98 FERC ¶ 61, 143
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Pat Wood, III, Chairman;
William L. Massey, Linda Breathitt,
and Nora Mead Brownell.

Erie Boulevard Hydropower, L.P. Project Nos. 2330-007, 2330-033, 2320-012, 2084-006 and 2060-002

ORDER APPROVING SETTLEMENT OFFER AND ISSUING NEW LICENSE

(Issued February 13, 2002)

In 1991, Niagara Mohawk Power Corporation (Niagara) filed an application for a new major license pursuant to Sections 15 and 4(e) of the Federal Power Act (FPA)[1] to continue operation and maintenance of the 12-megawatt (MW) Lower Raquette River Project No. 2330. The project is located on the Raquette River in the towns of Potsdam and Norwood in St. Lawrence County, New York.

The application for Project No. 2330 is one of four applications filed by the licensee to relicense four of its projects on the Raquette River.[2] On April 22, 1998, the licensee filed a Settlement Agreement (Settlement) that addresses issues pertaining to the four projects and is signed by seventeen participants in a collaborative proceeding. In 1999, the Commission approved the transfer of the four licenses from Niagara to Erie Boulevard Hydropower, L.P. (Erie) and the substitution of Erie as the applicant in the related relicensing proceedings.[3]

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[1]16 U.S.C. §§ 808 and 797(e).

[2]In addition to the Lower Raquette River Project No. 2330, the licensee filed applications for the Middle and Upper Raquette River Project Nos. 2320 and 2084, respectively, and the Carry Falls Project No. 2060.

[3]88 FERC ¶ 62,082. Erie is a limited partnership formed for the purpose of

(continued...)

As discussed below, this order approves the Settlement and issues a new license for the Lower Raquette Project. The new license, as conditioned herein, authorizes Erie to continue to produce needed power and will not result in any major, long-term adverse environmental impacts. In addition, the new license includes numerous enhancements to aquatic and terrestrial environments and recreation. Issuance of this license will serve the public interest because it authorizes continued operation of a project that is best adapted to the comprehensive development of the Raquette River Basin for all beneficial purposes in accordance with the requirements of FPA Section 10(a)(1).[4] We are also issuing at this time orders granting new licenses for the other three projects that were part of the collaborative process.[5]

I. THE MULTI-PROJECT PROCEEDING

PROJECT DESCRIPTIONS

The four projects under discussion are located on the Raquette River [6] in New York. The Raquette River, with a drainage basin of 1,269 square miles, originates in the Adirondack Mountains, flows generally north-northwest for more than 120 miles, and empties into the St. Lawrence River near Massena, New York. Most of the basin is sparsely populated, with much of the land forested and brushland. The region's economy depends primarily on recreational tourism and timber-based industries.

The original licenses for the Lower and Middle Raquette River Projects expired on December 31, 1993. The licenses for the Carry Falls and Upper Raquette River Projects expired on January 31, 2001, and January 31, 2002, respectively. Since expiration of the licenses, the projects have been operating under annual licenses.

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[3](...continued)
purchasing and operating the hydroelectric generating plants it purchased from Niagara. The substitution of Erie as relicense applicant includes the substitution of Erie as a party to the Settlement.

[4]16 U.S.C. § 803(a)(1).

[5]See Erie Boulevard Hydropower, L.P., 98 FERC ¶¶ 61, ___; 61,___; and 61,___.

[6]The Raquette River is a navigable waterway of the United States. 8 FPC 569 (1949).

The Lower, Middle, and Upper Raquette River Projects have a combined installed capacity of 161.462 megawatts (MW), and are operated to provide peak energy and capacity to the regional grid. The projects generate annually an average of 831 gigawatt-hours (Gwh) of power. Carry Falls functions as a seasonal storage reservoir.

Farthest upstream is the Carry Falls Project No. 2060, located between river mile (RM) 68 and 75. The project includes an 826-foot-long dam that varies in height from 63 to 76 feet, and a 7-mile-long reservoir with a 3,000-acre surface area.[7] It has no generating facilities, providing instead seasonal and daily flow regulation to facilitate the peaking and load-following operation of the Upper Raquette River Project and optimize downstream power generation.

Immediately downstream, from RM 52 to 68, is the 102.389-MW Upper Raquette River Project No. 2084.[8] The project consists of five developments: Stark Falls, Blake Falls, Rainbow Falls, Five Falls, and South Colton. Each development has a dam, reservoir, and powerhouse. The project typically operates in either a peaking or load-following mode, using releases from its and the Carry Falls reservoirs.

About five miles below the Upper Raquette River Project, from RM 38 to 47, is the 47.073-MW Middle Raquette River Project No. 2320.[9] This project consists of four developments, each with a dam, reservoir, and powerhouse: Higley, Colton, Hannawa, and Sugar Island. Higley operates as a re-regulating development to provide steadier flows for the downstream hydroelectric facilities. The other three developments operate run of river with a pondage mode. Erie proposes to increase the installed capacity of the Higley development by 2.33 MW, from the existing 4.97 to 7.3 MW.

Twenty miles downstream and just above the mouth of the river, from RM 19 to 27, is the 12.0-MW Lower Raquette River Project No. 2330.[10] The project consists of four developments, each with a dam, reservoir, and powerhouse: Norwood, East Norfolk, Norfolk, and Raymondville. The project typically operates in a store-and-

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[7] 10 FPC 708 (1951).

[8] 11 FPC 774 (1952).

[9] 31 FPC 1549 (1964).

[10] 32 FPC 125 (1964).

release pulsing or peaking mode, using releases from the upstream projects. During periods of high flows, the project may operate run of river.[11]

BACKGROUND

The relicense applications for the Lower and Middle Raquette River Projects were filed on December 24, 1991. In 1992, the New York State Department of Environmental Conservation (NYSDEC) denied, without prejudice, Erie's applications for water quality certification for the two projects, pursuant to Section 401 of the Clean Water Act (CWA).[12] The licensee appealed the denials through the state's administrative hearing process. In 1995, Commission staff agreed to defer processing the two relicense applications while the licensee and various entities pursued a settlement of the issues, and to include in those settlement discussions the relicensing of the Carry Falls and Upper Raquette River Projects.[13]

These discussions culminated in a March 13, 1998 settlement agreement entitled "Settlement Offer - March 13, 1998, Raquette River Projects, FERC Project Numbers 2060, 2084, 2320, and 2330" (Settlement) that was signed by the licensee, NYSDEC, and 15 other entities: the U.S. Department of the Interior's Fish and Wildlife Service (FWS), New York State Adirondack Park Agency (Park Agency), Adirondack Mountain Club (Mountain Club), New York Rivers United (Rivers United), American Canoe Association, American Rivers, American Whitewater, National Audubon Society of New York State, the National Park Service, New York State Conservation Council, North Country Raquette River Advocates, St. Lawrence County, The Adirondack Council, The

[11]There are six other licensed or exempted hydroelectric projects on the Raquette River: Erie's Piercefield Project No. 7387 (RM 88) and Yaleville Project No. 9222 (RM 25), Potsdam Project No. 2869 (RM 35), Sissonville Project No. 9260 (RM 33), Hewittville Project No. 2498 (RM 32), and Unionville Project No. 2499 (RM 31).

[12]33 U.S.C. § 1341(a)(1). The water quality certification provisions of the CWA, and the issuance of the certifications for these projects, is discussed infra.

[13]See December 13, 1995 letter from the Director, Office of Hydropower Licensing. To allow the Upper Raquette River Project to be included in the discussions, the Commission waived its regulations so as to allow the licensee to file its notice of intent to seek a relicense earlier than the 5½ years before the expiration date of the license.

Association for the Protection of the Adirondacks, and The Jordan Club.[14] On June 11, 1998, NYSDEC issued water quality certifications for all four projects.

Erie filed its relicense applications for the Carry Falls and Upper Raquette River Projects on January 28, 1999, which reflected the provisions of the Settlement. In addition, the Settlement revised Erie's pending applications for the Middle and Lower Raquette River Projects to withdraw proposals for adding generating capacity at a number of developments and providing certain recreation facilities.[15]

Notices of each relicense application were issued, soliciting comments, protests, and motions to intervene. The U. S. Department of the Interior (Interior) and the Mountain Club filed motions to intervene in all four proceedings. The Park Agency intervened in the Middle and Upper Raquette River and Carry Falls Projects; and Rivers United intervened in the Lower, Middle, and Upper Raquette River Projects. NYSDEC intervened in the Lower and Middle Raquette River Projects, and the St. Regis Mohawk Tribe intervened in the Lower Raquette River Project.

On June 16, 2000, Commission staff issued for comment a draft Multiple Project Environmental Assessment (draft EA) that evaluated the potential environmental impacts of the continued operation of the four projects.[16] Interior, NYSDEC, the Tribe, Mountain Club, and Erie filed comments on the draft EA. On April 18, 2001, Commission staff issued a final EA (EA). The EA concludes that relicensing the four projects will not have a significant adverse impact on the quality of the human environment and recommends issuance of new licenses as proposed in the applications and the Settlement.[17]

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[14] The New York Power Authority and the New York Council of Trout Unlimited participated in the Settlement. They had no objections, but chose not to become signatories.

[15] See Settlement, Section 2.16.

[16] The EA also considered the potential environmental impact of amending the exemption held by the village of Potsdam for the Potsdam Water Power Project No. 2869.

[17] The Mountain Club, Interior, and NYSDEC filed comments in support of this recommendation.

The Commission has considered all the comments and interventions filed in these proceedings in determining whether, and under what conditions, to issue the four relicenses.

THE SETTLEMENT AGREEMENT

The Settlement sets out its purpose, background, effective date, implementation schedule, and definitions. The stated purpose of the Settlement is to provide for power generation plus the long-term protection and enhancement of the Raquette River's fish and wildlife resources that are affected by the hydropower developments of the four projects. It is also to enhance opportunities for recreational use and other river uses by providing public access to project lands and reducing the non-natural fluctuations in the projects' impoundments and in associated riverine reaches.

A. Section 1.0 Introduction

Section 1 of the Settlement gives the purpose and goals of the Settlement, identifies the four projects as the subject of the Settlement, and provides general background information relating to the projects and the Settlement process.

B. Section 2.0 General Agreements

Section 2 defines the effective date of, and other terms that are used in, the Settlement; contains an schedule for implementing the Settlement's requirements; identifies the licensee's relicensing proposals that are superceded by the Settlement; and contains general agreements relating to continued operation under the Settlement (e.g., no downstream fish passage will be required, no federal or state listed threatened or endangered species will be affected). In addition, Section 2.20 specifies those provisions of the Settlement that are not to be included in any licenses issued by the Commission. Specifically, Section 9 (Lands), except for Section 9.5, which pertains to lands outside of the projects' boundaries; and Sections 10.1 and 10.2 (Raquette River Advisory Council and Raquette River Fund, respectively) are not to be included in the licenses.

Section 2.19 of the Settlement provides that, to "facilitate future coordinated river basin review for the Raquette River Projects, the common new license expiration date for the Raquette River Projects should be set by [the Commission] as December 31, 2033."

C. Section 3.0 Instream Flows

Section 3 of the Settlement establishes minimum flow releases at ten of the projects' hydroelectric developments. Carry Falls is a storage reservoir with no bypass reach, so there are no minimum flow requirements for that project. Minimum flow requirements at many of the developments vary, depending on the time of year, with the highest flows required during walleye spawning season.[18] In addition, the Settlement provides for whitewater recreation flows at the Middle Raquette Project developments. The Settlement recognizes that actual releases may at times be slightly above or below the designated flows.[19]

D. Section 4.0 Impoundment Fluctuations

Recognizing that operation of the Carry Falls reservoir, the re-regulation of river flow, and the resulting impoundment fluctuations are critical in the overall operation of the four projects, Section 4 of the Settlement establishes limits on the developments' impoundment fluctuations. These limits reflect current operating practices at most of the developments. At the Middle Raquette's Colton development fluctuations are increased (from 0.3 to 0.4 feet), but they are decreased at the Middle Raquette's Higley development and the Lower Raquette's East Norfolk and Raymondville.

E. Section 5.0 Carry Falls Guide Curve and Raymondville Baseflow

The Upper Raquette River Hydroelectric Project is a peaking and load following project which operates using releases from the Carry Falls Reservoir. Historically, operation of the Carry Falls reservoir has been governed by a guide curve, which allows for seasonal drawdowns in spring and fall. The guide curve is a series of target elevations over the course of a given year for the storage reservoir. Under the Settlement, a new guide curve will be implemented that imposes stricter limits on the spring and fall drawdowns.

