

UNITED STATES OF AMERICA 77 FERC 61,068  
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Elizabeth Anne Moler, Chair;  
Vicky A. Bailey, James J. Hoecker,  
William L. Massey, and Donald F. Santa, Jr.

Great Northern Paper, Inc. ) Project No. 2458-009

ORDER ISSUING NEW LICENSE

(Issued October 22, 1996)

On December 17, 1991, Great Northern Paper, Inc. (Great Northern) filed an application pursuant to Sections 4(e) and 15 of the Federal Power Act (FPA) for a new license to continue to operate and maintain the 70.6-megawatt (MW) Penobscot Mills Hydroelectric Project No. 2458, located on the West Branch of the Penobscot River and Millinocket Stream in Piscataquis and Penobscot Counties, Maine. The Penobscot Mills Project consists of four hydropower developments and a storage development. The hydropower developments are (in descending order) North Twin, Millinocket, Dolby, and East Millinocket developments, located on the West Branch of the Penobscot River. The project's Millinocket Lake Storage Development is located on the Millinocket Stream (which enters the West Branch of the Penobscot River downstream of the Millinocket Development). 1/ The Commission issued the original license for the project on October 14, 1968. 2/ The original license expired on

1/ The West Branch of the Penobscot River is a navigable waterway of the United States. 30 F.P.C. 1465 (1963). Section 23(b)(1) of the FPA, 16 U.S.C. 817(b)(1), therefore requires the project to be licensed. Storage developments, such as Millinocket Lake Storage Development, that are used in connection with the operation of power generation facilities are part of a hydropower project. See Union Water Power Company, 68 FERC 61,180, pp. 61,888-89 (1994) (storage reservoirs that are used and useful in connection with the licensed hydropower projects must also

be licensed).

2/ 40 FPC 1057. On June 28, 1991, the license was amended to reflect a change in the licensee's name from Great Northern Paper Company to Great Northern Nekoosa Corporation. 55 FERC 62,336. On May 8, 1992, the license was transferred from Great Northern Nekoosa Corporation to Great Northern Paper, Inc. 59 FERC 62,137.

Project No. 2458-009      -2-

December 31, 1993, and since then, Great Northern has operated the project under annual license. 3/

Great Northern proposes no major construction or project modifications. It would continue to operate the project, together with its Ripogenus Project No. 2572, located approximately 21 miles upstream of the North Twin Development on the West Branch (for which we are issuing a new license contemporaneously with the issuance of the new license for Penobscot Mills) 4/, to provide power for its papermaking facilities at Millinocket and East Millinocket, Maine. For the reasons discussed below, we will issue a new license to Great Northern for a term of 30 years.

## I. BACKGROUND

Notice of the application has been published. Timely motions to intervene were filed by: the U.S. Environmental Protection Agency, Region 1 (EPA); Maine State Planning Office; Association in Support of a Sustainable Supply of Energy and Timber; Eastern Maine Development Corporation; East Millinocket-Medway Chamber of Commerce; Green Lake Waterpower Company; Katahdin Regional Development Corporation; Katahdin Region Tourism Council; Maine Conservation Rights Institute; Maine Farm Bureau; Maine FLOW; Maine Forest Projects Council; Maine Leaseholders Association; Maine Professional River Outfitters; Maine Sporting Camp Association; Millinocket Chamber of Commerce; Paper Industry Information Office; Paul I. Firlotte; Penobscot Indian Nation (Penobscot Nation); Save Our Scenic Lakes Association; Town of East Millinocket; Town of Millinocket; and United Paperworkers International Union -- Local #37.

Timely motions to intervene in opposition to the project were filed: jointly by American Rivers, American Whitewater Affiliation, Appalachian Mountain Club, Conservation Law Foundation, Maine Audubon Society, and Trout Unlimited (which

filed separate comments) (Conservationists); and individually by the U.S. Department of the Interior (Interior) and the Fin and Feather Club. 5/

3/ See Section 15(a)(1) of the FPA, 16 U.S.C. 808(a)(1).

4/ Great Northern Paper, Inc., FERC 61, (1996).

5/ The Fin and Feather Club withdrew its opposition to the application, subject to the Commission adopting its agreement with Great Northern in which Great Northern would eliminate for Maine residents fees for access (for non-commercial day use) to Great Northern's forest lands, some  
(continued...)

Project No. 2458-009 -3-

Timely motions to intervene in support of the project were filed by: International Association of Machinists and Aerospace Workers -- Local #156; International Association of Plumbers & Pipefitters -- Local #485; International Brotherhood of Carpenters and Joiners -- Local #658; International Brotherhood of Electrical Workers -- Local #567 Unit 1; International Brotherhood of Firemen and Oilers -- Local #261, Maine Professional Guides Association, United Papermakers International Union -- Local #12; United Papermakers International Union -- Local #24; and United Plant Guard Workers of America -- Local #549. 6/

Comments on the application were filed by Interior, the EPA, the Penobscot Nation, the Conservationists, and Trout Unlimited.

5/(...continued)  
of which are inside and some outside the project boundary. The Conservationists contend that access fees should be eliminated not only for Maine residents but also for out-of-state residents. Our regulations require a licensee to ensure public access and recreational use of project lands, but allow the licensee to charge reasonable fees to users of the project's recreation facilities to help defray the costs of constructing, operating, and maintaining such facilities. 18 C.F.R. 2.7. The Commission has no jurisdiction over fees for access to private, non-project lands, and it has required a licensee to submit information apportioning fees between project and non-project facilities to determine the

reasonableness of jurisdictional fees. See, e.g., Central Maine Power Company, 40 FERC 61,075 at p. 61,215 (1987). We need more information to decide the issues raised by Great Northern's access fee proposal, but we do not believe that it is in the public interest to delay issuance of the new license to decide these issues. Consequently, in Article 416, we will require the licensee to file its access-fee proposal, in consultation with state, federal, and private agencies, and with supporting information addressing the above-described parameters, for Commission approval.

6/ These motions to intervene were timely and unopposed and therefore granted automatically under Rule 214(c)(1) of the Commission's Rules of Practice and Procedure. 18 C.F.R. 385.214(C)(1) (1995). Great Bay Hydroelectric Associates filed a motion to intervene in support of the project and subsequently withdrew it. Action Committee of 50, Inc., American Outdoors, and Maine Building Trades Council filed motions to intervene out of time, which were denied by unpublished notices issued by the Commission's Secretary on March 31, 1993.

Project No. 2458-009      -4-

On December 1, 1994, the Commission's staff issued the Draft Environmental Impact Statement (DEIS) analyzing the Penobscot Mills and Ripogenus relicensing applications and requesting public comment. Staff held a public meeting for additional comments on the DEIS in Millinocket, Maine, on January 25, 1995. Approximately 115 persons presented oral comments at the meeting. Written comments were received from approximately 125 groups, agencies, and individuals. All of the comments were considered in preparing the final Environmental Impact Statement (EIS), issued October 1, 1996, which is made part of this order.

The Conservationists and Interior oppose issuance of a new license for the project, contending that a minimum flow should be released into the "Back Channel" (approximately 2.5 miles of the original river channel between Stone Dam of the Millinocket Development and Shad Pond in order to restore instream habitat that was lost when Stone Dam was constructed in 1899, diverting flows from the Back Channel. 7/ Conservationists and Interior contend that the project boundary should be expanded to create a buffer zone around the project's impoundments to control further development and to protect water quality. Also, they

request increased flows in Millinocket Stream to mitigate project impacts on, and provide enhancement measures for, water quality, fisheries (salmon and brook trout), and wetlands. The Penobscot Nation asks the Commission to include license conditions that protect tribal resources, including requiring minimum flows for the Back Channel. 8/

We have fully considered the motions and comments of the above-named organizations in determining to issue the new license for Project No. 2458. We are adopting many of

7/ See the maps in figures 1-1 and 2-2 of the EIS.

8/ The Penobscot Nation contends that, pursuant to the Commission's fiduciary duty to the Penobscot Nation as a federally-recognized tribe with interests in the project area, the Commission should include license conditions that protect tribal resources. We recognize that, as an agency of the federal government, the Commission is subject to the United States' fiduciary responsibilities towards Indian tribes (see *Covelo Indian Community v. FERC*, 895 F.2d 581, 586 (9th Cir. 1990)). We carry out these responsibilities in the context of the FPA. See *City of Tacoma, Washington*, 71 FERC, supra, at pp. 62,492-94. We have addressed the contentions of the Penobscot Nation under the requirements of the FPA.

Project No. 2458-009      -5-

their recommended mitigation and enhancement requirements. However, we are declining to require minimum flows in the Back Channel, as explained below.

## II. PROJECT DESCRIPTION

As described in the notice of the application, the project's Millinocket Development's powerhouse contained five hydromechanical turbines and three hydroelectrical horizontal Francis turbines connected to three generators with a total rated capacity of 14,880 kilowatts (kW), and a total hydromechanical and hydroelectric capacity of 47,709 horsepower (hp). The five hydromechanical turbines were used to power the large stone groundwood pulping facilities at the Millinocket paper mill. In the summer of 1994, Great Northern closed its stone groundwood

pulping facilities and No. 1 Paper Machine at the Millinocket mill, eliminating approximately 350 jobs; converted the five hydromechanical turbines into hydroelectric turbines using synchronous motors -- which can be used for hydromechanical power or for generating hydroelectric power -- that were attached to the five turbines; and expanded and updated its grinding and paper-making operations at its East Millinocket paper mill, which now uses the increased electricity generated at the Millinocket development. Converting the five hydromechanical turbines to hydroelectric turbine generators increased the electric generating capacity at the development (and the project) by approximately 22,000 kW, although the overall power capacity (the combined hydroelectric and hydromechanical capacity, expressed in horsepower) has remained approximately the same.

The Conservationists argue that the conversion from hydromechanical to hydroelectric operations has changed the project's impact on the environment and Great Northern's need for power. 9/ However, the converted turbines are performing the same function, powering wood grinding and papermaking operations (albeit through hydroelectric power instead of hydromechanical power, and at the East Millinocket mill instead of the Millinocket mill), using the same flows from the West Branch of the Penobscot River. Indeed, the now-closed No. 1 Paper Machine at the Millinocket mill had been using sources of power other than hydropower, and with the expansion of wood-grinding and paper-making operations at its East Millinocket mill, Great Northern's reliance on hydropower as an energy source has

9/ See the Conservationists' motion to require additional information from the applicant, filed August 23, 1994, and the Conservationists' comments on the DEIS, filed February 22, 1995.

Project No. 2458-009      -6-

increased. 10/ Therefore, the conversion from hydromechanical to hydroelectric operations at the Millinocket Development has not materially changed the project's environmental effects, and additional information is not required to address this issue, as requested in the Conservationists' motion. No third-party property rights are affected by the conversion; thus, republication of the application is unnecessary and would serve no useful purpose. 11/

To summarize, the Penobscot Mills Project has a total installed generator capacity of 70.6 MW and an average annual generation of about 386,400 megawatt-hours (MWh). The dependable capacity is 36.4 MW, based on a project flow of 2,800 cubic feet per second (cfs) with an 85 percent exceedance value. 12/

The Penobscot Mills and Ripogenus Projects are part of an integrated system that Great Northern developed to provide baseload electric power for its Millinocket and East Millinocket,

10/ See Great Northern's response, filed September 6, 1994, to Conservationists' August 23, 1994 motion and the staff's response to the Conservationists' February 22, 1995 comments on the DEIS, in Vol. 2, Appendix E of the EIS.

