

81 FERC ¶ 61,238

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: James J. Hoecker, Chairman;
Vicky A. Bailey, and William L. Massey.

N.E.W. Hydro, Inc.)	Project No. 2523-007
)	
City of Oconto Falls,)	Project No. 11496-000
Wisconsin)	

ORDER ISSUING SUBSEQUENT LICENSE AND DENYING
COMPETING LICENSE APPLICATION, PETITION FOR
DECLARATORY ORDER, AND COMPLAINT

(Issued November 20, 1997)

On August 12, 1993, and August 29, 1994, respectively, N.E.W. Hydro, Inc. (N.E.W. Hydro), in Project No. 2523, and the City of Oconto Falls, Wisconsin (City), in Project No. 11496, filed competing applications for a subsequent license for continued operation and maintenance of the existing 1,320-kilowatt (kW) Oconto Falls Project, located on the Oconto River in Oconto County, Wisconsin. The incumbent licensee, Wisconsin Electric Power Company (Wisconsin Electric), chose not to seek another license for the project.

For the reasons discussed below, we are issuing a subsequent license to N.E.W. Hydro and denying the City's competing application. We are also denying the City's request for a declaratory order that these competing applications are not subject to a first-to-file tie-breaker, and we are denying the City's complaint alleging anticompetitive activity by N.E.W. Hydro and Wisconsin Electric.

BACKGROUND

A. Regulatory Framework

In order to put in context certain issues raised by the City and addressed below, a review of the statutory and regulatory relicensing framework is in order.

All hydropower licenses granted under Part I of the Federal Power Act (FPA) are issued pursuant to Section 4(e), which contains the Commission's basic licensing authority. All licenses are also issued pursuant to the

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comprehensive development/public interest standard of FPA Section 10(a)(1) and the last proviso of Section 4(e). 1/

FPA Section 7(a) sets forth the following rules for competing hydropower applications:

In issuing preliminary [study] permits . . . or original licenses where no preliminary permit has been issued, the Commission shall give preference to applications therefor by States and municipalities, provided the plans for the same are deemed by the Commission equally well adapted . . . to conserve and utilize in the public interest the water resources of the region; and as between other applicants, the Commission may give preference to the applicant the plans of which it finds and determines are best adapted to develop, conserve, and utilize in the public interest the water resources of the region

Thus, where no license application was preceded by a preliminary permit to study the site, Section 7(a) gives

1/ FPA Section 10(a)(1), 16 U.S.C. § 803(a)(1), provides that any project licensed:

shall be such as in the judgment of the Commission will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for the use and benefit of interstate or foreign commerce, for the improvement and utilization of waterpower development, for the adequate protection, mitigation, and enhancement of fish and wildlife (including related spawning grounds and habitat), and for other beneficial public uses, including irrigation, flood control, water supply, and recreational and other purposes referred to in section 4(e)

Section 4(e), 16 U.S.C. § 797(e), states in pertinent part:

In deciding whether to issue any license under [Part I of the FPA] for any project, the Commission, in addition to the power and development purposes for which licenses are issued, shall give equal consideration to the purposes of energy conservation, the protection, mitigation of damage to, and enhancement of fish and wildlife (including related spawning grounds and habitat), the protection of recreational opportunities, and the preservation of other aspects of environmental quality.

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tie-breaker preference to state and municipal applicants for original license. 2/ If no original license applicant held a permit or is a state or municipality, then Section 7(a) leaves to the Commission's discretion the rules of competition.

Upon the expiration of a project's original license, the project is subject to federal takeover under FPA Section 14, 3/ and, absent a takeover, is then subject to the relicensing provisions of FPA Section 15. Section 15 provides for the grant of a "new" license (relicense) in accord with certain procedural and substantive requirements.

In 1986, Congress, while amending Section 7(a) to clarify that it does not apply to new licenses, amended Section 15 to specify a tie-breaker preference for the incumbent licensee in a competitive relicense proceeding. 4/ Section 15(a)(2) states: 5/

Any new license issued under this section shall be issued to the applicant having the final proposal which the Commission determines is best adapted to serve the public interest, except that in making this determination the Commission shall ensure that insignificant differences with regard to [the applicants' compliance with specified licensing standards] are not determinative and shall not result in the transfer of a project.

However, the 1986 amendments did not address a specific category of original license: projects qualifying under FPA Section 10(i) for waiver of provisions of Part I. Since 1962, Section 10(i) has applied to projects with not more than 2,000 horsepower (1.5 megawatts) of installed

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- 2/ If one applicant obtained a permit for the site and filed its license application before the permit term expired, then pursuant to Section 5 of the FPA, 16 U.S.C. § 798, it is the "priority" applicant for license, and municipal preference does not apply. The Commission's regulations therefore give the permittee-applicant tie-breaker preference over other applicants. See 18 C.F.R. § 4.37(c).
 - 3/ 16 U.S.C. § 807.
 - 4/ Electric Consumers Protection Act of 1986, Pub. L. No. 99-495 (October 16, 1986).
 - 5/ 16 U.S.C. § 808(a)(2).

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capacity, referred to as minor projects. 6/ The Commission has traditionally waived for most, but not all, minor project licenses a variety of administrative and accounting provisions of the FPA not deemed necessary for projects of their size, as well as most provisions of Section 14 and all of Section 15. 7/ When these minor licenses come up for renewal, they are not subject to the waived provisions. (For purposes of this order we will henceforth refer only to ~~waiver of Section 15.~~) The issue therefore was whether the reauthorization of these minor licenses would take place pursuant to the statutory provisions for original licenses (including the municipal preference tie-breaker in Section 7(a)) or for those for new licenses (Section 15, with its incumbent preference tie-breaker).

In 1989 the Commission, in promulgating regulations to implement the new statutory scheme for relicensing (Order No. 513), 8/ determined that it was not Congress' intent to treat the relicensing of any category of project as an original licensing. Consequently, the Commission ruled that reauthorization of minor projects for which Section 15 was waived (we will refer to them herein simply as minor licenses) is a relicense for purposes of the incumbent tie-breaker in Section 15 as amended by ECPA, and for the same reason applied by regulation most of the terms of Section 15 to minor projects. In order to distinguish renewed minor licenses (which, unless the licensee requests otherwise, again waive Section 15) from major ("new") licenses, the Commission coined the term "subsequent license" for a minor license's reauthorization. 9/

FPA Section 15(b)(1) requires an incumbent licensee to advise the Commission, five years before the existing license expires, whether or not it intends to file a new or

6/ See 18 C.F.R. § 4.30(b)(17). Prior to 1962, Section 10(i) applied to projects of 100 horsepower (0.75 MW) or less.

7/ The waiver policy for minor projects is described in Hydroelectric Relicensing Regulations Under the Federal Power Act, 54 Fed. Reg. 23,756 (June 2, 1989), FERC Stats. & Regs. Preambles 1986-1990 ¶ 30,854 at pp. 31,370-72 (May 17, 1989) (Order No. 513).

8/ See n. 7, *supra*.

9/ See 18 C.F.R. § 16.2(d). The Commission's relicense regulations are published at 18 C.F.R. Part 16, which has six subparts. Subparts A and F apply to both new and subsequent license proceedings; Subparts B, C, and D apply to new license proceedings; and Subpart E applies to subsequent license proceedings.

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subsequent license application. The Commission issues public notice of the licensee's intent, so that potential competitors for the project will know whether they will be facing the incumbent preference.

Order No. 513 also promulgated regulations, at Section 16.25, to deal with the situation of where an incumbent licensee timely states its intent to apply for a new or subsequent license, but thereafter changes its mind. In that case, if no other acceptable applications are filed by the deadline, the Commission will reopen the application period for the "orphaned" project and accept license applications from anyone other than the incumbent. ^{10/} As is described in more detail below, the Oconto Falls Project is such an orphaned project.

In 1993, in response to a petition for declaratory order filed by the City of Oconto Falls in the instant proceeding, the Commission ruled that licensing proceedings under the "orphaned project" provisions of Section 16.25 are proceedings for new or subsequent license, not for original license, as the City had argued. ^{11/} The Commission's ruling was upheld on judicial review. ^{12/}

B. The Tie-Breaker Issue

To summarize the situation in this proceeding, the Oconto Falls Project was originally issued a minor license, and the applications before us are for a subsequent license for the orphaned project, pursuant to the procedures of Section 16.25. Because no applicant is the incumbent licensee, there is no incumbent preference tie-breaker to apply. The first application was filed by N.E.W. Hydro. The City, a municipality, filed second, and does not have the benefit of a municipal preference tie-breaker.

^{10/} 18 C.F.R. § 16.25. If no one successfully applies, the incumbent licensee must file an application to surrender the license, unless the license was non-mandatory.

^{11/} Wisconsin Electric Power Co., 62 FERC ¶ 61,064, reh'g denied, 62 FERC ¶ 61,278 (1993). The Commission stated that, if no one successfully sought to relicense a project, then the incumbent licensee would be required to surrender the license and decommission the project. Thereafter, any license applications to restore hydroelectric generation at the site would be applications for original license, to which the municipal preference provision of FPA Section 7(a) would apply.

^{12/} Oconto Falls, Wisc. v. FERC, 41 F.3d 671 (D.C. Cir. 1994).

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By filing of October 4, 1995, the City raised the issue of how the Commission would choose between the competing applications in this proceeding, assuming the Commission were to find (and we do) that the applications are essentially equal. The City asks us to declare that a first-to-file tie-breaker does not apply in this proceeding, because (1) first-to-file does not apply to new or subsequent license proceedings, and (2) the filing of the City's application was delayed due to improper and anticompetitive actions by N.E.W. Hydro and Wisconsin Electric. The City does not say what tie-breaker should apply. ^{13/}

The City quotes from Order No. 513's statement that the Commission was eliminating subsequent licensing from the provisions of Section 4.37 of its regulations, which sets forth the rules of preference among competing applications, since these rules, "in addition to municipal preference, accord decisional significance to the first-filed application and to other factors clearly inappropriate to [subsequent license] proceedings." ^{14/} However, the context of this quote is that in Order No. 513 the Commission held (in a reversal of its position in the notice of proposed rulemaking) that applications to reauthorize minor licenses are to be treated the same as applications for new license; that is, they are subject to the incumbent preference tie-breaker of FPA Section 15, not the municipal, permittee, or first-to-file tie-breakers set forth in Section 4.37 for original licensing. ^{15/} Order No. 513 was not at that point addressing orphaned projects, where, as here, the incumbent preference tie-breaker is not invoked. In fact, the Commission has not heretofore faced, or addressed, the question of how to choose between two essentially equal applications for subsequent license for an orphaned project. We must do so in this proceeding, and we conclude that in this circumstance there is no tie-breaker mechanism more appropriate than first-to-file, nor has the City suggested any.

C. The Antitrust Allegation

This brings us to the City's complaint that N.E.W. Hydro and Wisconsin Electric delayed the City's application

^{13/} The City states that it "has struggled for nothing more than a simple opportunity to compete on equal footing against N.E.W. Hydro." October 4, 1995 pleading at 1.

^{14/} FERC Stats. & Regs. Preambles 1986-1990 ¶ 30,854 at p. 31,445.

^{15/} See n. 2, supra.

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by at least one year, by conspiring to deny the City access to public information, by making unsupported allegations of copyright violation, and by putting political pressure on local resource agencies. Again, some background is necessary.

The project, which has been operating since 1915, was issued an original minor license in 1967, ^{16/} with an expiration date of December 31, 1993. In December 1988, Wisconsin Electric timely filed a notice of its intent to file a relicense application for the project. However, although it began the process, it subsequently decided not to pursue relicensing, and neither it nor anyone else submitted an application by the December 31, 1991 filing deadline.

Wisconsin Electric then offered the Oconto Falls Project for sale, and accepted an offer by N.E.W. Hydro, conditioned on the issuance of the subsequent license to N.E.W. Hydro. ^{17/}

In February 1992, the Commission issued public notice soliciting applications for the "orphaned" Oconto Falls Project, with a filing deadline of May 12, 1992, for notices of intent. An application would be due 18 months from the date of the filing of the notice of intent. ^{18/} Notices of intent were filed by (among others no longer involved) N.E.W. Hydro on February 13, 1992, and by the City on May 5, 1992.

On July 7, 1992, the City filed its petition for declaratory order on what tie-breakers apply in proceedings for orphaned projects (discussed above).

^{16/} Wisconsin Michigan Power Company, 37 FPC 760. In 1977, the Commission approved the transfer of the license to Wisconsin Electric. 59 FPC 2145. In the original license order, the Commission determined that the portion of the Oconto River where the project is located is a navigable waterway of the United States. 37 FPC at 761. Therefore, Section 23(b)(1) of the FPA requires the project to be licensed. The project is not located on federal lands.

^{17/} Wisconsin Electric also engaged N.E.W. Hydro to operate the project under the conditions of the original license, pending resolution of the relicensing proceeding. See Wisconsin Electric's April 26, 1994 filing at 2-3, and 65 FERC ¶ 62,243 (1993).

^{18/} See 18 C.F.R. § 16.25(b)(1).

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Anyone intending to file a relicense application is required by Section 16.8 of the Commission's regulations to engage in a three-stage pre-filing consultation process. During the first stage, the potential applicant (applicant) must give the pertinent resource agencies and any affected Indian tribes (collectively, agencies) an Initial Consultation Package containing detailed information on the proposed project. The applicant must hold a meeting with the agencies, and invite the public, to discuss the project proposal and the data and studies the applicant will provide. Within 60 days after the meeting, the agencies must give the applicant their comments and describe the studies they want performed. During the second stage, the applicant must perform all reasonable studies necessary for the Commission to make an informed decision on the application. The third stage is the filing of the relicense application and its simultaneous service on the consulted and other specified entities.

On August 21, 1992, N.E.W. Hydro, with the support of the agencies, requested a waiver of the first-stage requirements, on the basis that Wisconsin Electric had completed the first stage, and had transferred all the relevant materials to N.E.W. Hydro, which was adopting Wisconsin Electric's relicensing proposal. The Director, Office of Hydropower Licensing (Director), granted the waiver request on September 1, 1992, stating that any applicant for an orphaned project would be "allow[ed]" to use, "to the extent possible," whatever consultation materials the existing licensee had developed.

On January 5, 1993, the City petitioned the Commission to direct Wisconsin Electric to release its consultation materials to the City, reasoning that the Director's letter meant that, if one applicant obtains a waiver of some or all of the consultation requirements, then all competing applicants should obtain the same waiver, together with the consultation materials that formed the basis for the waiver.

The Commission's January 22, 1993 order on the City's petition analyzed the situation somewhat differently. ^{19/} It noted that Wisconsin Electric's stage one consultation had commenced under the 1988 version of the Commission's regulations and had finished under new regulations (Order No. 513) that took effect on July 2, 1989. Prior to July 1989, the regulations did not require an applicant to make its Initial Information Package available to the public. The new regulations required that the Package be made publicly available at the project site and be filed with the Commission for placement in the public files. The

^{19/} 65 FERC ¶ 61,105.

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transition provisions, 20/ with which Wisconsin Electric complied, directed any applicant that had completed stage one consultation under the prior regulations to convene a special public meeting to explain its project proposal and make its Initial Information Package publicly available at the meeting and for the two weeks before the meeting. Although the transition provisions did not, as did the new regulations, require the applicant to file the Initial Information Package with the Commission, where it would be permanently available for public inspection, the order concluded that there was no reason to treat the Package differently under the transition and new regulations, and therefore directed both Wisconsin Electric and N.E.W. Hydro to file their Initial Consultation Packages with the Commission.

The order stated that the City was free to request a waiver of consultation steps, if its relicense application duplicated Wisconsin Electric's project proposal and documented the completion of the steps for which waiver was sought. 21/

N.E.W. Hydro filed its application for a subsequent license for the Oconto Falls Project on August 12, 1993. The City filed its application on August 29, 1994, having been granted a 90-day extension to complete consultation and prepare its application. 22/ Each application contained a request for waiver of the stage one pre-filing consultation requirements, based on its submittal of the consultation materials developed by Wisconsin Electric, together with documentation of agency concurrence with its waiver request.

The Commission issued public notice of the applications, with deadlines for interventions and comments of September 6, 1994, for N.E.W. Hydro's application, and November 14, 1994, for the City's. The Wisconsin Department of Natural Resources (Wisconsin DNR) intervened and commented in both proceedings. The U.S. Department of the Interior filed comments on the City's application. The City and Wisconsin Electric intervened in N.E.W. Hydro's application proceeding.

N.E.W. Hydro filed on September 20, 1995, a late motion to intervene in the City's license proceeding. The City

20/ 18 C.F.R. § 16.8(j)(4)(i).

21/ The order also denied the City's June 25, 1993 request for a stay of the licensing proceeding pending Commission action on its July 7, 1992 petition for declaratory order.

22/ Director letter order of May 27, 1994 (unreported).

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opposes N.E.W. Hydro's motion, stating that no good cause was shown for late filing, and that its intervention would prejudice the City's relicensing efforts. We will grant N.E.W. Hydro's motion to intervene; no other party can adequately represent its interests as a competing applicant.

On October 4, 1996, Commission staff issued a draft environmental assessment (draft EA) for the Oconto Falls Project. The City, Wisconsin Electric, Wisconsin DNR, and North American Hydro (parent company of N.E.W. Hydro) filed comments on the draft EA. A final EA was issued on May 28, 1997, and is attached to this order.

In its filing of October 4, 1995, the City alleges that N.E.W. Hydro and Wisconsin Electric, individually and collectively, have engaged in anticompetitive actions, contrary to the provisions of Section 10(h) of the FPA, 23/ by hampering its ability to file a license application, and by continuing to "impede" the City, all in an effort to protect their interests in completing the sale of the project to N.E.W. Hydro. Specifically, the City contends that Wisconsin Electric withheld its Initial Consultation Package from the City, in violation of the Director's September 1, 1992 order, 24/ and that N.E.W. Hydro

23/ The Commission is obliged to take into account the public policies underlying the antitrust laws. See Pacific Power & Light Co., 25 FERC ¶ 61,052 at p. 61,202 (1993). To that end, Section 10(h)(1) of the FPA states that "combinations, agreements, arrangements, or understandings, express or implied, to limit the output of electrical energy, to restrain trade, or to fix, maintain, or increase prices for electrical energy or service are hereby prohibited." 16 U.S.C. § 803(h)(1). FPA Section 10(h)(2) directs the Commission to prevent or to adequately minimize conduct under a license (not otherwise justified by other public interest considerations) that results in the contravention of the policies expressed in the antitrust laws, either by including appropriate conditions in the license or, if that is not possible, by refusing to issue a license.

24/ The City attached to its petition a series of letters in which the City asked Wisconsin Electric for its consultation materials, including its Initial Consultation Package. See the City's November 17, 1992 letter. Wisconsin Electric, after initially rejecting the City's request, sent the City its Public Information Package, which is project information that all incumbent licensees are required by FPA Section 15(b)(1) and by 18 C.F.R. § 16.7 to make publicly available at the time it notifies the Commission of its intent to file for relicense, and told the City that it
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threatened it with potential copyright violations for copying its application. The City reasons further that, because of their collusive activities, N.E.W. Hydro and Wisconsin Electric must be considered co-applicants, and accordingly that N.E.W. Hydro also must be, as Wisconsin Electric is, barred from filing a relicense application for the project. As a remedy, the City asks the Commission to order the two entities to cease from engaging in anti-competitive activity, and if appropriate to dismiss N.E.W. Hydro's license application. Wisconsin Electric and N.E.W. Hydro each filed rebuttals to the City's allegations. 25/

We read the Director's September 1, 1992 letter order as stating that all potential applicants may use the existing licensee's consultation materials when applying for an orphaned project. That is not the same as requiring the existing licensee to serve applicants with a copy of these materials; indeed, the letter was not even written to Wisconsin Electric. These matters were in any event sorted out by our October 22, 1993 order, which made equitable adjustments in the administration of the rules by which applications such as for the Oconto Falls Project made the transition from one set of relicense regulations to another.

The City submitted two letters from N.E.W. Hydro attorneys warning that N.E.W. Hydro would take legal action to protect the engineering and environmental reports and exhibits contained in its application. 26/ It also proffers an April 6, 1994 letter in which an attorney representing the City responded with a request for a specific description of the application materials that N.E.W. Hydro believed to be protected by copyright.

24/ (...continued)

should direct further inquiries to N.E.W. Hydro, to which it had transferred its consultation materials (see Wisconsin Electric's December 28, 1992 letter). Much of the information contained in the Initial Consultation Package was also contained in the Public Information Package. For example, both documents contained detailed maps, general engineering design, summary of operational mode, identification of affected environment, streamflow information, and descriptions of studies proposed. Also, the Public Information Package contained a first-stage consultation matrix showing agency comments and Wisconsin Electric's responses on various resource issues.

25/ See filings of April 26, 1994, and November 2 and 3, 1995.

26/ Letters dated March 30 and 31, 1994.

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We do not consider this exchange of letters to demonstrate an effort to impede the City's competition for the project. The March 1994 letters from N.E.W. Hydro's attorneys cite telephone conversations between the City's administrator and a representative of N.E.W. Hydro's parent company that assertedly led the latter to believe that the City intended to use materials in N.E.W. Hydro's application in compiling the City's competing application. The reply letter from the City's attorney states in part: "Your prompt reply forwarding a specific itemization of your copyright claim is appreciated and will be of aid to the City of Oconto Falls in respecting the claim of copyright."

The City contends that the agreements by which Wisconsin Electric intends to sell the Oconto Falls Project to N.E.W. Hydro (if it obtains the license) and N.E.W. Hydro operates the project pending the outcome of the relicensing proceeding provide Wisconsin Electric with a vested interest in N.E.W. Hydro's application, and the motive for their actions to thwart the City's competition, that makes Wisconsin Electric a co-applicant with N.E.W. Hydro, and accordingly also bars N.E.W. Hydro from filing an application for the orphaned project. 27/

However, there is nothing in the FPA or the Commission's regulations that prohibits a licensee from hiring an agent to operate a project or from conditionally selling the project to that agency or any other third party, as long as the proper Commission procedures are followed. And indeed, the City was free to bid on the project, when Wisconsin Electric solicited offers. 28/

We conclude that there has been no showing of any improper actions by N.E.W. Hydro or Wisconsin Electric, either individually or in concert, and therefore dismiss the City's complaint with respect to this matter.

27/ See 18 C.F.R. § 16.25(a).

28/ See N.E.W. Hydro's filing of April 26, 1994, at 10.

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PROJECT DESCRIPTION

The existing project includes a 175-foot-long dam and spillway, a reservoir with a surface area of 166.5 acres and a storage volume of 1,700 acre feet at the normal pool elevation of 731.3 feet national geodetic vertical datum; a 110-foot-long by 28-foot-high nonoverflow concrete gravity dam and a 65-foot-long by 17-foot-high spillway; and a powerhouse containing three generating units with a total capacity of 1,320 kW at a maximum hydraulic capacity of 256 cubic feet per second.

Existing recreational facilities at the project include two boat landings, one canoe portage, and two swimming beaches at the East Side and West Side Parks, located on opposite sides of the reservoir near the dam. In winter, the reservoir supports ice fishing, ice skating, and snowmobiling.

A more detailed project description can be found in ordering paragraph B(2).

Both N.E.W. Hydro and the City would operate the project in a run-of-river mode. Neither proposes new capacity or construction of new structures. However, the City proposes to develop and operate a 25-site campground near the Westside Park.

APPLICANTS' PLANS AND CAPABILITIES

In accordance with Sections 10(a)(2)(C) and 15(a) of the FPA, 22/ we have compared the applicants' proposals with respect to the following: (1) compliance history and ability to comply with the license; (2) safe management, operation, and maintenance of the project; (3) ability to provide efficient and reliable electric service; (4) need for power; (5) transmission service; (6) cost effectiveness of plans; and (7) actions affecting the public. 30/

22/ 16 U.S.C. §§ 803(a)(2)(c) and 808(a).

30/ At the Director's request, in letters dated April 26, 1996, pursuant to 18 C.F.R. § 4.36(d)(2), the City and N.E.W. Hydro, on June 26, 1996, and June 20, 1996, respectively, each filed a statement (commonly referred to as a "better-adapted" statement) explaining how its proposal is superior to the plans of its competitor.