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[18]The start and end of the walleye spawning season is determined by water temperature readings taken at the Upper Raquette Project's South Colton development. Settlement, Section 3.2.1.

[19]The degree of variance that is permitted is described in Section 3.2.2 of the Settlement.

The Lower Raquette Project's Raymondville development is the furthest downstream of the four projects, some 48 miles downstream of Carry Falls.[20] Section 5 of the Settlement requires minimum flow releases at the Raymondville development. During wet and normal conditions, the baseflow will be at least 560 cfs and in dry conditions at least 290 cfs.

F. Section 6.0 Fish Passage and Protection

Section 6 of the Settlement sets forth fish passage and protection measures to facilitate downstream fish movement at all thirteen hydroelectric developments and provide for fish protection measures at twelve developments. These measures may include: (1) physical protection devices; (2) an alternative route for downstream fish movement; (3) plunge pools; and (4) modifications to intake areas. Upstream passage is not required.

Section 6.2 of the Settlement provides that Interior will reserves its authority under Section 18 of the FPA to require upstream and downstream fish passage during the term of the license.

G. Section 7.0 Recreation

The Settlement describes the projects' existing recreation facilities, which include campgrounds, boat launches, picnic facilities, and a hiking trail system, and provides that the licensee will continue to maintain these facilities. The Settlement also identifies the additional facilities to be provided under the new licenses.[21] The new facilities, which include canoe portages, trails, whitewater access, and scenic overlooks, will supplement existing facilities and fill in gaps where existing facilities do not exist.

H. Section 8.0 Whitewater Releases

The Settlement establishes whitewater releases at the Colton, Hannawa and/or Sugar Island developments of the Middle Raquette Project. Flow release schedules, access, safety, and a flow notification system are included in this section of the Settlement.

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[20]The releases from Carry Falls determine whether Raymondville will operate on the store-and-release or run-of-river mode. See Settlement, Section 5.1.

[21]See Settlement, Table 7-1, for a description of existing and proposed facilities.

I. Section 9.5 Project Lands

Section 9 of the Settlement provides for the conveyance of approximately 12,000 acres of land from the licensee to the state. These land are outside the project boundaries of the four projects, and the Settlement recognizes that these transactions are not part of the four relicensing proceedings. In contrast, Section 9.5 of the Settlement identifies those lands that are to be included within the boundaries of the licensed projects. These lands include: (1) portions of the canoe portage routes at the Upper Raquette Project's Stark Falls and South Colton developments, the Middle Raquette's Hannawa development, and the Lower Raquette's Norwood and Norfolk developments; (2) an access point to the east bank of the Middle Raquette's Colton development bypass reach; (3) any portion of the Stone Valley Trail system at the Colton development that is not within the current boundary; and (4) all lands associated with the Red Sandstone Trail system.

J. Administration

Section 10 of the Settlement sets outs various administrative actions to be performed by the licensee. Sections 10.1 and 10.2 require the licensee to establish a Raquette River Advisory Council and a River Fund, but these obligations are not to be part of any licenses issued by the Commission.[22] The section also contains general provisions regarding enforceabilty, cooperation, streamflow monitoring, dispute resolution, reopeners, and severability.

WATER QUALITY CERTIFICATION

Under Section 401(a)(1) of the CWA, the Commission may not issue a license for a hydroelectric project unless the state water quality certifying agency has issued a water quality certification for the project or has waived certification. Section 401(d) of the CWA provides that state certification shall become a condition of any federal license or permit that is issued.[23] Only a reviewing court can revise or delete these conditions.[24]

[22]Settlement, Section 2.20.

[23]33 U.S.C. 1341(d).

[24]See American Rivers v. FERC, 129 F.3d. 99 (D.C. Cir. 1997).

On June 11, 1998, following execution of the Settlement, NYSDEC issued identical water quality certifications for the four projects.[25] The certifications provide, in pertinent part:

> The Department makes this certification provided that the attached standard conditions are met, as well as the terms and conditions of the attached Settlement Agreement . . . insofar as those terms and conditions relate to all applicable effluent standards, standards of performance and other state statutes, regulations and criteria applicable to the affected waterbody as required by the State regulatory provisions implementing Section 401 of the Federal Water Pollution Control Act.

The standard conditions provide for: (1) compliance inspections; (2) cessation of flows through the turbines prior to any maintenance dredging in the intake or forebay area, testing any sediments to be removed, and prior approval of disposal locations of any contaminated sediments; (3) development of an erosion and sediment control plan prior to commencing any activities that could adversely affect water quality; (4) development of any temporary structures (cofferdams, temporary access roads, etc.) in accordance with the erosion and sediment control plan required by condition 3; (5) maintenance of flows to maintain water quality standards throughout any construction period; (6) monitoring of potential turbidity during any construction activity and mitigation of such turbidity, if appropriate; and (7) notification of NYSDEC at least two weeks prior to any work subject to conditions 2 through 6.

In addition, the certifications are subject to "the terms and conditions of the attached Settlement . . . insofar as those terms and conditions relate to all applicable effluent standards, standards of performance [etc.] . . . ." In a September 14, 1999 letter, NYSDEC states that:

> [a]ll measures included in the Settlement Offer and the Article 401 Water Quality Certificates except those that are specifically identified by the signatories as not to be included in the FERC license, should be included in their entirety without modification, as numbered license articles in any license issued by the FERC.

Thus, by dint of their inclusion in the water quality certifications, the terms and conditions of the Settlement are mandatory conditions that must be included in any

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[25]The certifications were filed by the licensee on June 22, 1998.

licenses we issue for these four projects, with the exception of those conditions specifically excluded under the Settlement (i.e., all of Section 9, except for Section 9.5, and Sections 10.1 and 10.2).

For ease of administering, and determining compliance with, the conditions of the licenses, we will include as an Appendix to each license the water quality certifications, the standard terms and conditions of the certifications, and the requirements of the Settlement that are applicable to each project. Ordering Paragraph D of each order incorporates these as conditions of each license.[26]

DISCUSSION

The Commission encourages settlement agreements that resolve licensing issues in the public interest. We commend the signatories for their extensive and ultimately successful efforts to reach consensus on so many significant aspects of operation of the Raquette River projects over the terms of any new licenses. Because the Settlement is also a condition of the water quality certifications issued for the projects, we must, giving equal consideration to developmental and environmental values, determine whether the project proposals, as conditioned by these mandatory conditions, are best adapted to a comprehensive plan for improving or developing a waterway for beneficial public purposes.

The Settlement's provisions for minimum flows, limitations on impoundment fluctuations, and fish passage and protection measures will protect and enhance the water quality and fishery resources of the Raquette River. The provisions for whitewater recreation opportunities and additional recreation facilities will enhance the recreational opportunities of the area in a manner that is consistent with the undeveloped nature of the projects' surroundings.

Because the "comprehensive development" standard of FPA Section 10(a)(1) continues to govern regulation of a project throughout the term of its license,[27] it is the Commission's responsibility to approve, through appropriate license amendments, all

[26]All conditions referenced in the licenses' ordering paragraphs are equally part of the license, whether they are explicitly set forth or incorporated by reference.

[27]See, e.g., S.D. Warren Co., 68 FERC ¶ 61,213 at p. 62,022 (1994).

material changes to the project and its maintenance and operation.[28] We read the Settlement as entirely consistent with this fundamental principle.[29] In addition, it would be an unacceptable constraint on our FPA Section 10(a)(1) responsibilities,[30] were we not to retain (as we do in these licenses) the authority to initiate, on our own or anyone else's motion, proceedings to amend the project license as we determine is required by the public interest, after public notice and opportunity for a hearing.[31]

For licensed projects, the Commission's authority extends only over the license; thus, we can enforce all license terms, of whatever origin, that deal with the licensee's construction, operation, and maintenance of the licensed project, including environmental mitigation and enhancement measures. Although there are provisions of this Settlement that impose obligations that do not come under the Commission's authority over the licenses or the licensee, or otherwise impose obligations that are beyond the Commission's jurisdiction to enforce,[32] they do not conflict with the license articles adopted for the project or interfere with the Commission's statutory authority. Therefore, we may, and in this case do, "accept" or "approve" the terms of the settlement

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[28]The Commission's regulations, as well as the terms of the license and basic due process principles, govern what types of alterations require what sorts of submittals or public notice.

[29]Section 10.6 of the Settlement provides that "[n]othing in this Settlement shall preclude FERC, any resource agency or the licensee from complying with their obligations or exercising their rights under the National Environmental Policy Act, the Clean Water Act, the Endangered Species Act, the Federal Power Act, as amended by the Electric Consumers Protection Act, the Fish and Wildlife Coordination Act, or any other applicable state or federal laws.

[30]16 U.S.C. § 803(a)(1).

[31]See, e.g., Southern California Edison Co., 77 FERC ¶ 61,313 at p. 62,428 n. 46 (1997).

[32]For example, Section 1.0 contains general information, but imposes no requirements on the licensee. Sections 10.6 through 10.14 address procedural requirements of the Settlement (enforceability, cooperation, dispute resolution, reopeners) that are binding on the parties to the Settlement. We have not included such provisions in the Appendices to these licenses.

agreement.[33] By approving the Settlement, we are not purporting to enforce such provisions: The Settlement cannot bestow on the Commission jurisdiction it does not otherwise have.

For these reasons, we conclude that the four licenses, conditioned as discussed above, will satisfy the comprehensive development/public interest standards of Sections 4(e) and 10(a)(1) of the FPA.

COASTAL ZONE MANAGEMENT ACT

Under Section 307(c)(3)(A) of the Coastal Zone Management Act (CZMA),[34] the Commission cannot issue a license for a hydropower project within or affecting a coastal zone unless the state CZMA agency concurs with the license applicant's certification of consistency with the state's federally-approved CZMA program, or unless the state waives such concurrence.

The Lower Raquette Project is located just upstream of the New-York-State-designated coastal management area. On March 24, 1993, the New York Department of State, Division of Coastal Resources and Waterfront Revitalization, issued a finding that continued operation of the Lower Raquette Project is consistent with the state's CZMA program. The other three projects are not within New York's coastal zone, so no consistency determination is required.

HISTORIC PROPERTIES

On July 19, 1996, the New York State Historic Preservation Officer (SHPO), the Advisory Council on Historic Preservation (Advisory Council) and the Commission executed a Programmatic Agreement (1996 PA) for managing historic properties that may be affected by the relicensing of 14 hydroelectric projects in New York, including the four Raquette River Projects. This served to satisfy the Commission's responsibilities under Section 106 of the National Historic Preservation Act.[35] Erie signed the Programmatic Agreement (PA) as a concurring party.

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[33] See, e.g., Pacific Gas and Electric Co., 97 FERC ¶ 61,084 at p. 61,409 (2001), and cases cited therein.

[34] 16 U.S.C. § 1456(c)(3)(A).

[35] 16 U.S.C. § 470s.

Subsequently, Interior, the Advisory Council, and the St. Regis Mohawk Tribe asked that the 1996 PA be amended to provide for the inclusion of Indian Tribes, including the St. Regis Mohawk Tribe (Tribe), in the Section 106 process for these four projects.[36] On January 23, 2002, the licensee filed, on behalf of itself, Interior, the Tribe, the Advisory Council, and the SHPO, a proposed amendment to the 1996 PA. Minor revisions, as agreed to by all the parties to this process,[37] were made to the proposal, and on February 6, 2002, an amendment to the 1996 PA was executed. It is entitled "Amendment to the 1996 Programmatic Agreement among the Federal Energy Regulatory Commission, the Advisory Council on Historic Preservation, and the New York State Historic Preservation Officer for Managing Historic Properties That May Be Affected by Licenses Issued for the Continued Operation and Management of Four Raquette River Hydroelectric Projects in Upstate New York." The licensee, Interior's Bureau of Indian Affairs, and the Tribe signed as concurring parties.

THREATENED AND ENDANGERED SPECIES

Section 7(a) of the Endangered Species Act of 1973 (ESA)[38] requires federal agencies to ensure that their actions are not likely to jeopardize the continued existence of federally-listed threatened and endangered species, or result in the destruction or adverse modification of their critical habitat. The final EA concludes,[39] with the concurrence of FWS,[40] that the continued operation of these projects, as conditioned by the Settlement, will not ensure the bald eagle is adequately protected.