11/ We will waive Section 16.9(d)(1) of our relicensing regulations (18 C.F.R. 16.9(d)(1)), which requires republication of a relicensing application for material amendments to the application (described in 18 C.F.R. 4.35(f)(2) (1995) of our licensing regulations), that change the plans of development in a material way. We will also waive the April 1, 1992 deadline for filing final amendments to the relicensing application, set in the notice issued January 15, 1992 under Section 16.9(d)(2) of the relicensing regulations.

12/ "Dependable capacity" is a project's net firm power, that is, the power the project can be relied upon to produce under adverse load (demand) and flow conditions. "Exceedance value" is the percentage of the time that a certain flow will be met or exceeded. Here, 85 percent of the time, the flow would be greater than or equal to 2,800 cfs, which would be enough to support 36.4 MW of generation.

Millinocket Lake and North Twin developments of the Penobscot Mills Project, as well as its Ripogenus Project, in a store and release mode, and its Millinocket, Dolby, and East Millinocket developments of the Penobscot Mills Project in a run-of-river (outflow equalling inflow) mode. The store and release operations at the Millinocket Lake and North Twin developments (and at the Ripogenus Project) allow Great Northern to maximize the combined annual energy generation of the projects by generally keeping the flow of water within each development's hydraulic capacity and thereby maximizing baseload energy generation for its paper manufacturing facilities at Millinocket and East Millinocket, Maine. 14/ The store and release operations also dampen extreme seasonal variation in streamflows, thereby reducing the risk of downstream flooding during high spring flows.

A detailed description of each development is set forth in ordering paragraph (B)(2), below. These are the principal features of each development.

#### North Twin Development

The North Twin development includes: (1) a 1,051-foot-long concrete earth-filled gravity dam, with a maximum height of 35 feet; (2) a 34-foot-long concrete weir fishway; (3) a concrete, steel, and brick powerhouse, which is integrated into the dam, and measures about 50 feet wide by 114 feet long, and is equipped with two vertical Francis turbines and one vertical Kaplan turbine/generator units, with a total rated capacity of 6,972 kW; and (3) an impoundment (consisting of Elbow Lake, North Twin Lake, South Twin Lake, Pemadumcook Lake, and Ambajejus Lake) that is about 11.8 miles long with a surface area of about 17,790 acres, and gross storage capacity of 346,000 acre feet.

13/ See section 2.1.2 of the EIS. Great Northern employs over 1500 workers, a substantial portion of all jobs in the Millinocket area. *Id.*, section 3.14. Since 1990, the labor force has increased modestly across the state and in the project's region, while unemployment in Millinocket remained consistently above the state average, often by several percentage points. *Id.*, Table 3-1.

14/ *Id.*, Section 2.1.2. Great Northern monitors the energy demand of its mills through a computerized dispatch system known as the Energy Optimization System, and it operates its storage and generation facilities to meet the demand efficiently.



### Millinocket Development

The Millinocket development includes: (1) a 1,262-foot-long concrete gravity and stone dam ("Stone Dam"), at the outlet of Quakish Lake, with a maximum height of 27 feet; (2) a concrete, steel, and brick powerhouse, about 52 feet wide by 112 feet long, equipped with eight turbine/generator units with a total rated capacity of 35,782 kW; and (4) an impoundment (consisting of Quakish Lake and Ferguson Pond) with a surface area of about 1,344 acres and a gross storage capacity of 8,100 acre feet.

### Dolby Development

The Dolby development includes: (1) a 1,395-foot-long concrete gravity and earth-filled dam with a maximum height of 66 feet; (2) a concrete, steel, and brick powerhouse, about 115 feet wide by 167 feet long (and an addition that is 82 feet wide by 36 feet long) equipped with three horizontal Francis turbine/generator units, three inclined turbine/generator units, and one vertical Kaplan turbine/generator unit, connected to seven operable generators with a total rated capacity of 20,886 kW; and (3) a 2.3-mile impoundment (Dolby Pond) with a surface area of about 2,048 acres and a gross storage capacity of 41,956 acre feet.

### East Millinocket Development

The East Millinocket development includes: (1) a 571-foot-long concrete and earth-filled gravity dam, with a maximum height of 28 feet; (2) a concrete, steel, and brick powerhouse, about 56 feet wide by 147 feet long, equipped with six horizontal Francis turbine/generator units with a total rated capacity of 6,936 kW at 60 Hz; and (3) an impoundment (consisting of a 1.9-mile stretch of the West Branch of the Penobscot River) with a surface area of about 128 acres and a gross storage capacity of 1,950 acre feet.

### Millinocket Lake Storage Development

The Millinocket Lake Storage development has no hydroelectric generating facilities. It includes: (1) a 635-foot-long concrete and earth-filled dam, with a 462-foot-long earthen embankment that has a crest elevation ranging from 485.6 feet to 487.0 feet; (2) a concrete, steel, and brick pumping station (Millinocket Lake Pumping Station), which is about 25 feet wide by 53 feet long, equipped with two vertical, wet-pit pumps, each with a capacity of 122 cfs, discharging into two underground 4.5-foot-diameter pipes about 544 feet long that

lead to the outlet structure at North Twin impoundment; and (3) an impoundment (Millinocket Lake) with a surface area of about

Project No. 2458-009      -9-

8,640 acres, a usable storage capacity of 45,370 acre-feet, and a normal maximum pool headwater elevation of 480 feet.

### III. APPLICANT'S PLANS AND CAPABILITIES

In accordance with Sections 10 and 15 of the FPA, 15/ we have evaluated Great Northern's record as a licensee for: (A) consumption efficiency improvement program; (B) compliance history and ability to comply with the new license; (C) safe management, operation, and maintenance of the project; (D) ability to provide efficient and reliable electric service; (E) need for power; (F) transmission services; (G) cost effectiveness of plans; and (H) actions affecting the public.

#### A. Consumption Improvement Program

Great Northern is not an electric utility and has no end-use customers for the power generated by the Penobscot Mills Project, except when it occasionally sells a small amount of surplus power to Bangor Hydro-Electric Company. Because the paper products industry is both highly energy-intensive and highly competitive, Great Northern has built-in incentives to conserve energy and to obtain low-cost electric energy whenever an opportunity presents itself. 16/

#### B. Compliance History and Ability to Comply with the New License

We have reviewed Great Northern's license application in order to evaluate its ability to comply with the terms of a new license, Part I of the FPA and Commission orders thereunder. Great Northern has complied with the terms and conditions of the existing license and has made timely filings with the Commission. We conclude that Great Northern will be able to provide the

15/ 16 U.S.C.      803 and 808.

16/ The Conservationists argue that Great Northern has failed to adequately explore using energy conservation. However, Great Northern has implemented various measures that result in energy conservation, such as modernization of its paper

mills and the use of steam generation to reduce reliance on fossil fuel generation. See Volume V of the application, Sections 1.2.4, 1.3, and 2.3.2.3. of Exhibit. H, and pp. 175-190 of Vol. XIV of the application. Steam is required for pulp and paper manufacturing and is produced in boilers fired by tree bark, as well as fuel oil. Great Northern maximizes the use of steam by first passing it through turbines to generate electricity before using the reduced-pressure steam in the pulp and paper manufacturing process.

Project No. 2458-009      -10-

resources and expertise necessary to carry out its plans and comply with all articles, terms, and conditions of the new license and other provisions of Part I of the FPA.

#### C. Safe Management, Operation, and Maintenance

Each dam is equipped with a monitoring and telemetry system that continuously transmits headwater readings to the dispatch center, allowing the dispatcher to monitor changes in impoundment levels and determine effects on the rest of the storage system. All of the project dams are capable of passing the probable maximum flood, and Great Northern has installed a river flow monitoring and warning system that supplements the telemetry system and provides early warning of a potential emergency to nearby residents and recreational users. The applicant also performs routine inspections of the project, maintains fences and warning signs, and controls public access in a manner that provides for safe and reasonable use of the project area.

We conclude that Great Northern's plans adequately provide for safe management, operation, and maintenance of the project and that the applicant proposes no changes that would adversely affect project safety.

#### D. Efficient and Reliable Electric Service

The Penobscot Mills Project is part of an integrated system in which the energy demand of the paper manufacturing facilities is monitored through a computerized dispatch system and the storage and generation facilities of the system are operated so as to efficiently meet that demand. The operation of the project is coordinated with other storage and generation facilities in the system so as to most fully utilize the water storage capabilities and available head of the West Branch for energy and flood control benefits.

We conclude that Great Northern's plans adequately provide for operation and maintenance of the project in such a manner as to provide efficient and reliable electric service and that Great Northern has the ability to carry out those plans.

#### E. Need for power

The Penobscot Mills Project is expected to provide approximately 23 percent of Great Northern's sustainable generation capacity (level of power that can be maintained over time) and to meet approximately 31 percent of its energy needs at its paper manufacturing plants. The remainder of the company's energy needs are to be met by other hydroelectric projects and steam cogeneration facilities in the Great Northern system and by purchases from Bangor Hydro.

Project No. 2458-009      -11-

Great Northern's future production plans include more energy intensive production, resulting from modernization efforts to increase overall productivity and quality. These modernization efforts decrease the overall cost of production, but tend to require proportionately greater amounts of energy in their operation.

Because production of energy at the project and use of energy in the mills are tied so closely together, other sources would be needed in order to keep the mills in operation if hydropower were lost. Also, these sources would have to be cost-competitive with Great Northern's hydropower costs if Great Northern is to remain competitive in the paper industry. Furthermore, the 40-Hz electricity generated at the Millinocket and Dolby developments, which is used at Great Northern's paper mills, cannot be replaced easily with outside purchases; only 60-Hz electricity is available from Bangor Hydro. 17/ We conclude that there is a significant need now and over the license term for the electricity generated by the project.

#### F. Transmission Service

Great Northern generates electricity primarily for its own industrial use. Therefore, relicensing the project would have no significant effect on transmission service.

#### G. Cost Effectiveness of Plans

Great Northern proposes no changes to the project structures. The operational changes Great Northern proposes could be instituted immediately with minimum effort and have, in fact, been applied on a trial basis since the spring of 1991. These changes limit power production relative to historical operations in order to accomplish some environmental enhancements, but still allow Great Northern to meet its energy needs.

#### H. Actions Affecting the Public

Great Northern pays taxes to local jurisdictions, which provide a source of income to these entities. Articles included in ordering paragraph (D) of this license require Great Northern to implement a brook trout stocking program in Millinocket Stream, which will enhance fishing opportunities; manage North

17/ See sections 1.2 and 2.1.2 of the EIS. Forty-hertz capacity supplies power to the large wood grinder motors at East Millinocket mill. It cannot be purchased from, or sold to, any public utilities, which use 60-hertz generating networks.

Project No. 2458-009      -12-

Twin lake levels for recreation; release minimum flows in Millinocket Stream, which will enhance fish habitat; expand existing public boat access facilities, which will improve recreational opportunities; and if needed, remove submerged hazards to recreational navigation in Millinocket Lake and North Twin impoundment. Great Northern's actions support issuance of a new license.

#### IV. WATER QUALITY CERTIFICATION

Under Section 401(a)(1) of the Clean Water Act, 18/ the Commission may not issue a license for a hydroelectric project unless the state in which the project discharge originates either issues water quality certification for the project or waives certification. Section 401(d) of the Clean Water Act provides that the state certification shall become a condition on any federal license or permit that is issued. 19/

While Section 401 authorizes the states to provide water quality certifications as part of the licensing process, their power to attach conditions to such certifications is not

unbounded, but rather is limited by the strictures of Section 401. Thus, inasmuch as Congress' purpose in enacting Section 401 was to control activities that might adversely affect water quality, it follows that only conditions relating to water quality are lawful. Moreover, once a state has issued certification, the Clean Water Act contemplates no further role for the state in the process of issuing, and ensuring compliance with the terms of, a federal license, except in specified circumstances where a new certification is required. 20/

The Commission will incorporate all lawful water quality requirements into hydroelectric licenses, and will enforce water quality conditions imposed by the states vigorously, and on the same basis that it enforces terms prescribed by the Commission under the FPA. To this end, the Commission has not eliminated or modified any of the substantive conditions that Maine sought to impose to protect the quality of water resources in the state.