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A. Section 15(a)(2)(A): Compliance History and Ability to Comply with the New License

The City. The City has operated its own municipal electric distribution system since 1932. This system distributes electricity to approximately 1,350 industrial, commercial, and residential customers. The City has staff experienced in operating the distribution system, as well as other staff and consultants that it can call on. The City also has working relationships with state regulatory agencies and the Oconto Electric Cooperative (the neighboring distribution utility). The City's staff is located close to the project. The City has never owned or operated a hydroelectric project.

The City has experience in developing and maintaining recreational facilities that may be required by the license. The City currently operates and maintains the two parks and boat ramps that are located on the project reservoir.

N.E.W. Hydro. N.E.W. Hydro is an affiliate of North American Hydro, Inc. (North American), located in Neshkoro, Wisconsin (about 100 miles from the project site). For the past 17 years North American has dealt solely with the hydroelectric industry. N.E.W. Hydro, through its affiliation with North American, can draw on the expertise of North American's staff, who are experienced in civil engineering, water resources management, electrical engineering, mechanical engineering, and computer system software design. North American currently owns or operates 15 Commission-regulated hydroelectric projects throughout the Midwest.

As noted, since 1992, N.E.W. Hydro has been operating the Oconto Falls Project for Wisconsin Electric. Recently, the Commission approved the transfer of licenses to N.E.W. Hydro for the Lower Oconto Falls Project No. 2689 and the Menominee/Park Mill Project No. 2744, located respectively on the Oconto River, immediately downstream of the Oconto Falls Project, and on the Menominee River, in Marinette County, Wisconsin, 31/ and issued N.E.W. Hydro a subsequent license for the Weyauwega Project No. 2550,

31/ See Scott Paper Company, 72 FERC ¶ 62,063 (1995), reh'g denied, 74 FERC ¶ 61,024 (1996), and Menominee Company, 72 FERC ¶ 62,065 (1995), reh'g denied, 72 FERC ¶ 61,023, aff'd sub nom. State of Wis. v. FERC, 104 F.3d 462 (D.C. Cir. 1997).

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located on the Waupaca River in the City of Weyauwega, Wisconsin. 32/

Analysis. Neither applicant has a compliance history at this project (as noted, Wisconsin Electric is responsible for fulfilling requirements of the existing license), but N.E.W. Hydro has owned and operated other low-head hydroelectric projects. In addition, N.E.W. Hydro has operated this project for the last several years, under contract to Wisconsin Electric. Because of its experience in the operation of hydroelectric facilities, N.E.W. Hydro has shown it would be able to comply with the license articles dealing with project operations. Although the City has not operated a hydroelectric project, there is no evidence that it can't obtain the technical resources to be able to comply with the license. Moreover, the City has experience in developing and maintaining the recreational facilities at this project and could draw on that experience to operate recreation facilities that may be required under the license (see Article 408).

B. Section 15(a)(2)(B): Safe Management, Operation, and Maintenance of the Project 33/

The City. The City proposes to monitor project alarm systems on a 24-hour basis and have all City personnel, including engineers and City management, available to be at the project site within 5 minutes. The City operates a 24-hour a day switchboard to respond to utility service needs and emergencies. The City is also responsible for operating the emergency siren system that alerts the public in the event of an emergency. The City proposes to automate the operation of the project to provide more efficient operation.

N.E.W. Hydro. N.E.W. Hydro also proposes to automate and monitor the project on a 24-hour basis. N.E.W. Hydro would design and install its own automation equipment, having performed similar upgrades at many other hydroelectric projects. N.E.W. Hydro would monitor the project remotely. In addition, as noted, N.E.W. Hydro is the new licensee for Project No. 2689 that is located 1,800 feet downstream of the Oconto Falls Project, and it

32/ See 77 FERC ¶ 62,200 (1996), reh'g granted, 78 FERC ¶ 61,351 (1997).

33/ The dam of the Oconto Falls Project is classified as having a "high hazard potential," which includes any dam whose failure might, in the Commission's judgment, endanger human life or cause significant property damage. 18 C.F.R. § 12.31(b).

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proposes to coordinate safety and operations for both projects.

Analysis. The applicants' plans for managing and operating the project are similar. Both applicants plan to automate project operations and monitor project alarms 24 hours a day. The City would have more staff near the project, which may allow it to respond to any problems or emergencies sooner than N.E.W. Hydro. N.E.W. Hydro, however, has project safety and operating experience, which the City lacks.

C. Section 15(a)(2)(C): Ability to Provide Efficient and Reliable Electric Service

Analysis. Neither applicant provided additional information concerning this issue beyond what was provided for items 1 and 2, above. Both applicants have the ability to provide efficient and reliable electric service for the long term. For the short term, N.E.W. Hydro has an advantage because it is currently operating projects.

D. Section 15(a)(2)(D): Need for Power

The City. If granted the license, the City would provide the power directly to its utility customers. The City currently purchases all of its power from Wisconsin Electric and then distributes it through the City's own transmission system. The City states that having the project's power would reduce the total power purchased from Wisconsin Electric by 28 percent. The City's current agreement with Wisconsin Electric includes rates of 15 mills/kWh (off-peak) and 21 mills/kWh (peak) for the first year (1996/97), increasing to 18 mills/kWh (off-peak) and 28 mills/kWh (peak) in the fifth year. ^{34/}

N.E.W. Hydro. N.E.W. Hydro proposes to sell the power generated from the project to Wisconsin Electric. Through the City's contract with Wisconsin Electric and through other contracts, the project's power would serve the needs of the City and the surrounding communities.

Analysis. The project will generate, on average, 8,245 megawatt hours of electricity annually. ^{35/} This power will help displace nonrenewable fossil-fired

^{34/} See p. 7 of the "Power Service Agreement Between Wisconsin Electric Power Company and the City of Oconto Falls, Wisconsin," dated June 4, 1996, and attached to the City's better-adapted statement, filed June 26, 1996.

^{35/} See Table 6 of the final EA.

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generation and will contribute to diversification of the mix of fuels generating power in the project's area. The City would sell the power directly to its utility customers, reducing by 28 percent its need to purchase power from Wisconsin Electric. If the City generates power from the project at costs below those in its agreement, then the City's customers would save money compared to the current arrangement. If N.E.W. Hydro receives the license, it would sell the power to Wisconsin Electric, which would maintain the status quo.

N.E.W. Hydro estimates that the cost of generating power at the Oconto Falls Project would be 17.7 mills/kWh. ^{36/} However, in calculating its estimate, N.E.W. Hydro appears not to have fully accounted for all project costs. ^{37/}

While the City notes that the average historical cost of power production at the project was 31.24 mills/kWh, ^{38/} it calculates its annual project costs at \$73,270 and annual generation at 8,245 megawatt-hours, which produces an average cost of 9.8 mills/kWh. The City's costs do not appear to include capital investment for purchasing the project, but rather include only annual operation and maintenance costs. Therefore, the actual generating cost for the City would be greater than the City estimates.

We estimate annual project cost of approximately 32 mills/kWh for both applicants. ^{39/} On the basis of the data provided by the applicants and our independent calculations, we cannot conclude that one applicant would generate power at a cost materially less than the other. ^{40/}

^{36/} See N.E.W. Hydro's application at p. H-7 and its better-adapted statement, filed June 20, 1996, at 11.

^{37/} See section VI. A. and Table 6 of the final EA, which find that annual project costs for N.E.W. Hydro's proposal total approximately \$261,000, which when divided by the 8,245 megawatt-hours annual project generation produces an average cost for project generation of 31.6 mills/kWh.

^{38/} See page 12 of the City's application.

^{39/} See section VI of the final EA.

^{40/} The City argues that its project costs would be lower than N.E.W. Hydro's, because it could finance them with municipal bonds, which require a lower interest rate payment than interest rates for the private financing that would be used by N.E.W. Hydro. See pp. 6-7 of the City's comments on the
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E. Section 15(a)(2)(E): Existing and Planned Transmission Services

The City. The City's transmission system is interconnected with the powerhouse substation at the project. No new transmission facilities are required.

N.E.W. Hydro. N.E.W. Hydro proposes no changes or additions to the transmission system.

Analysis. There would be no impact on the existing or planned transmission services for either application.

F. Section 15(a)(2)(F): Cost-Effectiveness of Plans

The City. The City would distribute all power from the project directly to its utility customers, eliminating the need for a wholesaler such as Wisconsin Electric, which would reduce the power's cost to its citizens. While the City has not operated a hydroelectric facility, it is experienced in managing other municipal services, such as the municipal electric utility, water and sewer services, and cable television.

N.E.W. Hydro. N.E.W. Hydro has experience in operating hydroelectric projects, including this project and the project immediately downstream. Also, N.E.W. Hydro anticipates that the quantity and diversity of facilities owned by N.E.W. Hydro or North American Hydro would enable it to obtain incentive rates as a renewable power source.

Analysis. Both applicants have the ability to provide service in a cost-effective manner. This is demonstrated by the City's performance in providing other municipal services and N.E.W. Hydro's performance in operating hydroelectric projects. Neither applicant proposes new capacity at the

40/ (...continued)

draft EA, filed November 18, 1996. Even using the City's proposed project costs would not change the outcome here. Since any forecast of economic benefits decades into the future is of necessity inexact, we consider competing project proposals to have equivalent net annual economic benefits unless the difference in net annual benefits between them is at least 20 percent of the least-cost proposal. City of Augusta, *et al.*, 72 FERC ¶ 61,114, at p. 61,599 n. 58 (1995). Using the City's project cost totals (which calculate the City's costs using an interest rate four percent lower than the rate used for N.E.W. Hydro's costs), the difference in energy benefits of the competing projects is approximately 8.4 percent of the least-cost proposal, which is not significant.

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project or other major construction that would require correspondingly increased cost-containment requirements.

Eliminating Wisconsin Electric as a "middleman" might reduce the cost of power to the City's citizens. However, this reduction might be offset by increased recreation costs of either building and operating the City's proposed campground, or if the City needed to hire a contractor to operate the project for it.

G. Section 15(a)(2)(G): Actions Affecting the Public

The City. The City states that municipal ownership is the key to its license application. The project is centrally located in the City of Oconto Falls and borders industrial, residential, and recreational areas within the City. According to the City, ownership of the project would offset the recent economic downturn and promote a sense of civic pride and responsibility amongst residents. It states that over the past several years the City has lost some key businesses and industries, which has led to an economic downturn. The City would use lower power costs to encourage business development in the community.

The City currently leases project land from Wisconsin Electric for City parks. The City states that municipal ownership of the project and project lands would result in cost savings for local taxpayers, since the City would not need to lease the lands along the reservoir for City parks. The City also states that municipal ownership may increase tax revenues for the City. The current licensee, Wisconsin Electric, is exempt from ad valorem taxes (which are based on the value of the plant in service) and only pays a gross receipts tax to the state, from which the City gets a share. The City contends that while the City and N.E.W. Hydro would be subjected to ad valorem taxes, N.E.W. Hydro, as it has at other projects, may obtain an exemption from such taxes.

Also, the City proposes to construct and operate a 25-site campground near the Westside Park. According to the City, the proposed campground along with other City park facilities would attract tourists from throughout the Midwest and benefit tourism and the community.

N.E.W. Hydro. N.E.W. Hydro provides no new information in this section.

Analysis. The City would benefit financially from any ad valorem taxes that would be paid by the project's future owner, regardless of which applicant prevails. Moreover, either the City or N.E.W. Hydro might obtain an exemption from such taxes. If not, the rate-payers (including the

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City's citizens) would likely bear the burden of this additional cost to operations, regardless of which applicant prevails.

We conclude that there would likely be no enhanced tourism in the area as a result of a campground. 41/ There are approximately 29 public and private campgrounds near the City of Oconto Falls, and a total of 433 private camp sites, 352 public camp sites, and 380 seasonal mobile home or trailer sites in Oconto County. The Holtwood Park campground is located in the City of Oconto, approximately 12 miles from the City of Oconto Falls. Accordingly, we find that the City's proposed campground does not make its proposal superior to that of N.E.W. Hydro.

The City contends that its operation of the project would improve the economically depressed economy in the project's area. However, project power prices are unlikely to be low enough to attract new employers to the region or the City.

Under our analysis of the relevant criteria of FPA Sections 10(a)(2)(C) and 15(a), we find no significant differences between the two proposals.

COMPARISON OF ENVIRONMENTAL IMPACTS

The final EA evaluates the effects of each of the proposed projects on the environmental resources of the project area and describes the measures that should be implemented to protect and enhance these environmental resources. The environmental effects of licensing the project under either proposal would be relatively minor.

Staff's recommended additional enhancement measures would benefit environmental resources. The measures recommended by staff for each project include (1) continued run-of-river operation; (2) submission of a compliance monitoring report; (3) agency consultation prior to reservoir draw-downs; (4) water quality monitoring; (5) nuisance vegetative species monitoring and control; (6) implementation of the existing programmatic agreement for cultural resources; and (7) cooperation in developing a canoe portage.

There are two areas where the applicants differed in their proposals: (1) the City proposed to develop a fish protection plan; and (2) the City proposed to develop a

41/ See the "Oconto County Recreation Plan," prepared by Michael S. Spranger, University of Wisconsin, August 1, 1978, in Appendix 21 of N.E.W. Hydro's application.

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public campground at the existing West Side Beach. As recommended in the final EA, 42/ we find that these proposals do not result in significant differences in the project-related impacts between the two applications.

Installation of a fish protection device at the project would have no significant beneficial effect on fishery resources, since fish entrainment and turbine-induced mortality do not have a significant adverse impact on those resources. 43/ In any event, Section 15(a)(2)(G) of the FPA prohibits the Commission from comparatively evaluating the plans of relicensing applicants for license requirements to protect fish and wildlife, which instead are required to be determined in accordance with Section 10 of the FPA.

While developing a campground, as the City proposes, would increase camping opportunities, there is no evidence that such a campground would enhance project-related recreation. 44/ Therefore, we are not including a license requirement to construct a campground.

COMPETING APPLICATIONS

As discussed above, there are no meaningful differences between the two applications with regard to their impact on environmental resources, and while the power from either proposal appears to be more expensive than currently available alternative power, the differences in the economic benefits between the two projects is insignificant.

Because there are no significant environmental or economic differences between the two project proposals, we are, as discussed above, applying the first-to-file tie breaker rule here and will issue a subsequent license to N.E.W. Hydro in Project No. 2523.

THE PROJECT NO. 2523 APPLICATION

A. Water Quality Certification

Under Section 401(a)(1) of the Clean Water Act, 33 U.S.C. § 1341(a)(1), the Commission may not issue a license for a hydroelectric project unless the state certifying

42/ See section VII of the final EA.

43/ See the sections V.C.6 and VII of the final EA and the discussion of agency recommendations for fish protection and compensatory mitigation for residual fish losses, below.

44/ See sections V.C.2 and VII of the final EA, and the discussion of the City's proposed campground, above.

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agency has either issued water quality certification for the project or has waived certification by failing to act on a request for certification within a reasonable time, not to exceed one year.

N.E.W. Hydro applied for water quality certification for its proposed project on November 16, 1994. By letter filed December 11, 1995, Wisconsin DNR, the state certifying agency, states that it acknowledged receiving the certification request, that it had not taken any action on the request, and that it considers the certification waived.

B. Section 18 Fishway Prescription

Section 18 of the FPA, 16 U.S.C. § 811, states that the Commission shall require construction, maintenance, and operation by a licensee of such fishways as the Secretaries of Commerce or the Interior may prescribe. By letter filed December 6, 1996, in the City's application proceeding in Project No. 11496, Interior requested that the Commission reserve authority to require the construction, operation, and maintenance of fishways subsequently prescribed by Interior. While Interior did not file such a request in N.E.W. Hydro's application proceeding, ^{45/} we are nevertheless including such a reservation of authority in this license in Article 406. ^{46/}

C. Coastal Zone Management Act

Under Section 307(c)(3)(A) of the Coastal Zone Management Act (CZMA), ^{47/} the Commission cannot issue a license for a hydropower project within or affecting a state's coastal zone unless the state CZMA agency concurs with the license applicant's certification of consistency with the state's CZMA Program (which has been approved by the Secretary of Commerce), or the agency's concurrence is conclusively presumed by its failure to act within 180 days of its receipt of the applicant's certification.

N.E.W. Hydro, on February 23, 1994, requested CZMA certification from the State of Wisconsin. On March 2, 1994, the Wisconsin Department of Administration waived the

^{45/} However, the letter requests (at 2) that the Commission reserve Interior's authority under FPA Section 18 "in any license issued for this project."

^{46/} See Wisconsin Public Service Corporation, 62 FERC ¶ 61,095 (1993); aff'd, Wisconsin Public Service Corporation v. FERC, 32 F.3d 1165 (7th Cir. 1994).

^{47/} 16 U.S.C. § 1456(3)(A).

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right to review N.E.W. Hydro's application for consistency under the Wisconsin CZMA Program.

D. Comprehensive Plans

Section 10(a)(2)(A) of the FPA, 16 U.S.C. § 803(a)(2)(A), 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)(A) of the FPA, federal and state agencies filed a total of 70 comprehensive plans for Wisconsin. Regarding the eight of these plans that are relevant to the Oconto Falls Project, 48/ we find no conflicts.

E. Recommendations of Fish and Wildlife Agencies

Section 10(j)(1) of the FPA requires the Commission to include license conditions, based on recommendations of state and federal fish and wildlife agencies, submitted pursuant to the Fish and Wildlife Coordination Act 49/ for the protection of, mitigation of adverse impacts to, and enhancement of fish and wildlife resources. If the Commission believes that any such recommendations may be inconsistent with Part I of the FPA, or other applicable law, Section 10(j)(2) of the FPA requires the Commission to attempt to resolve the inconsistency, giving due weight to the recommendations, expertise, and statutory responsibilities of the agencies. Failing resolution of the inconsistency, Section 10(j)(2) requires the Commission to publish a finding that adoption of the recommendation is inconsistent with Part I of the FPA or other applicable law, as well as a finding that the conditions selected by the Commission will adequately protect, mitigate adverse impacts to, and enhance fish and wildlife resources, together with a statement of the basis for these findings.

48/ U.S. Fish and Wildlife Service (FWS) and Canadian Wildlife Service, North American Waterfowl Management Plan (1986); FWS and Canadian Wildlife Service, North American Wildlife Management Plan (1986); FWS Fisheries USA: the Recreational Fisheries Policy of the U.S. Fish and Wildlife Service (undated); National Park Service, The Nationwide Rivers Inventory (1982); Wisconsin DNR, Upper Green Bay Basin Water Quality Management Plan (1993); Wisconsin DNR, Statewide Comprehensive Outdoor Recreation Plan, 1991-1996 (1991); Wisconsin DNR, Wisconsin Water Quality Assessment Report to Congress (1992); Wisconsin DNR, Fisheries Management Plan for the Lower Oconto River (undated).

49/ 16 U.S.C. § 661 et seq.

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By letter filed December 5, 1995, Wisconsin DNR submitted 14 recommendations for license requirements, eight of which are subject to the provisions of FPA Section 10(j):
50/ operating in a run-of-river mode, gauging compliance with run-of-river operations, reservoir drawdown requirements, sluicing woody debris, releasing inflows during power outages, studying and installing fish protection facilities, controlling nuisance plant life, meeting state water quality standards.

In a letter to Wisconsin DNR dated November 1, 1996 (and attached the draft EA), Commission staff made preliminary determinations under Section 10(j) that most of the recommendations should be accepted, 51/ but that the

50/ See the final EA at Table 7. Six of Wisconsin DNR's recommendations do not qualify for processing under Section 10(j) because they are not measures specifically designed to protect, mitigate damages to, or enhance, fish and wildlife. See the definition of "fish and wildlife recommendation" in 18 C.F.R. § 4.30(b)(9)(ii). These recommendations were instead considered under Section 10(a)(1) of the FPA, pursuant to which the Commission considers all aspects of the public interest. The recommendations considered under Section 10(a)(1) include: (1) a project retirement study and fund; (2) a fish and wildlife reopener condition (standard Article 15); (3) complying with Chapters 30 and 31 of Wisconsin statutes regarding dam safety, operation, and construction; (4) coordinating planning and design of recreation facilities with Wisconsin DNR; (5) compensating for residual fish losses; and (6) a reopener condition for upstream fish passage. These recommendations, except for the recommendations for reopener articles, are rejected for the reasons described in Sections V and VIII and the appendix, pp. A-2 through A-14, of the final EA, and in this order, below.

51/ The license contains conditions consistent with other of the Wisconsin DNR's recommendations, including: operating in a run-of-river mode, minimizing fluctuations in the reservoir surface elevation and maintaining a reservoir elevation of 731.3 ±0.25 feet, and releasing flows as soon as possible in a power failure (Article 401); developing and implementing a gaging and compliance plan, including a three-year trial period (Articles 402 and 403); coordinating reservoir drawdowns with resource agencies (Article 404); developing and implementing a water quality monitoring plan (Article 405); developing a plan to monitor and control the spread of purple loosestrife and Eurasian milfoil (Article 407); developing a recreation plan in consultation with the
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following recommendations conflicted with the comprehensive development and public interest standards of Section 10(a) of the FPA: (1) installing tailwater level sensor to monitor run-of-river compliance; (2) sluicing woody debris; and (3) fish protection plan including a prototype fish protection facility.

On December 6, 1996, Wisconsin DNR filed a comment letter in response to the November 1, 1996 staff letter and draft EA. Additionally, comments on the draft EA were filed by the City, N.E.W. Hydro, and Wisconsin Electric. Wisconsin DNR and Commission staff held a telephone conference on January 7, 1997, to resolve issues arising under Section 10(j) of the FPA. Other participants included the City and N.E.W. Hydro. The matters discussed are described below.

1. Run-of-River Compliance

Wisconsin DNR recommended that, to ensure compliance with run-of-river requirements, the licensee should maintain automatic water level sensors to continuously monitor and record headwater and tailwater elevations. However, in comments on the draft EA, Wisconsin DNR agreed with the Commission staff's recommendation to require the installation of a headwater sensor, but not a tailwater sensor. ^{52/} Therefore, Article 402 only requires installation of a headwater level sensor.

Wisconsin DNR, in its comments on the draft EA, took issue with the Commission staff's recommendation to require the licensee to file a compliance report after the first three years of operation, and instead requested annual reporting. We are requiring the licensee to file annual reports for the first two years of the license term, followed by a final report after the third year, to document compliance with run-of-river operation.

^{51/} (...continued)
agencies (Article 408).

^{52/} See the final EA, Section V.C.1.a. The headwater sensor is needed to determine compliance with the requirement prescribed in Article 401. However, the tailwater elevation at the Oconto Falls Project is the same as the reservoir surface elevation of the next downstream project (Project No. 2689, which is approximately one-third of a mile away), which is not affected by deviations from run-of-river project operation. Consequently, a tailwater level sensor would be ineffective to measure compliance with run-of-river requirements.

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2. Sluicing Woody Debris

Wisconsin DNR recommends that the licensee sluice downstream all large woody debris through the project to provide cover and substrate for fish and other aquatic organisms.

The draft EA 53/ recommended rejecting Wisconsin DNR's recommendation for sluicing woody debris, because while the woody debris could provide beneficial aquatic habitat, it would probably not remain in the tailwater for the Oconto Falls Project because of the channelized nature of the river, and would instead likely collect on the upstream face of the next downstream dam, at Project No. 2689. The draft EA noted that Project No. 2689 has no gates through which large woody debris could be passed. Therefore, such woody debris would collect on the upstream face of the dam and would have to be physically moved over the dam, which would pose navigational and safety problems at the downstream project.

In its comments on the draft EA and during the Section 10(j) telephone conference, Wisconsin DNR maintained that sluicing woody debris downstream of the Oconto Falls dam would provide habitat enhancement. Wisconsin DNR further stated that the project tailwater is not channelized and that opportunities exist for the debris to catch and remain in the area between the two projects.

The final EA 54/ further reviewed the potential for habitat enhancement by sluicing woody debris past the Oconto Falls dam. Based upon a review of United States Geological Survey maps, the final EA concluded that the river reach immediately downstream of the Oconto Falls dam provided little opportunity for woody debris to catch and create new habitat.

In light of the EA's findings, we believe that the recommendation to sluice woody debris at the Oconto Falls Project conflicts with the Commission's obligations under Section 10(c) of the FPA, 16 U.S.C. § 803(c), to ensure safe conditions at licensed projects and therefore must be rejected.

53/ Pages 30-31.