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[36]See January 12, March 8, August 31, and October 2, 2001 letters from Interior; August 16 and September 10, 2001 letters from Commission staff; May 11 and August 29, 2001 letters from the Advisory Council; and March 6 and August 28, 2001 letters from the Tribe. Meetings were held (the latter two by teleconference) on July 31, 2001, and January 18 and 24, 2002.

[37]See notes of teleconference held on January 24, 2002.

[38]16 U.S.C. § 1536(a).

[39]EA at 133-34.

[40]The Settlement, Section 2.11.

As explained in the EA,[41] the threatened bald eagle is known to occur within the boundaries of the Lower and Middle Raquette Projects only as a transient species, and continued project operation will therefore not affect bald eagles. The bald eagle is known to occur in the vicinity of the Upper Raquette and Carry Falls Projects. The development and implementation of a bald eagle protection and management plan, which will include provisions for placing signage in the vicinity of canoe portages to warn users of the nearby eagle nesting sites that should be avoided, will ensure that continued operation of the projects under the Settlement provisions will not be likely to adversely affect the bald eagle.

While not a federally-listed species, the yellow lampmussel is a species of concern to FWS. Erie conducted a survey of the Middle and Lower Raquette River projects that indicated the presence of yellow lampmussel populations. The survey also indicated that there is suitable habitat for the mussel in these areas and that continued operation of the projects as provided for in the Settlement would be not likely to adversely affect the species.[42]

SECTION 18 FISHWAY PRESCRIPTIONS

Section 18 of the FPA[43] provides that the Commission shall require the construction, operation, and maintenance by a licensee of such fishways as the Secretaries of Commerce or the Interior may prescribe. Interior timely asked the Commission to reserve in the four licenses its authority to prescribe fishways,[44] which we do in Article 403 of each license.[45]

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[41]EA at 132-34.

[42]Id. at 134-35.

[43]16 U.S.C. § 811.

[44]See letter dated and filed September 9, 1999, from Interior's Office of the Secretary.

[45]See Wisconsin Public Service Corp., 62 FERC ¶ 61,095 (1993), aff"d, Wisconsin Public Corp. v. FERC, 32 F.3d 1165 (7th Cir. 1994).

RECOMMENDATIONS OF FEDERAL AND STATE FISH AND WILDLIFE AGENCIES

Section 10(j)(1) of the FPA[46] requires the Commission, when issuing a license, to include conditions based on recommendations of federal and state fish and wildlife agencies submitted pursuant to the Fish and Wildlife Coordination Act[47] to "adequately and equitably protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat)" affected by a project.

Interior submitted recommendations under FPA Section 10(j) for the four Raquette River projects on September 9, 1999. The licenses include conditions pursuant to the Settlement and the water quality certifications that are consistent with these recommendations.[48]

APPLICANT'S PLANS AND CAPABILITIES

In accordance with Sections 10(a)(2)(c)and 15(a) of the FPA,[49] we have evaluated Erie and its record as a licensee for the four projects with respect to the following: (A) conservation efforts; (B) compliance history and ability to comply with the new licenses; (C) safe management, operation, and maintenance of the projects; (D) ability to provide efficient and reliable electric service; (E) need for power; (F) transmission service; (G) cost effectiveness of plans; (H) actions affecting the public; and (I) ancillary services.

A. Conservation Efforts

Erie has twelve large-scale Demand-Side Management Programs (DSM). Erie's goal with respect to DSM is to encourage efficient use of energy resources. The energy-

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[46]16 U.S.C. § 803(j)(1).

[47]16 U.S.C. § 661 et seq.

[48]To the extent that Interior's recommendations do not ask for specific measures to protect fish and wildlife resources, we do not consider them to be within the scope of Section 10(j). However, they are already included as conditions of the licenses, so the issue of whether to adopt them under Section 10(a)(1) of the FPA is moot. See 18 C.F.R. § 4.30(b)(9)(ii).

[49]16 U.S.C. §§ 803(a)(2)(C) and 808(a).

efficiency programs are basically conservation programs and include measures ranging from water heater wraps to high efficiency lighting and equipment. Erie also has innovative rate options which include time-of-use rates, real-time pricing, and voluntary interruptible and curtailable rate programs.

Erie's conservation and load management programs show that it has made an effort to conserve electricity and reduce peak hour demands. We conclude that Erie is making a satisfactory effort to comply with Section 10(a)(2)(c) of the FPA.

B. Ability to Comply with the New License

We have reviewed the relicense applications and Erie's record of compliance with the terms and conditions of the existing licenses. We find that Erie's overall record of making timely filings and compliance with its licenses is satisfactory. Therefore, we conclude that Erie has acquired or can acquire the resources and experience necessary to comply with the terms and conditions of the licenses issued for these four projects.

C. Safe Management, Operation, and Maintenance of the Project

Erie owns and operates a series of hydroelectric developments along the Raquette River. The developments are inspected daily and serviced periodically by Erie's Operating Department. The project dams have boat barriers as part of the ongoing maintenance program. These barriers are used along with warning signs to warn recreational users of hazards. Emergency Action Plans for each project have been filed to comply with the Commission's requirements.[50] Measures taken to ensure public safety include warning signs, fencing around project facilities, and monitoring the activities of the public.

Erie has the capacity to operate the projects safely during the license term, if it operates the projects in a manner consistent with the Commission's regulations, the license conditions, and sound engineering practices.

D. Ability to Provide Efficient and Reliable Electric Service

We have reviewed Erie's plans and its ability to operate and maintain the projects in a manner most likely to provide efficient and reliable electric service. Erie has been operating the projects in an efficient manner within the constraints of the existing

[50]See 18 C.F.R. Part 12 (2001).

licenses, and we conclude that it would continue to provide efficient and reliable electric service in the future.

E. Need for Power

The four Raquette River Projects' operating and power sales history (70 years for the Lower and Middle projects ; 50 years for the Carry Fall and Upper Raquette projects), together with the projected compound annual growth rates for summer and winter season peak-hour demands, supports the applicant's short- and long-term needs for the electricity generated by the project.

F. Transmission Service

Erie proposes no new transmission facilities at the project, and the projects as proposed to be licensed would not affect the existing licensed transmission facilities.

G. Cost Effectiveness of Plans

Erie proposes environmental and recreational resource enhancements to the projects, the need for, usefulness, and economic impact of which are discussed in this order and, in the EA for the Raquette River Projects, and in the orders issuing licenses to Erie for the other three Raquette River Projects. We conclude that the projects, as proposed by the applicant and so configured and operated, would fully develop and use the economical hydroelectric potential of the sites.

H. Actions Affecting the Public

We have no reason to doubt that Erie will implement the various environmental and recreational enhancement measures proposed in the Settlement and approved in these four licenses. These measures, discussed in this order and in the EA, as well as the power to be generated by the projects, will benefit the public.

I. Ancillary Services

In analyzing public interest factors, the Commission takes into account that hydroelectric projects offer unique operational benefits to the electric utility system (ancillary benefits). These benefits include their value as almost instantaneous load-following response to dampen voltage and frequency instability on the transmission system, system-power-factor-correction through condensing operations, and a source of

power available to help in quickly putting fossil-fuel based generating stations back on line following a major utility system or regional blackout.

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

COMPREHENSIVE PLANS

Section 10(a)(2) of the FPA[51] requires the Commission to consider the extent to which a project is consistent with federal and state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by the project. Pursuant to that section, federal and state agencies filed a total of 29 plans. Of these, we identified and reviewed three federal and eight state plans relevant to the four projects, and found no conflicts.[52]

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[51]16 U.S.C. § 803(a)(2)(A).

[52](1) National Park Service. 1982. Nationwide Rivers Inventory. U.S. Department of the Interior. Washington, D.C. January 1982. 432 pp.; (2) Fish and Wildlife Service. Canadian Wildlife Service. 1986. North American Waterfowl Management Plan: A Strategy for Cooperation. U.S. Department of the Interior and Environment Canada. Washington, D.C. May 1986. 19 pp.; (3) Fish and Wildlife Service. Undated. Fisheries USA: the Recreational Fisheries Policy of the U.S. Fish and Wildlife Service. Washington, D.C. 11 pp.; (4) Adirondack Park Agency. 1985. Adirondack Park state land master plan. Ray Brook, New York. January 1985. 78 pp.; (5) Adirondack Park Agency. Undated. New York State wild, scenic, and recreational rivers system field investigation summaries. Albany, New York, 21 reports.; (6) Fish and Wildlife Service. New York State Department of Environmental Conservation. 1994. Fisheries enhancement plan for the Raquette River, New York. Department of the Interior, Amherst, New York. March 1994. 58 pp. ; (7) New York State Department of Conservation. Bureau of Fisheries. 1995. Upper Raquette River reservoirs - assessment and management of coolwater fish stocks, 1990-1994. Watertown, New York. February 1995. 69 pp.; (8) New York State Department of Environmental Conservation. 1985. New York state wild, scenic, and recreational river system act. Albany, New York. March 1985. 22 pp.; (9) New York State Department of Environmental Conservation. 1986. Regulations for administration and management of the wild, scenic, and

(continued...)

II. THE LOWER RAQUETTE RIVER PROJECT NO. 2330

BACKGROUND AND RELICENSING PROPOSAL

The Lower Raquette River Project, consisting of four developments, Norwood, East Norfolk, Norfolk, and Raymondville, was originally licensed in 1964 with a term expiring at the end of December 31, 1993.[53] Erie filed an application for new license on December 24, 1991. Notice of the application was issued on February 23, 1993.[54] Timely motions to intervene in this proceeding were filed by NYSDEC, the Mountain Club, Interior, and Rivers United, et al.[55] A motion for late intervention was filed by the St. Regis Mohawk Tribe on August 25, 1998, and granted by notice of February 18, 1999.[56]

The four developments, having a total installed generating capacity of 12 MW, are all located in an 8-mile reach of the Raquette River commencing 19 miles above its confluence with the St. Lawrence River. The developments are, from upstream to downstream:[57]

(1) the Norwood development, consisting of a 23-foot-high dam with 1-foot-high wooden flashboards, a 350-acre reservoir, a gated concrete intake structure with

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[52](...continued)
recreational rivers system in New York excepting the Adirondack Park. Albany, New York. March 26, 1989. 27 pp.; (10) New York State Executive Law. 1981. Article 27 - Adirondack Park Agency Act. Albany, New York. July 15, 1981. 65 pp.; (11) New York State Parks, Recreation, and Historic Preservation. State Comprehensive Outdoor Recreation Plan. 1994.

[53]32 FPC 125 (1964).

[54]58 FR 16184, March 25, 1993.

[55]New York Rivers United, Audubon Society, Natural Heritage Institute, Association for the Protection of the Adirondacks, Adirondack Council, American Whitewater, and American Rivers, Inc.

[56]NYSDEC, apparently not realizing that it had timely sought intervention, filed a motion for late intervention on December 18, 1995.

[57]A more detailed project description is contained in ordering paragraph B(2).

trashracks and a log chute, a powerhouse containing a 2,000-kW generating unit, and a 3-mile-long transmission line;

(2) the East Norfolk development, consisting of a dam with seven, 9-foot-high by 8-foot-wide sluice gates, a 135-acre reservoir, a concrete intake structure, a 1,408-foot-long flume, a powerhouse containing a 3,500-kW generating unit, and a 0.86-mile-long transmission line;

(3) the Norfolk development, consisting of a 20-foot-high dam with 10-inch-high flashboards, headworks gates, two 9-foot by 9-foot sluice gates, a 10-acre reservoir, a 1,275-foot-long canal, a 700-foot-long wood stave pipeline, a 103-foot-long steel penstock, and a powerhouse containing a 4,500-kW generating unit; and

(4) the Raymondville development, consisting of a 17-foot-high dam with 2-foot-high flashboards, a 50-acre reservoir, a 447-foot-long concrete flume with trashracks, an ice chute, gates, a powerhouse containing a 2,000-kW generating unit, and a 2.32-mile-long transmission line.

As currently licensed these developments typically operate in a store and release pulsing or store and release peaking mode,[58] using releases from the Carry Falls, Upper Raquette River Project, and the re-regulating Higley development of the Middle Raquette River Project. The project may operate continuously in a run-of-river mode during periods of high flows. Erie plans to continue selling the electricity generated by the project to its customers.

