliminarily selected the proposed project with additional staff recommended measures, as the preferred alternative. Our recommended alternative includes the following measures:

(1) Dunkirk should be required to operate the project, once rehabilitated, in a run-of-river mode to stabilize flows in the Yahara River to the extent that operating conditions and equipment calibration permits.

(2) Dunkirk should be required to maintain a normal headpond elevation of 832.0 ± 0.3 feet.

(3) Dunkirk should replace tainter gate seals for efficient project operation and maintenance of downstream flows.

(4) Dunkirk should be required to release a minimum flow of 25 cfs through the tainter gate until final determination of a release location if operational change is warranted.

(5) Dunkirk should be required to develop a plan to monitor and document operational compliance with the minimum flow.

(6) Dunkirk should install the proposed canoe portage, including a take-out and put-in point and a map or drawing showing the location of these facilities.

VII. CONSISTENCY WITH COMPREHENSIVE PLANS

Section 10(a)(2) of the FPA requires the Commission to consider the extent to which a project is consistent with Federal or state comprehensive plans for improving, developing, or conserving waterways affected by the project. Under Section

10(a)(2) of the FPA, Federal and state agencies filed a total of 68 comprehensive plans that address various resources in Wisconsin. Of these, we identified and reviewed nine plans relevant to the project. 7/ No inconsistencies were found.

VIII. FINDING OF NO SIGNIFICANT IMPACT

On the basis of our independent environmental analysis, issuance of an exemption from licensing for the Dunkirk Hydroelectric Project would not constitute a major Federal action significantly affecting the quality of the human environment.

7/ **State**: Statewide comprehensive outdoor recreation plan, 1991-1996, Wisconsin DNR, October, 1991; Lower Rock River basin water quality management plan, Wisconsin DNR, November 1991; Wisconsin water quality assessment report to Congress, Wisconsin DNR, April 1992; Wisconsin's biodiversity as a management issue, Wisconsin DNR, May 1995; Wisconsin's forestry best management practices for water quality, Wisconsin DNR, March 1995; and Wisconsin statewide comprehensive outdoor recreation plan for 1991-1996, Wisconsin DNR, October 1991.

Federal: Fisheries USA: the recreational fisheries policy of the U.S. Fish and Wildlife Service, undated; The North American waterfowl management plan, U.S. Fish and Wildlife Service, 1990; and The nationwide rivers inventory, National Park Service, January 1982.

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X. LIST OF PREPARERS

Pat Murphy -- Seventeen years' experience in assessing environmental impacts associated with hydroelectric developments (M.S., Wildlife Management).

Ed Lee -- Nineteen years' experience associated with conducting and evaluating environmental assessments with hydroelectric developments (B.S., M.S., Civil Engineer, P.E.).

Susan O'Brien -- Eight years' experience associated with conducting and evaluating environmental assessments; one year experience in assessing environmental impacts associated with hydroelectric developments (B.S., M.S. anticipated 1999, Biological Oceanography).