54/ Section VIII and the Appendix, pp. A-9 through A-11.

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3. Fish Protection Plan and Compensation for Residual Fish Losses

Wisconsin DNR recommends the development of a plan to protect fishery resources at the project. Wisconsin DNR's recommended protection plan would include a study plan, a review of fish protection designs, construction of a prototype fish protection facility, and a study of the effectiveness of the fish protection facility. Additionally, Wisconsin DNR recommends that the licensee pay annually during the term of the license the State restitution value (adjusted annually according to the Consumer Price Index) for any residual fish losses at the Oconto Falls Project.

The draft EA rejected the recommendation for a fish protection plan, concluding that, based on the physical characteristics of the Oconto Falls Project and the make-up of the aquatic habitat there, fish entrainment and turbine mortality are not significant, and that the cost of deploying, e.g., a barrier net as the prototype fish protection facility would (based on a study performed by a consultant to Wisconsin Electric) ^{55/} cost in 1989 dollars \$540,000 in capital costs and \$40,000 in annual operation and maintenance costs. The resulting annualized cost over 30 years is \$120,000 per year (1996 dollars). Instead, the draft EA recommended that the licensee provide \$3,000 annually in replacement costs for what the draft EA found, based on studies at Midwest projects similar to the Oconto Falls Project, would be the likely fish mortality at the project.

In comments on the draft EA and during the Section 10(j) telephone conference, Wisconsin DNR disagreed with the draft EA's determination of no significant entrainment and turbine mortality impacts. Wisconsin DNR stated that because there is no site-specific entrainment and mortality data, a conclusion cannot be made regarding entrainment and turbine mortality. Wisconsin DNR also stated that staff's costs for installing a barrier net were too high, because the consultant's study that the draft EA relied on assumed that the project reservoir would fluctuate more than it actually would under run-of-river operation. Because of the reservoir fluctuation, the study assumed that a costly support system would be required for the barrier net.

^{55/} Conceptual design study for fish protection and passage alternatives--Oconto Falls Hydroelectric Project 1989. N.E.W. Hydro Application, Appendix 17, filed August 12, 1993. Prepared by Stone & Webster Environmental Services.

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The final EA concluded that the barrier net costs used in the draft EA were reasonable. It noted that the consultant's study had concluded that installing the simpler, less costly net that Wisconsin DNR suggests would require higher maintenance costs and would probably prove ineffective as a fish barrier. Accordingly, it found that the consultant's study supported the use of the more prudent, sturdier barrier net design, at a cost of \$540,000 (1989 dollars). 56/

The final EA also noted that, while no site-specific fish mortality study had been performed, the extensive information available from field studies at Midwest projects show ranges of mortality that support the conclusion that mortality at the Oconto Falls Project would likely be insignificant. 57/ Based on the lack of significant adverse impacts to fishery resources, the final EA concluded that compensatory mitigation was not justified.

In light of the lack of significant adverse project impacts to the fishery, neither fish protection devices nor measures to compensate for fish killed by the project are warranted. Turbine mortality is likely to have only a minor impact on fishery resources, for several reasons. The project is equipped with trashracks with clear bar spacing of 1-5/8 inches, and the slow approach velocity to the project's intake, ranging from less than 1.0 feet per second to 1.9 feet per second, would generally protect most of the important gamefish from entrainment, making young-of-year fish the most susceptible to entrainment mortality. The effect of losing some young fish from the population is likely to be offset by increased survival of the remaining fish. Moreover, because of the small portion of shoreline aquatic habitat near the powerhouse intake compared with the entire reservoir, it is likely that only a small portion of the resident fish community is subject to the risk of entrainment. 58/

The measures required by this order, which include run-of-river operation, draw-down planning, and water quality monitoring, will adequately protect and enhance fishery resources.

56/ See the appendix to the final EA, p. A-8.

57/ See the appendix of the final EA at p. A-3.

58/ See the discussion in sections V. C. 2. b. and VIII.

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F. Other Agency Recommendations

1. Establish a Project Retirement Trust Fund

Wisconsin DNR recommends that the licensee establish a trust fund to cover the cost of retiring the Oconto Falls Project, when necessary.

The draft EA recommended rejecting Wisconsin DNR's recommendation for a retirement fund, concluding that the project is physically sound and that there is no evidence to conclude that it will be decommissioned during the term of the subsequent license, such that advanced financial planning is warranted.

In its comments on the draft EA, Wisconsin DNR stated that if the Commission does not deem it in the public interest to require a retirement fund, Wisconsin DNR would like the license order to require the licensee to serve a copy of any transfer application on Wisconsin DNR and the U.S. Fish and Wildlife Service (FWS). Article 411 of the license so requires. 59/

2. Compliance with State Statutes

Wisconsin DNR recommends requiring the licensee to comply with Chapters 30 and 31 of the Wisconsin Statutes, which, respectively, regulate the construction (other than dam construction) within and around navigable rivers, and dam construction, operation, and maintenance. 60/ The FPA establishes a comprehensive federal licensing and regulatory scheme for non-federal hydropower projects. 61/

59/ See, e.g., Wisconsin Electric Power Company, 73 FERC ¶ 61,346 at pp. 62,006-08 (1995).

60/ See its filing of December 5, 1995, at 13.

61/ See *First Iowa Hydro-Electric Cooperative v. Federal Power Commission*, 328 U.S. 152 (1946), and *California v. FERC*, 495 U.S. 490 (1990). In *California v. FERC*, the Court stated (at 502):

The Court [in *First Iowa*] rejected the possibility of concurrent jurisdiction and interpreted the FPA as mandating divided powers and a "dual system involving the close integration of these powers rather than a dual system of futile duplication of two authorities over the same subject matter."

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G. Safety and Adequacy

The Commission's Division of Dam Safety and Inspections, pursuant to Part 12 of the Commission's regulations and Engineering Guidelines, evaluated the Oconto Project for the purpose of issuing a subsequent license and concluded that the dam and other project works are safe. The design of this project is consistent with engineering safety standards. The project will be safe if operated and maintained in accordance with the requirements of this license.

H. Comprehensive Development

Sections 4(e) and 10(a)(1) of the FPA, 16 U.S.C. §§ 797(e) and 803(a)(1), require the Commission, in acting on applications for license, to give equal consideration to a project's power development purposes and to the purposes of energy conservation, the development of the waterway for the use or benefit of interstate commerce, the protection, mitigation of damage to, and enhancement of fish and wildlife, the protection of recreational opportunities, and the preservation of other aspects of environmental quality. Any license issued shall be such as in the Commission's judgment will be best adapted to a comprehensive plan for improving or developing the waterway or waterways for all beneficial public uses, including irrigation, flood control, and water supply. The decision to license this project, and the terms and conditions included herein, reflect such consideration.

Under our approach to evaluating the economics of hydropower projects, as articulated in Mead Corp., 62/ we employ 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 our economic analysis is to provide a general estimate of the potential power benefits and the costs of a project, and 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.

Based on current economic conditions, without future escalation or inflation, the Oconto Falls Project, if licensed as N.E.W. Hydro proposes, would provide an installed capacity of 1,320 kW and produce an average of 8.2 gigawatt-hours (GWh) of energy, at an annual cost of about \$256,000 (31.0 mills/kWh). This is about \$23,000 (2.8

62/ 72 FERC ¶ 61,027 (1995).

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mills/kWh) more than the current cost of an equivalent amount of capacity and energy using alternative power sources, which would cost about \$233,000 (28.3 mills/kWh). ^{63/} If licensed in accordance with the conditions adopted herein, the project would produce about the same amount of energy and capacity at an annual cost of \$261,000 (31.6 mills/kWh), or about \$28,000 (3.4 mills/kWh) more than the cost of alternative power sources. In any event, the applicant must make the business decision whether to pursue the license. As we explained in Mead, project economics is only one of the many public interest factors the Commission considers in determining whether or not, and under what conditions, to issue a license. ^{64/}

Based on our review and evaluation of the project as proposed by the N.E.W. Hydro, and with the additional enhancement measures we are adopting, we conclude that operating the project in the manner required by the license will protect and enhance fish and wildlife resources, water quality, recreational resources, and cultural resources. The electricity generated from renewable water power resources will be beneficial because it will continue to offset the use of fossil-fueled, steam-electric generating plants, thereby conserving nonrenewable resources and reducing atmospheric pollution. We therefore find that the Oconto Falls Project, with the required environmental enhancement measures, is best adapted to a comprehensive plan for the use, conservation, and development of the waterway for beneficial public purposes.

I. Term of License

Section 15(e) of the FPA ^{65/} provides that any new license issued shall be for a term of not less than 30 years nor more than 50 years. The Commission's general policy is to establish 30-year terms for projects with little or no redevelopment, new construction, new capacity, or environmental mitigative and enhancement measures; 40-year terms for projects with a moderate amount of such

^{63/} The alternative source of power is a gas-fired combined-cycle combustion turbine.

^{64/} In analyzing public interest factors, the Commission takes into consideration the fact that hydroelectric projects offer unique electric utility system operational benefits, and may provide substantial benefits not directly related to utility operations, benefits that would be lost if a license were denied solely on economic grounds. See City of Augusta, supra n. 40, 72 FERC at p. 61,599 n. 57.

^{65/} 16 U.S.C. § 808(e).

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activities; and 50-year terms for projects which propose extensive measures of these kinds. Accordingly, because this new license authorizes no new construction and requires only minor enhancement measures, the license will have a term of 30 years.

J. Summary

The final EA issued for this project contains background information, analysis of impacts, support for related license articles, and the basis for a finding of no significant impact on the environment. Issuance of this license is not a major federal action significantly affecting the quality of the human environment.

The design of this project is consistent with the engineering standards governing dam safety. The project will be safe if operated and maintained in accordance with the requirements of this license.

We conclude that the Oconto Falls Project does not conflict with any planned or authorized development, and is best adapted to the comprehensive development of the Oconto River for all beneficial public uses.

The Commission orders:

(A) This license is issued to N.E.W. Hydro, Inc., for a period of 30 years, effective the first day of the month in which this order is issued, to operate and maintain the Oconto 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 that the Commission issues under the provisions of the FPA.

(B) The project consists of:

(1) All lands, to the extent of the licensee's interests in those lands, shown by exhibit G, filed August 12, 1993:

<u>Exhibit</u>	<u>FERC No. 2523-007</u>	<u>Showing</u>
G	5	Project boundary

(2) The project works consisting of: (1) a reservoir with a surface area of 166.5 acres and a total storage volume of 1,700 acre-feet at the normal maximum surface elevation of 729.7 feet (msl); (2) a 1,350-foot-long earth embankment with a crest width ranging from 15 feet to 60 feet, constructed of sand and gravel fill with reinforced concrete corewalls to bedrock; (3) a 110-foot-long by 28-foot-high non-overflow concrete gravity dam; (4) a 65-foot-

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long by 17-foot-high spillway, constructed of reinforced concrete keyed into bedrock, with: (a) three, 11-foot-high by 20-foot-wide, manually operated Taintor gates and (b) an 11-foot-high by 5-foot-wide non-operational gate; (5) a 175-foot-long earth embankment with a crest width ranging from 15 feet to 60 feet, constructed of sand and gravel fill with reinforced concrete corewalls to bedrock; (6) an 86-foot-long by 72-foot-wide powerhouse constructed of reinforced concrete and stone masonry containing: (a) a horizontal shaft Francis turbine rated at 600 horsepower (hp) at 28.5 feet of head, with a maximum hydraulic capacity of 253 cubic feet per second (cfs); (b) a horizontal shaft Francis turbine rated at 600 hp at 28.5 feet of head, with a maximum hydraulic capacity of 256 cfs; (c) a horizontal shaft Francis turbine rated at 450 hp at 28.5 feet of head with a maximum hydraulic capacity of 250 cfs; (d) two horizontal shaft generators rated at 480 kilowatts (kW); and (e) a horizontal shaft generator rated at 360 kW; and (7) appurtenant facilities.

The project works generally described above are more specifically shown and described by those portions of exhibits A and F shown below:

Exhibit A--The following sections of exhibit A filed August 12, 1993:

The dam, spillway, dikes, reservoir, powerhouse, generating equipment, and appurtenant facilities as described on pages A-1 through A-6.

Exhibit F--The following exhibit F drawings filed August 12, 1993:

<u>Exhibit</u>	<u>FERC No. 2523-007</u>	<u>Showing</u>
F (sheet 1)	1	Plan and elev. of dam
F (sheet 2)	2	Section of powerhouse
F (sheet 3)	3	Section of dam and dike
F (sheet 4)	4	Section of dam

(3) All structures, fixtures, equipment, or facilities used to operate or maintain the project; all portable property that may be employed in connection with the project; and all riparian or other rights 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.

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(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 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," 54 FPC 1792, 1852, 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 this 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 1,320 kilowatts. Under regulations currently in effect, projects with authorized installed capacity of less than or equal to 1,500 kilowatts are not assessed an annual administrative charge.

Article 202. Any application to transfer this license shall include proof of service of a copy of that application on the Wisconsin Department of Natural Resources and the U.S. Fish and Wildlife Service.

Article 203. Within 45 days of the date of the issuance date of the license, the licensee shall file an original set and two duplicate sets of aperture cards of the approved drawings. The set of originals must be reproduced on silver or gelatin 35 mm microfilm. The duplicate sets are copies of the originals made on diazo-type microfilm. All microfilm must be mounted on type D (3-1/4" x 7-3/8") aperture cards.

Prior to microfilming, the FERC Drawing Number 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 Exhibit (e.g., F-1,

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G-1, etc.), Drawing Title, and date of this license must be typed on the upper left corner of each aperture card.

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

Article 401. The licensee shall operate the project in a run-of-river mode for the protection of fish, riparian vegetation, and recreation opportunities upstream and downstream of the dam. 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, as measured immediately downstream of the project tailrace, approximate the sum of inflows to the project reservoir.

To ensure run-of-river operation, the licensee shall maintain a reservoir water surface elevation of 731.3 ± 0.25 feet National Geodetic Vertical Datum (NGVD) as measured immediately upstream from the project dam. To verify that the historical normal pool elevation was 731.3 feet NGVD, the licensee conduct a survey that documents the relationship between the local historical datum used at the project and the NGVD. If, as a result of the licensee's survey, the normal reservoir elevation that has been maintained historically at the project is determined to be something other than 731.3 feet NGVD, the licensee shall file an amendment to change the license to reflect the correct elevation.

Run-of-river operation and reservoir water surface elevation may be temporarily modified, if required by operating emergencies beyond the control of the licensee, including flood and ice conditions, and for short periods, upon mutual agreement among the licensee, Wisconsin Department of Natural Resources, (Wisconsin DNR), and U.S. Fish and Wildlife Service (FWS). If project operation or reservoir water surface elevation is temporarily modified for such mutually agreed upon short periods of time, the licensee shall notify the Commission as soon as possible, but no later than 10 days after each such incident. If run-of-river operation or reservoir surface elevation is modified due to an emergency, the licensee shall notify the Commission, Wisconsin DNR, and FWS within 24 hours of such modification. In the case of project shut-down, the licensee shall reestablish outflow as soon as possible, but no later than 4 hours after the shut-down.

Article 402. Within one year of the date of issuance of the license, the licensee shall file with the Commission,

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for approval, a gaging and compliance plan to document compliance with the run-of-river operation and reservoir elevation range required by Article 401.

The plan, at a minimum, shall include measures to:

- (1) install, calibrate, and maintain a staff gauge in the reservoir that is visible to the public with the prescribed operating levels clearly marked;
- (2) install and operate an automatic water level sensor to record headwater elevations capable of providing records at 60-minute intervals;
- (3) maintain records of turbine operation, headwater elevations, and flow releases on an hourly basis and develop a discharge rating curve for all three turbine units and for the individual Taintor gates; and
- (4) provide operational data to the Wisconsin Department of Natural Resources (Wisconsin DNR) and U.S. Fish and Wildlife Service (FWS) upon request.

The licensee shall prepare the plan after consultation with the Wisconsin DNR and FWS. 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 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 403. Within 180 days of the date of issuance of the license, the licensee shall file with the Commission, for approval, a plan to conduct a three-year evaluation to determine whether operation of the project in a run-of-river mode as required by Article 401 has been achieved. This plan shall include the following elements:

- (1) annual reports for the first two years of the evaluation followed by a final report at the end of the three-year period; and
- (2) submission of operating data collected under Article 402.

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The licensee shall prepare the plan after consultation with Wisconsin Department of Natural Resources and U.S. Fish and Wildlife Service.

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 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. Within 180 days of the date of the issuance of the license, the licensee shall file with the Commission, for approval, a reservoir drawdown plan. The purpose of the drawdown plan is to minimize the impact of any project maintenance requiring a reservoir drawdown on aquatic and wetland resources. The plan shall include procedures for consulting with Wisconsin Department of Natural Resources (Wisconsin DNR) and U.S. Fish and Wildlife Service (FWS) in advance of planned drawdowns.

The plan shall also include procedures for consulting with the agencies after an emergency drawdown of the reservoir surface water elevation. The procedures shall identify notification and agency consultation requirements that would occur prior to returning to normal operating reservoir levels.

The licensee shall prepare the plan after consultation with Wisconsin DNR and FWS. 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 make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

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Article 405. Within one year from the date of issuance of the license, the licensee shall file with the Commission, for approval, a plan to monitor dissolved oxygen (DO), temperature, and pH of the Oconto Falls Project tailwater.

The purpose of this monitoring plan is to ensure that releases from the Oconto Falls Project maintain the following state standards, except when natural conditions prohibit attainment of the standards: (1) the DO shall not be lowered to less than 5 milligrams per liter at any time; (2) the temperature shall not exceed 89 degrees Fahrenheit at any time; and (3) the pH shall be within the range of 6.0 to 9.0.

The water quality monitoring plan shall include, at a minimum, the following provisions:

(1) Monitor once every five years beginning five years after license issuance DO, temperature and pH in the Oconto River immediately below the Oconto Falls Project dam. Monitoring intervals and duration shall be determined through consultation with Wisconsin Department of Natural Resources (Wisconsin DNR) and U.S. Fish and Wildlife Service (FWS). The monitoring interval refers to the time between individual data recordings (e.g., 30-minute or 60-minute intervals) and the duration refers to the overall length of time that the data are to be collected (e.g., 6-week or 6-month durations).

(2) Monitor once every five years beginning five years after license issuance, recording surface to bottom profiles of temperature and DO at one-meter intervals for the purpose of determining if low DO conditions become established in the Oconto Falls Project reservoir. Monitoring intervals and duration shall be determined through consultation with Wisconsin DNR and FWS.

(3) Prepare a summary report of DO, temperature, and pH data, to be submitted within 60 days of completing each five-year monitoring effort to the Commission, Wisconsin DNR, and FWS.

(4) Include provisions for notifying the Commission, Wisconsin DNR, and FWS if water quality requirements contained in this license are not met, including operating procedures for addressing and correcting failure to meet water quality requirements.

The licensee shall prepare the plan after consultation with Wisconsin DNR and FWS. The licensee shall include with the plan documentation of consultation, copies of comments,

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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 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 monitoring plan, including any changes required by the Commission.

Article 406. 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 pursuant to Section 18 of the Federal Power Act.

Article 407. Within 180 days of the date of the issuance of the license, the licensee shall develop and file with the Commission, for approval, a plan to monitor and control the spread of purple loosestrife (*Lythrum salicaria*) and Eurasian milfoil (*Myriophyllum spicatum*) in project waters.

The plan shall include, but not be limited to: (a) the method of monitoring, (b) the frequency of monitoring, (c) a provision to cooperate in the control/elimination of these vegetative species if deemed necessary by the agencies, and (d) documentation of transmission of monitoring data to the Wisconsin Department of Natural Resources (Wisconsin DNR) and the U.S. Fish and Wildlife Service (FWS).

The licensee shall develop the plan in consultation with Wisconsin DNR and FWS. 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 make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

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Article 408. Within one year of license issuance, the licensee shall file with the Commission, for approval, a recreation plan for the Oconto Falls Project. The plan shall include, at a minimum, the following information:

- (1) type and estimated amount of public and private recreation use at the project;
- (2) discussion of the adequacy of existing recreation improvements to meet existing and future public and recreation demand;
- (3) identification of the entity or entities responsible for the construction, operation, and maintenance of existing or proposed facilities and, if this is not the licensee, documentation of the licensee's construction, operation, and maintenance agreement with the entity or entities;
- (4) implementation schedule for any proposed new recreation improvements;
- (5) discussion of how existing and proposed facilities consider the needs of persons with disabilities; and
- (6) documentation of consultation with resource agencies and other providers of public recreation at the project.

The plan shall provide for the specific recreation facilities and improvements described below.

- (1) Cooperate with the canoe portage operation for Project No. 2689 and remove the canoe portage sign in the tailwater area below the Oconto Falls dam.
- (2) Install additional signs directing the public to the West Side Park.

The licensee shall prepare the plan after consultation with the Wisconsin Department of Natural Resources, and local agencies having land management or planning/zoning authority in the area. The licensee shall also consult with the above agencies, regarding recreation use and needs at the project, every sixth year as part of the Form 80 reporting cycle, for the term of the license, pursuant to Part 8 of the Commission's regulations.

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

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licensee shall allow a minimum of 30 days for the agencies to comment and 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. No construction of new recreational facilities shall begin until the licensee is notified that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 409. The licensee shall implement the "Programmatic Agreement Among the Federal Energy Regulatory Commission, the Advisory Council on Historic Preservation, 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 the Historic Resources Management Plan for the project.

The Commission reserves the authority to require changes to the Historic Resources Management Plan at any time during the term of the license. If the Programmatic Agreement is terminated prior to Commission approval of the Historic Resources Management Plan, the licensee shall obtain Commission approval before engaging in any ground-disturbing activities or taking any other actions that may affect any historic properties within the project's area of potential effect.

Article 410. Any application for transfer of license filed with the Commission for this project shall include proof of service of a copy of that application on the Wisconsin Department of Natural Resources and the U.S. Department of the Interior.

Article 411. (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 is 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

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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 type of use and occupancy of project lands and water 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 watercraft 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

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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 1 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 watercraft 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 5 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.

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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 Hydropower Licensing, 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

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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 application for a license for Project No. 11496, filed by the City of Oconto Falls on August 29, 1994, is denied.

(G) The complaint filed by the City of Oconto Falls on October 4, 1995, is dismissed.


(H) The petition for declaratory order filed by the City of Oconto Falls on October 4, 1995, is answered as set forth in this order.

(I) 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.

(J) This order is final unless a request for rehearing is filed within 30 days of the date of this order, as provided in Section 313(a) of the FPA. The filing of a request for 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 shall constitute acceptance of this order.

By the Commission.

(S E A L)


Lois D. Cashell,
Secretary.

**FINAL
ENVIRONMENTAL ASSESSMENT
FOR HYDROPOWER LICENSE**

OCONTO FALLS PROJECT

**N.E.W. Hydro, Inc.
FERC Project No. 2523-007 - Wisconsin**

**City of Oconto Falls
FERC Project No. 11496-000 - Wisconsin**

**Federal Energy Regulatory Commission
Office of Hydropower Licensing
Division of Licensing and Compliance
888 First Street, NE
Washington, D.C. 20426**

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SUMMARY

The current licensee, Wisconsin Electric Power Company (Wisconsin Electric), is not pursuing a new license for the Oconto Falls Project. Wisconsin Electric's existing license expired on December 31, 1993. The Commission issued an order on December 27, 1993, requiring the continued operation of the Oconto Falls Project.

On February 12, 1992, the Commission issued a notice soliciting applications for the Oconto Falls Project from anyone other than the existing licensee. On August 12, 1993, N.E.W. Hydro, Inc. (N.E.W. Hydro) filed an application for a new or subsequent license for the project. On August 29, 1994, the City of Oconto Falls (City) also filed an application for a new or subsequent license.

This final environmental assessment (EA) analyzes the effects of the proposed action and various alternatives and environmental measures for the Oconto Falls Project. In this final EA, we evaluate the environmental and economic effects of four alternatives: (1) licensing the project as proposed by N.E.W. Hydro; (2) licensing the project as proposed by the City of Oconto Falls; (3) licensing the project with additional staff-recommended environmental measures; and (4) the no-action alternative. The no-action alternative would consist of continued project operation, under the terms of the original license, with no change to the environmental setting or project operation.