To protect and enhance project-related environmental resources, Erie proposes the following measures, consistent with the Settlement: (1) to facilitate movement of fish, year-round instream flows of 20, 75, 37.5, and 20 cfs, at Norwood, East Norfolk, Norfolk, and Raymondville, respectively; (2) normal reservoir fluctuations limited to no more than 0.5 foot at the Norwood, East Norfolk, and Raymondville developments and no more than 1.0 foot at Norfolk; (3) a tiered base flow below the Raymondville development; (4) measures to facilitate downstream fish movement at all developments; (5) installation of 1-inch clear spacing physical barriers at the existing trashrack structures at each development; and (6) development and implementation of a recreation plan that includes (a) canoe portage at each development (take-out only at East Norfolk

[58] Store and release pulsing operations follow an on/off cycle in response to the level of inflow and normal impoundment fluctuations, while store and release peaking operations respond to peak electric power demand, usually during weekday hours.

and put-in only at Norfolk), (b) parking at the canoe portage at the East Norfolk development, c) car-top boat launch, picnic facilities, and parking adjacent to the left abutment of the dam at the Raymondville development, and (d) modification of the project boundary to include all Erie lands occupied by these recreational facilities.

ECONOMIC BENEFITS OF PROJECT POWER

Sections 4(e) and 10(a)(1) of the FPA[59] require the Commission, in acting on license applications, to give equal consideration to the developmental and environmental uses of the waterway on which a project is located. Any license issued shall be such as in the Commission's judgment will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for all beneficial public uses. The decision to license this project, and the terms and conditions included herein, reflect such consideration.

In determining whether a proposed project will be in the public interest, the Commission considers the economic benefits of project power. As was articulated in Mead Corp.,[60] 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 the analysis is to provide general estimates of the potential power benefits and costs of a project, and reasonable alternatives to project power.

As proposed by Erie pursuant to the Settlement, staff estimates that the annual cost of the project would be about $3,936,080 (55.73 mills/kWh). The annual power benefit would be $1,930,670 (27.34 mills/kWh) for the estimated annual generation of 70.63 GWh. The resulting annual net benefit would be negative $2,005,410 (-28.39 mills/kWh).

LICENSE TERM

Section 15(e) of the FPA[61] 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,

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[59]16 U.S.C. §§ 797(e) and 803(a)(1).

[60]72 FERC ¶ 61,027 (1995).

[61]16 U.S.C. § 808(e).

new capacity, or environmental mitigative and enhancement measures; 40-year terms for projects with a moderate amount of such activities; and 50-year terms for projects with extensive measures. The Settlement establishes the common new license expiration for the Raquette River Projects as December 31, 2033. That becomes a mandatory condition of this license by dint of the Settlement's inclusion in the water quality certification for this project. Accordingly, we will issue the new license for this term.

SUMMARY OF FINDINGS

The EA includes background information, analysis of impacts, discussion of enhancement measures, and support for related license articles. The project will not result in any new major, long-term adverse environmental impacts.

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.

Based on our review of the agency and public comments, and our evaluation of the environmental and economic effects of the proposed project and its alternatives, we find that the Lower Raquette River Project No. 2330, with the conditions set forth below, will be best adapted to the comprehensive development of the Raquette River for beneficial public uses.

The Commission orders:

(A) The settlement is approved, except as otherwise noted, and this license is issued to Erie Boulevard Hydropower, L.P. (licensee) for a period of 31 years, 11 months, effective the first day of the month in which this order is issued, to operate, and maintain the Lower Raquette River Hydroelectric Project. The license is effective February 1, 2002, and will expire on December 31, 2033. This license is subject to the terms and conditions of the Federal Power Act (FPA), which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the FPA.

(B) The project consists of:

(1) All lands to the extent of the licensee's interests in those lands, enclosed by the project boundary shown by exhibit G filed December 24, 1991:

Exhibit G Drawing	FERC No. 2330-	Showing
G-1	1001	Norwood - Project Boundary and Location Map
G-2	1002	East Norfolk - Project Boundary and Location Map
G-3	1003	Norfolk - Project Boundary and Location Map
G-4	1004	Raymondville - Project Boundary and Location Map

(2) Project works consisting of four developments:

The Norwood development comprising: (a) a 188-foot-long by 23-foot-high concrete gravity dam with 1-foot-high wooden flashboards; (b) a 350-acre reservoir at normal pool elevation 327.1 feet above mean sea level (msl); (c) a concrete intake structure with steel trashracks oriented 90 degrees to the direction of flow, a skimmer section, and three motor-operated steel sliding gates; (d) two timber flood gates, one 9 feet, 9 inches wide by 12 feet high, and the other 12 feet high by 12 feet wide; (e) a concrete log chute with stoplog opening 11 feet, 2 inches wide by 4 feet, 6 inches high; (f) a concrete and brick powerhouse 59 feet, 9 inches long by 43 feet wide by 34 feet high containing a 2,000-kW generating unit; (g) a 3-mile-long, 23 kilovolt (kV) transmission line connecting the Norwood and Norfolk developments; and (h) appurtenant facilities;

The East Norfolk development comprising: (a) a concrete gravity dam with seven hand-operated sluice gates measuring 8 feet wide by 9 feet high protected by steel trashracks oriented 24 degrees to the direction of flow; (b) a 4-foot by 4-foot pond drain; (c) a 135-acre reservoir at normal pool elevation 287.9 feet msl; (d) a concrete intake structure equipped with steel trashracks oriented 90 degrees to the direction of flow, a skimmer section, and an ice chute with a steel sliding gate; (e) a 32-foot-wide by 1,408-foot-long oval steel flume; (f) a powerhouse containing a 3,500 kW generating unit; (g) a 0.86-mile-long, 23 kV transmission line connecting the East Norfolk and Norfolk developments; and (h) appurtenant facilities;

The Norfolk development comprising: (a) a 20-foot-high concrete dam with 10-inch-high flashboards, three 12-foot-wide by 10-foot-high steel headworks gates, and two 9-foot-wide by 9-foot-high sluice gates; (b) a 10-acre reservoir at normal pool elevation 254.9 feet msl; (c) a 1,275-foot-long power canal; (d) a 700-foot-long, 14-foot-diameter wood stave pipeline protected by two steel trashracks oriented 90 degrees to the

direction of flow, a skimmer section, and a 6-foot-wide by 6-foot-high ice sluice gate used for flushing ice and debris downstream; (e) a 14-foot-diameter, 103-foot-long steel penstock fitted with a motor-operated 14-foot-diameter butterfly valve; (f) a concrete and brick powerhouse measuring 52 feet, 6 inches wide by 50 feet, 7 inches long by 35 feet high containing a 4,500 kW generating unit; (g) a short 2.4 kV underground transmission line and a 2.32-mile-long, 115 kV transmission line connecting the Norfolk and Raymondville developments; and (h) appurtenant facilities; and

The Raymondville development comprising: (a) a 292-foot, 6-inch-long by 17-foot-high concrete gravity dam having two-foot-high rubber and steel flashboards; (b) two 4-foot by 4-foot pond drains; (c) a 50-acre reservoir at normal pool elevation 211.6 feet msl; (d) a 48-foot-wide by 447-foot-long concrete power flume having trashracks oriented 90 degrees to the direction of flow, an ice chute, and three steel flume intake gates, each 12 feet wide by 10 feet high; (e) a concrete, brick, and steel powerhouse measuring 59 feet, 9 inches wide by 42 feet long by 34 feet high containing a 2,000 kW generating unit; and (f) 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 Exhibit A sections, filed on December 24, 1991:

Pages A-2 to A-13, describing the existing mechanical, electrical, and transmission equipment.

Exhibit F: The following Exhibit F drawings, filed on December 24, 1991:

Exhibit F Drawing	FERC No. 2330-	Showing
F-1	1005	Norwood - Dam, Intake, and Powerhouse
F-2	1006	East Norfolk - Dam, Intake, and Powerhouse
F-3	1007	Norfolk - Dam, Intake, and Powerhouse
F-4	1008	Norfolk - Intake and Intake Gates
F-5	1009	Raymondville - Dam, Intake, and Powerhouse

(3) All of the structures, fixtures, equipment or facilities used to operate or maintain the project and located within the project boundary, all portable property that may be employed in connection with the project and located within or outside the project boundary, and all riparian or other rights that are necessary or appropriate in the operation or maintenance of the project.

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

(D) This license is subject to the water quality certification conditions submitted by the New York State Department of Environmental Conservation pursuant to Section 401(a) of the Clean Water Act, as those conditions are set forth in the Appendix to this order.

(E) This license is subject to the articles set forth in Form L-3 (October 1975), entitled "Terms and Conditions of License for Constructed Major Project Affecting Navigable Waters of the United States," and the following additional articles.

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

For the purpose of reimbursing the United States for the cost of administering Part I of the Federal Power Act, a reasonable amount as determined in accordance with the provisions of the Commissioner's regulations in effect from time to time. The authorized installed capacity for that purpose is 12,000 kW.

Article 202. Pursuant to Section 10(d) of the Federal Power Act, a specified reasonable rate of return upon the net investment in the project shall be used for determining surplus earnings of the project for the establishment and maintenance of amortization reserves. The licensee shall set aside in a project amortization reserve account at the end of each fiscal year one-half of the project surplus earnings, if any, in excess of the specified rate of return per annum on the net investment. To the extent that there is a deficiency of project earnings below the specified rate of return per annum for any fiscal year, the licensee shall deduct the amount of that deficiency from the amount of any surplus earnings subsequently accumulated, until absorbed. The licensee shall set aside one-half of the remaining surplus earnings, if any, cumulatively computed, in the project amortization reserve account. The licensee shall maintain the amounts established in the project amortization reserved account until further order of the Commission.

The specified reasonable rate of return used in computing amortization reserves shall be calculated annually based on current capital ratios developed from an average of 13 monthly balances of amounts properly included in the licensee's long-term debt and proprietary capital accounts as listed in the Commission's Uniform System of Accounts. The cost rate for such ratios shall be the weighted average cost of long-term debt and preferred stock for the year, and the cost of common equity shall be the interest rate on 10-year government bonds (reported as the Treasury Department's 10-year constant maturity series) computed on the monthly average for the year in question plus four percentage points (400 basis points).

Article 203. Within 45 days of the date of issuance of the license, the licensee shall file three original sets of the approved exhibit drawings. The drawings must be reproduced on silver or gelatin 35mm microfilm. All microfilm must be mounted on type D (3-1/4" x 7-3/8") aperture cards. The licensee shall submit one copy of Form FERC-587 with the aperture cards.

Prior to microfilming, the FERC Drawing Number (2330-1 to 2330-9) 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, G-1), Drawing Title, and date of this license must be typed on the upper left corner of each aperture card.

Two of the sets of aperture cards must be filed with the Secretary of the Commission, ATTN: OEP/DHAC. The third set of aperture cards shall be filed with the Commission's New York Regional Office.

Article 204. If the Lower Raquette River Project was directly benefitted by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement during the term of the original license (including extensions of that term by annual licenses), and if those headwater benefits were not previously assessed and reimbursed to the owner of the headwater improvement, the licensee shall reimburse the owner of the headwater improvement for those benefits, at such time as they are assessed, in the same manner as for benefits received during the term of this new license.

Article 301. Within 180 days after completion of construction of the facilities authorized by this license (e.g., recreation, fish passage, and access facilities), the licensee shall submit, for Commission approval, revised Exhibits A, F, and G, if necessary, to show those project facilities as built. The licensee shall file six copies to the Commission, one copy to the Commission's New York Regional Director, and one

copy to the Director, Division of Hydropower Administration and Compliance, Office of Energy Projects.

Article 401. The licensee shall develop an Annual Report to be filed for Commission approval on or before April 15 of each year. The report will provide a summary of the measures implemented, including any plans developed pursuant to the requirements of this license, and assess resource benefits gained in the previous calendar year. The report shall also include a summary of key actions, tasks, and measures to be undertaken in the current calendar year. In the event that there are any unresolved issues with regard to the implementation of the conditions of this license, the report will include an explanation of such issues. The Commission reserves the right to make changes to the report.

Article 402 . Within six months of the effective date of this license, the licensee shall file for Commission approval, a streamflow monitoring plan to ensure compliance with minimum flows required by Section 3.3.4, with reservoir fluctuation limitations required by Section 4.3.4, and the baseflow below Raymondville required by Section 5.3.3. The plan, at a minimum, shall include the measures developed under Section 10.5 of the Appendix.