However, this case presents an instance in which a state has gone beyond its regulatory power. The conditions that we reject

18/ 33 U.S.C. 1341(a)(1).

19/ 33 U.S.C. 1341(d).

20/ See *Tunbridge Mill Corporation*, 68 FERC 61,078 (1994), reh'g denied, 75 FERC 61,078 (1996), appeal pending sub nom. *American Rivers, Inc. v. FERC*, 2nd Cir. No. 96-4110, et al. (consolidated).

Project No. 2458-009 -13-

below are those that assert for the State of Maine the kind of governance and enforcement authority that is critical and exclusive to the Commission's responsibility to administer licenses under the FPA. There is no basis in the Clean Water Act for a state to assume the Commission's federally-mandated role to administer the terms of licenses issued under the FPA.

Were we to fail to reject unlawful conditions, the Commission would find itself in the untenable position of imposing and having to enforce licensing requirements that are unrelated to water quality and are not the product of the balancing of interests that is mandated by the FPA. Moreover, in the case of conditions giving states ongoing compliance authority, we (and our licensees) would be faced with a patchwork

of enforcement schemes, with attendant uncertainties and possibilities of regulatory gaps, rather than the FPA's clear mandate that it is this Commission's sole responsibility to ensure compliance with licenses we issue.

The Maine Department of Environmental Protection (Maine DEP) issued Section 401 water quality certification for the Penobscot Mills Project on April 22, 1993. The certification was in two parts, one for the Millinocket Lake Storage Dam and the other for the North Twin, Millinocket, Dolby, and East Millinocket Hydroelectric Developments. 21/ Maine DEP expressly waived certification of continued operation of the project as it relates to the Back Channel. 22/

21/ As noted, in 1994, Great Northern changed the use of hydraulic turbines at the Millinocket Development from a hydromechanical to hydroelectric production. Information regarding this change was contained in Great Northern's filing of September 6, 1994, in this proceeding and was served on Maine DEP, which, pursuant to Section 401(a)(3) of the Clean Water Act, had 60 days to inform the Commission that there was no longer reasonable assurance that the project would comply with requirements of the Clean Water Act because of changes, since issuance of water quality certification, in the operation of the project. Maine DEP has not made such a filing.

22/ See page 17 of the certification for the North Twin, Millinocket, Dolby, and East Millinocket Hydroelectric Developments attached to Maine DEP's letter, filed April 27, 1993. The Conservationists argue that the Back Channel should nevertheless be required to meet water quality standards, based on the requirement in Section 4(e) of the FPA for equal consideration of environmental and developmental purposes. However, equal consideration does  
(continued...)

Project No. 2458-009      -14-

In Maine, water quality certifications for hydroelectric projects contain all of the state's recommendations with respect to such projects. 23/ We have reviewed the certification conditions for Project No. 2458 and find that most of the conditions are within the scope of Section 401 and will therefore become conditions of the license, pursuant to Section 401(d) of the Clean Water Act. The non-qualifying terms are conditions 3

(study of adverse effects on dissolved oxygen due to paper mill discharges), 10 (limits of certification approval), 11 (compliance with applicable laws), and 12 (effective dates) of the certification for the North Twin, Millinocket, Dolby, and East Millinocket Hydroelectric Developments, and conditions 7, 8, and 9 of the certification for the Millinocket Lake Storage Dam, which are the same as conditions 10, 11, and 12 in the North Twin, et al., certification. These non-qualifying conditions are discussed below. The water quality certification is attached to this order as Appendix A.

Conditions 1, 5, 6, 7, 8, and 9 for North Twin, Millinocket, Dolby, and East Millinocket Hydroelectric Developments, and conditions 1, 2, 3, 4, and 6 in the certification for the Millinocket Lake Storage Dam each require Great Northern to submit for the Maine DEP's approval a plan for implementing the requirements of the condition. However, the Clean Water Act makes the Commission, not the certification agency, the administrator and enforcer of all license conditions, including those in a Section 401 certification. See *Tunbridge Mill*, supra, 75 FERC at p. 61,574. Therefore, the above-numbered certification conditions, to the extent that they require the

22/(...continued)

not compel equal treatment. See, e.g., *Thomas Hodgson & Sons, Inc.*, 63 FERC 61,068 at p. 61,297 (1993). Implicit in the Conservationists' argument that flows must be ordered to restore instream habitat in the Back Channel, habitat which was lost when Stone Dam was constructed in 1899, is the contention that all past damage to fish and wildlife caused by the project's construction and operation must be mitigated on relicensing, a contention that we reject for the reasons stated in *City of Tacoma, Washington*, supra, 71 FERC at p. 62,492. As described in this order, we find that the Penobscot Mills Project, under the requirements of the new license issued here, will be best adapted to a comprehensive plan of development of the waterway in question, as required by Section 10(a)(1) of the FPA, without license requirements for minimum flows to the Back Channel.

23/ See the Governor of Maine's Executive Order No. 13FY 86/87, dated March 4, 1987.



described Maine DEP approvals, are improper and will be rejected. Instead, the license articles implementing these conditions direct the licensee to develop the required plans in consultation with the Maine DEP, to obtain the Maine DEP's comments on the plans, and to explain if necessary why the licensee does not adopt a recommendation of the Maine DEP.

Certain other conditions are rejected below.

A. North Twin, Millinocket, Dolby, and East Millinocket Hydroelectric Developments

Certification Condition 3 for the requires Great Northern to:

investigate the extent to which dissolved oxygen deficits in Dolby impoundment are due to discharges from Millinocket Mill, [and] ... submit the results of the investigation, along with a discussion of possible corrective actions, to the [Maine DEP] in conjunction with the next renewal of the Waste Discharge License for the Millinocket Mill.

Condition 3 will not be included in the new license because it is directly related to the operations of the Millinocket Paper Mill, which is subject to the requirements of a state waste discharge permit for the paper mill. 24/ Requirements with respect to discharges by the paper mill, and studies of the effect of such discharges, should therefore be imposed directly on the paper mill pursuant to such permit. 25/

24/ The waste discharge license is a National Pollutant Discharge Elimination System (NPDES) permit issued under Section 402 of the Clean Water Act, 33 U.S.C. 1342. NPDES permits are not required for changes in water quality related to the construction and operation of dams. See Marysville Hydro Partners, 63 FERC 61,271 n. 126 (1993), and cases cited therein.

25/ Indeed, Section 4(c) of the water quality certification for the Penobscot Mills Project states in part:

[L]ow DO levels have been recorded in the bottom of the Dolby impoundment. There is no evidence in the record that the operation of the project is causing or contributing to these low DO levels. The Bureau of Water Quality Control requests that the applicant [Great Northern] investigate and report on the extent to which dissolved oxygen deficits in the Dolby  
(continued...)

Condition 10 limits the approval contained in the water quality certification to the proposals and plans contained in the certification application and supporting documents and requires review and approval of all variances from these proposals and plans prior to implementation.

Condition 10 will not be included in the license. As we stated in Tunbridge, Section 401(a)(3) of the Clean Water Act sets out the exclusive manner in which state certifications may be modified and makes clear that that process is to be initiated by the federal licensing agency, not the state. 26/ Since Condition 10 gives the state authority beyond that provided for in the Clean Water Act, it is beyond the scope of Section 401 and will not be included in the license.

Condition 11 requires Great Northern to comply with all applicable federal, state, and local licenses, permits, authorizations, conditions, agreements, and orders required for operation of the project.

Condition 11 will not be included in the license, as it is vague but clearly overbroad, and is in any event unnecessary.

Condition 12 provides that the certification will be effective on the date of issuance of the new license and expire with the expiration of the license. This condition is rejected. As noted, Section 401(a)(1) of the Clean Water Act prohibits the Commission from issuing the new license unless the certification agency has issued (or waived) certification. Issuance of the new license without issuance of an "effective" certification makes our compliance with Section 401(a)(1) ambiguous and problematical. Condition 12's provision for expiration of the certification upon expiration of the new license conflicts with Section 15(a)(1) of the FPA, which requires the Commission, upon expiration of the term of the new license, to issue an annual license under the same terms as those contained in the prior license until a new license is issued or the project is otherwise disposed of as provided in Section 15 or any other applicable section of the FPA. The issuance of an annual license under Section 15(a)(1) is a ministerial act designed to prevent a hiatus in operation of the project and does not require new certification, as would appear to be required under Condition 12.

impoundment are due to discharges from the Millinocket Mill.

26/ See n. 22, supra, 68 FERC at p. 61,389.

Project No. 2458-009      -17-

## B. Millinocket Lake Storage Dam

Conditions 7, 8, and 9 are rejected for the same reasons that we reject certification conditions 10, 11, and 12 for North Twin, Millinocket, Dolby, and East Millinocket Hydroelectric Developments.

## V. SECTION 18 FISHWAY PRESCRIPTIONS

Section 18 of the FPA 27/ provides that the Commission shall require construction, maintenance, and operation by the licensee of such fishways as the Secretary of Commerce or the Interior, as appropriate, may prescribe. By letter filed May 24, 1993, Interior stated that it would not prescribe a fishway at this time, but requested that the new license be conditioned to reserve the authority under Section 18 to prescribe fish passage facilities when they are needed. Article 407 reserves the Commission's authority to require fishways that Interior may prescribe. 28/

## VI. RECOMMENDATIONS OF FEDERAL AND STATE FISH AND WILDLIFE AGENCIES AND SECTION 10(j) PROCESS

Section 10(j)(1) of the FPA requires the Commission to include license conditions, based on recommendations of state and federal fish and wildlife agencies, submitted pursuant to the Fish and Wildlife Coordination Act, 29/ for the protection of, mitigation of adverse impacts to, and enhancement of fish and wildlife resources. If the Commission believes that any such recommendations may be inconsistent with Part I of the FPA, or other applicable law, Section 10(j)(2) of the FPA requires the Commission to attempt to resolve the inconsistency, giving due weight to the recommendations, expertise, and statutory responsibilities of the agencies. Failing resolution of the inconsistency, Section 10(j)(2) requires the Commission to publish a finding that adoption of the recommendation is inconsistent with Part I of the FPA or other applicable law, as well as a finding that the conditions selected by the Commission will adequately protect, mitigate adverse impacts to, and enhance fish and wildlife resources, together with a statement of the

basis for these findings.

27/ 16 U.S.C. 811.

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

29/ 16 U.S.C. 661 et seq.

Project No. 2458-009 -18-

As noted, Maine DEP included all of its recommendations for license conditions in its water quality certification without specifying which conditions would also be recommendations subject to Section 10(j). However, we include in the license all of the certification conditions except the four discussed above, 30/ and those four provisions do not pertain to project impacts on fish and wildlife, and are therefore outside the scope of Section 10(j).