Based on our independent review and evaluation of the Oconto Falls Project, agency recommendations, and the no-action alternative as documented in this EA, we have selected issuing a license to either of the applicants for the Oconto Falls Project, with additional staff-recommended enhancement measures, as the preferred alternative. We recommend this option because (1) the environmental effects of licensing the project according to either of the applicants' proposals would be relatively minor and (2) the proposed enhancement measures would benefit environmental resources; and (3) the electricity that would be generated by either of the applicants' projects would be beneficial because it would reduce the use of fossil-fueled, steam-electric generating plants, thereby conserving nonrenewable energy resources and reducing atmospheric pollution.

There are two areas where the applicants differed in their proposals: (1) the City proposed to develop a fish protection plan; and (2) the City proposed to develop a public campground at the existing West Side Park. In the final EA, staff concludes that these proposals do not result in significant differences in the project-related impacts between the two applications. The proposed fish protection plan would include evaluation of alternative fish protection devices and installation of a prototype device at the project. Installing a fish protection

device at the Oconto Falls Project would have no significant beneficial impact on fishery resources because, as staff concluded in section V.C.2, entrainment and turbine mortality do not currently have a significant adverse impact on fish populations in the Oconto River. Developing a campground at the West Side Park would increase camping opportunities in the southern part of the county. However, there is no evidence that a campground would enhance project-related recreation.

After carefully considering all the resources and benefits, we recommend that any new license for the Oconto Falls Project include the following measures:

- Operate in a run-of-river mode with a normal pool elevation of 731.3 feet NGVD \pm 0.25 foot.
- Monitor compliance by maintaining automatic headwater sensor, reservoir staff gage, daily record of operation, and compliance report.
- Consult with the agencies on emergency and planned draw-downs.
- Monitor water quality with the inclusion of state water quality standards in license.
- Develop a purple loosestrife and Eurasian milfoil control plan.
- Implement a programmatic agreement for cultural resources.
- Develop a recreation plan and install directional signs.
- Cooperate with Scott Paper in their development of a canoe portage.

Overall, these measures, along with standard articles provided in a license issued for the project, would protect or enhance fish resources, wildlife resources (including threatened and endangered species), and recreational resources. In addition electricity generated from the project would reduce the use of fossil-fueled, electrical generating plants, conserve non-renewable energy resources, and reduce atmospheric pollution.

Pursuant to Section 10(j) of the Federal Power Act (FPA), we have determined that some recommendations of the federal and state fish and wildlife agencies may be inconsistent with the purposes and requirements of Part I of the FPA and applicable law. Section 10(j) of the FPA requires the Commission to include license conditions, based on the recommendations of the federal and state fish and wildlife agencies, for the protection of, mitigation of adverse impacts to, and enhancement of fish and

wildlife resources. For the reasons discussed in section VIII of this EA, we did not recommend the following Wisconsin DNR recommendations: (1) installation of a tailwater level sensor; (2) sluicing wood debris downstream; and (3) preparing a fish protection plan.

Based on our independent analysis, we find that issuing a license for the Oconto Falls Project would not constitute a major federal action significantly affecting the quality of the human environment.

**FINAL
ENVIRONMENTAL ASSESSMENT**

**FEDERAL ENERGY REGULATORY COMMISSION
OFFICE OF HYDROPOWER LICENSING
DIVISION OF PROJECT REVIEW**

OCONTO FALLS PROJECT

N.E.W. Hydro, Inc.
(FERC No. 2325-007 - Wisconsin)

City of Oconto Falls
(FERC No. 11496-000 - Wisconsin)

I. APPLICATION

The 1,320 kilowatt (kW) Oconto Falls Hydroelectric Project is located on the Oconto River in Oconto County, Wisconsin. The Oconto River is a navigable waterway of the United States, therefore, Section 23(b) of the Federal Power Act (FPA) requires that the project be licensed. The project does not occupy any United States lands.

The current licensee, Wisconsin Electric Power Company (Wisconsin Electric), is not pursuing a new license for the Oconto Falls Project. Wisconsin Electric's existing license expired on December 31, 1993. The Commission issued an order on December 27, 1993, requiring the continued operation of the Oconto Falls Project.¹

On February 12, 1992, the Commission issued a notice soliciting applications for the Oconto Falls Project from anyone other than the existing licensee. On August 12, 1993, N.E.W. Hydro, Inc. (N.E.W. Hydro) filed an application for a new or subsequent license for the project. On August 29, 1994, the City of Oconto Falls (City) also filed an application for a new or subsequent license for the project. The Commission accepted both applications.

II. PURPOSE AND NEED FOR ACTION

A. Purpose of Action

In this final EA, we analyze the impacts of continued operation of the project, evaluate alternatives to the proposed project, and make recommendations to the Commission on whether to issue a license, and if so, recommend terms and conditions to become a part of any license issued. The FPA provides the

¹65 FERC ¶ 62,243.

Commission with the exclusive authority to license nonfederal hydropower projects on navigable waterways.

In deciding whether to issue a new license, the Commission must, pursuant to Section 10(a) of the FPA, determine that the project will be best adapted to a comprehensive plan for improving or developing a waterway. In addition to the power and developmental purposes for which licenses are issued, the Commission must give equal consideration to: (1) energy conservation; (2) the protection, mitigation of damage to, and enhancement of fish and wildlife; (3) the protection of recreational opportunities; and (4) the preservation of other aspects of environmental quality.

B. Need for Power

The Oconto Falls Project is within the Mid-America Interconnected Network (MAIN) Region of the North American Electric Reliability Council (NERC). The MAIN reliability council collects, organizes, and coordinates the data which are required for the preparation of the Department of Energy code OE-411 Report. We have relied upon data and information contained in their 1995 annual report titled "Electric Supply and Demand 1995-2004, Summary of Electric Utility Supply and Demand Projections". The report contains quantitative projections of growth in peak power demand, generating capacity and capacity margins for the planning period considered.

The NERC projections show that predicted capacity margins in the MAIN region will remain relatively stable, ranging from 16.4 percent in 1995 to 16.7 percent in 2004. It is important to understand that capacity margin is not a measure of surplus generating capacity. It is a measure of capacity available to fill in during periods of scheduled and unscheduled power outages which occur because of regular maintenance, as well as emergencies.

The Oconto Falls Project generates an average 7.495 gigawatt hours (GWh) of electricity annually, which assists in maintaining capacity margins. In addition, the power displaces nonrenewable fossil-fired generation and contributes to diversification of the generation mix in the MAIN area. N.E.W. Hydro would sell all power produced at the project to Wisconsin Electric. The City would use the power to directly supply its municipal electric utility customers.

III. PROPOSED ACTION AND ALTERNATIVES

A. Proposed Action

1. Project Description

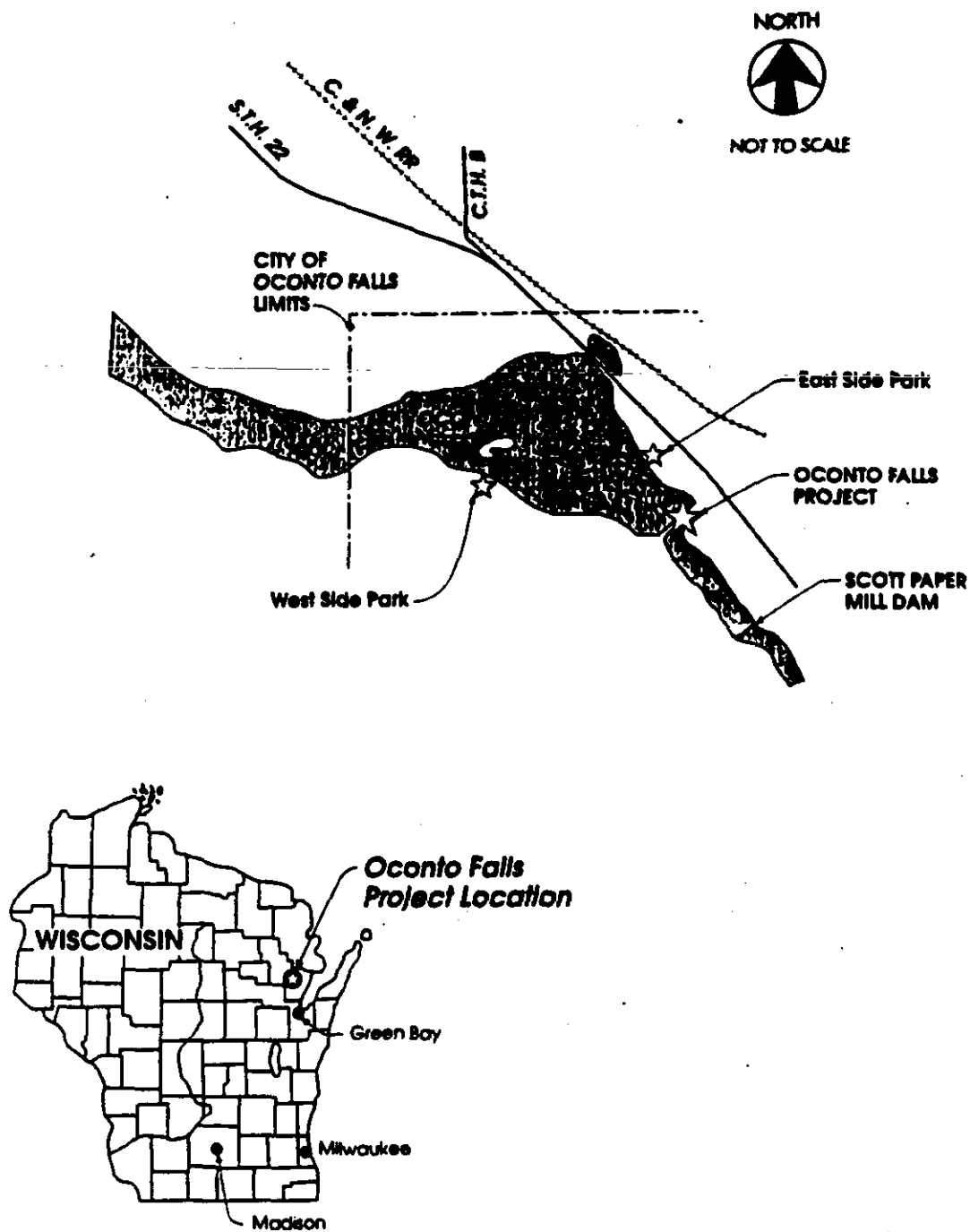
The Union Manufacturing Company constructed the first dam at the project site in 1902. By 1915, the company generated hydroelectric power for use at its mill and for sale to others. The dam was rebuilt in 1922 to its present configuration and eventually sold to the Oconto River Power Company. Wisconsin Electric has owned and operated the project since 1939.

The Oconto Falls Project (figure 1) consists of (1) a reservoir with a surface area of 166.5 acres and a total storage volume of 1,700 acre-feet at the normal surface elevation of 731.3 feet national geodetic vertical datum (NGVD)²; (2) a 1,350-foot-long earth embankment with a crest width ranging from 15 feet to 60 feet, constructed of sand and gravel fill with reinforced concrete corewalls to bedrock; (3) a 110-foot-long by 28-foot-high nonoverflow concrete gravity dam; (4) a 65-foot-long by 17-foot-high spillway, constructed of reinforced concrete keyed into bedrock, with (a) three 11-foot-high by 20-foot-wide, manually operated Taintor gates and (b) an 11-foot-high by 5-foot-wide nonoperational gate; (5) a 175-foot-long earth embankment with a crest width ranging from 15 feet to 60 feet, constructed of sand and gravel fill with reinforced concrete corewalls to bedrock; (6) an 86-foot-long by 72-foot-wide powerhouse constructed of reinforced concrete and stone masonry containing (a) a horizontal shaft Francis turbine rated at 600 horsepower (hp) at 28.5 feet of head, with a maximum hydraulic capacity of 253 cubic feet per second (cfs); (b) a horizontal shaft Francis turbine rated at 600 hp at 28.5 feet of head, with a maximum hydraulic capacity of 256 cfs; (c) a horizontal shaft Francis turbine rated at 450 hp at 28.5 feet of head with a maximum hydraulic capacity of 250 cfs; (d) two horizontal shaft generators rated at 480 kW; and (e) a horizontal shaft generator rated at 360 kW; and (7) appurtenant facilities. The project is currently operated manually in a run-of-river mode.³

Recreational facilities at the Oconto Falls Project include two boat landings (one barrier-free), one canoe portage, and two

² All elevations in this document are given as NGVD. To convert elevations to plant datum, subtract 1.60 feet from the elevations given. The normal reservoir elevation in plant datum is 729.7 feet.

³ Operating the project in a run-of-river mode means that the amount of water flowing into the project's reservoir equals the amount of water released from the project to the river downstream. In theory, this operating mode would minimize changes in reservoir water surface elevations and tailrace flows. In practice, due to operation constraints and flash flow events, there may be some minor fluctuations in reservoir elevations.



Source: Staff modified from N.E.W. Hydro application

FIGURE 1
Oconto Falls Hydroelectric Project
Site Layout

swimming beaches. In the winter, the Oconto Falls reservoir supports ice fishing, ice skating, and snowmobiling activities.

Neither applicant proposes any construction or increase in project capacity.

2. Proposed Environmental Measures

N.E.W. Hydro. N.E.W. Hydro proposes the following measures:

- Operate the project automatically in a run-of-river mode, maintaining a normal pool elevation of 731.1 feet \pm 0.25 foot.
- Follow state and federal guidelines pertaining to the protection of threatened or endangered species, and work with resource agencies to enhance the protection of any species if they are observed in the future on or adjacent to the project area.
- Coordinate operations with local government, citizens, and private organizations to accommodate future outdoor recreation demands to the extent that they do not conflict with other uses.
- Consult with resource agencies and local landowners regarding the visual effects of future alterations to project facilities or lands.

City of Oconto Falls. The City of Oconto Falls proposes the following environmental enhancements:

- Operate the project automatically in a run-of-river mode, maintaining a normal pool elevation of 729.70 feet \pm 0.25 foot above sea level.⁴
- Prepare a draw-down plan to address fish and wildlife issues in the event of a reservoir draw-down and limit draw-downs to the month of September.
- Implement its fish protection plan to provide for the protection of fishery resources.
- Develop an up-stream fish passage plan.
- Develop a land management plan, if required by the Commission.

⁴ The applicant states that this elevation is mean sea level; however, staff believes that this elevation is actually plant datum. 729.7 feet plant datum corresponds to 731.3 feet NGVD.

- Cooperate with the planning and operation of the Scott Paper Company's canoe portage (which would include motorized transport around the Oconto Falls and Scott Paper dams).
- Develop and operate a 25-site campground near the West Side Beach.
- Coordinate with the State Historic Preservation Officer (SHPO) to protect any sites or properties discovered in the future.

B. Alternatives to the Proposed Action

1. Staff's Alternative

An alternative to licensing the project, as proposed by N.E.W. Hydro or the City, is to license the project with additional staff-recommended measures for resource protection and enhancement. The staff-recommended enhancement measures for the project are described below.

- Operate in a run-of-river mode with a normal pool elevation of 731.3 feet NGVD \pm 0.25 foot.
- Monitor compliance by maintaining automatic headwater sensor, reservoir staff gage, daily record of operation, and compliance report.
- Consult with the agencies on emergency and planned draw-downs.
- Monitor water quality with the inclusion of state water quality standards in license.
- Develop a purple loosestrife and Eurasian milfoil control plan.
- Implement a programmatic agreement for cultural resources.
- Develop a recreation plan and install directional signs.
- Cooperate with Scott Paper in their development of a canoe portage.

2. No-Action Alternative

Under the no-action alternative, we assume the project would continue to operate under the current mode of operation and no new environmental protection or enhancement measures would be implemented. We use this alternative to establish baseline environmental conditions for comparison with other alternatives.

3. Alternatives Considered but Eliminated from Detailed Study

We considered other alternatives to the applicants' licensing proposals; however, we eliminated them from detailed study because they are not reasonable for this project. The alternatives considered include:

- Decommissioning the project with dam removal; and
- Decommissioning the project without dam removal.

Project decommissioning could be accomplished with or without dam removal. Either alternative would involve denial of the license applications and surrender or termination of the original license with appropriate conditions.

The project reservoir on the Oconto River is important to residents for recreation and aesthetics. Dam removal would lower upstream water levels, thereby adversely affecting shoreline habitat, developed land uses, aesthetics, and recreation along the reservoir. We conclude that dam removal is not a reasonable alternative to relicensing the project with appropriate enhancement measures.

The second decommissioning alternative would involve retaining the dam and disabling or removing equipment used to generate power. Project works would remain in place and could be used for historic or other purposes. We would, therefore, be required to identify another government agency willing to assume regulatory control and supervision of the remaining facilities. No agency has offered to assume regulatory control. In addition, we have not found any basis for recommending this decommissioning alternative. Because the power supplied by the project is needed (see section II), a source of replacement power would have to be identified. Based on these circumstances, we do not consider removal of the electric generating equipment to be a reasonable alternative.

IV. CONSULTATION AND COMPLIANCE

A. Agency Consultation

The Commission's regulations require the prospective applicant to consult with the appropriate resource agencies before filing a license application. After an application is accepted, the Commission issues a public notice and seeks formal comments in accordance with federal statutes. Comments become part of the record and are considered during analysis of the project.

The Commission issued Public Notices on October 11, 1995, stating that the two license applications were ready for environmental analysis.

The following entities commented on N.E.W. Hydro's application (FERC No. 2523):

<u>Commenting Entity</u>	<u>Date of Letter</u>
Wisconsin DNR	December 4, 1995
City of Oconto Falls	December 5, 1995

The following entities commented on the City of Oconto Falls' application (FERC No. 11496):

<u>Commenting Entity</u>	<u>Date of Letter</u>
Wisconsin DNR	December 4, 1995
Department of the Interior (Interior)	December 5, 1995

B. Interventions

Besides providing comments, organizations and individuals may petition to intervene and become a party to subsequent proceedings. The following entities filed timely motions to intervene on N.E.W. Hydro's application:

<u>Intervening Entity</u>	<u>Date of Motion</u>
City of Oconto Falls	April 10, 1994
Wisconsin DNR	July 19, 1994 and August 8, 1994

The following entities filed motions to intervene on the City of Oconto Falls' application:

<u>Intervening Entity</u>	<u>Date of Motion</u>
Wisconsin Electric	August 1, 1995
Wisconsin DNR	August 3, 1995
N.E.W. Hydro	September 20, 1995

None of the interventions presented any environmental concerns for consideration in this EA.

C. Scoping

On January 23, 1996, we issued a Scoping Document that identified the pertinent issues to be analyzed in the EA. Wisconsin DNR commented on the Scoping Document by letter dated February 26, 1996. In its letter, Wisconsin DNR commented that the applicants', agencies', and Commission staff's alternatives should each be analyzed as distinct alternatives. N.E.W. Hydro

responded to Wisconsin DNR's comments by letter dated March 12, 1996.

In section V—Environmental Analysis, we analyze the proposed and recommended environmental enhancement measures of each of the applicants and the agencies in developing staff's recommended measures.

D. Comments on the Draft Environmental Assessment

The following respondents commented on the draft EA:

<u>Commenting Agencies</u>	<u>Date of Letter</u>
City of Oconto Falls	November 18, 1996
Wisconsin Electric Power Company	November 21, 1996
Wisconsin DNR	December 2, 1996
North American Hydro	January 16, 1997

The information contained in these letters was incorporated into this final EA.

E. Water Quality Certification

Under Section 401(a)(1) of the Clean Water Act, the Commission may not issue a license for a project unless either the applicant obtains water quality certification 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 1 year.

N.E.W. Hydro applied to Wisconsin DNR for water quality certification by letter dated November 16, 1994. Wisconsin DNR received the request on November 18, 1994. Because Wisconsin DNR did not respond to N.E.W. Hydro's request within 1 year, water quality certification is deemed by the Clean Water Act to be waived for N.E.W. Hydro's project. The City applied to Wisconsin DNR for water quality certification by letter dated December 20, 1995. Wisconsin DNR received the request on December 22, 1995. By letter dated January 2, 1996, Wisconsin DNR waived the need for water quality certification for the City's project.

F. Section 18 Fishway Prescription

Section 18 of the FPA provides the Secretary of the Department of the Interior the authority to prescribe fishways.⁵ By letter dated December 5, 1996, Interior requested a reservation of its right to prescribe the construction, operation, and maintenance of fishways pursuant to Section 18 of the FPA for Project No. 11496. Interior did not comment on Project No. 2523. When deemed appropriate by Interior, the licensee must install appropriate up-stream and down-stream fish passage facilities.

G. Coastal Zone Management Program

Under Section 307(c)(3)(A) of the Coastal Zone Management Act (CZMA)⁶, the Commission cannot issue a license for a project within or affecting a state's coastal zone unless the state CZMA agency concurs with the license applicant's certification of consistency with the state's CZMA program, or the agency's concurrence is conclusively presumed by its failure to act within 180 days of its receipt of the applicant's certification.

Oconto County is a state-designated coastal zone under Wisconsin's Coastal Management Program (WCMP). By letter dated February 23, 1994, N.E.W. Hydro requested certification under WCMP for its application. The Wisconsin Department of Administration waived the right to review N.E.W. Hydro's application for consistency under WCMP by letter dated March 2, 1994. By letter dated June 2, 1994, the City's consultant requested certification under WCMP for the City's draft application. The Wisconsin Department of Administration waived the right to review the City's application for consistency under WCMP by letter dated July 6, 1994.

V. ENVIRONMENTAL ANALYSIS

A. General Description of the Locale⁷

The Menominee, Peshtigo, Oconto, and Escanaba Rivers along with the smaller rivers (Cedar, Ford, and White Fish) all discharge into the Green Bay portion of Lake Michigan. The Oconto Falls Project is located on the Oconto River, which rises in northeastern Wisconsin and flows southeasterly into Green Bay.

⁵ Section 18 of the FPA provides: "The Commission shall require the construction, maintenance, and operation by a licensee at its own expense of . . . such fishways as may be prescribed by the Secretary of Commerce or the Secretary of Interior, as appropriate."

⁶ 16 U.S.C. § 1456 (3) (A).

⁷ Unless otherwise indicated, our information is taken from N.E.W. Hydro's and the City of Oconto Falls' license applications.

The river has a drainage area of about 990 square miles and a length of about 110 miles (figure 2).

Gently sloping moraines and relatively high elevations describe the northern portion of Oconto County. The southern portion is flat to moderately rolling land. Elevations in the county range from 580 feet on the shores of Green Bay to 1,625 feet near the McCaslin Mountains (FERC, 1980).

The climate in the project area is characterized by warm, humid summers and cold winters. The average annual precipitation at the Oconto meteorological station, located 13 miles east of the project, was 29.72 inches for the years 1951-1980.