The plan shall include documentation of consultation with the U.S. Fish and Wildlife Service (FWS) and the New York Department of Environmental Conservation (NYSDEC) and copies of any agency comments. The licensee shall allow a minimum of 30 days for NYSDEC and FWS 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 site-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. Authority is reserved by the Commission to require the licensee to construct, operate, and maintain, or to provide for the construction, operation, and maintenance of, such fishways as may be prescribed by the Secretary of the Interior under Section 18 of the Federal Power Act.

Article 404 . Within one year of license issuance, the licensee shall file for Commission approval a recreation plan. The plan, at a minimum, shall include the measures developed under Section 7.2.2 of the Appendix. In addition, the plan shall include: provisions for continued maintenance of the existing recreational facilities at

the four developments as listed in Table 7.1 of the Appendix; (2) final site plans for the new recreational facilities; (3) erosion and sediment control measures for construction activities, if appropriate; (4) locations for directional signage, determined in consultation with the New York State Department of Environmental Conservation; and (4) an implementation schedule consistent with Section 2.2.3 and Table 2-1 of the Appendix.

The licensee shall prepare the recreation plan in consultation with the Raquette River Advisory Committee (RRAC).[62] 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 RRAC, and specific descriptions of how the RRAC's comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the RRAC to comment and to make recommendations prior to filing the plan with the Commission for approval. 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 ground disturbing or land-clearing activities for new recreation facilities shall begin until the licensee is notified the plan is approved. Upon approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 405. The licensee shall implement the "Amendment to the 1996 Programmatic Agreement Among the Federal Energy Regulatory Commission, the Advisory Council on Historic Preservation, and the New York State Historic Preservation Officer for Managing Historic Properties That May Be Affected By Licenses Issued for the Continued Operation of Four Raquette River Hydroelectric Power Projects in Upstate New York" executed on February 6, 2002, including but not limited to the Historic Properties Management Plan (HPMP) for the project. In the event that the Programmatic Agreement is terminated, the licensee shall implement the provisions of its approved HPMP. The Commission reserves the authority to require changes to the HPMP at any time during the term of the license. If the Programmatic Agreement is terminated, the licensee shall obtain approvals from or make notifications of the Commission or State Historic Preservation Officer where the HPMP calls upon the licensee to do so.

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[62]The Settlement (Section 10.1 and Appendix 2) of the Settlement describes the RRAC.

Article 406. In the event the licensee is unable to comply with the requirements of this license regarding instream flows, normal impoundment fluctuations, and fish passage and protection, the licensee shall notify the Commission, as soon as possible, but no later than 10 days after each such incident.

When instream flows, normal impoundment fluctuations, fish passage and protection, and whitewater release requirements of the license are modified pursuant to Appendix Sections 3.4.1, 4.4.1, 6.4.1, and 8.4.1, respectively, the licensee shall notify the Commission no later than 10 days after each such incident.

Article 407. (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 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 waters for which the licensee may grant permission without prior Commission approval are: (1) landscape plantings; (2) non-commercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 water craft at a time and where said facility is intended to serve single-family type dwellings; (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline; and (4) food plots and other wildlife enhancement. To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the licensee shall require multiple use and occupancy of facilities for access to project lands or waters. The licensee shall also ensure, to the satisfaction of the Commission's authorized representative, that the use and occupancies for which it grants permission are maintained in good repair and comply with applicable state and local health and safety

requirements. Before granting permission for construction of bulkheads or retaining walls, the licensee shall: (1) inspect the site of the proposed construction, (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site, and (3) determine that the proposed construction is needed and would not change the basic contour of the reservoir shoreline. To implement this paragraph (b), the licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the licensee's costs of administering the permit program. The Commission reserves the right to require the licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and to require modification of those standards, guidelines, or procedures.

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

(d) The licensee may convey fee title to, easements or rights-of-way across, or leases of project lands for: (1) construction of new bridges or roads for which all necessary state and Federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary Federal and state water quality certification or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary Federal and state approvals have been obtained; (5) private or public marinas that can accommodate no more than 10 water craft at a time and are located at least one-half mile (measured over project waters) from any other private or public marina; (6) recreational development consistent with an approved Exhibit R or approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land

conveyed is located at least 75 feet, measured horizontally, from project waters at normal surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d)(7) in any calendar year. At least 60 days before conveying any interest in project lands under this paragraph (d), the licensee must submit a letter to the Director, Office of Energy Projects, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked Exhibit G 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 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 ensure that the construction, operation, and maintenance of structures or facilities on the conveyed lands will occur in a manner that will protect the scenic, recreational, and environmental values of the project; and (iii) the grantee shall not unduly restrict public access to project waters.

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

(f) The conveyance of an interest in project lands under this article does not in itself change the project boundaries. The project boundaries may be changed to exclude

land conveyed under this article only upon approval of revised Exhibit G 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 drawings would be filed for approval for other purposes.

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

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

(G) This order is final unless a request for rehearing is filed within 30 days of the date of its issuance, as provided in Section 313 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)

Magalie R. Salas,
Secretary.

Appendix
State of New York Water Quality Certification

New York State Department of Environmental Conservation
Division of Environmental Permits, Room 538
50 Wolf Road, Albany, New York 12233-1750
Phone: (518) 457-2224 FAX: (518) 457-7759

John P. Cahill
Commissioner

June 11, 1998

Mr. Michael W. Murphy, Esq.
Law Department
Niagara Mohawk Power Corporation
300 Erie Boulevard West, A-3
Syracuse, New York 13202

RE: Lower Raquette River Project, FERC #2330 / DEC # 4099-00006/00001
Middle Raquette River Project, FERC #2320 / DEC # 4099-00007/00001
Water Quality Certificate

Dear Mr. Murphy:

The Department of Environmental Conservation (the Department) hereby certifies that, based on our review of all pertinent information presented by Niagara Mohawk Power Corporation (NMPC) in its application for federal licenses for the Lower Raquette River and Middle Raquette River Hydroelectric Projects and the Settlement Agreement dated March 13, 1998, NMPC has provided reasonable assurance that the subject Projects will comply with all applicable effluent standards, standards of performance and other state statutes, regulations and criteria applicable to the affected waterbody as required by the State regulatory provisions implementing Section 401 of the Federal Water Pollution Control Act.

This certification is issued pursuant to Section 401 of the Federal Water Pollution Control Act, 33 U.S.C. 1341. The Department makes this certification provided that the attached standard conditions are met, as well as the terms and conditions of the attached Settlement Agreement signed by the Department, NMPC, the U.S. Fish and

Wildlife Service, the National Park Service, New York Rivers United, the Adirondack Mountain Club, the Adirondack Park Agency, the National Audubon Society, the American Whitewater Affiliation, American Rivers, the New York State Conservation Council, the Adirondack Council, American Canoe Association, the Jordan Club, the Association for the Protection of the Adirondacks, North Country Raquette River Advocates and St. Lawrence County insofar as those terms and conditions relate to all applicable effluent standards, standards of performance and other state statutes, regulations and criteria applicable to the affected waterbody as required by the State regulatory provisions implementing Section 401 of the Federal Water Pollution Control Act. The terms and conditions of this Settlement describe the operations of the four developments comprising the Lower Raquette River Project, and the four developments comprising the Middle Raquette River Project, located in the Towns of Norfolk, Potsdam, Pierrepont, Parishville and Colton, in St. Lawrence County.

Pursuant to the regulations of the Department at 6 NYCRR §621.14, the Department reserves the right to modify, suspend or revoke the Certification(s), or parts thereof, if there are material changes proposed for facilities or operations under the new license(s) such that amendment of one or both licenses is required; or in the event the referenced applications) or Settlement Agreement are materially amended or modified, as defined by regulations of the Federal Energy Regulatory Commission at 18CFR §4.30(b)14 and 4.35 (f), respectively.

Sincerely,

/s/

Jeffrey J. Sama
Division of Environmental Permits

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
STANDARD WATER QUALITY CONDITIONS

A. OVERSIGHT AND ADMINISTRATION

Inspections

The projects, including relevant records, are subject to inspection at reasonable hours and intervals, upon reasonable notice to the certificate holder, by an authorized representative of the Department to determine whether the certificate holder is complying with this certification. A copy of this certification, including all referenced maps, drawings, and special conditions must be available for inspection by the Department during such inspections at the project.

B. PROJECT MAINTENANCE AND CONSTRUCTION

1. Maintenance Dredging

The certificate holder shall curtail generation and install stoplogs or otherwise shut off flow through the turbine(s) prior to commencing any maintenance dredging activities in any intake/forebay area.

2. Sediment Analysis and Disposal

The certificate holder must sample any sediments to be disturbed or removed from the projects' waters and test them for contaminants. Sampling and testing shall be accomplished according to a protocol submitted to and approved by the Department beforehand. Prior to dredging or other excavation, the certificate holder must secure Department approval for all disposal locations for any sediments to be removed from the project waters.

3. Erosion and Sediment Control

Prior to commencing activities which could adversely affect water quality, the certificate holder must receive Department approval of an Erosion and Sediment Control Plan. This plan must be submitted at least 60 days before the intended date for commencing work. Actions undertaken in response to an emergency and governed by the procedures contained in 6 NYCRR Section 621.12 are exempt from this condition. At minimum, the certificate holder must:

a. isolate instream work from the flow of water and prevent discolored (turbid) discharges and sediments from entering the waters of the river due to excavation, dewatering and construction activities.

b. avoid using heavy construction equipment below the mean high water line of the river until the work area is protected by an approved structure and dewatered.

c. stabilize any disturbed banks by grading to an appropriate slope, followed by armoring or vegetating as appropriate, to prevent erosion and sedimentation into the waterbody.

d. minimize soil disturbance, provide appropriate grading and temporary and permanent revegetation of stockpiles and other disturbed areas to minimize erosion/sedimentation potential.

e. install and maintain, in a fully functional condition, effective erosion control measures on the downslope of all disturbed areas before commencing any other soil disturbing activities.

f. protect all waters from contamination by deleterious materials such as wet concrete, gasoline, solvents, epoxy resins or other materials used in construction, maintenance and operation of the project.

g. ensure complete removal of all dredged and excavated material, debris, or excess materials from construction from the bed and banks of all water areas to an approved upland disposal site.

h. ensure that all temporary fill and other materials placed in the waters of the river are completely removed upon completion of construction unless otherwise directed by the Department.

4. Placement of cofferdams, construction of temporary access roads or ramps, or other temporary structures which encroach upon the bed or banks of the river.

The design of all such structures will be developed in accordance with Condition #3 (above).

5. Maintenance of River Flow

During all periods of construction, the certificate holder shall maintain adequate flows immediately downstream of work sites to ensure that the water quality standards established for the water body are met.

6. Turbidity Monitoring

During all periods of construction, the certificate holder will monitor the waters of the river at a point immediately upstream of project activities and at a point no more than 100 feet downstream from any discharge point or other potential source of turbidity. If at any time, turbidity measurements from the downstream locations exceed the measurements from the locations upstream of the work areas, certificate holder specifically agrees to immediately take all action necessary to identify the activities causing the turbidity and to correct the situation.

7. Notifications

At least two (2) weeks prior to commencing any work subject to conditions 2 through 6 of this certificate, the certificate holder shall provide written notification to:

Regional Permit Administrator
New York State Department of Environmental Conservation
Division of Environmental Permits
317 Washington Street
Watertown, New York 13601

TERMS AND CONDITIONS FROM SETTLEMENT DATED MARCH 13, 1998

2.0 GENERAL AGREEMENTS

2.1 ABBREVIATIONS AND CONVENTIONS

The following abbreviations will be used throughout this document:

ADK = Adirondack Mountain Club
AGC = Automatic Generation Control
AIR = Additional Information Request
APA = Adirondack Park Agency
AWA = American Whitewater Affiliation

cfs = Cubic feet per second
DOI = Department of the Interior
FERC = Federal Energy Regulatory Commission
FPA = Federal Power Act
FWMA = Fish and Wildlife Management Act
MW = Megawatt
NEPA = National Environmental Policy Act
NGO = Non-Governmental Organization(s)
NIMO = Niagara Mohawk,
or licensee = Niagara Mohawk Power Corporation
NPS = National Park Service
NYRU = New York Rivers United
NYSCC = New York State Conservation Council
NYSDEC = New York State Department of Environmental Conservation
NY/TU = New York Council, Trout Unlimited
RRAC = Raquette River Advisory Council
SHCC = System Hydro Control Center
SLCPO = St. Lawrence County Planning Office
State = State of New York (or, People of the State of New York)
USFWS = United States Fish and Wildlife Service
USGS = United States Geological Survey
§ 401 WQC = Water Quality Certification issued by NYSDEC under § 401 of the federal Clean Water Act

The following conventions and definitions will be used throughout this document:

- Bypass Reach - That portion of the original river bed fully, or partially, dewatered as a result of the diversion of water.