In its letter filed May 24, 1993, Interior recommended the following six license requirements as Section 10(j) conditions: (1) a minimum flow to the Back Channel of the lesser of 500 cfs or inflow year-round; (2) a minimum flow to Millinocket Stream of the lesser of 60 cfs or inflow; (3) instantaneous run-of-river operation for the Millinocket, Dolby, and East Millinocket developments; (4) a monitoring plan to ensure compliance with the recommended flow requirements, including descriptions of either automated or staffed facility operations; (5) a plan for filing every five years a monitoring report on recreation at the project, including quantitative descriptions of annual recreation

30/ The following conditions in the certification for North Twin, Millinocket, Dolby, and East Millinocket Hydroelectric Developments are included as license conditions: Condition 1 - run-of-river operation at Millinocket, Dolby, and East Millinocket developments and a minimum flow of 2,000 cfs to the West Branch at Millinocket (Article 403); Condition 2 - water level in the North Twin impoundment be maintained to protect lake trout (Article 408); Condition 4 - cooperate in a study of the effects of toxic metals on aquatic life in the project waters (Article 405); Condition 5 - repair the North Twin fishway (Article 406); Condition 6 - monitor the

spawning success of lake trout in North Twin impoundment (Article 409); Condition 7 - submit and implement plans for enhancing wetlands (Article 410); Condition 8 - study the need for removing submerged hazards to navigation in North Twin impoundment (Article 420); Condition 9 - improve recreational parking areas and a boat launch (Article 414).

The following conditions in the certification for the Millinocket Lake Storage Dam: Condition 1 - minimum flow of 60 cfs (Article 401); Condition 2 - maintain impoundment level (Article 402); Condition 3 - brook trout stocking program in Millinocket Stream (Article 413); Condition 4 - submit and implement plans for enhancing wetlands (Article 410); Condition 5 - cooperate in a study of the effects of toxic metals on aquatic life in the project waters (Article 405); Condition 6 - study the need for removing submerged hazards to navigation in Millinocket Lake (Article 420).

Project No. 2458-009      -19-

use and qualitative descriptions of the adequacy of recreation facilities; and (6) a plan to protect the watershed for the West Branch of the Penobscot River, including identification of sensitive habitats.

The DEIS made a preliminary determination that Interior's Section 10(j) recommendations for flow requirements for the Back Channel and Millinocket Stream were inconsistent with the purpose and requirements of Part I of the FPA, and conflicted with the comprehensive development and public interest standards of FPA Section 10(a)(1). The DEIS concluded that a plan for monitoring project flows, as Interior recommended, would be required. The DEIS stated that Interior's recommendations for a recreation plan and watershed protection plan were beyond the scope of Section 10 (j) because they were not specific measures to protect, mitigate, or enhance fish and wildlife resources.

Interior submitted comments on the DEIS on February 21, 1995, and included revised 10(j) recommendations as part of those comments. These revised recommendations included: (1) a minimum flow to the Back Channel of the lesser of 945 cfs (an increase of 445 cfs from the original recommendation) or inflow year-round; (2) a minimum flow to Millinocket Stream of 120 cfs (a doubling of the originally-recommended flow) or inflow between October 15 and June 7 and 60 cfs or inflow between June 8 and October 14; (3) run-of-river operation at the Millinocket, Dolby and East

Millinocket developments; (4) a contaminant monitoring plan; (5) a plan to monitor the effectiveness of the flow requirements; (6) a plan for monitoring the level of contaminants in fish and wildlife resources; and (7) a plan for monitoring the effectiveness of all license requirements that enhance fish and wildlife resources.

By letter dated May 1, 1995, the Director, Division of Project Review of the Office of Hydropower Licensing (Division Director), informed Interior that its increased minimum flow recommendations for Millinocket Stream and the Back Channel were being rejected for the same reasons that Interior's original recommendations were rejected, and requested that Interior consider other options that would accomplish the objectives of the original recommendations. The Division Director also noted that the water quality certification for the Penobscot Mills Project required monitoring contaminants. He suggested a modified run-of-river requirement that would provide some flexibility for project maintenance.

Interior responded by letter dated June 12, 1995, and accepted modified run-of-river operations at the Millinocket, Dolby, and East Millinocket Developments. However, Interior did not withdraw or revise its recommendations for minimum flows to

Project No. 2458-009      -20-

the Back Channel or Millinocket Stream. Interior also recommended that contaminant monitoring include monitoring of mercury, zinc, and copper.

In a further attempt to resolve these issues, the staff held a Section 10(j) dispute-resolution meeting with representatives from Interior on February 8, 1996. The meeting resulted in Interior's agreeing to a year-round minimum flow for Millinocket Stream of the lesser of 60 cfs or inflow. The discussions of contaminant monitoring requirements noted that the water quality certification for the Penobscot Mills Project requires Great Northern to cooperate in studies on toxic metals in project waters, but that the condition does not clearly define the extent of Great Northern's cooperation. Accordingly, we are requiring Great Northern to file a plan describing its cooperation. Regarding the recommendation to monitor the effectiveness of enhancement measures, the staff stated that monitoring would be limited to those measures required in the license.

The 10(j) meeting did not resolve the issue regarding Back

Channel flows. Interior's recommended 945-cfs flows for the Back Channel would reduce the annual net energy benefits of the project (\$14.9 million) by \$2.5 million or approximately 16 percent, a significant reduction in energy benefits, particularly in light of Great Northern's need for inexpensive power to remain competitive in its paper making operations. 31/ Moreover, as discussed in the FEIS, while fish species such as brook trout, eels, and minnows and suckers would benefit slightly from the recommended flows, 32/ the Back Channel would at best only produce several hundred adult land-locked salmon, 33/ and most

31/ Great Northern claims that flows to the Back Channel in excess of 50 cfs would result in the loss of approximately 238 jobs. Since Great Northern has not filed data supporting its claim (because the data is proprietary business information) there is no way to conclusively verify Great Northern's job-loss claims. However, Great Northern's operating costs are high compared to other paper manufacturers, and cost increases could reduce the company's competitiveness. See Section 5.3.5 of the EIS.

32/ Id., section 4.4.2.4.

33/ See Sections 4.4 and 5.3 through 5.6 of the FEIS. The estimate of several hundred salmon for the 2.7-mile reach of the Back Channel appears optimistic, in light of salmon population studies that have documented approximately 200 legal-sized (16 inches) salmon per mile in the 21-mile-long reach of the West Branch of the Penobscot River below McKay  
(continued...)

Project No. 2458-009      -21-

likely would not create a self-sustaining land-locked salmon population, since juvenile salmon would be subject to predation by other fish species, such as bass and pickerel; there is a lack of adequate spawning and adult habitat; 34/ and the downstream Grand Falls would impede spawning migration back to the limited spawning habitat. 35/ Accordingly, we find that Interior's recommendation is inconsistent with the requirements of Sections 4(e) and 10(a)(1) of the FPA, in that it would entail a significant reduction in energy benefits on behalf of only marginal improvements to aquatic habitat for salmon.

This license requires Great Northern to provide additional flows in Millinocket Stream to enhance fisheries and to provide

lake level management in North Twin to enhance lake trout. The license also requires Great Northern to stock brook trout in Millinocket Stream below the Millinocket Dam and to enhance wetlands. Consequently, we find that the conditions included in the license adequately and equitably enhance fish and wildlife resources affected by the project.

## VII. OTHER COMMENTS AND RECOMMENDATIONS

The EIS discussed the following concerns in detail, as well as other concerns that have been resolved among the participants. We adopt the recommendations in the EIS for the reasons stated therein and discuss the contested matters below. 36/

### A. Minimum Flows in the Back Channel

EPA, Trout Unlimited, the Conservationists, and the Penobscot Nation recommend a year-round minimum flow of 500 cfs for the Back Channel. Their recommendation is based on the

33/(...continued)

Station (Ripogenus' powerhouse), which is a premier landlocked salmon area. *Id.*, Section 5.3.2.

34/ Only a limited amount of adult and spawning salmon habitat (about 100,000 square feet) is created at flows as high as 700 cfs. See EIS section 4.4.1.4.

35/ *Id.*, sections 4.4.2.4, 4.4.3.4, and 5.3.2.

36/ In its comments on the DEIS, filed February 22, 1995, Trout Unlimited challenges the definition of the environmental baseline for assessing project impacts as operations under the original license. Trout Unlimited argues that the standard should be pre-project conditions. We recently rejected this argument in *City of Tacoma, Washington*, 71 FERC 61,381 (1995).

Project No. 2458-009      -22-

results of Great Northern's Instream Flow Incremental Methodology (IFIM) study (which depicts the relationship between flows and habitat) showing that the amount of habitat for some life stages of landlocked salmon was maximized at a flows between 350 to 500 cfs. 37/ However, the recommendation for 500 cfs would reduce energy benefits approximately \$400,000 per year more than would a



flow of 350 cfs, 38/ and the difference in potential fisheries benefits resulting from the two flows is minimal. Accordingly, for further analyses as a project alternative, we used a 350 cfs flow in the Back Channel. 39/

Great Northern provides leakage (approximately 2 to 5 cfs) to the Back Channel from Stone Dam. It claims that it cannot provide the recommended minimum flows to the Back Channel and, at the same time, meet requirements for maintaining water availability to run its paper mills, for releasing minimum flows for aquatic habitat, and for maintaining impoundment levels for lake trout spawning and recreation. Great Northern bases its claims on its water use model, a mathematical simulation of impoundment levels and flows under various operating regimes and quantities of available water for both the Penobscot Mills and Ripogenus Projects. 40/

37/ See section 4.4.2.4 and the graph in Figure 4-3 in the EIS, which shows the relationship between minimum flows and "weighted usable area (WUA)" (relevant habitat created) in the Back Channel for various life stages (early fry, juvenile, spawning, late fry, and adult) of salmon. The graph shows that 350 cfs flow would increase the amount of habitat for all life stages of salmon and that the benefits for juveniles would be maximized.

38/ See Table 5-10 of the EIS.

39/ The Penobscot Nation requests minimum flows in the Back Channel to restore canoeing opportunities there and to other parts of the West Branch of the Penobscot, with a minimum of portaging. However, flows as high as 350 cfs would not provide sufficient water for navigation in the Back Channel, which has been essentially dry since 1899; canoeing opportunities in a wilderness setting are available in the West Branch; and portaging is required for the canoeing in the West Branch, whether or not canoeing flows are provided to the Back Channel. See Section 4.8.1.1 of the EIS.

40/ See Appendix D of the EIS. The Water Use Model is based on 15 years of data (1976 through 1990). The model describes "very wet," "wet," "average," "dry," and "very dry" years in terms of billions of cubic feet of water available for storage and outflow at the Ripogenus impoundment.

Analysis of the water use plan shows that the proposed requirements for maintaining lake levels and providing instream flows at various developments, as well as providing a 350-cfs minimum flow to the Back Channel, can be accomplished without additional releases from storage, except during "very dry years" 41/ when reservoir storage would be too depleted and some flows and lake levels would have to be reduced. 42/ During "dry years," 43/ all flow and impoundment requirements could be met, but not simultaneously. However, the water shortfalls during "dry years" would be slight and last for a only a brief portion of the year. 44/ Consequently, Great

41/ Id., section 4.2.5. "Very dry years," which are defined as having total available water of no more than 16.1 billion cubic feet (bcf), occurred in two of the 15 years analyzed.

42/ Some examples are reducing salmon incubation flow in the West Branch below McKay station (powerhouse of the Ripogenus Project) and reducing impoundment levels required for recreation and lake trout at the North Twin impoundment.

43/ "Dry years," which is defined as having total available water of no more than 17 bcf, occurred approximately once in every six years analyzed.

44/ See section 5.3.1 of the EIS. The EIS found that all requirements could be met, even in "very dry years," if, as EPA, the Penobscot Nation, and Trout Unlimited request, a portion of the 2000-cfs minimum flow from the Millinocket development into the West Branch of the Penobscot River, as required under the project's water quality certification and a 1901 state law (Chapter 174, Section 10 of An Act to Incorporate the West Branch Driving and Reservoir Branch Company), could be divided into two flows, one discharged directly into the West Branch of the Penobscot River from the Millinocket powerhouse and the other discharged at Stone Dam into the Back Channel, which would eventually flow into the West Branch approximately 2.5 miles downstream from the powerhouse. EIS, section D.3.3. We need not reach this issue, since we are declining to require minimum flows to the Back Channel. Nevertheless, we question an interpretation of the pertinent condition (condition 1) of the water quality certification for the Millinocket Development that would permit dividing between Millinocket powerhouse and the Stone Dam the 2000 cfs minimum flow that the condition requires to be released into the West Branch "at Millinocket." While the quoted phrase is somewhat ambiguous regarding the point of discharge of the required  
(continued...)