Within the Oconto River Basin there are three operating hydroelectric projects, all on the Oconto River. The Oconto Falls Project is located 20.3 miles up-stream of the mouth of the river. The Scott Paper dam (FERC No. 2689) is located one-third of a mile below the Oconto Falls Project.⁸ The Stiles Project (FERC No. 1981) is located 6.4 miles down-stream of the Oconto Falls Project.⁹

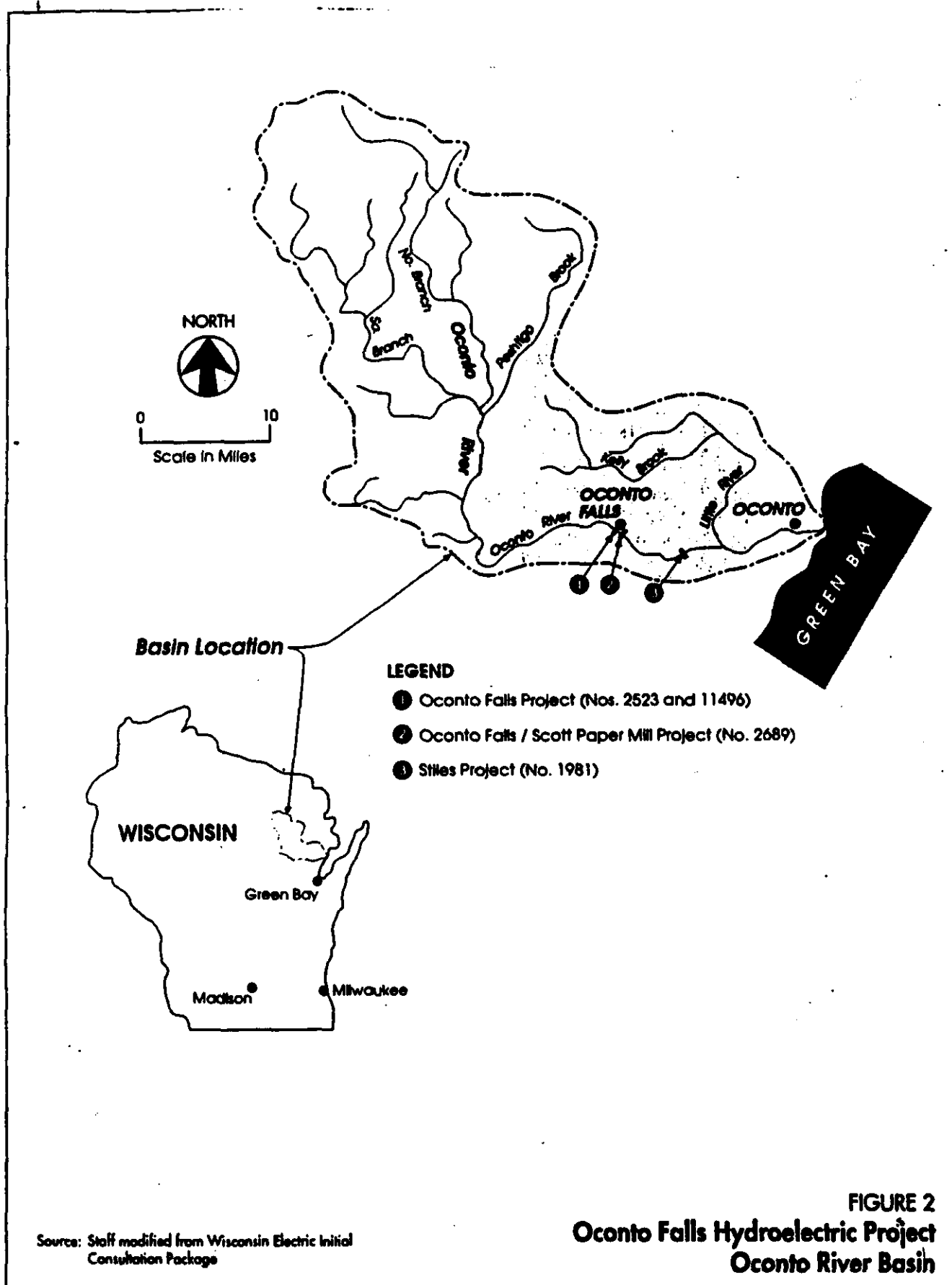
B. Scope of the Environmental Assessment

We have defined the geographical boundary of our environmental analysis as the Oconto River mainstem. We selected the mainstem of the Oconto River based on the uses of the Oconto River mainstem for hydropower generation. This selection was further based on the presence of other hydroelectric projects within close proximity to the Oconto Falls Project and the lack of significant contributions to cumulative impacts by actions outside of the Oconto River mainstem.

As part of our environmental analysis, we examined all resource areas, including geological resources, fish and wildlife, water quality, cultural, and recreation resources in regards to how the Oconto Falls Project would affect these resources. We have identified fisheries, water quality (temperature and dissolved oxygen [DO]), and recreation as resources that merit consideration for cumulative impacts in this EA. These considerations are discussed in the next section (section V.C—Environmental Resources).

⁸ The license for this project has been transferred to N.E.W. Hydro, Inc. This project is also referred to as the Oconto Falls Project. To avoid confusion, we will continue to refer to Project No. 2689 as the Scott Paper dam, since this project is located adjacent to the Scott Paper mill. Project No. 2689 was relicensed in 1994. See 67 FERC ¶ 62,118.

⁹ The license for the Stiles Project expires in the year 2000. The application for relicensing is due by February 28, 1998.



Source: Staff modified from Wisconsin Electric Initial Consultation Package

We conclude that there would be no significant adverse cumulative impacts associated with relicensing the Oconto Falls Project. In addition, the cumulative effects of relicensing the project are generally positive because of various recommended enhancement measures, such as water quality monitoring, and recreational enhancements.

As noted previously, the Scott Paper Project was relicensed in 1994 and the Stiles Project will be relicensed sometime after 1998. We have examined information contained in the EA and license order for the Scott Paper Project. We recommend that a reopener license article be included in the license for the Oconto Falls Project in accordance with the Commission's December 14, 1994, Policy Statement on the Use of Reserved Authority in Hydropower Licenses to Ameliorate Cumulative Impacts (RM93-25-000). In the Policy Statement, the Commission states that:

There will be circumstances ... in which comprehensive analysis of all potential cumulative impacts could entail unacceptably long delays in the relicensing process. Such delays could in themselves generate harm to the environment by delaying the implementation of necessary environmentally ameliorative construction or operation pursuant to a new license.

The Policy Statement also notes that if the Commission foresees the need to deal with specific cumulative impacts, it may fashion license articles to reserve such authority at a later date. Therefore, we conclude that it is not reasonable, nor necessary, to explore the cumulative impacts of all Oconto River Basin hydropower projects at this time.

C. Environmental Resources

We examined all resource areas including geology, water resources, fisheries, terrestrial resources, cultural resources, recreation, and other land uses in the context of how the Oconto Falls Project would affect them. Continuing to operate the Oconto Falls Project would not affect geological resources because neither applicant proposes new construction or operational changes that would contribute to erosion or sedimentation.

1. Water Resources

Affected Environment: The U.S. Geological Survey (USGS) collects streamflow data for the Oconto River approximately 10 miles upstream of the Oconto Falls Project (USGS gage no. 04071000). The average annual flow of the Oconto River, measured at the USGS gage, is 581 cfs for the years 1906 to 1994. The maximum and minimum instantaneous flows as measured at the USGS gage are 8,400 cfs (April 10, 1922) and 93 cfs (November 26, 1941, caused by ice above station). The 10, 50, and 90 percent exceedance flows are 1,070 cfs, 443 cfs, and 258 cfs,

respectively. Table 1 shows the average monthly flows measured at the USGS gage. The drainage area at the USGS gage is 705 square miles (USGS, 1995). There are 739 square miles of drainage basin located above the Oconto Falls Project. The estimated average annual flow at the project is 609 cfs, based on a ratio of the drainage areas at the project and at the USGS gage.

Table 1. Average monthly flow of the Oconto River in cfs
(Source: USGS, 1995, Gage No. 04071000)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
361	350	656	1,229	880	675	464	383	457	487	572	455

The project reservoir has a surface area of 166.5 acres and a total storage volume of 1,700 acre-feet at the normal surface elevation of 731.3 feet NGVD. The maximum reservoir depth is 28 feet, located immediately upstream of the dam. Seventy-five percent of the reservoir is between 3 and 20 feet deep (WDNR, 1990).

The primary uses of the Oconto River are fish and wildlife habitat, hydropower production, waste assimilation, industrial water supply, and recreation. Scott Paper's paper mill, located approximately one-third of a mile downstream of the Oconto Falls Project, withdraws about 8.6 million gallons per day (mgd), about 14 cfs, for industrial purposes. Approximately 10 cfs of the withdrawn water is returned to the river (FERC, 1994). There are no other permitted withdrawals within the project area.

The Oconto River in the project area is classified as a warmwater fishery. The Wisconsin DNR has established a DO concentration standard of 5 milligrams per liter (mg/l) to protect warmwater fisheries. Other state standards specify that the water temperature in the project area should not exceed 89° F, and the maximum temperature rise at the edge of the mixing zone should not exceed 5° F above the existing natural temperature.¹⁰ The pH should be within the range of 6.0 to 9.0 units with no change greater than 0.5 units outside the natural seasonal maximum and minimum (Wisconsin Administrative Code, NR 102.04).

By the mid-1970s, the water quality of the Oconto River was seriously degraded due to industrial discharges. Reductions in industrial discharges during the 1970s and restoration efforts by the Wisconsin DNR have helped to improve the water quality in the

¹⁰ A mixing zone is a region in which a discharge of different characteristics than the receiving waters is progressively diluted by the receiving waters to the point where the discharge is no longer detectable.

Oconto River. In 1989, the Wisconsin DNR studied and modeled the assimilative capacity of the Oconto River between the cities of Oconto Falls and Oconto. The study concluded that wastewater discharges from Scott Paper and the City of Oconto Falls do not significantly impact DO levels and that wasteload allocations are not necessary to protect water quality in this segment (WDNR, 1993).

In 1990, Wisconsin Electric conducted a water quality study at the Oconto Falls Project. Temperature and DO profiles were collected above the dam at the deepest part of the reservoir. These profiles show that the Oconto Falls reservoir thermally stratifies during the summer months of July and August, creating a well-oxygenated upper layer, or epilimnion, and an oxygen-deficient lower layer, or hypolimnion. DO levels less than 5 mg/l were observed during stratification at depths greater than 20 feet. Only 6 percent of the reservoir has depths greater than 20 feet (WDNR, 1990). Tailwater DO during this same period did not drop below 6 mg/l, indicating that reservoir stratification had no adverse impact on downstream DO.

Temperatures measured during Wisconsin Electric's 1990 water quality study were below the 89° F state standard at all times. pH was within the range of 6.0 and 9.0 units at all times.

Environmental Impacts and Recommendations:

a. Run-of-River Operation

N.E.W. Hydro's Proposal. N.E.W. Hydro proposes to operate the Oconto Falls Project in a run-of-river mode. The target reservoir level would be 731.1 feet NGVD \pm 0.25 foot. N.E.W. Hydro proposes to operate at a slightly lower target elevation (no exact elevation was stated) in the winter to prevent ice buildup on project works.

City of Oconto Falls' Proposal. The City proposes to operate the project automatically in a run-of-river mode. The target reservoir level would be 729.70 feet plant datum \pm 0.25 foot (731.3 feet NGVD).¹¹

Agency Recommendations. Wisconsin DNR recommends that the project be operated in a run-of-river mode with inflow equaling outflow at all times to protect aquatic resources. The licensee should act to minimize the water level fluctuation in the reservoir at all times. Wisconsin DNR states in its comments on N.E.W. Hydro's application that a normal pool elevation of 731.1 feet NGVD is acceptable. In its comments on the City's application, Wisconsin DNR states that a normal pool elevation of

¹¹ The applicant states that this elevation is mean sea level; however, staff believes that this elevation is actually plant datum. 729.7 feet plant datum corresponds to 731.3 feet NGVD.

729.7 feet plant datum \pm 0.25 foot is acceptable. Wisconsin DNR allows that run-of-river operation may be temporarily modified if required by operating emergencies beyond the control of the licensee. If an emergency occurs that affects water levels and flow releases, Wisconsin DNR recommends that the licensee contact Wisconsin DNR's Marinette Area Office. Scheduled draw-downs should include consultation with the Wisconsin DNR and the U.S. Fish and Wildlife Service (FWS).

Wisconsin DNR recommends that the licensee be required to pass river flow instantaneously or within a few minutes in case the turbine or turbines are shut down because of a total plant blackout. Wisconsin DNR further recommended in its comments on the Scoping Document that the licensee survey benchmarks and tie them into a benchmark of known elevation.

Our Analysis. Run-of-river operation minimizes fluctuations in flow and water levels upstream and downstream of the project that could otherwise be detrimental to aquatic resources by reducing available habitat. By minimizing fluctuations in flow and water levels, run-of-river operation promotes stable habitats along the shoreline. Run-of-river operation also simulates the natural river flow that fish and other aquatic life are accustomed to.

We recommend that the licensee continue to operate the Oconto Falls Project in a run-of-river mode to protect and enhance aquatic resources. Restricting reservoir level fluctuations to a 0.5-foot operating range (i.e., \pm 0.25 foot) would ensure practical run-of-river operation. Although we generally define run-of-river as instantaneous inflow to a project equalling instantaneous outflow, generating equipment and gate settings cannot always respond instantaneously to changes in river flows. By requiring the licensee to maintain reservoir water levels within a narrow specified range, run-of-river operation would be achieved.

We recommend that the licensee maintain the current normal pool elevation of 731.3 feet NGVD \pm 0.25 foot at the Oconto Falls Project. Our recommended normal pool elevation is consistent with current operation, therefore, existing shoreline habitat and wetlands would be preserved. To resolve the inconsistencies in the stated reservoir elevation, we recommend that the licensee survey benchmarks and tie them into a benchmark of known elevation. If as a result of the licensee's survey, the current reservoir elevation changes, the licensee should file an amendment to change the license to reflect the new elevation.

If the reservoir elevation deviates from our recommended range, the licensee should notify the Commission, Wisconsin DNR, and FWS as soon as possible, but no later than 10 days after an event. This includes lowering the reservoir elevation during the winter to prevent ice buildup on project structures.

Wisconsin DNR recommended that the licensee be required to pass river flow through the project instantaneously in the event of project shutdown. Interruption of flow is a concern, because it could result in dewatering of down-stream habitat. However, because the Oconto Falls Project discharges into a down-stream impoundment, habitat dewatering is not an issue. We recommend that the licensee reestablish outflow as soon as possible after an unscheduled interruption, but no later than 4 hours after the shutdown.

b. Operational Compliance

N.E.W. Hydro's Proposal. N.E.W. Hydro proposes or has already completed (1) calibration of the turbines and spillway gates (completed); (2) placement of staff gages in the headwater and tailwater areas; (3) installation of an automatic headwater sensor; and (4) maintenance of a daily log of operations.

City of Oconto Falls' Proposal. The City proposes to (1) develop a discharge rating curve for the project; (2) install automatic headwater and tailwater sensors; (3) install staff gages in the headwater and tailwater areas; and (4) maintain a log of daily operations.

Agency Recommendations. To demonstrate operational compliance with run-of-river operations, Wisconsin DNR recommends that the licensee develop and implement a gaging and compliance plan within 12 months of license issuance. The plan should be developed in consultation with Wisconsin DNR, FWS, and USGS. Wisconsin DNR recommends that the plan include (1) installation of a large, visible staff gage in the project reservoir with the target elevation and operating range clearly identified; (2) maintenance of automatic water level sensors to continuously monitor and record headwater and tailwater elevations; (3) maintenance of a daily record of operation including turbine operation, headwater elevations, and flow releases on an hourly basis, with data provided to agencies upon request; (4) development of a discharge rating curve for all three turbine units and for the individual Taintor gates (applies only to City's application); and (5) implementation of a 3-year test period to determine the ability of the licensee to maintain the above compliance standards.

Our Analysis. Headwater elevation monitoring is necessary to verify that the licensee is operating within our recommended range. Tailwater elevation monitoring would also be necessary to calculate flow through the project. Energy generation is related to the difference between headwater and tailwater elevation and the flow through the project turbines. Thus, tailwater data can be used in conjunction with headwater elevations and other project operational data such as gate settings, energy generation, and turbine/generator efficiencies to calculate total flow through the project.

We recommend that the licensee install and maintain an automatic water level sensor in the headwater of the Oconto Falls Project. We do not recommend the installation of an automatic sensor in the tailwater because the tailwater elevation is controlled by the downstream project. The tailwater elevation at the Oconto Falls Project, as listed in the application materials, is the same as the reservoir elevation at the downstream Scott Paper dam (FERC No. 2689), which is approximately one-third of a mile downstream. The influence of the reservoir elevations of Project No. 2689 distorts tailwater gaging as a measure of run-of-river operations at the Oconto Falls Project.

We recommend that the licensee install a staff gage in the project reservoir with the operating range clearly marked. The gage should be clearly visible to the public. The staff gage would allow public and agencies to view reservoir elevation at times when project staff are not present to provide monitoring data.

We recommend that the licensee maintain a daily record of operation including turbine operation, headwater elevations, and flow releases on an hourly basis to document compliance with run-of-river operation. This information should be provided to the Commission and agencies upon request. Operational records should include the development of a discharge rating curve for all three turbine units and for the individual Taintor gates. N.E.W. Hydro has already developed a discharge rating curve, and the City has proposed to develop one.

We considered the need for the licensee to provide a post-licensing report documenting its compliance with license articles concerning reservoir elevations and compliance monitoring. Both applicants propose to automate operation of the project; however, human error or equipment malfunction could result in reservoir elevations outside our recommended range. In addition, neither applicant is the current licensee for the project, and neither applicant has a long-term record of compliance at this project. Therefore, we recommend that the licensee submit annual reports to the Commission and resource agencies documenting compliance with run-of-river operation for the first 3 years after license issuance. The licensee should prepare a final report 3 years after license issuance and include compliance records for the first 3 years of project operation.

c. Reservoir Draw-downs

N.E.W. Hydro's Proposal. N.E.W. Hydro proposes no new measures for dealing with reservoir draw-downs.

City of Oconto Falls' Proposal. The City proposes to develop a draw-down management plan that addresses fish and wildlife issues in the event of a reservoir draw-down. The City proposes to limit draw-downs to the month of September.

Agency Recommendations. Wisconsin DNR recommends that the licensee notify Wisconsin DNR and FWS within 24 hours of any proposed or already enacted emergency draw-down done to prevent dam failure or imminent risk to public health and safety. The licensee should consult with the agencies in determining appropriate response measures, if possible. After the emergency has passed, Wisconsin DNR recommends that the licensee consult with the agencies on proposed remedial action and flowage level restoration. Within 30 days after the emergency draw-down, the licensee should consult with and submit a report to the agencies describing the emergency, action taken, remedial measures proposed, and measures proposed to prevent reoccurrence.

For proposed reservoir draw-downs and refills for dam maintenance purposes, Wisconsin DNR recommends that the licensee consult with and follow the agency's prescriptions for minimizing potential adverse environmental effects and impacts to recreation use. The licensee should provide at least 2 months advance notice of any proposed draw-down to allow enough time for the agencies to consider alternative actions to prevent or minimize adverse impacts.

Our Analysis. Occasional reservoir draw-downs are necessary to prevent dam failure or damage and to allow access to project works for maintenance purposes. Potential adverse impacts from draw-downs include fish stranding, increased turbidity in downstream waters due to flushing of reservoir sediments, dewatering of wetlands, and temporary loss of reservoir recreation opportunities.

We recommend that the licensee notify the Commission, Wisconsin DNR, and FWS following an emergency draw-down and in advance of a planned draw-down so that the agencies can assess and minimize adverse environmental impacts. Whenever possible, the licensee should notify the Commission and agencies within 24 hours, but no later than 10 days following an emergency event. For planned draw-downs, the licensee should notify the Commission and agencies 2 months in advance, if possible, but at least 1 month in advance otherwise.

We do not recommend that the licensee prepare a separate written report for Wisconsin DNR after each draw-down. Written notification to the Commission is required for any modification of project operation, including planned or emergency draw-downs. The licensee should also submit a copy of the written notification to the agencies.

d. Water Quality

N.E.W. Hydro's Proposal. N.E.W. Hydro proposes no new actions relating to water quality.

City of Oconto Falls' Proposal. The City proposes no new actions relating to water quality.

Agency Recommendations. Wisconsin DNR recommends the inclusion in the license of the following state water quality standards for DO, temperature, and pH in the project waters:

- (1) The DO should not be lowered to less than 5 mg/l at any time.
- (2) There should be no temperature changes that may adversely affect aquatic life. Natural daily and seasonal temperature fluctuations should be maintained. The maximum temperature rise at the edge of the mixing zone above the existing natural temperature should not exceed 5° F. The temperature should not exceed 89° F at any time.
- (3) The pH should 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.

Wisconsin DNR recommends that the licensee conduct a water quality monitoring program 5 years after license issuance and every 5 years after that for the period of the license. The licensee should measure DO, pH, and temperature every 30 minutes starting on July 1 and continuing through September 30 each sampling year. Monitoring should take place in a location representative of the release water in the tailrace. Reservoir DO and temperature profile measurements should be taken at 1 meter intervals in the deepest part of the reservoir once per week during the same period described above. The sampling protocol should be approved by Wisconsin DNR and raw data should be submitted to Wisconsin DNR along with graphed results.

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

Our Analysis. Available data presented in the Affected Environment section document that DO, temperature, and pH conditions at the project meet designated state standards for fish and aquatic life. We are recommending no operational modifications that would adversely affect water quality in the Oconto River compared to historical conditions.

Although violations of state water quality standards at the project do not appear to occur, if state standards were to be violated, the fish and aquatic life in the project vicinity could be affected. Historical water quality data indicate that water quality did not always meet state standards.

Therefore, in order to evaluate the Oconto Falls Project's ability to continue to meet state water quality standards for DO, temperature, and pH, the licensee should develop a plan to monitor DO, temperature, and pH in the Oconto Falls tailwater

once every 5 years, beginning 5 years after issuance of a license. Monitoring intervals should be included in the plan; however, Wisconsin DNR's recommendation for 30-minute intervals may be excessive given that recent water quality data indicate compliance with state standards. The water quality monitoring plan should also include temperature and DO profiles in the project reservoir. The plan should outline actions to take, subject to Commission approval, if violations of state surface water quality standards occur. The plan should be developed in consultation with the agencies for Commission approval.

We recommend that the license include numeric standards for maintaining temperature, DO, and pH in the project waters. We propose the water quality standards in order to provide protection of fish and wildlife and to be consistent with Commission policy for addressing water quality in project licenses. The proposed standards would include DO, temperature, and pH. The water quality standards proposed for the license would remain fixed throughout the license period, and not change as state standards change, unless the state requests reconsideration for fish and wildlife purposes under the Commission's standard reopener clause.

Cumulative Environmental Impacts: As previously discussed, DO concentrations in the Oconto River have not always been at the levels they are today. Activities which cumulatively affect DO concentrations in the Oconto River include the operation of two other hydroelectric projects, consumptive water withdrawals, and agricultural surface run-off.

Dissolved oxygen concentrations may be affected by the biochemical oxygen demand (BOD) load within the river system. Hydroelectric projects can impact water quality within the Oconto River by increasing flow retention time, thereby increasing the amount of time water is in contact with BOD substances. In addition, project impoundments may thermally or chemically stratify. Stratification may result in the discharge of water with low DO concentrations into the downstream receiving waters. Consumptive withdrawals decrease the quantity of water available for the assimilation of waste by decreasing the diluting ability of the system. Sources of BOD substances include wastewater treatment effluent, agricultural run-off, and industrial discharges.

The available water quality data indicate that water quality within the Oconto River exceeds the state water quality standards in the vicinity of the Oconto Falls Project. In addition, the Oconto Falls Project is not a consumptive user of Oconto River flows and does not discharge BOD loading substances. Because the project operates in a run-of-river mode, retention time and water contact with BOD loading substances is minimized. Therefore, the continued operation of the Oconto Falls Project would not contribute to additional cumulative impacts to water quality within the Oconto River.

Unavoidable Adverse Impacts: None.

2. Fishery Resources

Affected Environment: The existing environment and established fisheries near the Oconto Falls Project are typical of comparable impoundments in northern Wisconsin. Oconto Falls reservoir, created by the dam on the Oconto River, is a small reservoir of approximately 167 acres. The deepest part of the flowage is 28 feet, just above the dam, with 20 percent of the flowage less than three feet deep. The littoral area is composed of sand (60 percent), muck over sand (35 percent), and gravel and rock (5 percent) (Wisconsin DNR 1990).¹² Macrophyte growth is sparse through much of the littoral zone and consists of *Vallisneria* spp. (coontail) and *Potamogeton* spp. (pondweed).¹³

A fisheries management plan exists for the Lower Oconto River, below the Stiles Dam (WDNR, undated). This management plan discusses historical issues regarding fish populations in the lower river including anadromous species. There is currently no fish passage device at the Stiles project which would allow for the upstream migration of Lake Michigan salmon. Therefore, a discussion of anadromous fish populations in relation to the Oconto Falls Project is not warranted at this time.

Wisconsin DNR began a restocking program for the Oconto Falls reservoir in 1965. The pond was stocked with 15,000 walleye fingerlings in 1964 and 1965, and 28,500 walleye fingerlings in 1966.

The Wisconsin DNR conducted four studies of the fish populations of Oconto Falls reservoir in 1984 and 1989. The first survey concluded that a large northern pike population was present as a result of earlier stocking. Walleye stocking appears to have failed, suggesting poor survival of fingerlings that were planted. In general, walleye juveniles and adults can tolerate a wide range of environmental conditions, but do best in moderate-to-large lacustrine or riverine systems characterized by cool temperatures, shallow-to-moderate depths, extensive littoral areas, moderate turbidities, extensive areas of clean rocky substrate, and mesotrophic conditions (Kitchell et al., 1977; Leach et al., 1977). Likewise, walleye survival, growth, and standing crop are related to the abundance and availability of the small forage fishes walleye utilize as food (Forney, 1974; Swanson and Smith, 1976; Monrot et al., 1977).