- Elevation - Elevation as presented in this document is in feet USGS unless otherwise specified.

- Instream Flow - Any seasonal, or year round, intentional continuous release of flow into a bypass reach.

- Orientation - Description of the location of facilities and features is identified according to river right and river left. That is the direction if one is facing downstream.

2.2.3 IMPLEMENTATION SCHEDULE

Table 2-1 defines the schedule to implement enhancement measures agreed upon within this Settlement. The schedule is based upon an expected license issuance by December 31, 1999 for the Middle and Lower Raquette River Hydroelectric Projects and by January 31, 2001 for the Carry Falls and Upper Raquette River Hydroelectric Projects. Unless otherwise indicated, implementation shall occur no later than December 31 of each year indicated in Table 2-1. If control of the river is not achievable in the year indicated, thereby precluding implementation of a specific measure during that year, implementation shall be initiated once control of the river is achieved in the following year.

Except as stated above, any deferral of implementation shall be based solely upon issuance dates of the individual project licenses or any rehearing or appeal identified in Section 2.2.2. If actual license issuance of a given project occurs after the expected date of license issuance, the dates of implementation for that project may be deferred by an amount of time equal to that between the expected date of license issuance and the actual date of license issuance. In the event that rehearing or appeal of specific aspects of the Settlement results in deferral of implementation of some measures, the implementation date of those measures shall be as soon as practical, but no later than December 31 of the year after which resolution of that issue becomes final.

[Table 2-1 has been modified to reflect the issuance date of the four licenses. Accordingly, the table below extends by two years the schedules for the Middle and Lower Raquette and by one year the schedules for Carry Falls and Upper Raquette. Where the revised implementation date has passed, the table extends the date by an additional year.]

Table 2-1
REVISED Master Implementation Schedule
for the Lower Raquette River
(Based Upon Expected License Issuance Dates of Section 2.2.1)

Site	Instream Flow	Fish Passage [2]	Fish Protection	Impound-ment Fluctuations	Guide Curve [5]	Baseflow	Recreation	Whitewater
Norwood		2003	2007 to 2010 [1]	2002			by 2005	
East Norfolk	2002 [3]	2002	2006	2002			by 2005	
Norfolk	2002 [3]	2002	2004	2002			by 2005	
Raymond-ville		2003	2002	2002		2002	by 2005	

General: Unless otherwise noted, implementation shall occur no later than December 31 of each year indicated. If control of the river is not achievable in the year indicated, thereby precluding implementation of a specific measure during that year, implementation shall be initiated once control of the river is achieved in the following year. Shaded areas represent enhancement measures the settlement team concluded were not necessary at, or applicable to, the sites indicated.

1. After year 2004, actual year of installation may vary. However, the licensee shall install protection within the timeframe indicated.
2. For the purpose of this table, fish passage shall mean installation of downstream fish movement and plunge pool systems.
3. The existing interim flow shall be maintained until implementation of the permanent instream flow at the time indicated.
4. Usage of whitewater budget may involve releases at this site pending determinations of the whitewater subcommittee.
5. Implementation shall occur starting June 1, 2002.

2.3 RUN-OF-RIVER OPERATION

For the purposes of this Settlement, run-of-river operation is defined as the operation of a single unit, or multi-unit development, which is based on an active storage volume of zero cubic feet at all times; therefore, the instantaneous sum of all releases will equal the instantaneous inflow to the impoundment to the extent practicable.

2.4 RUN-OF-RIVER WITH PONDAGE OPERATION

A run-of-river with pondage operational mode means that a development containing multiple units utilizes the multiple units in conjunction with normal impoundment fluctuations such that outflow fluctuates above and below the instantaneous inflow level at rates which correspond to the most efficient sequence of unit loading. At a minimum, one unit always operates, or water is spilled.

2.5 PEAKING, LOAD FOLLOWING, AND AGC OPERATION

2.5.1 VARIOUS STORAGE AND RELEASE OPERATIONAL MODES

A store-and-release operational mode may be of several different varieties, the common attribute of which is that the mode of operation of the development does not qualify as a run-of-river, or run-of-river with pondage operation.

- Store-and-Release Pulsing

In a store-and-release pulsing mode of operation, a single unit development utilizes normal impoundment fluctuations, but essentially regulates outflow in an on/off cyclic manner which varies in response to the level of instantaneous flow. Operation is in response to inflow and normal impoundment fluctuations and does not necessarily correspond to system peak electric power demands.

- Store-and-Release Peaking

In a store-and-release peaking mode of operation, a single unit development operates in a concentrated time frame corresponding to system peak electric power demand periods, usually during weekday hours. Operation is curtailed during off-peak, non-generating hours or when normal impoundment fluctuation limits have been reached.

- Store-and-Release Load Following

In a store-and-release load following mode of operation, a single unit development operates in response to system load demands. In this mode, desired hourly megawatt (MW) targets, for developments capable of load following, are scheduled by staff of the System Hydro Control Center (SHCC). The load following operation may result in an instantaneous MW output above or below each hourly target in response to system load demands, with the objective of being at, or near, the scheduled hourly MW target and adhering to applicable impoundment fluctuation constraints.

- Re-regulation

In a re-regulating mode of operation, a single unit, or multi-unit development utilizes normal impoundment fluctuations and the appropriate sequence of units to re-regulate an upstream pulsing, peaking, or load following operation into a steadier round-the-clock flow.

2.7 FLOW RELEASE STRUCTURES

Flow release structures will be designed to minimize adverse impacts to fish moving downstream and be cost effective and reasonable. Final details of designs, including final locations of fish protection and conveyance measures (e.g., plunge pools, piping, etc.), will be based on field inspections and professional judgment of the licensee, the USFWS, and NYSDEC. Installation will be undertaken by the licensee in accordance with the schedule and substantive commitments set forth in Sections 3.0 and 6.0.

2.13 ACCESS

Any access granted or acquired for recreational purposes in the context of this Settlement will be for general public use.

2.15 CARTOP BOAT

For the purposes of this Settlement, a cartop boat is one which requires neither a ramp nor trailer to launch and retrieve.

2.17 PROJECT BOUNDARY COMMITMENTS

The licensee agrees to adjust project recreational facilities and provide an access point thereto such that said facilities, and access, fall on project lands owned by the licensee

or, in the event such facilities and access are not now so located, to amend the project boundary so that said facilities and access fall on project lands owned by the licensee, unless otherwise indicated in Section 9.0.

2.19 TERM OF LICENSES

To facilitate future coordinated river basin review for the Raquette River Projects, the common new license expiration date for the Raquette River Projects should be set by FERC at December 31, 2033.

3.0 INSTREAM FLOWS

3.2.2 FLOW TOLERANCES

All instream flows defined in Section 3.3 are considered nominal flows. That is, it is recognized that the actual release at any given time may be slightly above or below the value indicated. The degree to which a flow will be above or below the value indicated is a function of headpond elevation as a result of normal impoundment fluctuations (see Section 4.0). The licensee shall derive appropriate gate settings for the provision of instream flows at each of the ten developments, based upon the midpoint of the normal impoundment fluctuation of each development. For example, if the normal impoundment fluctuation is 1.0 foot, and the instream flow is 45 cfs, the gate setting to provide 45 cfs shall be based upon a drawdown of 0.5 feet. The instream flow (and the range of nominal flows, in parentheses) is provided within each table in Section 3.3.

3.3 **SPECIFIC TERMS OF SETTLEMENT**

3.3.4 LOWER RAQUETTE RIVER HYDROELECTRIC PROJECT No. 2330

3.3.4.1 Norwood Development

- Flow Levels

The licensee shall not be required to provide an instream flow in the bypass reach of the Norwood Development.

3.3.4.2 East Norfolk Development

- Flow Levels

The licensee shall maintain an instream flow of 75 cfs from the stoplog section of the dam near the left shore and intake. This flow shall be maintained year-round.

Table 3-9
East Norfolk Development
Instream Flow Schedule

Flow Magnitude	Annual Start Date	Annual End Date
75 cfs (65 - 85)	January 1	December 31

- Interim Flows

An interim flow equal to the specified instream flow has been instituted at the East Norfolk Development since 1996. The licensee shall continue the provision of the 75 cfs interim flow (year round) until the permanent instream flow (also 75 cfs) is scheduled for implementation as defined in Table 2-1. Reduction of the interim flow below this level will be allowable if caused by operational constraints such as icing or release mechanism problems (see Section 3.4.1).

3.3.4.3 Norfolk Development

- Flow Levels

The licensee shall maintain a total instream flow of 75 cfs below the confluence of the trash sluice channel and the bypass reach (main channel of the Raquette River). A release of 37.5 cfs shall be maintained from the stoplog section of the dam near the right shore and headgates at the upstream end of the bypass reach. A second release of 37.5 cfs shall be maintained in the trash sluice channel which enters the bypass reach at approximately the halfway point (see Section 6.3.4.1 for further discussion on the trash sluice channel). These flows shall be maintained year-round.

Table 3-10
Norfolk Development
Instream Flow Schedule

Flow Magnitude	Annual Start Date	Annual End Date
37.5 cfs from stoplog section at the dam (35 - 40)	January 1	December 31
37.5 cfs from the trash sluice return channel (35 - 40)	January 1	December 31

- Interim Flows

An interim flow equal to the total specified instream flow has been instituted at the Norfolk Development since 1996. However, the entire 75 cfs interim flow is released at the upstream end of the bypass reach. The licensee shall continue to provide the entire 75 cfs interim flow (year round) at the upstream end of the bypass reach until the permanent instream flow (also 75 cfs) is scheduled for implementation as defined in Table 2-1, at which time the split flow procedure shall also be implemented. Reduction of the interim flow below this level will be allowable if caused by operational constraints such as icing or release mechanism problems (see Section 3.4.1).

3.3.4.4 Raymondville Development

- Flow Levels

The licensee shall not be required to provide an instream flow in the bypass reach of the Raymondville Development.

3.4 EXCEPTIONS AND MONITORING

3.4.1 EXCEPTIONS

Allowances have been made to accommodate circumstances which necessitate the curtailment and/or suspension of any and/or all of the instream flows at the ten developments for which they are being provided. Reasons for same may include, but are not necessarily limited to, the following:

- Maintenance, repair, or reconstruction of project facilities at any hydroelectric project and/or water retaining structure on the Raquette River.

- Maintenance, repair, or reconstruction of nonproject facilities such as roads, bridges, or other structures in, or adjacent to, the river.

- Any emergency situations related to dam safety, human life and property, or rescue.

- "Dry" or "Drought" conditions experienced within the watershed (see Section 5.3.3).

Instream flows will be curtailed or suspended for the minimum duration necessary. Flows will be restored as soon as possible after the circumstance for which they have been curtailed or suspended is completed. The licensee may curtail or suspend any and/or all of the instream flows if either of the following criteria have been met:

- The Licensee must consult with appropriate NYSDEC staff in Watertown, NY regarding the need and approval to curtail or suspend any and/or all instream flows. It will be the responsibility of the NYSDEC to notify the USFWS (and the APA as appropriate) of the request. Documentation of the consultation with NYSDEC officials must describe the need for the curtailment and/or suspension, and specify the requested duration of the curtailment and/or suspension.

- If an emergency situation exists where consultation will only slow down or impair the Licensees ability to address immediate dangers related to dam safety, human life and property, or rescue efforts, consultation with the NYSDEC will not be deemed necessary. However, the NYSDEC will be notified as soon as possible of the emergency situation following the curtailment and/or suspension of any and/or all instream flows.

3.4.2 MONITORING

The licensee shall monitor the instream flow provided at each development. Data regarding headpond elevation and applicable gate opening information shall be recorded on a daily basis by the licensee. The licensee shall develop gate opening versus flow relationships, incorporating headpond variations as necessary, for the purpose of determining flow using the information recorded daily. These

relationships shall be reviewed periodically, and updated upon any change in the instream flow release structure.

3.5 IMPLEMENTATION SCHEDULE

The licensee shall implement provision of the instream flows specified in Section 3.3 as specified in Table 2-1.