Northern's water use plan does not conclusively show that there is insufficient water available under most circumstances to require a 350-cfs Back Channel flow.

In any event, the reduction in the project's loss in annual energy benefits for the Back Channel flows outweighs the enhancement in aquatic resources that the flows would produce. As noted, while the IFIM results show that a 350-cfs minimum flow would increase the amount of habitat for all life stages of salmon and would maximize the benefits for juvenile salmon, a self-sustaining landlocked salmon stock would not likely be established in the Back Channel and, therefore, the 350-cfs minimum flow would not substantially increase the availability of adult landlocked salmon to area fisheries. Moreover, the 350-cfs minimum flow would reduce annual energy benefits of the project by approximately six percent or \$916,000. 45/ Given the modest fisheries benefit likely to occur and the significant adverse impact on the project's energy benefits, we are not requiring minimum flows for the Back Channel.

#### B. Fish Passage

Great Northern maintains a fishway at the North Twin Dam. It proposes to repair or modify the North Twin fish passage facility to allow salmon that have passed over the dam to move back upstream to spawning areas in the West Branch below McKay Station. We have included Great Northern's proposal in Article 406.

As noted, by letter filed May 24, 1993, Interior stated that, because the Maine Department of Inland Fisheries and Wildlife (Maine Fisheries) is reluctant to seek fish passage at the Millinocket Lake Dam due to a desire to keep smallmouth bass from migrating into the lake and threatening the indigenous fish species, particularly salmon, Interior would not prescribe a

44/(...continued)

minimum flow, the following language from the certification (page 10) shows that the certification agency did not intend that any of the 2000-cfs minimum flow be diverted to the Back Channel:

Existing flow to the Back Channel is leakage from Stone dam (2-5 cfs). \* \* \* [Great Northern] cannot maintain the advantages to fisheries, recreation

and hydroelectric power generation of the Water Use Plan if additional flows are provided to the Back Channel.

45/ See Table 5-10 of the EIS.

Project No. 2458-009      -25-

fishway for the dam at this time, although Interior has requested and we are including a reservation of fishway prescription authority. Maine Fisheries and Great Northern contend that constructing passage facilities at Dolby, Millinocket, East Millinocket, or Millinocket Lake Storage dams is unnecessary, because no anadromous species inhabit the project areas, and because passage would threaten the state's fisheries management objectives for the project waters. Smallmouth bass and pickerel, both introduced species, occur in the lower Penobscot Mills Project area. Adding passage facilities would increase their distribution, which would almost certainly result in direct competition with native species such as land-locked salmon, lake trout, and a variety of other game and nongame species in upstream waters.

Trout Unlimited requested installation of both upstream and downstream fish passage facilities at Millinocket Lake Storage Dam and downstream passage at Dolby, Millinocket, and East Millinocket Dams. We agree with Maine Fisheries that creating such passage would facilitate the further, undesirable spread of introduced species throughout the West Branch. Accordingly, we are not requiring passage at these facilities.

### C. Buffer Zones and Shoreline Protection

Great Northern holds fee title or flowage rights to all project lands and most of the land in the surrounding area, where it conducts extensive logging operations. 46/ Great Northern holds in fee lands comprising approximately 70 percent of the shoreline around the nine impoundments. 47/ It has conveyed approximately 900 leases of "camp-lots" under long-term leases to private individuals. Nearly 80 percent of these camp-lots are concentrated along the shoreline of the North Twin impoundment (Ambajejus, South Twin, and North Twin lakes). 48/ There are

46/ Id., section 3.11.1.

47/ As noted, the five developments of the Penobscot Mills

Project contain Elbow Lake, North Twin Lake, South Twin Lake, Pemadumcook Lake, Ambajejus Lake, Quakish Lake, Ferguson Pond, Dolby Pond, and Millinocket Lake.

48/ Id., section 3.10.3. All of the project's impoundments except East Millinocket are available for public recreation. Eighteen commercial recreational camps exist throughout the project area, and most are located on land leased from Great Northern adjacent to the project's impoundments both within and outside the project boundary. Most of these are camps offering swimming, boat rental, guide services, and  
(continued...)

Project No. 2458-009      -26-

now approximately 430 dwelling units along the shoreline of the Penobscot Mills impoundments, and many have floating or fixed docks. 49/ Great Northern stopped leasing camp-lots in the early 1970's. However, any resumption of the leasing program could affect recreation, aesthetic, and vegetative resources on Great Northern land that abuts the project's reservoirs.

Great Northern proposes no expansion of the existing project boundary, which is at the high water mark of the project's shorelines. Instead, it intends to adhere to land use regulations imposed by the Maine Land Use Regulation Commission (Land Commission). 50/

However, a licensee must hold all rights in project property necessary to fulfill project purposes, including the maximization of public access to project lands and waters (8 C.F.R. 2.7.) and the protection of aesthetic, vegetative, and water quality resources. The Commission has long since determined that local zoning ordinances are an inadequate substitute for a licensee's

48/(...continued)  
convenience goods. The West Branch between Ripogenus dam and Ambajejus Lake is heavily used for whitewater boating and fishing. The project area is located in the Katahdin/Moosehead Travel Region, the largest of eight travel regions in Maine, and in close proximity to Baxter

State Park. Id., section 3.10.1.

49/ See the section 4.9.1.1 of the EIS.

50/ For example, the Land Commission's requirements currently include a minimum building set-back of 100 feet from lake shorelines, a requirement of no more than one dwelling per 200 linear feet of shoreline, and restrictions limiting the size and location of clear-cutting activities. Id., section 3.11.1.1. Most of the land adjacent to the project boundary is currently zoned "P-GP," which requires 200 feet of linear feet of shoreline per structure, building setback limits of 100 feet to 150 feet, and a vegetative buffer of 100 feet. Id. See also Table 3-10 of the EIS. Logging restrictions include no clearcutting within 50 feet of the normal high water mark, and harvesting activities must maintain a well-distributed stand of trees to protect the aesthetic and recreational value and water quality of the area.

Project No. 2458-009      -27-

control of land use for the area surrounding a project impoundment to fulfill such project purposes. 51/

Interior recommends a 500-foot outward expansion of the project boundary around all of the project's impoundments, and the imposition of a 500-foot building setback requirement and a 250-foot vegetative buffer zone. The building setback is aimed at protecting aesthetic resources, and the vegetative buffer would protect water quality from the effects of logging operations.

In determining how extensive and how wide a buffer zone should be required around an existing impoundment, we take into consideration the costs of obtaining such a zone. 52/ We estimate that a boundary expansion of 500 feet at the Penobscot Mills Project's impoundments would require Great Northern to purchase easements, at a minimum, on approximately 3,000 acres of land at an annual levelized cost of \$1.6 million, which constitutes approximately 10 percent of the project's annual energy benefits. 53/ A smaller boundary expansion limited to land already owned by Great Northern would protect the aesthetics, water quality, and recreational use of the project area nearly as well as the larger 500-foot/250-foot project boundary expansion, 54/ without expensive property acquisition costs that would adversely affect the project's energy benefits.

Absent a clear need to provide the additional protection, the cost of acquiring a 500-foot buffer strip cannot be justified.

The EIS recommends a 200-foot outward expansion of the project boundary on Great Northern-owned land around all of the project impoundments, which would include a 200-foot building set-back requirement and a 100-foot vegetative buffer zone to control timber harvesting. 55/ We are requiring (in Article 418) Great Northern to file a Shoreline Management Plan for Great

51/ See *Alabama Power Co.*, 12 FERC 61,060 (1980); *Public Service Company of New Hampshire*, 75 FERC 61,111 n. 65 (1996).

52/ 18 C.F.R. 4.51(f)(6)(iv).

53/ See Table 5-3 of the EIS.

54/ For example, the EIS (section 5.3.4) noted that the recommended 250-foot vegetative buffer zone would exceed areas for such buffer zones recommended by the U.S. Forest Service and the State of Maine for logging near streams and lakes.

55/ See section 5.3.4 of the DEIS.

Project No. 2458-009 -28-

Northern-owned lands surrounding the projects' impoundments. The plan is to use a 200-foot expansion of the existing boundary on Great Northern-owned land; 56/ include a 200-foot building set-back restriction and a 100-foot vegetative buffer restriction; provide appropriate public access to project impoundments for recreation purposes; propose redrawing the project boundary to exclude existing camp-lots. 57/ The management plan will provide the basis for protecting approximately 70 percent of the project's impoundment shoreline.

#### D. Impoundment Level Restriction for Lake Trout and Recreation Enhancement

During pre-filing consultation, several groups expressed concern about the draw-down regime for the North Twin impoundment. Occupants of camps around the impoundment wanted Great Northern to maintain relatively high, stable lake levels into late August in order to enhance recreational uses. Maine

Fisheries wanted Great Northern to complete the fall draw-down of the impoundment by October 15 in order to enhance lake trout spawning. Draw-downs at the Ripogenus impoundment (Project No. 2572) and Millinocket Lake would increase slightly because water stored in these impoundments will help maintain relatively stable water levels in the North Twin impoundment. At the North Twin impoundment, the average draw-down will be reduced by approximately four feet during dry years and one foot during normal years. This measure, included in the license as Article 408, will extend the period during which Great Northern maintains relatively stable water levels in the impoundment through mid-August, thereby enhancing recreational activities during the height of the summer recreation period. Extending the period of stable water levels will reduce the time available to draw down the reservoir to its lowest elevation by October 15 (for lake trout spawning), but will not jeopardize draw-down requirements or exceed a safe draw-down rate. Once fall draw-down is complete, Article 408 will require Great Northern to maintain the

56/ See 18 C.F.R. 4.51(h)(2)(i)(B), which states:

The boundary [around a project impoundment] must be located no more than 200 feet (horizontal measurement) from the exterior margin of the reservoir, defined by the normal maximum surface elevation, except where ... additional lands are necessary for project purposes, such as public recreation, shoreline control, or protection of environmental resources.

57/ In this regard, see our discussion in East Bay Municipal Utility District, 64 FERC 61,043 (1993).

Project No. 2458-009 -29-

water level at or above this level until May 1, by which time the lake trout eggs will have hatched. Maine Fisheries, which is attempting to establish a self-sustaining lake trout population in North Twin impoundment, accepted the requirements of Article 408.

Great Northern proposes to evaluate the reproductive success of lake trout in the North Twin impoundment and its correlation with water level management. We believe that this study will provide valuable information for managing the fishery to achieve Maine Fisheries's goal of a self-sustaining lake trout



population, and therefore we are requiring it as Article 409.

Great Northern proposes to enhance the seasonal fishery for brook trout in Millinocket Stream by implementing an upgraded stocking program. This measure will enhance recreational opportunities in project waters. We are requiring it as Article 413, in addition to requiring Great Northern to monitor the results of the program.