¹² Littoral area: the shallow interface between the land and open water of a lake or reservoir. The aquatic vegetation that grows in this zone generally contributes significantly to the productivity and metabolism of the entire lake ecosystem.

¹³ Macrophytes: larger aquatic plants and clumps of filamentous algae that are visible to the naked eye.

Poor spawning habitat for the walleye may be a contributing factor in the apparent failure of walleye stocking. Preferred spawning habitats are shallow shoreline areas, shoals, riffles, and dam faces with rocky substrate and good water circulation from wave action or currents (Johnson, 1961; Colby et al., 1979). Smallmouth and largemouth bass were present and appear to be in good condition based on the size range present. Panfish such as bluegill and black crappie were abundant and well established.

The last survey performed on the Oconto Falls reservoir was conducted in the spring and fall of 1989 by Wisconsin DNR. This fyke net survey¹⁴ concluded that the northern pike growth was faster than average, and the mortality rate for ages 3 to 9, based on catch curves, was 61 percent (Wisconsin DNR, 1990). The high mortality rate was attributed to high harvest or poor spawning success in the older year class. The smallmouth bass population was in good shape, with better than average growth rates. Bluegills, pumpkinseed, black crappies, and rock bass were collected in good numbers, with rock bass, other sunfish, and various species of bullhead showing healthy populations.

Wisconsin DNR has stated that the state threatened greater redhorse (*Moxostoma erythrurum*) and lake sturgeon (*Acipenser fulvescens*; Federal Category 2) may occur in the Oconto River watershed, but not necessarily in the project waters.

Environmental Impacts and Recommendations:

a. Run-of-River Operation

N.E.W. Hydro's Proposal. N.E.W. Hydro proposes to operate in a run-of-river mode and maintain the impoundment at an elevation of 731.1 feet NGVD \pm 0.25 foot.

City of Oconto Falls' Proposal. The City of Oconto Falls proposes to operate the facility in a run-of-river mode and maintain the impoundment at an elevation of 729.70 feet plant datum \pm 0.25 foot.

Agency Recommendations. Wisconsin DNR recommends an instantaneous run-of-river operation. For more details of Wisconsin DNR's recommendations, see the Water Resources section (section V.C.1).

Our Analysis. Run-of-river operation with minimal fluctuations to flowage tends to stabilize environmental conditions both up-stream and down-stream of the dam. Consequently, lake and riverine habitat is available daily, providing dependable living conditions for fish and aquatic life. Run-of-river mode of operation also mimics unimpounded river flow

¹⁴ Fyke net survey: A method used to sample fish in streams, sloughs, and sluggish sections of rivers using modified hoop nets.

under natural conditions, the conditions to which fish and other aquatic life have adapted.

We considered the habitat needs for all life stages of fish in the impoundment and down-stream of the project and the effects of the run-of-river operation and operating limits proposed by the applicants.

Impoundment fluctuations of ± 0.25 foot would not adversely affect spawning fish in the project impoundment. Nesting species such as largemouth bass and other species of the sunfish family that construct nests in shallow waters could be susceptible to spawning failure if water levels fluctuate by a large amount during the spawning season. Because of our recommended limit on water level fluctuations, the proposed operation would not have an impact on spawning fish.

Juvenile fish of many species present in the reservoir use vegetated areas as nursery refuge from large predatory species. Fluctuations of the impoundment during the vegetative growth season could restrict growth of shallow water vegetation. Fluctuations could also drive small fish from vegetated shallows into open water where they could be susceptible to predation. Limiting fluctuations to ± 0.25 foot, as proposed, would prevent these potential impacts. We recommend that the licensee operate the Oconto Falls Project in a run-of-river mode, as detailed in the Water Resources section.

The Commission requires written notification for any modification of project operation including emergency and planned impoundment draw-downs. We recommend that a copy of the written notification also be provided to the agencies at the time that it is filed with the Commission. Timing, duration, and rate of draw-downs can affect aquatic and upland resources significantly. Proper planning with the resource agencies would prevent or minimize such impacts.

b. Fish Entrainment

N.E.W. Hydro's Proposal. N.E.W. Hydro, in their January 22, 1996, response to agency comments state that they believe that the fishery in the Oconto Falls reservoir is good, healthy, and well balanced. They also state that any loss of fish due to the operation of the project is not biologically significant. N.E.W. Hydro further defined their position in a paper entitled "Position of N.E.W. Hydro, Inc. on the Fish Entrainment and Mortality Issue". N.E.W. Hydro opposes the agencies' recommended fish entrainment plan because of the lack of evidence of adverse impacts to the fishery and high cost of studies, equipment, and cost of construction in developing fish protection measures at this project.

City of Oconto Falls' Proposal. The City of Oconto Falls agreed to develop a "Fish Protection Plan" as requested by

Wisconsin DNR's letter dated July 29, 1993, to FERC. The City developed such a plan as Appendix 4 of its application. The City, however, objects to Wisconsin DNR's request for fish restitution payments. The City objects because of the implied liability of the City to provide compensation for impacts which Wisconsin DNR could not, at the time, quantify.

Agency Recommendations. During the initial consultation process, FWS indicated concern over entrainment and mortality to fish passing through the project turbines. The FWS attached a study plan guide for assessing "Fish Entrainment/ Turbine Mortality." In its comments on the City's application, FWS did not recommend any fish entrainment or turbine mortality actions under Section 10(j). The FWS did not comment on N.E.W. Hydro's application.

Wisconsin DNR recommends that as an alternative to fish entrainment and turbine mortality studies, the licensee should develop a fish protection plan. The plan would be a two-phase approach. The first phase of Wisconsin DNR's recommended plan would entail the completion of a review of alternative fish protection designs, hydraulic modeling of alternatives, and the preparation of a report of results for review by the agencies. Phase 2 of the plan would consist of a detailed plan of acceptable alternatives, construction of a prototype device at the project, conducting effectiveness studies, preparation of a report of studies and recommended plan of action, and conducting a workshop with the agencies to consider alternatives and develop an action plan.

In addition to the plan, Wisconsin DNR recommends that the licensee pay annually for the period of the license the state restitution value for residual losses at this project in 1995 dollars adjusted by the Consumer Price Index (CPI). Wisconsin DNR defines residual losses as the loss of fish resulting from turbine mortality after the installation of an acceptable fish protection device. Wisconsin DNR recommends that fish restitution payments be adjusted for the effectiveness of the protection device.

Our Analysis. We considered the potential for fish entrainment based on reservoir fish species composition and the physical features of the project.

The project impoundment and up-stream aquatic habitats are suitable for supporting fish species such as smallmouth bass, walleye, and northern pike. These species may move down-stream seasonally to seek alternative feeding or overwintering habitat. These fish may be susceptible to entrainment in the turbines at this project. Other young-of-the-year (YOY) species and sunfishes also may relocate down-stream.

Entrainment data, mostly from upper Midwest locations similar to the Oconto Falls Project, are included in the Electric

Power Research Institute (EPRI) *Fish Entrainment and Turbine Mortality Review and Guidelines* (1992). The report concludes that species such as rock bass, smallmouth bass, bluegills, and perch often dominate the entrained samples (especially in Michigan and Wisconsin) and commonly in the spring and summer seasons of the year. EPRI also concluded that over 90 percent of the fish captured in some studies were less than 4 inches (100 mm). Results developed on the Wisconsin River (Weyerhaeuser et al., 1993) compared quite well with those presented by EPRI. Furthermore, based on these investigations a mortality rate of approximately 6 percent of the entrained fish is likely.

Wisconsin Electric commissioned a fish protection and passage assessment study before deciding not to pursue relicensing. The study (Stone & Webster, 1989) reviewed the physical characteristics of the project in relation to the fish community composition in the vicinity of the project. This report assessed down-stream protection alternatives, and provided cost estimates for two selected alternatives.

Physical characteristics of the project are important in considering potential entrainment of fish through the project turbines. The existing project has trashracks with clear bar spacing of 1-5/8 inches and approach velocities of <1.0 to 1.9 feet per second (Stone and Webster, 1989). The existing trashrack is generally protective of most of the important gamefish exceeding the minimum legal size restriction for the angler cruel. YOY game species and sunfishes would appear to be the most susceptible to entrainment mortality.

The population impact of potential turbine mortality to susceptible portions of the fishery in this reservoir is minor when considering the following factors:

- Only part of the fish population is subjected to the risk of turbine-induced mortality. The majority of fish subjected to the risk of turbine-induced mortality are likely to consist of small, young-of-year fish of a variety of species of fish, based on trends in entrainment size and species composition observed during field studies at many other similar projects in the region. Adults are generally less susceptible to entrainment because of their larger size and stronger swimming capabilities.
- Because of the small proportion of shoreline aquatic habitat near the powerhouse relative to the entire reservoir, it is likely that only a small proportion of the resident fish community is subject to the risk of entrainment. Adult and catchable-size gamefish are generally much less susceptible to turbine entrainment because of stronger swimming capabilities and physical exclusion by the trashracks (smallmouth and largemouth

bass greater than 10 inches, and northern pike exceeding 17 inches).

- Most of the fish leaving the reservoir may be "excess" fish from a habitat standpoint; i.e., as the rearing capacity of the up-stream habitat becomes filled, the excess fish disperse downstream. High entrainment rates may be indicative of a healthy up-stream fish population, which by definition would have surplus reproductive capacity.
- The incremental effect of turbine-induced mortality must be viewed in perspective with the high natural mortality that also occurs. For example, average first-summer mortality rates were 98 percent for walleye and 94 percent for smallmouth bass (two prime gamefish in Wisconsin), based on a literature review performed by Harza (1994). Total natural mortality to adulthood probably exceeds 99 percent for most species in the river. Thus it would take at least 100 YOY fish to be equivalent to 1 adult fish in this example. This adult equivalency concept is especially important if one's measure of impact significance is the loss of recreational value of the fish.
- The effect of losing some young fish from a population to turbine mortality is probably offset by increased survival of the remaining fish. This principle, known as compensatory mortality, is based on the fact that when the density of the fish population is reduced, the competition for population limiting resources, such as food or space, is also reduced, thereby leading to higher survival rates of the remaining fish. It is the reality of this process upon which management of commercial and recreational fisheries is based (Ricker, 1975). The importance of understanding this concept of compensation in assessing the effect of entrainment mortality on young fish at power plants is discussed at length by McFadden (1977). Recognizing that this mortality compensation is operative in the Oconto River clearly supports the conclusion that the effect on the fish population as a whole is much less than that on only the young fish. In fact, for a healthy fishery with ample reproductive capacity, such as the Oconto River, it is likely that mortality compensation would be nearly complete, thus leading to a negligible, if any, loss of older fish.

In addition to the conclusions presented above, it is also pertinent in the determination of significance to note that fish killed by the turbines are not lost from the ecosystem. Most will be readily consumed in the tailwater below the dam by predatory fish, such as walleye, bass, and northern pike. Others

may be consumed by otters, birds, crayfish, and other terrestrial or aquatic organisms.

Therefore, based on the specific data on numbers, species, and size ranges of fish that exist in the project impoundment, entrainment and turbine mortality is likely to be low. The current fish population within the impoundment has sufficient recruitment to offset such losses.

Regarding Wisconsin DNR's recommendation for Phase I fish protection technology studies, we conclude that those analyses have already been conducted for the Oconto Falls Project. The down-stream protection alternatives assessment conducted by Stone & Webster (1989) considered six designs: strobe lights, mercury lamps, fixed screens, barrier net, bar rack barrier, and angled fixed screens. Two designs, barrier net and bar rack barrier, were selected as the most feasible for this site. Implementing these schemes would cost \$540,000 and \$1,660,000 in 1989 dollars (\$670,000 and \$2,060,000 in 1996 dollars), respectively. Estimated annual operating and maintenance costs of the barrier net would be approximately \$40,000 in 1989 dollars (\$48,500 in 1996 dollars).

The installation of fish protection and down-stream passage systems involves a variety of biological, engineering, and operational considerations. The device must be able to withstand river conditions (e.g., current velocities, pressure differentials, debris loading) and effectively protect the target fish against turbine entrainment. Target fish at the Oconto Falls project would be mostly small, YOY fish because the larger fish are mostly excluded by the existing trashracks.

To adequately protect small fish, a barrier net or bar rack barrier device would need to consist of a fine mesh opening of about 1/2 inch. While this would prevent the passage of all but the smallest individuals of most fish species, a number of physical factors would limit the effectiveness of these devices. Barrier nets would be prone to debris loading during high-flow periods and autumn leaf-fall. Net deployment would be precluded in winter by ice formation. The bar rack barrier could be kept in place in winter but would have some spacing between bars. Therefore, it would not exclude most of the smaller fish that are likely to be entrained at this project.

We conclude that entrainment and turbine mortality would not have a significant impact on Oconto River fishery resources. Therefore, the cost of conducting turbine entrainment studies or of constructing and maintaining fish protection devices over the length of the license is unwarranted.

The Wisconsin DNR recommends that the licensee compensate the state for residual losses from fish entrainment mortality for the duration of the license based on state-dictated restitution values with all such funds being earmarked for use on the Oconto

River system in the vicinity of the project. Given the lack of evidence for significant adverse impacts of entrainment and turbine-induced mortality to the fisheries resources of the Oconto River, annual restitution payments to the state for the value of lost fishery resources are unwarranted for this project.

The draft EA recommended that the licensee fund and implement a fisheries resource enhancement plan, with the annual funding level based on the replacement cost for fish lost to turbine entrainment and mortality. However, upon reconsideration, we now conclude that compensatory mitigation is not justified. As discussed above, impacts from entrainment are expected to be minimal. Furthermore, our recommended enhancements, which include run-of-river operation, draw-down planning, and water quality monitoring, would adequately protect and enhance fishery resources.

c. Fish Passage

N.E.W. Hydro's Proposal. N.E.W. Hydro does not propose to install any fish passage device at this project. According to *Stone & Webster's Conceptual Design Study of Fish Protection and Passage Alternatives, Oconto Falls Hydroelectric Project* (November 1989), "[i]t is not apparent at this time that there is a need to provide upstream passage facilities at the Oconto Falls project."

City of Oconto Falls' Proposal. The City, if granted the license, and upon request by the Wisconsin DNR and approval by the Commission, would complete an upstream passage plan. The plan would be developed with the assistance of a consultant experienced in the design of fish passage services and in consultation with the Wisconsin DNR.

Agency Recommendations. Interior in its letter dated December 5, 1995, states that current upstream and downstream passage of fish at the Oconto Falls Hydro Project is not a fishery management objective for the Oconto River. But Interior requests reservation of its authority to prescribe fishways pursuant to Section 18 of the FPA.

Wisconsin DNR does not request that fish passage be provided at this time. Wisconsin DNR requests that the Commission include a license article requiring installation of fish passage facilities at the dam to restore fish runs in the Oconto River when deemed appropriate by the resource agencies. Wisconsin DNR cites potential migrations of smallmouth bass, walleye, lake sturgeon, channel catfish, brown trout, and yellow perch as justification for installation of a fish passage device.

Our Analysis. We considered management plans and existing fisheries in the Oconto River in our analysis. A Fisheries Management Plan for the Lower Oconto River was developed by the Wisconsin DNR (Undated). The boundaries of the Lower Oconto

River are from the mouth of the river upstream to the Stiles Project (FERC No. 1981). The objectives of this management plan were to maintain the steelhead fishery, maintain the naturally reproducing smallmouth bass population, and continue to develop a naturally reproducing walleye population. The plan does not call for, or include, fish passage as a management objective for the Lower Oconto River.

The need for fish passage may be justified based on migratory habitats of some species in the current fishery of the Lower Oconto River. However, there are currently two more dams between the Oconto Falls Project and the confluence of the river with Green Bay on Lake Michigan. The steelhead migration from Lake Michigan up the Oconto River drainage is not well documented. Likewise, literature describing the migratory habits of walleye, perch, and smallmouth bass does not show that migration is a life history requirement (Becker, 1983). If suitable up-stream and down-stream walleye passage is available, fish would have a greater choice of spawning habitats. Populations and abundance, however, would not necessarily be enhanced.

From our analysis of the fisheries resources in the project vicinity, there is no need for fish passage now or in the immediate future. Although fish immediately down-stream of the project may migrate to the project tailrace, down-stream habitat and water quality is similar to up-stream habitat, and there are no fish population benefits associated with installation of fish passage facilities.

Interior has requested reserved authority to prescribe fishway construction under Section 18 of the FPA. We recommend that Interior have reserved authority to prescribe fish passage at a later date. We recommend that the Wisconsin DNR rely on the standard reopener article for requesting future fish passage facilities.

d. Management of Large Woody Debris

N.E.W. Hydro's Proposal. In its response to agency comments, N.E.W. Hydro concurred with Wisconsin DNR's request that large woody debris be sluiced downstream through the project. They cautioned that size of the debris should be limited to what can be safely passed without threatening the project's operation.

City of Oconto Falls' Proposal. The City did not respond to this issue.

Agency Recommendations. Wisconsin DNR recommends that the licensee sluice downstream all large woody debris through the project to provide cover and substrate for fish and other aquatic organisms. Wisconsin DNR feels that dams act as barriers to downstream movement of large woody vegetation and dam owners

often remove and destroy this material. Therefore, to help mitigate for this habitat loss and provide habitat enhancement, the licensee should sluice large woody debris downstream.

Our Analysis. We considered the feasibility of passing large, woody debris downstream and whether this would create habitat between this project and the downstream Scott Paper project (FERC No. 2689). We also considered potential safety issues to downstream operations from large, woody debris.

Woody debris would collect in natural snags down-stream, and could provide low velocity areas for juvenile fish or suitable cover and habitat for adult fish. However, the distance between the tailrace area of this project and the dam down-stream is approximately 1,800 feet. The river is channelized providing little in the way of natural snags to catch the sluiced material. In addition, the reservoir of the down-stream project backs up to the Oconto Falls dam providing plenty of low velocity areas for juvenile fish. The project down-stream is not required to sluice woody material down-stream. Therefore, additional large woody debris would be prevented from moving past the next dam.

Wisconsin DNR in their Lower Oconto Falls Fisheries Management Plan suggests that proper placement of trees installed in large trout streams requires the butt ends to be cabled to a stump or other solid fixture above the high water mark so as not to catch debris. They also state that trees or logs should trail down-stream nearly parallel to the flow to prevent debris accumulation and damming so as not to interfere with navigation.

We do not recommend that the deliberate passing of woody debris down-stream be required. Such material, while providing potential habitat enhancement in many instances, would probably not become lodged down-stream of this project because of the channelized nature of the river. Any additional debris load in the down-stream section between the Oconto Falls dam and the Scott Paper dam could pose both a navigational and safety hazard.

e. Reopener Article

Agency Recommendations. Wisconsin DNR recommends a license article to provide for resolution of fish and wildlife resource problems that cannot be identified at this time. Wisconsin DNR requests that this article authorize the Commission to order the licensee to construct, operate and maintain such reasonable facilities as may be ordered by the Commission or requested by Interior or Wisconsin DNR for unexpected fish and wildlife resource issues.

Our Analysis. We agree that in the life of the license for this project, unforeseen events may dictate a need for changes in equipment or operation of the project to prevent major impacts on fish and wildlife resources in the project area. The Commission has required use of a standard fisheries and wildlife reopener

license article in other projects within Wisconsin for this same issue. That license reopener can be used to require changes to projects upon Commission motion or as recommended by Interior or the Wisconsin DNR after notice and opportunity for hearing. Either of these entities may petition the Commission at any time during the license term for relief if it determines that additional environmental protection measures are necessary for the project. We recommend the use of the standard fish and wildlife license reopener article in the Commission's Form L-9 for the Oconto Falls Project.

Cumulative Environmental Impacts: Fishery resources may be cumulatively affected by multiple hydropower developments as a consequence of entrainment mortality and injury. Our analysis concludes that entrainment and turbine mortality would not have a significant impact on Oconto River fishery resources.

Unavoidable Adverse Impacts: None.

3. Vegetation Resources

Affected Environment: The vegetation in the northern part of Oconto County is mainly northern mesic forest, which is characteristic of northern Wisconsin. Oconto County is located at the transition between the northern forests and the agricultural areas characteristic of southern Wisconsin. Much of central and southern Oconto County is agricultural, although forested areas are present.

The most extensive forest types in Oconto County are aspen, paper birch, and hard maple-yellow birch, which are characteristic of the northern part of the county. The elm-ash-soft maple forest type is the most common in the southern half of the county, where the project is located.

Vegetation in the vicinity of the project is a mixture of upland and lowland areas, along with agriculture and urban lands. Forested upland dominates the shoreline of the Oconto Falls flowage to 2.5 miles up-stream of the dam. These forested areas consist mainly of maple and basswood, with areas of oak, pine, and aspen. The upper reaches of the project area are dominated by wetland forest, characterized by northern cedar, red maple, elm and ash. These tree types are also found in the low-lying area located immediately upstream from the dam along the south shore of the flowage.

About 400¹⁵ acres of wetlands are located within the project boundary, including an 18.9 acre wet woodland located near the west dam abutment. The wetlands are made up of 16 types of

¹⁵ The estimated number of acres of wetlands varies between applications: the City estimated 342.6 acres while N.E.W. Hydro estimated 488.5 acres.

vegetation. The wetlands are mainly forested with both deciduous (needle-leaved and broad-leaved) and evergreen (needle-leaved) trees. Trees include tamarack, red maple, and white cedar. Scrub/shrub wetlands are also present, but to a lesser extent. Vegetation in these areas are characterized by broad-leaved deciduous shrubs such as alder and willow. Emergent/wet meadow wetland vegetation is also found in the project area. These areas are characterized by herbaceous plants which stand above the surface of the water and include cattails, sedges, arrowhead, and bulrush. Aquatic plants identified on the impoundment are listed in the applications.

Threatened and Endangered Species

Wisconsin DNR and Interior have concluded that no threatened or endangered plant species were identified as being found in the project area.

Environmental Impacts and Recommendations:

Purple Loosestrife and Eurasian Milfoil

Agency Recommendations. Wisconsin DNR recommends that the licensee fund and implement, in consultation with the agencies, a program to control the spread of purple loosestrife and Eurasian milfoil when deemed appropriate by the agencies. The agencies will provide technical assistance to the licensee on control measures. Wisconsin DNR acknowledged that measures to control these species are limited, but ongoing research efforts may develop control measures in the future.

Our Analysis. Purple loosestrife is a highly aggressive European plant that invades marshes and lake shores, replacing native wetland plants. It can form dense, impenetrable stands that are unsuitable as cover, food, or nesting sites for many wetland animals including ducks, geese, bitterns, muskrats, frogs, toads, and turtles.

Purple loosestrife thrives on disturbed, moist soils. Water level fluctuations may enhance its spread. Once purple loosestrife becomes established in an aquatic system, seeds are easily spread by water and animals. The plant is also able to resprout from roots and broken stems that fall to the ground or into the water. Eradicating an established stand of purple loosestrife is difficult because each plant produces many seeds.

There is no commonly accepted method for eradicating purple loosestrife. For small stands, pulling the plant out by the roots or using an herbicide are possible eradication methods.

Eurasian milfoil is an aquatic plant accidentally introduced to North America from Europe. In nutrient-rich lakes it can form thick underwater stands of tangled stems and vast mats of vegetation at the water's surface. In shallow areas the plant

can interfere with water recreation such as boating, fishing, and swimming. The plant's floating canopy can also crowd out native aquatic plants.

N.E.W. Hydro provided information in their application on the aquatic vegetation in the impoundment. The aquatic plant surveys identified no purple loosestrife or Eurasian milfoil in the vicinity of the project. This does not mean, however, that purple loosestrife or Eurasian milfoil will not appear at a future time.

Early detection is necessary in order to control purple loosestrife and Eurasian milfoil and thus protect wetland vegetation and associated wildlife. Therefore, we recommend the licensee, in consultation with FWS and Wisconsin DNR, develop a monitoring plan, to be submitted to the Commission for approval, and upon approval, be implemented. The plan would include but not be limited to: (a) a description of the monitoring methods; (b) a monitoring schedule; and (c) a schedule for providing the monitoring results to the agencies. Furthermore, if at any time the agencies deem it necessary to control or eliminate (i.e., either plant becomes established in the flowage) purple loosestrife or Eurasian milfoil, and there is a biologically safe method of removal available; the licensee should cooperate with the FWS and Wisconsin DNR to control or eliminate either plant.