4.0 NORMAL IMPOUNDMENT FLUCTUATIONS

4.2 GENERAL AGREEMENTS

Normal impoundment fluctuations specified in Section 4.3 shall be defined as the maximum drawdown limit within a given impoundment associated with the operating range necessary to achieve run-of-river with pondage, store-and-release peaking, load following, re-regulating, or store-and-release pulsing hydropower operations. Except as noted in Table 4-1 [not in this order], drawdown limits shall be measured in the downward direction from permanent crest of dam, or top of flashboards if they have been installed. Establishment of the drawdown limit below top of flashboards shall begin after initial recharge of the impoundment following flashboard installation. Water surface elevations higher than permanent crest of dam, or top of flashboards if they have been installed, are considered outside of the normal impoundment fluctuation zone, and variations of same are not considered as a utilization of the normal impoundment fluctuation.

4.3.4 LOWER RAQUETTE RIVER HYDROELECTRIC PROJECT No. 2330

The licensee shall limit fluctuations within the impoundments of the four developments of the Lower Raquette River Hydroelectric Project as defined in Table 4-3.

Table 4-3
Lower Raquette River Hydroelectric Project
Normal Impoundment Fluctuations

Development	Permanent Crest of Dam (feet USGS)	Height of Flashboard	Normal Impoundment Fluctuation
Norwood	326.1	1.0 foot non-trippable wooden flashboards	0.5 feet
East Norfolk	287.9	none	0.5 feet
Norfolk	254.1	0.83 foot (10 inch) non-trippable wooden flashboards	1.0 feet
Raymondville	209.6	2.0 foot rubber/steel pneumatic flashboard system	0.5 feet

4.4 EXCEPTIONS AND MONITORING

4.4.1 EXCEPTIONS

Allowances have been made to accommodate circumstances which necessitate exceeding normal impoundment fluctuation limits at any of the developments for which they are being provided. Reasons for same may include, but are not necessarily limited to, the following:

- Maintenance, repair, or reconstruction of project facilities at any hydroelectric project and/or water retaining structure on the Raquette River.

- Maintenance, repair, or reconstruction of nonproject facilities such as roads, bridges, or other structures in, or adjacent to, the river.

- Conditions warranting a drawdown of Carry Falls Reservoir below elevation 1355 (see Section 5.4.1).

- Any emergency situations related to dam safety, human life and property, or rescue.

Exceedance of normal impoundment fluctuations will be for the minimum duration necessary. Normal impoundment fluctuations will be restored as soon as possible after the circumstance for which they have been exceeded is completed. The licensee may exceed any and/or all of the normal impoundment fluctuation limits if either of the following criteria have been met:

- The Licensee must consult with appropriate NYSDEC staff in Watertown, NY regarding the need and approval to exceed any and/or all normal impoundment fluctuation limits. It will be the responsibility of the NYSDEC to notify the USFWS (and the APA as appropriate) of the request. Documentation of the consultation with NYSDEC officials must describe the need to exceed the limit, and specify the requested duration of the drawdown.

- If an emergency situation exists where consultation will only slow down or impair the Licensee's ability to address immediate dangers related to dam safety, human life and property, or rescue efforts, consultation with the NYSDEC will not be deemed necessary. However, the NYSDEC will be notified as soon as possible of the emergency situation.

4.4.2 MONITORING

The licensee shall maintain adequate operating records clearly indicating impoundment fluctuations. The monitoring of impoundment fluctuations will be addressed in the development of the streamflow monitoring plan developed subsequent to license issuance (see Section 10.5).

4.5 IMPLEMENTATION SCHEDULE

The licensee shall implement the normal impoundment fluctuation limits specified in Section 4.3 concurrent with the implementation of instream flows at each development, or as otherwise specified in Table 2-1.

5.0 CARRY FALLS GUIDE CURVE AND RAYMONDVILLE BASEFLOW

5.3.3 RAYMONDVILLE BASEFLOW

The Licensee shall maintain a baseflow downstream of the Raymondville Development of the Lower Raquette River Hydroelectric Project. During “wet” and “normal” conditions, the baseflow shall be at least 560 cfs. During a “dry”condition, the baseflow shall be at least 290 cfs. During a “drought” condition, the licensee will

initiate a baseflow equal to the daily average flow of the Piercefield USGS gage and consult with appropriate NYSDEC staff to determine any appropriate adjustments to the baseflow and/or the Carry Falls drawdown limit. These baseflow magnitudes are to be maintained and measured at the area known as Kent Mill "cemetery riffle" located approximately 4 miles downstream of the Raymondville Development (see Figure 5-2 at the end of this section). Total daily average outflow from the Colton Development of the Middle Raquette River Hydroelectric Project, in conjunction with Carry Falls Reservoir elevation and Piercefield USGS gage data will be used in determining the type of flow condition and corresponding baseflow.

To ensure provision of the 560 and 290 cfs baseflow levels, a timer system shall be installed and calibrated into the Lower Raquette River Hydroelectric Project control scheme to maintain the maximum shut-down (or generator motoring time) for the appropriate developments of the Lower Raquette River Hydroelectric Project, resulting in the required minimum instantaneous baseflow (see Section 5.5.2). Definitions of "wet, normal, dry, and drought" conditions are indicated below:

- "Wet" Condition - The total daily average outflow from Colton is greater than, or equal to, 1600 cfs *and* the elevation within Carry Falls Reservoir is greater than, or equal to, 1357 feet. During a "wet" condition, the licensee shall maintain a baseflow downstream of Raymondville of at least 560 cfs. The timer system for the Lower Raquette River Hydroelectric Project will not be utilized under the "wet" condition.

- "Normal" Condition - The total daily average outflow from Colton is between 650 and 1600 cfs, *and* the elevation within Carry Falls Reservoir is greater than, or equal to, 1357 feet. During a normal condition, the licensee shall maintain a baseflow downstream of Raymondville of at least 560 cfs. A timer system for the Lower Raquette River Hydroelectric Project may be utilized under the normal condition to ensure provision of the 560 cfs.

- "Dry" Condition - The total daily average outflow from Colton is less than 650 cfs, *and* the elevation within Carry Falls Reservoir is greater than, or equal to, 1357 feet. During a dry condition, the licensee shall maintain a baseflow downstream of Raymondville of at least 290 cfs. A timer system for the Lower Raquette River Hydroelectric Project will be utilized under the dry condition to ensure provision of the 290 cfs.

Upon decreasing to elevation 1357 feet within Carry Falls Reservoir, the licensee shall begin to monitor the daily average flow record of the Piercefield USGS gage to

determine if a drought condition (see below)exists which over-rides the dry condition. It is anticipated that the dry condition may be experienced less than 5 percent of the time annually.

- "Drought" Condition - Generally, a drought condition shall be defined as the dual occurrence of low inflow to Carry Falls Reservoir coupled with depleted usable storage of the reservoir. Upon decreasing to an elevation of 1357 feet within Carry Falls Reservoir, the licensee shall monitor the daily average flow record of the Piercefield USGS gage (which will serve as the measure of low inflow to the reservoir), and continue monitoring the reservoir elevation (which will serve as the measure of depleted usable storage).

  Daily average flows at Piercefield are approximately 85 percent that of daily average flows measured at Raymondville. This is a result of the intervening drainage area between the two locations. For example, if the daily average flow at Piercefield is 250 cfs, the intervening drainage area will contribute approximately 40 cfs, resulting in 290 cfs at Raymondville. This correlation will be used when specifically defining the drought condition below.

  Specifically, a drought condition shall be defined as the dual occurrence of a daily average flow at Piercefield less than 250 cfs, and a Carry Falls Reservoir elevation less than 1357 feet. During a drought condition, the licensee shall initially maintain a baseflow downstream of Raymondville of at least the daily average flow of the Piercefield gage. Additionally, the licensee will notify and consult with appropriate NYSDEC staff to determine if modifications to the baseflow and/or the Carry Falls drawdown limit are warranted. It is anticipated that the drought condition may be experienced less than 1 percent of the time annually.

5.4 EXCEPTIONS AND MONITORING

5.4.3 RAYMONDVILLE BASEFLOW EXCEPTIONS

Allowances have been made to accommodate circumstances which necessitate the curtailment and/or suspension of the baseflow below Raymondville. Reasons for same may include, but are not necessarily limited to, the following:

- Maintenance, repair, or reconstruction of project facilities at any hydroelectric project and/or water retaining structure on the Raquette River.

- Maintenance, repair, or reconstruction of nonproject facilities such as roads, bridges, or other structures in, or adjacent to, the river.

- Any emergency situations related to dam safety, human life and property, or rescue.

Curtailment and/or suspension of the baseflow will be for the minimum duration necessary. A baseflow of at least 290 cfs will be restored as soon as possible after the circumstance requiring a baseflow less than 290 cfs is completed. The Licensee may curtail or suspend the Raymondville baseflow if either of the following criteria have been met:

- The Licensee must consult with appropriate NYSDEC staff in Watertown, NY regarding the need and approval to curtail or suspend the baseflow below Raymondville. It will be the responsibility of the NYSDEC to notify the US FWS of the request. Documentation of the consultation with NYSDEC officials must describe the need for the curtailment and/or suspension, and specify the requested duration of the curtailment and/or suspension.

- If an emergency situation exists where consultation will only slow down or impair the Licensees' ability to address immediate dangers related to dam safety, human life and property, or rescue efforts, consultation with the NYSDEC will not be deemed necessary. However, the NYSDEC will be notified as soon as possible of the emergency situation following the curtailment and/or suspension of the baseflow.

5.4.4 RAYMONDVILLE BASEFLOW MONITORING

The Licensee shall monitor the Raymondville baseflow via the recording of headpond elevations, generation levels, duration of generation, and other pertinent data at the appropriate developments of the Lower Raquette River Hydroelectric Project. Additionally, the Licensee shall maintain records of any exceptions to the baseflow. Simple water stage markers shall be installed at the "cemetery riffle" to allow for independent verification of the 560 cfs and 290 cfs flow levels. Access to these markers shall be via lands owned by the State of New York on the east bank of the river.

5.5 IMPLEMENTATION SCHEDULE

5.5.2 RAYMONDVILLE BASEFLOW

To ensure provision of the 560 and 290 cfs baseflow levels, a timer system shall be installed and calibrated into the Lower Raquette River Hydroelectric Project control scheme to maintain the maximum shut-down (or generator motoring time) for the appropriate developments of the Lower Raquette River Hydroelectric Project, resulting in the required instantaneous minimum baseflow. Additionally, indirect relationships of the Raymondville USGS gage (located immediately downstream of the Raymondville Development) shall be developed as part of the implementation of the timer scheme. These indirect relationships will correlate flow, and duration of flow, at the Raymondville USGS gage to a corresponding baseflow magnitude at the "cemetery riffle.".

Calibration of the optimum unit shut-down/generator motoring time will be subject to an in-situ field testing procedure to be implemented as soon as river conditions permit subsequent to issuance of a new license. The timer scheme, or its equivalent, shall be fully operational within one year of license issuance, assuming control of the river is achievable (see Table 2-1.)

6.0 FISH PASSAGE AND PROTECTION

6.3 SPECIFIC TERMS OF THE SETTLEMENT

6.3.4 LOWER RAQUETTE RIVER HYDROELECTRIC PROJECT No. 2330

The licensee shall provide the following downstream fish movement and protection measures at the four developments of the Lower Raquette River Hydroelectric Project. Where applicable, the licensee shall provide the route of downstream movement coincident with the point of instream flow release at each development (see Section 3.3.4), otherwise downstream movement shall be provided as indicated in Table 6-3, and Section 6.3.4.1.

Table 6-3
Lower Raquette River Hydroelectric Project
Downstream Fish Movement and Protection Measures

Development	Protection Measure	Primary Route of Downstream Fish Movement	Conveyance and Collection System
Norwood	1-inch clear spacing physical barrier installed at the location of the existing trashrack structure	20 cfs via stoplog structure adjacent of dam (see 6.3.4.1 below)	(1) Roughness reduction of spillway face. (2)Measures to reduce dispersion of the release across spillway face. (3)Release structure empties into a pool of adequate dimensions. No additional modifications required.
East Norwood	1-inch clear spacing physical barrier installed at the location of the existing trashrack structure	75 cfs via instream flow release structure (see Section 3.3.4.2).	(1)Construct plunge pool.