#### E. Mercury

EPA and the Conservationists expressed concerns about mercury contamination within the project impoundments and the accumulation of mercury in aquatic organisms. Great Northern conducted a study that showed that concentrations of mercury in the tissue of such organisms in Millinocket Lake and North Twin impoundment and control (comparison) impoundments are all within EPA standards and that the differences in mercury concentrations between project impoundments and the control impoundments in sediments, fresh water mussels, forage fish, and bottom feeding fish in project impoundments were not statistically significant. 58/ Lake trout from Millinocket Lake and North Twin, however, contained elevated concentrations of mercury. Although no definitive explanation for these higher mercury levels is available at this time, all available information leads us to conclude that project operations are not the cause of elevated mercury concentrations. 59/ These matters will be

58/ See section 4.3.1.1 of the EIS.

59/ Great Northern's paper mills could be sources of mercury, but they discharge effluent downstream of the North Twin impoundment and Millinocket Lake. The most likely sources of mercury in the two impoundments (in which water levels fluctuate periodically) are weathering of rock in the watershed and atmospheric inputs. Moreover, the higher mercury levels observed in lake trout are probably a result of the species' top position in the food chain and its longevity. Id.

Project No. 2458-009      -30-

investigated further in a study to be conducted by EPA and the Maine DEP, and Article 405 requires Great Northern to cooperate with them in the preparation of the study.

## F. Wetlands

Interior and the Conservationists recommended that Great Northern enhance on-site and off-site wetlands to compensate for the continued negative effects of the operation of the Penobscot Mills Project on wetlands that are hydrologically dependent on the impoundment. 60/ Wetlands occur primarily as narrow margins along the impoundments at North Twin (296 acres), Millinocket Lake (709 acres), and Quakish Lake impoundment of the Millinocket development (159 acres), Dolby Pond (219 acres), and East Millinocket ("very few"). 61/ Nearly all 709 acres of wetlands at Millinocket Lake are hydrologically independent of Millinocket Lake's impoundment levels, since they draw on other independent sources of inflow. Run-of-river operations required in Article 403 for Millinocket, Dolby, and East Millinocket developments will mitigate impacts on wetlands at those developments.

Approximately 222 acres of the 296 acres of the wetlands in the vicinity of the North Twin impoundment are at least partially independent of the impoundment. However, drawdowns at the North Twin impoundment will continue to adversely affect the 74 acres of wetlands that are hydrologically dependent on those impoundment levels. During winter drawdowns, wetlands vegetation may be exposed to freezing and thawing conditions. During summer drawdowns wetlands may be exposed to desiccation and scouring. Great Northern has identified two sites on the North Twin impoundment (the Deep Cove East and Deep Cove West) to enhance wetlands by modifying an existing causeway at the sites. 62/ Modifying the causeway would increase water retention at approximately 30 wetlands at the two sites, by reducing the

60/ Wetlands are hydrologically dependent on the impoundment when they have no independent inflow from tributaries or moisture retaining substrate. See section 4.5.1.1 of the EIS.

61/ Id., section 3.6.3.

62/ Great Northern also identified a third site (Wadleigh Brook) to enhance wetlands by constructing a dumped-earth structure to increase water retention. Access to the Wadleigh Brook wetland for construction of the dumped-earth structure could damage other, existing wetlands. Since the risk of damage from constructing the Wadleigh Brook enhancement is greater than its potential benefit, we are rejecting this proposal.

adverse effects of project drawdowns. Article 410 requires Great Northern to prepare and implement an enhancement plan for wetlands along the North Twin impoundment. We believe that the actions specified in this article are adequate to mitigate project impacts on wetlands. No off-site mitigation is justified.

#### G. Back Channel Wildlife Plan

Great Northern proposes to implement a wildlife management plan for the Back Channel. 63/ Great Northern will manage approximately 2,300 acres of forest directly adjacent to the overflow channel of the Back Channel. The plan will include habitat improvement measures such as snag management (using dead trees for wildlife habitat), maintaining mixed-aged and mixed-height trees, and selective timber harvesting. We believe that implementing such a plan will enhance wildlife habitat and are requiring it in Article 412. In addition, several intervenors suggested that artificial nesting platforms would help alleviate some of the impacts on nesting common loon (a bird species of concern in Maine) due to impoundment fluctuation. We agree that providing artificial nesting platforms would be an effective and relatively inexpensive means to improve the nesting success of common loon and other aquatic birds. We are requiring, in Article 411, that Great Northern develop and implement a plan for constructing structures and for monitoring their use and effectiveness.

### VII. COMPREHENSIVE PLANS

Section 10(a)(2)(A) of the FPA requires the Commission to consider the extent to which a project is consistent with federal or state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by the project. 64/ Under this section, federal and state agencies filed five applicable plans. 65/ No conflicts were found.

63/ See section 4.6.1.1 of the EIS.

64/ Comprehensive plans for this purpose are defined at 18 C.F.R. 2.19 (1995).

65/ Maine Rivers Study, Maine Department of Conservation (1982); Maine Comprehensive Rivers Management Plan, Maine State Planning Office (1987); Maine Statewide Comprehensive Outdoor Recreation Plan, Maine State Planning Office (1988, 1993); Maine Strategic Plans, Vol II, Inland Fisheries; Maine Statewide River Fisheries Management Plan, Maine Department of Inland Fisheries and Wildlife.

## VIII. COMPREHENSIVE DEVELOPMENT

Sections 4(e) and 10(a)(1) of the FPA 66/ require the Commission, in acting on applications for license, to give equal consideration to the power and development purposes and to the purposes of energy conservation, the protection, mitigation of damage to, and enhancement of fish and wildlife, the protection of recreational opportunities, and the preservation of other aspects of environmental quality. Any license issued shall be 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.

The issuance of a new license for the Penobscot Mills Project, subject to staff-recommended conditions, will protect and enhance water quality, fishery resources, recreational resources, cultural resources and aesthetics at the project while continuing to allow Great Northern to generate electricity from a renewable resource to run its Millinocket and East Millinocket paper mills that employ hundreds of workers.

As noted, the Conservationists and Interior oppose issuance of a new license absent a license requirement for minimum flows into the Back Channel. As discussed in the EIS and this order, in light of the significant costs to the project, without a commensurate benefit to environmental resources, we decline to impose such a minimum flow requirement and we believe that, on balance, the lack of such a minimum flow requirement does not justify denying the application for a new license.

Under our new approach to evaluating the economics of hydropower projects, as articulated in Mead Corporation, Publishing Paper Division, 67/ we employ an analysis that uses current costs to compare the costs of the project and likely alternative power without regard to forecasts of potential future inflation, escalation, or deflation beyond the license issuance date. The basic purpose of our analysis is to provide a general estimate of the potential power benefits and the costs of a project, and reasonable alternatives to project power. The estimate helps to support an informed decision concerning what is in the public interest with respect to a proposed license.

Great Northern's proposed project with staff-recommended

enhancement measures includes three measures with substantial impacts on the project's economics: (1) relatively stable water

66/ 16 U.S.C. 797(e) and 803(a)(1).

67/ 72 FERC 61,027 (1995).

Project No. 2458-009 -33-

levels in North Twin impoundment; (2) minimum flow in Millinocket Stream; and (3) wetlands enhancements. 68/ Restrictions on impoundment levels and requirements for minimum flows further affect project economics by causing operating inefficiencies and steam generation losses. 69/

The project will annually generate an estimated 375.5 gigawatthours of relatively low-cost electricity from a renewable energy resource for use primarily by the applicant in its papermaking operations. The current market price for the least-cost alternative power is 73.92 mills/kWh or \$27.756 million. 70/ The annual project cost will be about \$12.879 million or 34.30 mills/kWh; and the net annual benefits will be about \$14.877 million or 39.62 mills/kWh.

Our decision to license the project, with the terms and conditions included herein, reflects our conclusion that the statutory purposes for which a license may issue have been

68/ The annual cost of maintaining relatively stable water levels in the North Twin Reservoir is \$225,000, levelized over 30 years. The annual cost of maintaining a 60 cfs minimum flow below the Millinocket Lake Dam is \$34,100. The annual cost of wetlands enhancement is \$3,800.

69/ Losses due to system inefficiencies would have an annual cost of \$200,100. Impoundment restrictions would also cause reductions in the steam produced in Great Northern's

manufacturing process that it uses to generate electricity, which would have an annual cost of \$195,300.

70/ The value of alternative power was based on Bangor Hydro's retail industrial rate, since purchases from the utility would be the most feasible source of replacement power. Great Northern is already utilizing all economic cogeneration alternatives, and the paper mills do not have access to sufficient supplies of alternative fuels to replace their own hydropower and cogeneration power. See section 2.4.2.1 of the DEIS and section 1.2 of the EIS. The installation of new gas-fired capacity would not be feasible because sufficient supplies of natural gas to replace hydropower and cogeneration power are not available.

Project No. 2458-009      -34-

thoroughly considered and appropriately balanced in this relicense proceeding. 71/

## IX. LICENSE TERM

Section 15(e) of the FPA 72/ 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 policy is to establish 30-year terms for those projects that propose little or no redevelopment, new construction, new capacity, or environmental mitigative and enhancement measures; 40-year terms for those projects that propose moderate redevelopment, new construction, new capacity, or environmental mitigative and enhancement measures; and 50-year terms for those projects that propose extensive redevelopment, new construction, new capacity, or environmental mitigative and enhancement measures. 73/

This new license does not authorize construction of new capacity or project redevelopment. The environmental mitigation and enhancement costs of the new license for the Penobscot Mills Project warrant a term of 30 years, effective the first day of the month in which this license is issued.

## X. SUMMARY OF FINDINGS

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

71/ Section 106 of the National Historic Preservation Act, 16 U.S.C. 470s, requires federal agencies to take into account, prior to licensing actions, the effect of the project on properties listed or eligible for listing on the National Register of Historic Places. Article 417 requires Great Northern to implement the provisions of the Programmatic Agreement executed on July 1, 1996, by the Commission, the Advisory Council on Historic Preservation, and the Maine State Historic Preservation Officer, for managing historic properties that may be affected by continued operation of the project. Great Northern seeks clarification that the Programmatic Agreement includes the Penobscot Nation as an interested party, as defined in the Advisory Council's regulations at 36 C.F.R. 800.1(c)(2), and we so interpret the Programmatic Agreement.

72/ 16 U.S.C. 808(e).

73/ See, e.g., Mead Corporation, 72 FERC 61,027 (1995).

Project No. 2458-009 -35-

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 filed in this proceeding and our evaluation of the environmental and economic effects of the proposed project and its alternatives, we conclude that the Penobscot Mills Hydroelectric Project, as relicensed herein, is best adapted to a plan for the comprehensive development of the West Branch of the Penobscot River and Millinocket Stream for beneficial public uses.

The Commission orders:

(A) This license is issued to Great Northern Paper, Inc. (licensee) for a period of 30 years, effective the first day of the month in which this order is issued, to operate and maintain the Penobscot Mills Hydroelectric Project. This license is subject to the terms and conditions of the 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 interest in those lands, enclosed by the project boundary shown by Exhibit G and as amended in Article 418:74/

Exhibit	FERC Drawing No.	Title
G-1	2458-1001	Project Area
G-2	2458-1002	Project Boundary North Twin
G-3	2458-1003	Project Boundary Millinocket Lake Storage
G-4	2458-1004	Project Boundary Lower Project
G-5	2458-1005	Project Boundary Detail Millinocket
G-6	2458-1006	Project Boundary Detail Dolby and East Millinocket

74/ Sheet 1 (West Branch Drainage Area) and sheet 5 (Electrical One-Line) from Exhibit G of the Ripogenus new license application are not included as part of the license.

Project No. 2458-009      -36-

G-7	2458-1007	Project Boundary Detail North Twin
G-8	2458-1008	Ferguson Pond Detail Millinocket
G-9	2458-1009	Project Boundary Detail East Millinocket and Millinocket Lake Storage
G-10	2458-1010	Misc. Project Boundary Details

(2) Project works consisting of the North Twin Development, the Millinocket Development, the Dolby Development, the East Millinocket Development, and the Millinocket Lake Storage Development.