Cumulative Environmental Impacts: None.

Unavoidable Adverse Impacts: None.

4. Wildlife Resources

Affected Environment: The diversity of vegetation types and open water in the area surrounding the project provide habitat for a variety of resident and migratory species. Mammals observed include white-tailed deer, muskrat, beaver, eastern gray squirrel, woodchuck, and mink. A variety of bird species are found in the area, including red-winged blackbird, song sparrow, American robin, mallard, blue-winged teal, hooded merganser, and wood duck. Snapping turtle, painted turtle, American toad, and leopard frog are among the reptiles and amphibians observed in the project area. Listings of wildlife resources in the project area are included in the applications.

Threatened and Endangered Species

According to the Wisconsin DNR and FWS, no threatened or endangered animal species are known to inhabit the project area. The Karner blue butterfly (*Lycaeides melissa samuelis*), a federal and state listed endangered species, occurs in Oconto County. However, FWS records indicate that this species does not occur in the vicinity of the project.

N.E.W. Hydro and the City state that bald eagles (*Haliaeetus leucocephalus*) and ospreys (*Pandion haliaetus*), both classified as threatened species by the state, with the bald eagle also listed as federally threatened, have been observed foraging along the Oconto River and within the project area, although no nests are known to occur on or in the vicinity of project lands. Bald eagles could winter in the open (ice-free) areas up-stream and down-stream of the dam.

N.E.W. Hydro and the City also state that the red-shouldered hawk (*Buteo lineatus*) and wood turtle (*Clemmys insculpta*) are listed as state threatened species known to occur in Oconto County, although neither has been sighted in the project area. Red-shouldered hawks are known to nest in northern Oconto County. Wood turtles have been observed in central Oconto County.

According to the applicants, other listed species that may occur in the project area include the loggerhead shrike (*Lanius ludovicianus*), a state endangered and federal Category 2 species, and Blanding's turtle (*Emydoidea blanding*), a state-threatened species.

Environmental Impacts and Recommendations:

Threatened and Endangered Species

N.E.W. Hydro's Proposal. N.E.W. Hydro proposes to follow state and federal resource agency guidelines pertaining to the protection of threatened and endangered species. N.E.W. Hydro also proposes to work with resource agencies to enhance the protection of these species whenever these species are observed on or adjacent to the project area.

City of Oconto Falls' Proposal. The City, in response to recommendations made by the Wisconsin DNR, proposes to prepare a draw-down plan that addresses wildlife and endangered species. The City also proposes to limit impoundment draw-downs to the month of September. The draw-down plan would be used as needed for project maintenance and inspection or fisheries and wildlife management.

Agency Recommendations. The FWS states that the Karner blue butterfly, a federally listed endangered species, and the bald eagle, a federally listed threatened species, occur in Oconto County. The FWS indicate that the Karner blue butterfly does not occur in the vicinity of the project. Their records also indicate that although the bald eagle nests and forages in the county, it does not currently nest in the vicinity of the project. Therefore, FWS concludes that neither species would be affected by the continued operation of the project. This precludes the need for further action on this project as required by the Endangered species Act of 1973, as amended.

Wisconsin DNR recommends that the licensee coordinate with the Wisconsin DNR on all emergency and planned maintenance draw-downs to minimize or avoid adverse impacts to aquatic and wildlife resources and their habitats.

Our Analysis. Of the threatened and endangered species that may occur in the project area, the Blanding's turtle could be affected by project operations. Blanding's turtle is a semiaquatic species that forages both on land and in shallow water, preferring open grassy marshes, mesic prairies, backwater sloughs, shallow slow-moving rivers, and shallow lakes. It is rarely found in fast-moving rivers or northern bogs (Vogt, 1981).

Blanding's turtles start to hibernate in late September, usually underwater in shallow wetlands. They can hibernate in water up to about three feet deep. The turtles emerge from hibernation in early April (Casper, 1996, and Hay, 1996). They usually remain in shallow water or forage in wet areas next to water. Females begin nesting in June and hatchlings emerge in September (Vogt, 1981).

Reservoir draw-downs could affect turtles during hibernation as a result of freezing from the lack of insulating water, or freezing from ice forming directly on top of the turtle. Draw-downs could also result in desiccation of aquatic vegetation which is habitat for the Blanding's turtle.

Draw-downs could occur in an emergency situation or as part of a scheduled safety or maintenance activity. Draw-down plans are required by the Commission prior to scheduled draw-downs. We recommend that the licensee develop a plan addressing wildlife and endangered species concerns for any draw-downs needed for maintenance, inspection, or fisheries and wildlife management. We also recommend that the licensee contact the agencies prior to planned draw-downs to obtain their recommendations on minimizing impacts to Blanding's turtles and other wildlife. We conclude that with the protection measures we are recommending, that project operations have no effect on threatened and endangered species.

Cumulative Environmental Impacts: None.

Unavoidable Adverse Impacts: None.

5. Cultural Resources

Affected Environment: The general Oconto Falls area, with relatively flat lands located on a reach of river marked by 25-foot-high falls, was attractive for prehistoric and historic occupation. Native American camps (presumably historic Menominee) were located in Oconto Falls before the first European settlers came to the area (FERC, 1994). The first European settler was Jesuit Priest Father Claude Allouez, who established a mission along the Oconto River in 1669.

The timber industry replaced fur trading as the primary occupation during the 1800s. The first sawmill dam was constructed on the Oconto River at Oconto Falls in 1857. The first dam at the project site was constructed in 1902.

There is one possible prehistoric site located along the northern shoreline of the project reservoir. However, during the course of a 1989 shoreline survey, staff of the Great Lakes Archaeological Research Center found no evidence of this site.

Environmental Impacts and Recommendations:

Our Analysis. The City proposes to coordinate with the Wisconsin SHPO to protect any historical sites. N.E.W. Hydro and the agencies provided no recommendation. Continued project operation and maintenance would have no effect on any known properties of historic significance. However, unknown future activities could adversely affect previously undiscovered sites.

Therefore, we recommend that the licensee implement the applicable provisions of the "Programmatic Agreement among the Federal Energy Regulatory Commission, the Advisory Council on Historic Preservation, 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 issued for the continued operation of existing hydroelectric projects in the State of Wisconsin and adjacent portions of the State of Michigan." The programmatic agreement covers post-licensing procedures, compliance monitoring, reports, and public involvement. There would be no adverse effects to cultural resources, if the programmatic agreement is implemented.

Cumulative Environmental Impacts: None.

Unavoidable Adverse Impacts: None.

6. Recreation and Other Land and Water Uses

Affected Environment: Oconto County offers a variety of recreational activities. The northwestern part of the county is within the Nicolet National Forest, offering many recreational opportunities to the public. County-wide camping, sport-fishing, snowmobiling, and golf are some of the more popular activities. There are 433 private camp sites, 352 public camp sites, and 380 seasonal mobile home or trailer sites in the county. Most are located in the northwestern part of the county. The Holtwood Park campground in the City of Oconto is the closest to the project. Water-based recreation is a major industry in the county. Boating and fishing opportunities are available on 305 lakes totaling over 11,455 acres. There are over 250 miles of snowmobile trails maintained by local snowmobile clubs. Seven golf courses are scattered throughout the county (Oconto County Outdoor Recreation Plan, 1988).

Within the City of Oconto Falls there are two parks that offer swimming and picnicking; two established boat launches on the reservoir, an athletic field with softball diamonds and tennis courts, a privately owned golf course, and a stocked pond offering fishing to children under the age of 12 (Oconto County Outdoor Recreation Plan, 1988).

The reservoir has multiple opportunities for the recreationist. Summertime activities include fishing, swimming, and boating. Slow-no-wake rules are enforced between the hours of 7:00 p.m. and 10:00 a.m. In the winter, the reservoir is used for ice fishing and snowmobiling. There are two drag racing events for trucks and snowmobiles held on the reservoir every winter. According to the applicants, these events alone attract over 7,000 people. Ice rinks are created for hockey and figure skating.

Reservoir. There are three city parks located on the reservoir. The city-owned East Side park is approximately one quarter of a mile up-stream from the dam on the reservoir's left bank (facing down-stream). Facilities include: (1) a boat launch; (2) a swimming beach with lifeguard towers; (3) picnic tables and grills; (4) playground equipment; (5) a limited mobility fishing pier; (6) a bath house and picnic shelter; (7) a paved walkway along the lakeshore; and 8) a paved parking lot with spaces allocated for the handicapped. In the winter, portable toilets are installed to accommodate the ice fishermen.

The City operates a park and boat landing at the east end of the dam near Maple and Market Streets. Facilities at this park include: (1) a boat launch; (2) a canoe portage; (3) a barrier-free dock; (4) picnic tables and grills; and (5) parking for about five cars. There is a user fee charged by the City for boat launching at this facility. The daily fee is \$3.00 or the annual fee is \$15.00.

There is a primitive boat landing on the northeast side of the reservoir across from West Side park. The landing is unimproved, unmarked, and used mostly by locals.

The City also operates the West Side park, located on project lands on the right bank of the reservoir. Recreational facilities include: (1) parking for about 80 cars, including parking for the handicapped; (2) a boat landing and dock; (3) an open shelter; (4) picnic tables and grills; (5) a playground; (6) a well water pump; (7) a swimming beach with lifeguard towers; and 8) pit toilets designed for the disabled. Boat launching fees are the same as the East Side park.

There is a 120-acre public hunting area on the northwest end of the reservoir.

Dam and tailrace. The Scott Paper dam is located about 1,800 feet down-stream of the Oconto Falls dam. As a condition

of the recent Scott Paper license, Scott Paper will install a map at the East Side boat landing indicating that the portage circumvents both dams. Scott Paper will construct a pathway between the take-out and put-in points with accommodations for the disabled. Additional agreements are to: (1) provide escort services between the two dams; (2) install a canoe put-in and boat ramp that can be used by the disabled; and (3) construct a parking lot at the canoe put-in point with accommodations for the disabled.

The Central Avenue bridge between the Oconto Falls dam and the Scott Paper hydroelectric dam is closed to vehicular traffic. The Central Avenue bridge is barrier-free and is used for fishing. The bridge has nearby parking available for the disabled.

Access is allowed to the project embankments and tailrace areas for fishing.

Environmental Impacts and Recommendations:

N.E.W. Hydro's Proposal. N.E.W. Hydro does not propose any specific new recreational facilities on the project. They propose to coordinate operations with local government, citizens, and private organizations to accommodate future outdoor recreation demands to the extent they do not conflict with other uses. N.E.W. Hydro agrees to construct and maintain any required recreation facilities.

City of Oconto Fall's Proposal. The City proposes to construct a 25-site campground with future expansion to 50 sites at the West Side park. Components of the campground would include: (1) a one-way access road; (2) 25 camp sites with tent pad, picnic table, grill, firepit; (3) pullouts that would accommodate a 65-foot-long vehicle; and (4) a restroom facility. The design would be done in consultation with the Wisconsin DNR and the FWS. The City also accepts the responsibility for the maintenance of all recreational facilities on the project and would cooperate with the planning and operation of the Scott Paper Company's canoe portage plan.

Agency Recommendations. In comments on the City's application Wisconsin DNR recommends that the licensee coordinate the planning and design of recreation facilities with the agency.

Our Analysis. Access for the disabled to the reservoir is available with barrier-free facilities at the East Side and West Side beaches. Additional facilities are located at the Central Avenue bridge and are required in the Scott Paper license order.

The county-wide outdoor recreation plan states that camping opportunities in the county are abundant, and there is no need to expand existing facilities. The county-wide recreation plan does

identify a need for the development of portages and canoe campsites to promote the use of water resources in the county.

There is no evidence to indicate that a campground on the Oconto Falls reservoir is needed to enhance water-based recreation at the project. Water-based recreation at the Oconto Falls Project consists primarily of fishing. While there is an established fishery in the project reservoir, the fishery is typical of other impoundments in northern Wisconsin. There is no outstanding quality to the reservoir to attract non-local boaters that would require camping opportunities. The county-wide recreation plan did identify a need for canoeing campsites, but it did not specify any locations. A canoe portage is provided around the project dam and the downstream Scott Paper dam to enhance canoe access to the Oconto River. However, there is no evidence that a canoeing campground at the Oconto Falls Project would further enhance canoeing on the Oconto River.

The closest campground to the project, the Holtwood Park campground, is generally full on most summer weekends which may indicate a need for another campground. A direct comparison, however, between the demand for camping at the Holtwood Park campground in the City of Oconto and a campground on the Oconto Falls reservoir cannot be made because of the different opportunities offered by the two sites. The Holtwood Park campground is located on the Oconto River less than 5 miles from the mouth of the river at Green Bay. Boat ramps in the City of Oconto and on Green Bay offer access to Green Bay that would not be available at the Oconto Falls Project. In addition, the Holtwood Park campground is located just off of a major state highway (Hwy 41) that provides easy access to the area. Therefore, although there is an established demand for camping in the City of Oconto, there is no evidence that there would be an equal demand in the City of Oconto Falls.

At this time we are not recommending that the licensee be required to establish a campground at the Oconto Falls Project, because there is no evidence that a campground is needed to enhance recreation at the project. Conditions may change in the future, however, so we are recommending that the licensee review the adequacy of recreational facilities at the Oconto Falls Project on a regular basis.

As part of the relicensing process for the Scott Paper dam (FERC No. 2689), Scott Paper will provide a portage shuttle between the up-stream take-out at the Oconto Falls dam and the down-stream put-in at the Scott Paper Company dam. Scott Paper will provide information signs, a telephone line to the Scott Paper office, and a shuttle service between the two projects. We recommend that the licensee cooperate with Scott Paper's canoe portage operation. We further recommend that the licensee remove the canoe portage sign at the Oconto Falls project tailrace.

We recognize the importance of continuous and coordinated planning for the long-term management and enjoyment of the Oconto Falls reservoir. We recommend that the licensee estimate recreation use levels for all project facilities and meet with the appropriate entities to discuss any proposed actions to adequately maintain or enhance recreational use in conjunction with the Commission's Form 80 report. The FWS, Wisconsin DNR, Oconto County staff, and local government and recreation interest groups should be consulted in the process. We recommend that the licensee develop an initial recreation plan to be submitted within 1 year of license issuance and then revised and any changes refiled with the Commission in conjunction with the Form 80 report. We further recommend that the licensee install additional signs directing users to the West Side park.

Finally, we recommend that the licensee provide open access to all project lands for the purpose of recreation activities.

Cumulative Environmental Impacts: The cumulative impacts on recreation from hydroelectric project operations are diverse. Reservoirs and dams along a river provide for lake fishing opportunities and support a variety of panfish (e.g., bluegills, pumpkinseed, black crappies, and rock bass) that would not be available on a free-flowing river. Boaters may also navigate more easily on the reservoirs than in a free-flowing river. Hydropower licensees provide opportunities for public access throughout the river basin that might otherwise be less available. Therefore, hydroelectric projects provide cumulative benefits to recreation in a river basin.

The principal adverse impacts of hydropower on recreation originate from the loss of a free-flowing river. For example, hydropower projects affect canoeists adversely because the dams reduce flow velocity and result in a series of portages. The dams may also adversely affect passive recreationists by altering the aesthetics of a free-flowing river.

We are recommending that the licensee cooperate with the canoe portage operation required by the Scott Paper license. For these reasons, we conclude that there are no adverse cumulative effects to recreation on the Oconto River.

Unavoidable Adverse Impacts: None.

7. Socioeconomic Resources

Affected Environment: Oconto County experienced a 4.4 percent increase in population from 1980 to 1990, growing from 28,947 to 30,226 residents. Over the same period, Wisconsin's population grew at four percent. The County's growth trend has increased in the 1990s. In 1996, the population of Oconto County was estimated at 31,992, an increase of 5.8 percent from the 1990 U.S. Census. From 1990 to 1995, the State's population grew by 4.7 percent. The City of Oconto Falls had a

1990 population of 2,584, approximately 9 percent of the County's population.

Of the County's 14,482-person labor force in November 1996, 4.4 percent were unemployed. Although almost two-thirds higher than the State's unemployment rate of 2.7 percent, the County's rate was below the national average of 5.3 percent. The County's employment situation has, however, improved significantly since 1990 when the unemployment rate was 7.9 percent and even since January 1996 when the unemployment rate was 7.7 percent.

Thirty-one percent of employed workers in Oconto County are involved with manufacturing. Services (25 percent) and retail trade (15 percent) account for the next largest industries in the County. The City is more dependent on the service industry than the County, with 35 percent of those employed working in that industry. The manufacturing (27 percent) and retail trade (17 percent) sectors employ the next largest percentages of workers. The following firms in the City of Oconto Falls have greater than 100 employees: Phillips Getschow Company (mechanical contracting and fabrication), Cera-Mite Corp. (ceramic capacitors), and Universal Converters (diapers)¹⁶.

Environmental Impacts and Recommendations:

Socioeconomic impacts associated with continued operation of the project are expected to be minimal under either applicant's proposal. The City's proposal includes the construction of a 25-site campground with future expansion to 50 sites at the West Side Park. We consider it unlikely that significantly more people would choose to visit or relocate in the immediate area as a result of this construction or other improvements to recreational facilities or access in the project area. The primary beneficiaries of any increased economic activity would likely be visitor-oriented businesses such as existing restaurants, resorts, motels, specialty stores, and campgrounds.

The local economy is in better condition now than recently (unemployment is down considerably), but appears to be subject to fluctuations in the unemployment rate. Since roughly one-third of the residents of the County and the City rely on the manufacturing sector for employment, competitively-priced electricity is important to the local economy's overall health. The project would supply 28 percent of the City's current demand for electricity. By selling directly to the City's utility customers and eliminating the "middleman" markup (that is, the profits that N.E.W. Hydro would earn selling electricity to Wisconsin Electric and that Wisconsin Electric would earn selling electricity to the City's utility) on the electricity from the

¹⁶ Information provided by Oconto County Economic Development Corporation.

project, the City may have a slight advantage in providing cost-effective electricity to the electric customers. This assumes that all other costs, such as operations and maintenance, would be the same for either applicant.

The City of Oconto Falls' municipal utility pays an *ad valorem* tax, a tax on the value of property, directly to the City based on the value of its plant in service. The estimated *ad valorem* tax for the Oconto Falls Project is \$19,800.¹⁷ Either applicant would be required to pay this tax unless granted an exemption.

The City of Oconto Falls would benefit financially from any *ad valorem* taxes that would be paid by the project's future owner. We note, however, that rate-payers would bear the burden of this additional cost to operations (the Wisconsin Department of Revenue exempted Wisconsin Electric, the current licensee, from paying local *ad valorem* taxes on the project), diminishing the City's advantage in providing electricity to its customers at competitive rates. This advantage would be further diminished if the City were to build its proposed campground, as discussed previously.

The City and the community both would benefit financially under the City's operation from the cessation of lease payments currently made to Wisconsin Electric for the West Side Park and Dam Boat Landing recreational areas. If N.E.W. Hydro receives the license, the City would still need to lease the park lands. While any new lease terms that would arise from granting N.E.W. Hydro the license cannot be known, we do not expect that the terms would significantly affect the finances of the City.

Under the proposals developed by N.E.W. Hydro and the City of Oconto Falls and the changes we have recommended here, no additional employees would be required at the project facilities. Only the City's proposal involves construction of new facilities (a campground) within the project boundary. Such construction would provide a minor, short-term benefit, in terms of a few additional jobs. This construction, however, is not included in staff's recommended enhancement measures. Project operations as proposed by the applicants or as recommended here would not lead to significant rate changes. We conclude that the applicants' proposals and the recommended changes we have presented would have no significant impact on local population, employment, income or housing in the community.

¹⁷ The estimated tax was calculated by multiplying Wisconsin Electric's estimated purchase price of \$717,500 by the City's mill rate of \$0.027649238.

Cumulative Environmental Impacts: None.

Unavoidable Adverse Impacts: None.

VI. DEVELOPMENTAL ANALYSIS

In this section, we analyze the projects' use of the Oconto River's water resources to generate hydropower (developmental resources) by estimating the economic benefits of the proposed projects. We also address the economic effects of various measures considered in the EA for the protection or enhancement of environmental resources (nondevelopmental resources).

We base our independent economic studies on current electric power conditions. We do not consider future inflation or escalation of prices.¹⁸

In evaluating competing applications, we determine whether one applicant proposes a development which better utilizes the resource without considering tax advantages or other subsidies. For this reason our analyses are designed to ignore the effects of financing and taxing advantages which one applicant may have. For example, a municipality may be able to finance the project less expensively than a private company through municipal tax exempt bonds. Although this advantage does exist, it results from a subsidy to the City by the federal government in the form of lower interest rates. Consequently, there is no advantage from the federal government's perspective or to society in general. Therefore, we analyzed all alternatives, except the no action alternative, using the same discount rate (10 percent), financing period (30 years) and tax structure as though both applicants were private companies.

¹⁸ See Mead Corporation, Publishing Paper Division, 72 FERC ¶ 61,027 (July 13, 1995).

We based our economic analysis on the data shown in table 2.

Table 2. Staff's assumptions for economic analyses of the Oconto Falls Project (Source: staff).

Assumption	Value (1996 dollars)	Source
Historic Operation and Maintenance (O&M) costs	\$187,100	N.E.W. Hydro
Purchase cost	\$717,500	Wisconsin Electric
Avoided energy cost	\$28.27/mWh	N.E.W. Hydro
Discount rate	10.0%	Commission staff
Analysis period	30 years	Commission staff

A. N.E.W. Hydro's Proposed Project

N.E.W. Hydro plans to acquire the project from Wisconsin Electric. The terms of the acquisition are contingent upon whether the Commission grants N.E.W. Hydro the license to operate the project. For the purpose of our economic analysis, we assumed that N.E.W. Hydro would purchase the plant for the amount of \$717,500 (letter from Rita L. Hayen, Project Manager of Hydro Licensing, Wisconsin Electric Power Company, Milwaukee, Wisconsin, November 21, 1996). N.E.W. Hydro proposes to automate the project controls at an estimated cost of \$290,000 (1996 dollars). In addition to automatic controls, additional upgrades are required at a cost of \$97,000. N.E.W. Hydro estimates that its annual operation and maintenance (O&M) costs would be \$67,000 (1996 dollars), after plant automation. N.E.W. Hydro estimates that an additional \$37,000 per year would be needed for equipment repair and replacement. N.E.W. Hydro also estimates a 10 percent increase in annual generation because of plant automation.

The project as proposed by N.E.W. Hydro includes the costs shown in table 3. Net annual benefits under N.E.W. Hydro's proposal would decrease to -\$23,000 or about -2.8 mills/kWh.

Table 3. Summary of costs of N.E.W. Hydro's proposed project (Source: staff).

Proposed Project Component	Capital Cost (1996 \$)	Annualized Cost (1996 \$)
Purchase Price	\$717,500	\$ 76,100
Automatic Controls and Upgrades	\$387,000	\$ 41,000
O&M Costs		\$104,000
Licensing Costs	\$142,000	\$ 15,100

B. City of Oconto Falls' Proposed Project

The City also plans to acquire the project from Wisconsin Electric. The terms of the acquisition are contingent upon whether the Commission grants the City the license to operate the project. For the purpose of our economic analysis, we assumed that the City would purchase the plant for the amount of \$717,500 (letter from Rita L. Hayen, Project Manager of Hydro Licensing, Wisconsin Electric Power Company, Milwaukee, Wisconsin, November 21, 1996). The City proposes to automate the project controls and provide additional upgrades at an estimated cost of \$387,000. The City estimates that its annual O&M costs would be \$79,000 after plant automation. In addition, the City estimates that \$37,000 per year would be needed for equipment repair and replacement. The City estimates a 10 percent increase in annual generation because of plant automation.

The project as proposed by the City includes the costs shown in table 4. Net annual benefits under the City's proposal would decrease to -\$39,100 or about -4.7 mills/kWh.

Table 4. Summary of costs of the City of Oconto Falls' proposed project (Source: staff).