Table 6-3
Lower Raquette River Hydroelectric Project
Downstream Fish Movement and Protection Measures

Development	Protection Measure	Primary Route of Downstream Fish Movement	Conveyance and Collection System
Norfolk	1-inch clear spacing physical barrier installed at the location of the existing trashrack structure	37.5 cfs via trash sluice structure located at transition of power canal to pipeline (see 6.3.4.1 below).	(1)Modify constructed trash sluice flume to reduce flow velocity. (2)Construct adequate plunge pools and conveyance routes in the rip-rap basin and obstructed channel between the trash sluice flume and bypass reach (see 6.3.4.1 below).
Raymondville	1-inch clear spacing physical barrier installed at the location of the existing trashrack structure	20 cfs via trash sluice structure and/or via low level sluice gate (see 6.3.4.1 below).	(1)Modify pool adjacent to the powerhouse to ensure adequate dimensions (see 6.3.4.1 below)

6.3.4.1 Other Considerations

Norwood - An instream flow is not required at the Norwood Development. However, the licensee shall provide a 20 cfs release for the purpose of providing a route of downstream movement for fish. The route of movement shall be through the stoplog section of the dam located adjacent to the left abutment of the dam.

Norfolk - The licensee is required to maintain a total instream flow of 75 cfs below the confluence of the trash sluice return channel and the bypass reach (main channel of the Raquette River). The power canal transitions to a pipeline roughly halfway between the dam and powerhouse. The trashrack, trash sluice gate, and pipeline intake structure are located at this point. The trash sluice gate shall be considered the primary point of downstream fish movement. The trash sluice gate empties to a concrete flume which in turn empties into a rip-rap basin which ultimately drains into the bypass reach at approximately the halfway point. Approximately one half of the required 75 cfs shall be maintained through the trash sluice gate. Additionally, the licensee shall: (1) install the 1-inch protection device at the location of the existing trashracks at the transition of the power canal to pipeline, (2) provide an alternate route of movement via the trash sluice gate, (3) decrease flow velocities within the initial section of the trash sluice flume downstream of the trash sluice gate, via a small weir at the point where the flume converges to the uniform width of approximately 6.5 feet, (4) construct a plunge pool of adequate dimensions at the point where the trash sluice flume empties into the rip-rap basin, and (5) clear obstructions within the channel which drains the rip-rap basin into the bypass reach. The licensee will maintain the channel to be free of obstructions.

The remaining component of the instream flow will be maintained within the upper reach of the bypass reach from the stoplog section near the middle of the dam and power canal headwater. The licensee shall not be required to provide safe fish movement and/or a plunge pool below this gate.

Raymondville - An instream flow is not required at the Raymondville Development. However, the licensee shall provide at least a 20 cfs release for the purpose of providing a route of downstream movement for fish. The route of movement shall be through the trash sluice weir and/or low level sluice gate both located at the downstream end of the power canal near the powerhouse. Primary downstream movement shall be provided via the trash sluice weir. The low-level sluice may be used on a seasonal basis between mid-September and mid-October to allow for movement of out migrating American eel. The licensee, at its own discretion, may provide a release greater than 20 cfs from either gate to facilitate provision of the

required baseflow below Raymondville (see Section 5.3.3). Both the trash sluice and low-level sluice gates release into a pool adjacent to the powerhouse. The licensee shall make modifications as needed to ensure existence of a plunge pool of adequate depth for receipt of fish passed by the flow released.

6.4 EXCEPTIONS AND MONITORING

6.4.1 EXCEPTIONS

Allowances have been made to accommodate circumstances which necessitate the curtailment and/or suspension of the provision of downstream fish movement and/or protection measures at the thirteen developments. Reasons for same may include, but are not necessarily limited to, the following:

- Maintenance, repair, or reconstruction of project facilities at any hydroelectric project and/or water retaining structure on the Raquette River.

- Maintenance, repair, or reconstruction of nonproject facilities such as roads, bridges, or other structures in, or adjacent to, the river.

- Any emergency situations related to dam safety, human life and property, or rescue.

Curtailment or suspension of downstream fish movement and protection measures will be for the minimum duration necessary. Downstream fish movement and protection measures will be restored as soon as possible after the circumstance for which they have been curtailed or suspended is completed. The licensee may curtail or suspend provision of downstream fish movement and/or protection measures if either of the following criteria have been met:

- The Licensee must consult with appropriate NYSDEC staff in Watertown, NY regarding the need and approval to curtail or suspend provision of downstream fish movement and/or protection measures. It will be the responsibility of the NYSDEC to notify the US FWS (and the APA as needed) of the request. Documentation of the consultation with NYSDEC officials must describe the need for the curtailment and/or suspension, and specify the requested duration of the curtailment and/or suspension.

- If an emergency situation exists where consultation will only slow down or impair the Licensees' ability to address immediate dangers related to dam

safety, human life and property, or rescue efforts, consultation with the NYSDEC will not be deemed necessary. However, the NYSDEC will be notified as soon as possible of the emergency situation.

6.4.2 MONITORING

The licensee shall not be required to monitor or measure the movement of fish through the designated movement points or turbines.

6.5 IMPLEMENTATION SCHEDULE

The licensee shall commence the installation of the downstream fish movement and protection measures specified in Section 6.3 as soon as control of the river is achieved in the year indicated for each development in Table 2-1.

7.0 RECREATION

7.2 GENERAL AGREEMENTS

7.2.1 ACCESS

Table 7-1 summarizes the existing recreation facilities of each development, as well as the additional facilities to be provided as part of this Settlement. The licensee shall only limit public access to facilities specifically related to hydroelectric generation including, but not necessarily limited to, dams, dikes, gates, intake structures, water conveyance structures, powerhouses, substations, transmission lines, and certain access roads leading to such facilities. The licensee shall continue to maintain the existing facilities listed in Table 7-1, as well as provide the additional facilities listed in Table 7-1 and detailed in Section 7.3.

Table 7-1
Lower Raquette River
Summary of Existing and Proposed Recreation Facilities (a,d)

Site	Existing Facilities	Facilities Provided as Part of Settlement

Table 7-1 Lower Raquette River Summary of Existing and Proposed Recreation Facilities (a,d)		
Norwood	(1) ADA fishing platform (2) Boat launch and parking area (3) Picnic facilities	(1) Canoe portage
East Norfolk	none	(1) Canoe portage with parking (take-out only)
Norfolk	none	(1) Canoe portage (put-in only)
Raymondville	none	(1) Canoe portage (2) Car top boat launch and picnic facilities with parking

a. All existing facilities and facilities provided as part of settlement are planned to be operated under a "carry in - carry out" policy.

d. Detailed maps will be provided as part of the development of the detailed recreation plan (see Section 7.2.2).

7.2.2 PLANNING

The description of the additional facilities provided in Section 7.3 are intended to provide a general identification and location of the facility. Detailed planning and siting of each facility shall occur prior to its construction. The licensee shall develop a recreation plan detailing the planning and siting of the additional recreational facilities. The plan for each project shall be completed within one year of license issuance of each project (see Section 2.2). The plan shall be circulated to the RRAC. Additional recreational facilities described in this Settlement for the Middle and Lower Raquette River Hydroelectric Projects are generally consistent with, but supersede, proposals contained in the license applications and subsequent AIR's for each project.

7.3 SPECIFIC TERMS OF SETTLEMENT

7.3.4 LOWER RAQUETTE RIVER HYDROELECTRIC PROJECT No. 2330

7.3.4.1 Norwood Development

- Canoe Portage

The licensee shall provide a canoe portage around the Norwood Dam on river right including appropriate directional signage.

7.3.4.2 East Norfolk Development

- Canoe Portage with Parking

The licensee shall provide a canoe take-out at the East Norfolk impoundment. This take-out will lead to a portage route which will bypass both the East Norfolk and Norfolk dams. The take-out area will have adequate parking for several vehicles. The next put-in shall be located in the Norfolk bypass reach (see 7.3.4.3) . The canoe portage route shall utilize a combination of trails and public roadways, and shall include all appropriate directional signage.

7.3.4.3 Norfolk Development

- Canoe Portage

The licensee shall provide a canoe put-in within the bypass reach of the Norfolk Development. This put-in shall serve as the terminus of the take-out and portage route from the East Norfolk impoundment (see 7.3.4.2 above).

7.3.4.4 Raymondville Development

- Canoe Portage

The licensee shall provide a canoe portage around the Raymondville Dam on river left including appropriate directional signage.

- Car Top Boat Launch and Picnic Facilities

The licensee shall develop a car top boat launch and picnic facilities adjacent to the Raymondville impoundment near the left abutment of the dam. This facility shall include parking.

7.4 EXCEPTIONS AND MONITORING

7.4.1 EXCEPTIONS

Vandalism and destruction is a recognized threat to the existing and additional recreational facilities included as part of this Settlement. If vandalism becomes commonplace, the licensee will present the scope of the problem to the RRAC. The licensee will work with the RRAC to explore measures to address the problem. If the problem persists, the licensee may petition the RRAC to concur with permanently shutting down the facility in question. If the RRAC does not concur and the problem persists, the licensee may consult with FERC in order to address the issue.

The licensee may temporarily shut down any recreational facility. Reasons for same may include, but are not necessarily limited to, the following:

- Maintenance, repair, or reconstruction of project facilities at any hydroelectric project and/or water retaining structure on the Raquette River.

- Maintenance, repair, or reconstruction of nonproject facilities such as roads, bridges, or other structures in, or adjacent to, the river.

- Any emergency situations related to dam safety, human life and property, or rescue.

Temporary shut down of any recreational facilities will be for the minimum duration necessary. Normal operation of the recreational facilities will be restored as soon as possible after the circumstance requiring the shut down is completed.

7.4.2 MONITORING

The licensee shall only be required to monitor the usage of recreational facilities as required by 18 CFR, Subchapter B, Part 8, § 8.11 governing the submittal of the FERC Form 80 documenting usage of recreational facilities.

7.5 IMPLEMENTATION SCHEDULE

The licensee shall construct or otherwise implement all recreational facilities described in Section 7.3 according to Table 2-1.

9.0 LANDS

9.5 LANDS SUBJECT TO FERC BOUNDARY REVISIONS

[T]he licensee shall include all lands associated with recreation facilities within applicable FERC boundaries if they are located on, or will be located on, lands currently owned by the licensee, but not currently within the FERC boundary. The licensee will modify the appropriate FERC boundaries to include the following facilities:

Portions of the canoe portage routes at Norwood and Norfolk (see Section 7.3).

If it is determined that some, or all, of the lands associated with any other recreational facilities are not on lands owned by the licensee, the licensee may elect not to include those lands within the FERC boundary, or modify the location of the facility to ensure that it is sited on lands of the licensee. However, the licensee will first pursue working with the owner of such lands to ensure completion of, and access to, the facility prior to considering changing the location of the facility. The licensee shall complete all necessary FERC project boundary revisions by the end of 2004 (see Table 2-1).

9.6 IMPLEMENTATION SCHEDULE

The licensee shall complete all necessary FERC project boundary revisions by the end of 2004 (see Table 2-1).

10.0 MISCELLANEOUS

10.5 STREAMFLOW MONITORING

The licensee shall develop a flow monitoring plan in consultation with all signators within six (6) months of FERC license issuance. The flow monitoring plan shall include all gages and/or equipment for the purposes of:

a. determining the stage and/or flow of the Raquette River;

b. determining all other project flows including flows through the turbines and any other bypass/diversion flows; and

c. determining project headpond and tailwater elevation.

The licensee shall keep accurate and sufficient records of the impoundment elevations and all project flows to the satisfaction of the NYSDEC and shall provide such data in a format and interval as the NYSDEC may prescribe. All records will be made available for inspection at offices of the licensee within 5 business days, or in writing within 30 business days, of licensee's receipt of a written request for such records by any of the signators to this Settlement. Furthermore, licensee will provide a 7-day per week contact person to provide immediate responses to questions about abnormal conditions.

All gaging and ancillary equipment associated with the project, including the headpond and tailwater gages, shall be made operational and fully calibrated within 12 months of new FERC license issuance for the respective Raquette River Project.

The flow monitoring plan, including the gage calibration plan, shall be submitted to the NYSDEC for review and concurrence.

Permanent staff gages shall be installed to allow independent verification of headpond and tailwater elevations to the nearest 0.1 foot. Stage versus flow ratings shall be calibrated when rating changes occur, and maintained for these sites. Access to staff gages shall be provided to the NYSDEC, US FWS and/or their authorized representatives.