North Twin Development



The North Twin Development consists of (a) a 1,051-foot-long concrete earth-filled gravity dam, with a maximum height of 35 feet, consisting of two earth wings with concrete core walls totaling about 500 feet long, of which 309 feet is topped with a paved roadway, and 100 feet is topped with a parapet wall with crest elevations that vary from 498.60 feet to 494.62 feet National Geodetic Vertical Datum (NGVD); (b) a 34-foot-long concrete weir fishway with two deep-gated log sluice sections; (c) a 114-foot-long by 37-foot-wide intake section with trashracks of 3/8-inch steel bars with 2-5/8-inch openings; (d) a 117-foot-long concrete gravity spillway with two Taintor gates, each 27 feet high by 50 feet wide, with an invert elevation of 464.62 feet NGVD, and six auxiliary earth dikes totaling about 2,530 feet long; (e) a concrete, steel, and brick powerhouse that is integral to the dam and about 90 feet wide by 114 feet long, equipped with two vertical Francis turbine/generator units and one vertical Kaplan turbine/generator unit, with a total rated capacity of 6,972 kilowatts (kW), a total hydraulic capacity of 4,500 cubic feet per second (cfs), a net head of 28 feet, and an average annual generation of 47,300 megawatt-hours (MWh); (f) a tailrace of six bays, each measuring 14 feet wide, and bordered by a 28-foot-long concrete retaining wall; (g) an impoundment (consisting of Elbow Lake, North Twin Lake, South Twin Lake, Pemadumcook Lake, and Ambajejus Lake) that is about 11.8 miles long, with a surface area of about 17,790 acres, a gross storage capacity of 346,000 acre-feet, a usable storage capacity of 344,400 acre feet, a normal pool headwater elevation of 491.92 feet NGVD, and tailwater elevation of 460.7 feet NGVD; (g) a 4.2-mile-long, 34.5 kilovolt (kV) transmission line; and (h) appurtenant facilities.

### Millinocket Development

Project No. 2458-009      -37-

The Millinocket Development consists of (a) a 1,262-foot-long concrete gravity and stone dam, at the outlet of Quakish Lake, with a maximum height of 27 feet, which consists of a concrete gravity overflow section about 300 feet long with a crest elevation of 458.95 feet NGVD, two concrete gravity sections totaling about 786 feet long with a crest elevation of 456.20 feet NGVD, topped with 30-inch-high flashboards, and separated by a 52-foot-long waste gate structure with four steel gates, eight auxiliary earth dikes totaling about 5,769 feet long, and a 124-foot-long head gate section, with ten steel gates, each about eight feet high by 11 feet wide, and a

sluiceway about 10 feet high by 12 feet wide; (b) an intake section extending from the head gates located at the outlet of Quakish Lake through Ferguson Pond to the intake structure at Ferguson Pond outlet, consisting of a canal section that is about 150 feet wide by 1,400 feet long, separated from the Back Channel by a concrete gravity section with a crest elevation of 458.2 feet NGVD, topped with 6-inch-high flashboards, a concrete and wood frame intake structure with six gates that each measure 12.5 feet wide by 12.5 feet high, which control the flow into six 10-foot-diameter penstocks that are 1,007 feet long, lead to the units in the Grinder Room, and are protected by trashracks of 3/8-inch steel bars with 2-7/8-inch openings, and one gate, measuring 13.5 feet wide by 13.5 feet high that controls the flow into an 11-foot-diameter, 1,024-foot-long penstock that leads to a unit in the generator room and is protected by a trashrack of 3/8-inch steel bars with 2-inch openings; (c) a concrete, steel, and brick powerhouse, about 52 feet wide by 112 feet long, equipped with eight horizontal Francis turbines connected to three generators and five synchronous motors <sup>75/</sup> converted for use as generators with a total rated capacity of 35,782 kW, a hydraulic capacity of 5,000 cfs, a net head of 108 feet, and an average annual generation of 203,300 MWh; (d) a tailrace of seven bays, each measuring 14 feet wide; (e) an impoundment (consisting of Quakish Lake and Ferguson Pond) with a surface area of about 1,344 acre feet, a gross storage capacity of 8,100 acre feet, negligible usable storage capacity, a normal pool headwater elevation of 458.7 feet NGVD, and tailwater elevation of 347.4 feet NGVD; (f) a 300-foot-long, 34.5 kV transmission line; and (g) appurtenant facilities.

### Dolby Development

The Dolby Development consists of (a) a 1,395-foot-long concrete gravity and earth-filled dam with a maximum height of 66 feet that consists of a 521-foot-long concrete gravity spillway section with a crest elevation of 332.2 feet NGVD, topped with

<sup>75/</sup> Synchronous motors/generators are machines whose rotational speed and electrical line frequency are directly related.

Project No. 2458-009      -38-

four-foot-high flashboards, separated by a 76-foot-long waste gate structure with six gates, each about six feet wide by nine feet high, and by a 34-foot-long log sluice section, an earthen dike with core walls about 530 feet long topped with a

12-foot-wide travel path, and a 209-foot-long head gate section, with nine gates, protected by three sets of trashracks of 3/8-inch steel bars with 1-5/8-inch openings and four sets of trashracks of 3/8-inch steel bars with 2-5/8-inch openings; (b) a concrete, steel, and brick powerhouse, about 115 feet wide by 167 feet long, and an addition that is 32 feet wide by 36 feet long, equipped with three horizontal Francis turbine/generator units, three inclined turbine/generator units, and one vertical Kaplan turbine/generator unit, with a total rated capacity of 20,886 kW, a hydraulic capacity of 6,000 cfs, a net head of 49 feet, and an average annual generation of 98,100 MWh; (c) a tailrace with eight discharge bays; (d) a 2.3-mile-long impoundment (known as Dolby Pond) with a surface area of about 2,048 AC, a gross storage capacity of 41,956 acre feet, negligible usable storage capacity, and a normal pool headwater elevation of 336.2 feet NGVD and tailwater elevation of 287.2 feet NGVD; (e) a two-mile-long, 34.5 kV, 60-Hz transmission line and a 6.8-mile-long, 33.0- to 34.5 kV, 40-Hz transmission line; and (f) appurtenant facilities.

### East Millinocket Development

The East Millinocket Development consists of (a) a 571-foot-long concrete and earth-filled gravity dam, with a maximum height of 28 feet that consists of a 116-foot long earth embankment with a top elevation of 295.2 feet NGVD; a 300-foot-long concrete gravity spillway section with a crest elevation of 283.2 feet NGVD that is topped with four-foot-high flashboards separated by a 59-foot-long waste gate structure with two gates, each about 23 feet wide; a seven-foot-long timber crib section; and a 146-foot-long intake section with 12 gates, about nine feet high by 11 feet wide, protected by trashracks of 3/8-inch steel bars with 1-inch openings; (b) a concrete, steel, and brick powerhouse, about 56 feet wide by 147 feet long, equipped with six horizontal Francis turbine/generator units, with a total rated capacity of 6,936 kW at 60 Hz, a hydraulic capacity of 4,200 cfs, a net head of 24 feet, and an average annual generation of 37,700 MWh; (c) a tailrace that is about 1,050 feet long by 110 feet wide, with six discharge bays; (d) an impoundment (consisting of a 1.9-mile-long stretch of the West Branch of the Penobscot River) with a surface area of about 128 acres, a gross storage capacity of 1,950 acre feet, negligible usable storage capacity, normal pool headwater elevation of 287.2 feet NGVD, and tailwater elevation of 261.5 feet NGVD; and (e) appurtenant facilities.

### Millinocket Lake Storage Development

The Millinocket Lake Storage Development consists of (a) a 635-foot-long concrete and earth-filled dam, with a 462-foot-long earthen embankment that has a crest elevation ranging from 485.6 feet NGVD to 487 feet NGVD, two spillway sections, totaling about 115 feet with a crest elevation of 480 feet NGVD, separated by a 58-foot-long intake section with four lift gates that are eight feet wide by nine feet high and a log sluice gate that is eight feet wide by 10 feet high, and protected by trashracks of 3/16-inch steel bars with one-inch openings; (b) a concrete, steel, and brick pumping station that is about 25 feet wide by 53 feet long, equipped with two vertical, wet-pit pumps, each with a capacity of 122 cfs, driven by two induction motors, each with a capacity of 250 hp, discharging into two underground 4.5-foot-diameter pipes, about 544 feet long, that lead to the outlet structure at the North Twin impoundment, which has two steel gates about six feet high by six feet wide; (c) an impoundment (known as Millinocket Lake) with a surface area of about 8,640 acres, a usable storage capacity of 45,370 acre feet, and a normal maximum pool headwater elevation of 480.0 feet NGVD; and (d) appurtenant facilities.

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

Exhibit A -- The following sections of Exhibit A, filed December 1991:

Section	Title	Page
1.0	Project Structures	A-3
2.0	Impoundment Data	A-34
3.0	Turbines and Generators	A-36
4.0	Transmission Lines	A-43
5.0	Additional Equipment	A-45

Exhibit F -- The following Exhibit F drawings, filed December 1991:

North Twin Development

FERC	
Drawing	
Exhibit No.	Title

Project No. 2458-009      -40-

- F-1    2458-    Site Plan  
       1011
- F-2    2458-    Dam Plan  
       1012
  
- F-3    2458-    Downstream Elevation and Dam Sections  
       1013
  
- F-4    2458-    Dike Sections  
       1014
- F-5    2458-    Dike Sections  
       1015
  
- F-6    2458-    Powerhouse Floor Plan  
       1016
  
- F-7    2458-    Powerhouse Transverse Section  
       1017
- F-8    2458-    Powerhouse Longitudinal Section  
       1018
  
- F-9    2458-    Powerhouse West Elevation  
       1019
  
- F-10   2458-    Powerhouse North Elevation  
       1020
- F-11   2458-    Powerhouse East Elevation  
       1021

Project No. 2458-009      -41-

- Millinocket Development
- | Exhibit | FERC Drawing No. | Title               |
|---------|------------------|---------------------|
| F-12    | 2458-1022        | Site Plan           |
| F-13    | 2458-1023        | Stone Dam Site Plan |

F-14	2458-1024	Site Plan
F-15	2458-1025	Dam Plan and Elevation
F-16	2458-1026	Dam and Dike Sections
F-17	2458-1027	Sections Headwork Structure, Penstock, and Dikes
F-18	2458-1028	Lower Project Works Site Plan
F-19	2458-1029	Plan Intake Structure, Grinder, and Generator Rooms
F-20	2458-1030	Section "A" through Grinder Room (Hydroelectric Unit)
F-21	2458-1031	Section "B" through Grinder Room (Hydromechanical Units)
F-22	2458-1032	Generator Room Sections
F-23	2458-1033	Grinder/Generator Rooms Downstream Elevation

Project No. 2458-009      -42-

Dolby Development

Exhibit	FERC Drawing No.	Title
F-24	2458-1034	Site Plan
F-25	2458-1035	Dam Plan and Elevation
F-26	2458-1036	Dam Sections
F-27	2458-1037	Dam Sections
F-28	2458-1038	Powerhouse Floor Plan
F-29	2458-1039	Powerhouse Section Typical of Units No. 2, 3 and 4
F-30	2458-1040	Powerhouse Section at Unit No. 5
F-31	2458-1041	Powerhouse Section Typical of Units No. 6 and 7
F-32	2458-1042	Powerhouse Section Unit No. 8
F-33	2458-1043	Powerhouse Downstream Elevation

East Millinocket Development

Exhibit	FERC Drawing No.	Title
F-34	2458-1044	Site Plan
F-35	2458-1045	Dam Plan and Elevation
F-36	2458-1046	Dam Sections
F-37	2458-1047	Powerhouse Plan
F-38	2458-1048	Powerhouse Section
F-39	2458-1049	Powerhouse Downstream Elevation

Project No. 2458-009      -43-

Millinocket Lake Storage Development

Exhibit	FERC Drawing No.	Title
F-40	2458-1050	Dam Site Plan
F-41	2458-1051	Dam Plan and Downstream Elevation
F-42	2458-1052	Dam Sections
F-43	2458-1053	Pumping Station Site Plan
F-44	2458-1054	Pumping Station Plan
F-45	2458-1055	Pumping Station Section

(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 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 charges, effective as of the first day of the month in which this license is issued.