Proposed Project Component	Capital Cost (1996 \$)	Annualized Cost (1996 \$)
Purchase Price	\$717,500	\$ 76,100
Automatic Controls	\$387,000	\$ 41,000
O&M Costs	---	\$116,000
Licensing Costs	\$150,000	\$ 15,900
Campground	\$ 50,000	\$ 10,300 ^a

^aIncludes \$5,000 annual O&M cost.

C. Staff's Recommended Alternative¹⁹

In this section, we present the additional costs and current net annual benefits of the staff's recommended alternative, which consists of the applicants' proposed projects with staff modifications. Table 5 presents the summary of these costs.

Table 5. Summary of costs of the Staff's recommended enhancement measures (Source: staff).

Proposed Project Component	Capital Cost (1996 \$)	Annual O&M Cost (1996 \$)	Total Annualized Cost (1996 \$)
Compliance Monitoring ²⁰	\$2,000	\$500	\$700
Water quality monitoring	\$8,300	\$2,000	\$2,900
Recreation plan ²¹	\$5,000	\$2,000	\$2,500
Survey project benchmarks	\$500	-	\$50
Install directional signs to the West Side park	\$1,000	\$500	\$600

The current net annual benefits for staff's alternative combined with N.E.W. Hydro's proposed operation would be about -\$27,600 or about -3.4 mills/kWh. The current net annual benefits for staff's alternative combined with the City's proposed operation would be about -\$36,200 or about -4.4 mills/kWh.

We discuss staff's recommended alternative further in Section VII—Comprehensive Development and Recommended Alternative.

D. No-Action Alternative

Under the no-action alternative, the project would continue to operate under the current mode of operation, and no new environmental protection or enhancement measures would be implemented. The no-action alternative is evaluated in this EA to represent the base case, or historical operation. Under the no-action alternative, costs associated with continued operation and maintenance would continue to be incurred, and the net benefits would remain essentially unchanged.

¹⁹This alternative reflects the staff's final proposed alternative after reviewing 10(j) recommendations as discussed in Section VIII.

²⁰Includes staff gage and compliance report; cost of automatic sensor is already included as part of applicants' upgrades.

²¹This measure to be implemented within 1 year of licensing and updated in conjunction with the Form 80 report.

We calculated the cost of the no-action alternative and used it as a basis for comparing the costs of the other alternatives. We estimate a net annual benefit of the project under historical operation of \$45,000 or 6.0 mills/kWh.

E. Economic Comparison of Alternatives

Table 6 presents a summary of the net annual benefits for each alternative. Under N.E.W. Hydro's and the City's proposals, we assumed there would be no dependable capacity available because of the narrow operating band proposed for reservoir fluctuations. Under the no-action alternative, we used a dependable capacity of 600 kW which is what Wisconsin Electric currently realizes. The result of our assumption of no dependable capacity for the applicants is that the net annual cost of alternative power is lower under the proposed actions compared to no action.

Under the Commission's current cost approach to evaluating the economics of a project, a proposed project is economically beneficial so long as its projected cost is less than the current cost of alternative energy. To determine whether the project as proposed is economically beneficial, we compared the cost of energy from the proposed project to the alternative source, purchase from Wisconsin Electric.

Our evaluation of the economics of the project as proposed by the applicants and with staff's additional enhancement measures shows that the project will produce power at a cost that is more than currently available alternative power. As we explained in Mead, supra, there are many factors that affect the projected economics of a proposed project, and a change in any one of those factors could increase or decrease the project's economic benefits. Either of the applicants may be able, for example, to (1) obtain financing at a lower rate than the 10 percent rate we assumed in our studies, (2) experience higher or lower capital and annual expenses, or (3) sell the project power for more than the value we projected in our studies, due to changing fuel market conditions.

Table 6. Comparison of economic analyses for Oconto Falls Project alternatives (Source: staff).

	N.E.W. Hydro's Propose d Project	N.E.W. Hydro's Proposed Project with Additional Staff- recommended Measures	City of Oconto Falls' Propose d Project	City of Oconto Falls' Proposed Project with Additional Staff- recommended Measures	No-action Alternativ e
Installed capacity (kW)	1,320	1,320	1,320	1,320	1,320
Dependable capacity (kW)	0	0	0	0	600
Annual generation (MWh)	8.245	8.245	8.245	8.245	7.495
Annual cost of alternative power					
(thousand \$)	233	233	233	233	277
(mills/kWh)	28.27	28.27	28.27	28.27	37.00
Annual project cost ^a					
(thousand \$)	256	261	272	269	232
(mills/kWh)	31.0	31.6	33.0	32.7	31.0
Net annual benefits					
(thousand \$)	-23	-28	-39	-36	45
(mills/kWh)	-2.8	-3.4	-4.7	-4.4	6.0

^aAnnual project costs include indirect costs of financing, taxes, and insurance.

The economic characteristic of the project is, moreover, only one of the many public interest factors we consider in determining whether or not, and under what conditions, to issue a license. We conclude that it is in the public interest to license the project. It is the eventual licensee's decision whether to accept the license and operate the Oconto Falls Project.

F. Pollution Abatement

The Oconto Falls Project annually generates about 7.495 GWh of electricity on average. This amount of hydropower generation, when contrasted with the generation of an equal amount of energy by fossil-fueled facilities, avoids the unnecessary emission of a moderate quantity of atmospheric pollutants. Assuming that the 7.495 GWh of hydropower generation would be replaced by an equal amount of coal-fired generation, generating electric power equivalent to that produced by the Oconto Falls Project would require combustion of about 3,000 tons of pulverized bituminous coal annually.

Without pollution control and assuming the sulfur content of the coal to be about 1.0 percent, the following approximate quantities of atmospheric pollutants would be produced annually:

Oxides of sulfur	61 tons
Oxides of nitrogen	28 tons
Carbon monoxide	1.4 ton
Carbon dioxide	7,234 tons

Removing the oxides of sulfur and nitrogen from the flue gas produced by the combustion of fossil fuels increases the cost of generating electricity. State-of-the-art pollution technology is capable of removing about 95 percent of the oxides of sulfur and 60 percent of the oxides of nitrogen from the uncontrolled flue gases. Estimates of these control costs are about \$500 per ton for oxides of sulfur and \$385 per ton for oxides of nitrogen removed. The annual cost of removing 95 percent of the 61 tons of oxides of sulfur would be about \$30,000. The annual cost of removing 60 percent of the 28 tons of oxides of nitrogen would be about \$11,000.

VII. COMPREHENSIVE DEVELOPMENT AND RECOMMENDED ALTERNATIVE

Sections 4(e) and 10(a)(1) of the FPA require the Commission to give equal consideration to all uses of the waterway on which a project is located. When the Commission reviews a hydropower project, the recreation, fish and wildlife, and other nondevelopmental values of the waterway are considered equally with its electric energy and other developmental values. In deciding whether or not and under what conditions to issue a hydropower license, the Commission must weigh various economic and environmental tradeoffs.

Based on our independent review and evaluation of the Oconto Falls Project, agency recommendations, and the no-action alternative as documented in this EA, we have selected issuing a license to either one of the applicants for the Oconto Falls Project, with additional staff-recommended enhancement measures, as the preferred option. We recommend this option because (1) the environmental effects of licensing the project according to either one of the applicants' proposals would be relatively minor and (2) the proposed enhancement measures would benefit environmental resources; and (3) the electricity that would be

generated by either one of the applicants' projects would be beneficial because it would reduce the use of fossil-fueled, steam-electric generating plants, thereby, conserving nonrenewable energy resources and reducing atmospheric pollution.

In our independent analysis, we conclude that the proposals of each of the applicants do not result in significant differences in the project-related impacts between the two applications. There were only two areas where the applicants differed in their proposals: (1) the City proposed to develop a fish protection plan; and (2) the City proposed to develop a public campground at the existing West Side park. The proposed fish protection plan would include evaluation of alternative fish protection devices and installation of a prototype device at the project. Installation of a fish protection device at the Oconto Falls Project would have no significant beneficial impact on fishery resources because, as staff concluded in section V.C.2, entrainment and turbine mortality do not currently have a significant adverse impact on fish populations in the Oconto River. Developing a campground at the West Side park would increase camping opportunities in the southern part of the county. However, there is no evidence that a campground would enhance project-related recreation.

Staff recommends that the following enhancement measures be included in any license for the Oconto Falls Project:

- Operate in a run-of-river mode with a normal pool elevation of 731.3 feet NGVD \pm 0.25 foot.
- Monitor compliance that includes automatic headwater sensor, reservoir staff gage, daily record of operation, and compliance report.
- Consult with the agencies on emergency and planned draw-downs.
- Monitor water quality including state water quality standards in the license.
- Develop a purple loosestrife and Eurasian milfoil control plan.
- Implement a programmatic agreement for cultural resources.
- Develop a recreation plan and install directional signs.
- Cooperate with Scott Paper in their development of a canoe portage.

Implementation of these measures would enhance water quality, fishery resources, wildlife resources, and recreation.

The costs of some of these measures would reduce economic benefits of the project. The project would generate power at a cost more than alternative energy sources.

Specifically, three of the recommended measures would reduce economic benefits of the project. These include: (1) operational compliance monitoring including benchmark surveys; (2) water quality monitoring; and (3) development of a recreation plan and installation of directional signs. In section VI we analyzed the costs of each measure. In this section, we weigh those costs against the anticipated benefits and summarize our rationale for making various recommendations.

For operational compliance and monitoring, we recommend that the licensee install and maintain an automatic level sensor and staff gage in the headwater of the project; maintain a daily record of operation; and submit a compliance report to the Commission and agencies. Both applicants propose to automate the project, which would include installation of the automatic level sensor in the headwater. The cost of the remaining compliance and monitoring recommendations is approximately \$800 annually, however, these items are needed to ensure compliance with our recommended run-of-river operation.

Our recommended water quality monitoring plan includes DO, temperature, and pH monitoring every 5 years. The cost of the monitoring plan is approximately \$2,900 annually. Although project waters currently meet state water quality standards, historical data show that this was not always the case. If state standards were to be violated, the fish and aquatic life in the project waters could be affected.

We recommend development of a recreation plan including installation of directional signs and cooperation with Scott Paper on the operation of the canoe portage. The cost of these measures is approximately \$3,100 annually. We recommend the recreation plan because we recognize the importance of continuous and coordinated planning for the long-term management and enjoyment of the Oconto Falls reservoir.

The net annual benefit for our recommended alternative would be -\$27,600 or -3.4 mills/kWh if N.E.W Hydro is the licensee or -\$36,200 or about -4.4 mills/kWh if the City is the licensee. We recommend this option because the measures would protect or enhance environmental resources in the Oconto River sub basin.

VIII. RECOMMENDATIONS OF FISH AND WILDLIFE AGENCIES

Under the provisions of the FPA, each hydroelectric license issued by the Commission must include conditions based on recommendations provided by federal and state fish and wildlife agencies for the protection and enhancement of fish and wildlife resources affected by the project.

Section 10(j) of the FPA states that whenever the Commission finds that any fish and wildlife agency recommendation is inconsistent with the purposes and the requirements of the FPA, or other applicable law, the Commission and the agency shall attempt to resolve any such inconsistency, giving due weight to the recommendations, expertise, and statutory responsibilities of each agency.

In the draft EA, issued October 4, 1996, we preliminarily determined that 7 of the 14 recommendations made by Wisconsin DNR were within the scope of Section 10(j) of the FPA. Of the 7 recommendations within the scope of Section 10(j), we recommended fully adopting 4 of them. We determined that the remaining 3 recommendations within the scope of Section 10(j) may be inconsistent with the FPA. On January 7, 1997, we held a teleconference with representatives from Wisconsin DNR to discuss its recommendations that we did not recommend adopting in the draft EA. We discussed recommendations considered within Section 10(j) as well as those outside Section 10(j). At the Section 10(j) meeting we reached resolution on the issue of a tailwater level sensor. The agency recommendations for passing woody debris and developing a fish protection plan remain inconsistent.

We evaluated and discussed all agency recommendations in the environmental resource section (section V) of this EA. Our conclusions concerning the merits of these recommendations are also presented there. Table 7 summarizes the agency recommendations for the Oconto Falls Project, indicates if the recommendation is considered to be within the scope of Section 10(j), and lists the annual cost of each recommendation. Recommendations in table 7 apply to both projects (Nos. 2523 and 11496) unless otherwise indicated.

Table 7. Summary of fish and wildlife agency recommendations (Source: staff).

Agency	Recommendation	Within Scope of 10(j)	Annual Cost of Environmental Measures ^a	Recommend Adoption?
Wisconsin DNR	Operate in a run-of-river mode	Yes	\$0	Yes
Wisconsin DNR	Develop and implement a gaging and compliance plan for run-of-river	Yes	\$7,500	Partially adopted--do not recommend tailwater sensor; Wisconsin DNR agreed with this approach at the Section 10(j) meeting

Table 7. Summary of fish and wildlife agency recommendations (Source: staff).

Agency	Recommendation	Within Scope of 10(j)	Annual Cost of Environmental Measures ^a	Recommend Adoption?
Wisconsin DNR	Coordinate with agencies on all draw-downs	Yes	Low	Yes
Wisconsin DNR	Sluice down-stream all large woody debris	Yes	Low	No--could pose navigation and safety hazard
Wisconsin DNR	Pass river inflow continuously in case of plant blackout	Yes	Low	Yes
Wisconsin DNR	Develop a fish protection plan including alternative evaluation and construction of prototype fish protection facility	Yes	High (\$120,000 for barrier net only-not including plan and studies)	No--costs far exceed potential benefits; entrainment impacts not significant
Wisconsin DNR	Provide annual compensation to Wisconsin DNR for residual fish losses at the project	No, not specific measure to protect fish and wildlife	Medium (DNR provided no estimate)	No--entrainment impacts not significant
Wisconsin DNR	Reopener article to require up-stream fish passage plan	No, not specific measure to protect fish and wildlife	\$0 (for article only; not including potential plan)	Yes
Wisconsin DNR	Fund and implement a program to control purple loosestrife and eurasian milfoil	Yes	Low (for monitoring; unknown for control)	Yes
Wisconsin DNR	Include state water quality standards and implement water quality monitoring program	Yes	\$3,000 (for monitoring)	Yes

Table 7. Summary of fish and wildlife agency recommendations (Source: staff).

Agency	Recommendation	Within Scope of 10(j)	Annual Cost of Environmental Measures ^a	Recommend Adoption?
Wisconsin DNR	Establish a project retirement fund	No, not specific measure to protect fish and wildlife	High (actual cost depends on cost of project retirement)	No--project is physically sound and applicants should be able to meet any future decommissioning requirements; however, we recommend that the licensee be required to serve a copy of any transfer application on the agencies
Wisconsin DNR	Include fish and wildlife reopener article	No, not specific measure to protect fish and wildlife	\$0 (for article only)	Yes
Wisconsin DNR	Include article requiring compliance with Chapter 30 and 31, Wisconsin Statutes	No, not specific measure to protect fish and wildlife	\$0 (for article only)	No--Commission regulations provide for project safety
Wisconsin DNR	Coordinate planning and design of recreation facilities with Wisconsin DNR (Project No. 11496 only)	No, not specific measure to protect fish and wildlife	Low	Yes

^aLow < \$5,000; medium > \$5,000 and < \$20,000; high > \$20,000

As noted previously, conditions based on fish and wildlife recommendations submitted pursuant to Section 10(j) must be included in the license unless the Commission determines that the recommendations are inconsistent with the purposes and requirements of the FPA or another applicable law. If the Commission does not adopt a recommendation submitted pursuant to Section 10(j), it must explain, pursuant to Section 10(j)(2), how

the recommendation is inconsistent with applicable law and how the conditions selected by the Commission adequately and equitably protect, mitigate damages to, and enhance fish and wildlife. In doing so, we first determine whether there is substantial evidence in the record to support a recommendation. If not, the recommendation is potentially inconsistent with the requirement of Section 313(b) of the FPA that Commission orders be supported by substantial evidence.²² Next, we determine whether a substantiated recommendation is inconsistent with the FPA or other applicable determinations under the equal consideration/comprehensive development standards of FPA Sections 4(e) and 10(a)(1), in that the recommendation conflicts unduly with another project purpose or value (including the project's economic benefits).²³ In short, we determine whether the recommendation would have a significant, negative impact on a valuable project purpose or beneficial use.

Because implementing all the agency recommendations taken together would have substantial adverse effects on project purposes, including economics as shown in table 7, we looked at each individual recommendation to determine whether benefits to the environment would be worth the cost of implementing the measure. For the reasons discussed in the following paragraphs, we determined the following recommendations to be potentially inconsistent with Sections 313(b), 4(e), or 10(a) of the FPA and either partially adopted or did not adopt them.

Wisconsin DNR recommended that the licensee install a tailwater level sensor to monitor compliance with run-of-river operation. In the draft EA, we did not recommend the installation of an automatic sensor in the tailwater. There would be no additional benefit provided by a tailwater sensor, because the influence of the downstream reservoir on tailwater elevations distorts tailwater gaging as a measure of run-of-river operation. The license for Project No. 2689 requires the licensee to provide reservoir elevation information to the agencies; therefore, the agencies would still be able to monitor tailwater level at the Oconto Falls Project. We estimated that the annual cost of a tailwater level sensor would be approximately \$2,100. In comments on the draft EA, Wisconsin DNR agreed with our position as stated in the draft EA. At the Section 10(j) meeting, Wisconsin DNR affirmed its agreement on this issue.

Wisconsin DNR recommended the passing of large woody debris through the project dam, because this debris could create fish and wildlife habitat down-stream. We do not recommend the

²² See IV FERC Statutes and Regulations, *supra*, para. 30,921 at p. 30,157.

²³ See Mead Corporation, Publishing Paper Division, 72 FERC ¶ 61,027 (July 13, 1995). We also consider whether the application should in fact be denied, on the basis that the resources the project would adversely affect are more valuable than the benefits it would confer.

deliberate passing of woody debris downstream. Such material, while providing potential habitat enhancement in many instances, would probably not take place down-stream of this project because of the channelized nature of the river. This material would likely catch on the up-stream face of the Scott Paper dam. The license for the Scott Paper dam does not require the passing of woody debris. Any additional debris load in the down-stream section before the Scott Paper dam could pose both a navigational and safety hazard.

Wisconsin DNR recommended that the licensee prepare a fish protection plan to address the issue of fish entrainment and turbine mortality at the Oconto Falls Project. We concluded that fish entrainment and turbine mortality are not significant; therefore, the benefit of a fish protection plan would be minimal. One component of Wisconsin DNR's plan was the construction of a prototype protection facility at the project. Based on costs provided in the 1989 study, we estimate that the annual cost of a barrier net facility (the least expensive of the two facilities deemed feasible) would be approximately \$120,000. This recommendation is potentially inconsistent with the comprehensive planning and public interest standards of Sections 4(e) and 10(a) of the FPA, because it would cost more to implement than the value of the potential benefit.

In light of the minimal entrainment impacts on fishery resources in the Oconto River, we conclude that compensatory mitigation, as discussed in the draft EA, is not justified. Our recommended enhancements, which include run-of-river operation, draw-down planning, and water quality monitoring, would adequately protect and enhance fishery resources.

We determined that seven of Wisconsin DNR's recommendations may be outside the scope of Section 10(j) because they are not specific measures to protect fish and wildlife. These recommendations, along with other recommendations, were considered under the public interest standards of Section 10(a) of the FPA. We determined that five of the seven agency recommendations that may be outside the scope of Section 10(j) have merit and, therefore, we recommended or partially recommended them. We determined that the following recommendations were not in the public interest:

"Establish a trust fund to cover the cost of retiring the Oconto Falls Project;" and

"Require the licensee to comply with Chapters 30 and 31 of the Wisconsin Statutes."

Wisconsin DNR recommended that if the environmental conditions required in the license make the project uneconomical, the project should be retired. At that point, a study should be done to determine if it is in the best public interest to remove the project or to operate it as a nonpower project. Wisconsin DNR also recommended that the licensee establish a trust fund to

cover the cost of retiring the Oconto Falls Project, when necessary.

Wisconsin DNR requests that the Commission include a license article requiring the licensee to establish a trust fund to cover the costs of project retirement. The agency fears that without a trust fund to cover the cost of project retirement, the licensee could transfer its license to another entity unable to bear the costs of project retirement, so that Wisconsin would have to bear these costs when the Oconto Falls Project is retired. In comments on the draft EA, Wisconsin DNR stated that if the Commission found that a retirement trust fund was not in the public interest, then Wisconsin DNR would like the license to include an article requiring the licensee to serve the agencies with a copy of any transfer application.

We do not recommend requiring the licensee to establish a project retirement trust fund. In its December 14, 1994 Policy Statement on Project Decommissioning at Relicensing,²⁴ the Commission found that project decommissioning issues should be addressed on a case-by-case basis. It found that there may be particular facts in the record in individual cases that would justify license conditions requiring the establishment of decommissioning cost trust funds in order to assure the availability of funding when decommissioning occurs. The Commission stated that it would consider, for example, whether there are factors suggesting that the life of the project may end within the license term and whether the financial viability of the licensee indicates that the licensee would be unable to meet likely levels of expenditure without some form of advance planning.

The information provided by the applicants does not reveal any reasons to question either the project's future viability and usefulness at the end of the license term, or either applicant's ability to finance decommissioning at a future time. The project is safe now and nothing in the record suggests that the project would be in any other condition at the end of the license term. Under each licensing alternative, power from the Oconto Falls Project is less expensive than power from alternative energy sources and the project remains a viable energy-producing resource. In short, the Oconto Falls Project is physically sound and has no significant adverse environmental impacts if operated consistent with the requirements of the license, and there is no evidence in the record that either applicant would need advanced financial planning to meet future decommissioning requirements.

A decommissioning fund is not necessary on the theory that the applicants might seek to transfer the project license to another entity that would be financially incapable of paying for decommissioning. In its December 14, 1994 Policy Statement on Project Decommissioning at Relicensing, the Commission addressed

²⁴ See 60 Fed. Reg. 339, 346-47 (January 4, 1995); III FERC Stats. & Regs., Regs. Preambles, ¶ 31,011 at pp. 31,233-34 (December 14, 1994).

the issue of a licensee seeking to transfer an increasingly marginal project to a new licensee that lacked the financial resources to maintain it or close it down in an appropriate manner. While the Commission found no widespread problems of this type, it stated that transfer applications would be scrutinized to foreclose this sort of situation.²⁵ The Commission would issue public notice of such a transfer request, which would give any interested person or agency the opportunity to intervene in the transfer proceeding and raise the issue of the transferee's financial fitness. In addition, we recommend that the licensee be required to serve a copy of any transfer application on Wisconsin DNR and FWS.

Wisconsin DNR also recommended that the Commission include an article in the license requiring the licensee to comply with Chapters 30 and 31 of the Wisconsin Statutes. Chapter 30 of the state statutes regulates construction (other than dam construction) within and around navigable waters. Chapter 31 of the state statutes regulates dam construction, operation, and maintenance. Wisconsin DNR requested an article requiring the project to be bound by the substantive requirements of Chapter 31, but remain free of the procedural requirements. For Chapter 30, Wisconsin DNR stated that the substantive and procedural requirements would remain with the State even with issuance of a Commission order. We do not recommend including a license article specific to Chapters 30 and 31, because Commission regulations are sufficient to ensure project safety and the FPA preempts state administration of project safety.

In addition to the agency recommendations considered under Section 10(a), we also considered the City's proposed campground. We do not recommend a campground because the estimated cost (\$10,300 annualized) is not commensurate with the need for recreation facilities at the project.

IX. 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 a waterway or waterways affected by the project. Under Section 10(a)(2), federal and state agencies filed a total of 70 qualifying comprehensive plans for Wisconsin. Of those, we determined four Wisconsin plans and four United States plans to be applicable. These plans are listed in Section XI. We found no conflicts.

X. FINDINGS OF NO SIGNIFICANT IMPACT

We conclude that none of the resources we studied (i.e., geologic resources, water resources, fishery resources, etc.)

²⁵ 60 Fed. Reg. 339, *supra*, 345-46, III FERC Stats. & Regs., Regs. Preambles, *supra*, ¶ 31,011 at pp. 31,232-33.

would experience significant adverse effects under the proposed action with our environmental recommendations.

On the basis of our independent analysis, issuing a new license for the Oconto Falls Project with staff-recommended enhancement measures would not constitute a major federal action significantly affecting the quality of the human environment.

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(APPENDIX A OMITTED IN PRINTING)

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