For the purpose of reimbursing the United States for the costs of administering Part I of the Federal Power Act, a reasonable amount as determined in accordance with the provisions of the Commission's regulations in effect from time to time. The authorized installed capacity for that purpose is 70,600 kW.

Article 202. Within 45 days of the date of issuance of the license, the licensee shall file an original set and two duplicate sets of aperture cards of the approved drawings. The set of originals must be reproduced on silver or gelatin 35mm microfilm. The duplicate sets are copies of the originals made on diazo-type microfilm. All microfilm must be mounted on type D (3-1/4 x 7-3/8") aperture cards.

Prior to microfilming, the FERC Drawing Number (2458-1001 through 2458-1055) shall be shown in the margin below the title

Project No. 2458-009            -44-

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

The original and one duplicate set of aperture cards must be filed with the Secretary of the Commission, ATTN: DPCA/ERB. The remaining duplicate set of aperture cards shall be filed with the Commission's New York Regional Office.

Article 203. Pursuant to Section 10(d) of the 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 reserve 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 204. The Commission reserves authority, in the context of any licensing, relicensing, amendment, or surrender proceeding involving the upstream storage impoundments (Great Northern Storage Project No. 2634, and other unlicensed impoundments upstream of the Storage Project), to require the licensee herein, in a proceeding specific to this license, to conduct studies, modify minimum flow releases, or otherwise make reasonable provisions for modifying project facilities or

Project No. 2458-009      -45-

operation as necessary to mitigate or avoid cumulative effects identified in environmental analyses of these upstream projects.

Article 401. Except as temporarily modified by operating emergencies beyond the licensee's control, the licensee shall release a minimum flow of 60 cfs from the Millinocket Lake storage dam to Millinocket Stream from May 1 to October 15 annually, and a minimum flow of 60 cfs or inflow shall be released during the remainder of the year.

Operating emergencies beyond the licensee's control include, but may not be limited to, equipment failure or other temporary abnormal operating condition, generating unit operation or interruption under power supply emergencies, and orders from local, state, or federal law enforcement or public safety

authorities.

Minimum flows may be temporarily modified if required by operating emergencies beyond the control of the licensee, and for short periods upon mutual agreement between the licensee, the U.S. Fish and Wildlife Service, and the Maine Department of Environmental Protection (DEP). If the minimum flows are so modified, the licensee shall notify the Commission as soon as possible, but no later than 10 days after each such incident.

The licensee shall, within six months of the date of the issuance of this license file for Commission approval a plan for providing and monitoring the minimum flows required above. The plan shall include a flow emergency action plan which describes the actions to be taken and the agencies to be consulted if the minimum flow must be modified due to adverse hydrologic conditions.

The licensee shall consult with the Maine Department of Environmental Protection and the U.S. Fish and Wildlife Service in developing the plan.

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

The Commission reserves the right to require changes to the plan. The plan shall not be implemented until the licensee is notified by the Commission that the plan is approved. Upon

Project No. 2458-009      -46-

Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 402. Except as temporarily modified by approved maintenance activities, inflows to the project area, or operating emergencies beyond the licensee's control, the water level in Millinocket Lake shall be maintained between elevations 470.0 feet and 480.0 feet mean sea level (MSL) while providing water to

maintain North Twin impoundment levels.

Article 403. The licensee shall operate the Millinocket, Dolby, and East Millinocket developments in a run-of-river mode while providing an instantaneous minimum flow of 2,000 cubic feet per second (cfs) to the West Branch of the Penobscot River at Millinocket, for the protection of water quality and aquatic habitat in the Penobscot River. The licensee shall at all times act to minimize the fluctuation of the reservoir surface elevations by maintaining a discharge from each of these developments so that, at any point in time, flows, as measured immediately downstream from the tailraces of the developments, approximate the sum of inflows to the project reservoir.

Run-of-river operation or minimum flows may be temporarily modified if required by operating emergencies beyond the control of the licensee, and for short periods upon mutual agreement between the licensee, the U.S. Fish and Wildlife Service, and the Maine DEP. If the run-of-river operation or minimum flow is so modified, the licensee shall notify the Commission as soon as possible, but no later than 10 days after each such incident.

Operating emergencies beyond the licensee's control include, but may not be limited to, equipment failure or other temporary abnormal operating condition, generating unit operation or interruption under power supply emergencies, and orders from local, state, or federal law enforcement or public safety authorities.

The licensee shall, within six months of the date of this license, file for Commission approval a plan for providing and monitoring the run-of-river operations and minimum flows required above.

The licensee shall consult with the Maine Department of Environmental Protection and the U.S. Fish and Wildlife Service in developing the plan.

The licensee shall include with the plan documentation of agency consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum

recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information. The Commission reserves the right to require changes to the plan. Activities shall not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 404. The licensee shall, within six months after the date of issuance of the license, file for approval with the Commission a plan for complying with all in-stream flow requirements at the Penobscot Mills Project. The plan shall include a description of the mechanisms and structures that will be used, the level of automatic or staffed facility operation, the location and methods to be used for recording data on run-of-river operation and minimum flows, and a plan for maintaining these data for inspection and filing with the Commission and resource agencies. The licensee shall consult with the U.S. Fish and Wildlife Service, U.S. Geological Survey, Maine Department of Environmental Protection, and the Maine Department of Inland Fisheries and Wildlife in developing this plan.

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

The Commission reserves the right to require changes to the plan. Activities shall not begin until the licensee is notified by the Commission that the plan has been approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 405. The licensee shall cooperate in a study to be conducted by the U.S. Environmental Protection Agency and the Maine Department of Environmental Protection to determine the inter-relationship and impacts of atmospheric deposition and water level fluctuations on concentrations of mercury, cadmium, lead, and other toxic metals on aquatic life in the project's waters. The licensee shall submit annual reports describing the nature of its activities and cooperation with the two agencies.

Article 406. The licensee shall undertake appropriate repairs and/or modifications to the existing North Twin fishway. The licensee shall, within 12 months of the date of issuance of this license, file for Commission approval a plan for repairing and/or modifying the North Twin fishways, prepared in consultation with the Maine Department of Inland Fisheries and Wildlife.

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

The Commission reserves the right to require changes to the plan. Repairs or modifications shall not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 407. 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 408. Except as temporarily modified by approved maintenance activities, by inflows to the project area, by the inability to maintain the minimum flow of 2,000 cfs at Millinocket, or by operating emergencies beyond the licensee's control, the water level in the North Twin impoundment shall be maintained at or above the lake trout spawning/incubation level for the period from October 15 through May 1 annually, and shall be maintained at a relatively stable level from May 1 through August 22 annually.

The licensee shall, within six months of the date of issuance of this license, submit a plan for maintaining a relatively stable water level in the North Twin impoundment from May 1 through August 22 annually. The plan shall be prepared in consultation with the U.S. Fish and Wildlife Service (FWS), the Maine Department of Inland Fisheries and Wildlife (DIFW), and the Maine Department of Environmental Protection (DEP).

The licensee shall include with the plan documentation of

agency consultation, copies of comments and recommendations on

Project No. 2458-009 -49-

the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

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

Article 409. The licensee shall, within 12 months of the date of issuance of this license, file for Commission approval a plan for monitoring togue (lake trout) reproductive success in the North Twin impoundment. The plan shall be prepared in consultation with the U.S. Fish and Wildlife Service (FWS), Maine Department of Environmental Protection (DEP), and the Maine Department of Inland Fisheries and Wildlife (DIFW). The plan shall include provisions for documenting togue spawning success and for correlating water level management and other aberrations that may be factors if success is not achieved.

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

The Commission reserves the right to require changes to the plan. Monitoring shall not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission. The licensee shall submit the results of the study and any recommendations to improve togue reproductive success in the North Twin impoundment to FWS, DIFW, DEP, and the Commission.

Article 410. Within 12 months of the date of issuance of this license and at least 90 days before the start of any land-disturbing or land-clearing activities, the licensee shall file with the Commission, for approval, a plan to enhance wetlands at the Deep Cove East and Deep Cove West sites on the North Twin impoundment, to benefit existing wetlands affected by operation of the project.

Project No. 2458-009      -50-

The plan, at a minimum, shall include:

1. Details of the final designs and proposed maintenance procedures for the wetlands enhancement structures;
2. A plan for monitoring the effectiveness of the wetlands enhancements, which includes steps to be taken in the event the proposed methods are not effective in enhancing the wetlands, or if enhancement of either of the sites is proven to be infeasible. The plan shall include, but will not necessarily be limited to, modification of the enhancement methods, selection of different enhancement methods, enhancing additional wetlands, and selection of alternative sites;
3. A proposal to provide recommendations to the agencies and the Commission for alternative wetland mitigation techniques or sites if monitoring indicates that the implemented wetland enhancements are not successful; and
4. Schedules for the wetlands enhancements, for filing the results of the monitoring program, for maintenance of the enhancement structures, and for filing recommendations for alternative wetland mitigation.

The licensee shall prepare the plan after consultation with the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, the Maine Department of Environmental Protection, and the Maine Department of Inland Fisheries and Wildlife. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how agency comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations

before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the wetlands enhancement plan. No wetlands enhancement activities shall begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 411. Within 12 months of the date of issuance of this license, the licensee shall file with the Commission, for approval, a plan for the design and implementation of artificial nesting structures for common loon and other aquatic birds (such

Project No. 2458-009      -51-

as ring-billed gull and common tern) at the Penobscot Mills Project. The licensee shall prepare the plan after consultation with the U.S. Fish and Wildlife Service, the Maine Department of Inland Fisheries and Wildlife and the Maine Department of Environmental Protection.

The plan, at a minimum, shall include:

1. Details of the final designs and proposed maintenance procedures for the artificial nesting structures;
2. A map depicting the exact locations of all proposed nesting structures at both projects;
3. A plan for monitoring the effectiveness of the artificial nesting structures, which includes steps to be taken in the event breeding success for common loons and other aquatic birds is limited at the structures, including, but not necessarily limited to, moving or modifying the structures;
4. A proposal to provide recommendations to the agencies and the Commission for alternative artificial nesting structures or other breeding enhancements, or new sites, if monitoring indicates that the initial artificial nesting structures are not successful; and
5. Schedules for the implementation of artificial nesting structures, for filing the results of the monitoring



program, for maintenance of the nesting structures, and for filing recommendations for either alternative sites or different types of nesting structures.

The licensee shall include with the plan documentation of consultation with the agencies, copies of comments and recommendations on the completed plan, as well as specific descriptions of how agency comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. No land-disturbing or land-clearing activities shall begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval the licensee shall implement the plan, including any changes required by the Commission.

Article 412. Within 6 months of the issuance date of the license, the licensee shall file with the Commission, for

Project No. 2458-009      -52-

approval, a wildlife management plan for the Back Channel. The plan shall provide for, but not be limited to, the following measures:

1. Specific goals of the plan and how they relate to the implementation schedule;
2. Identifying and mapping all area(s) to be managed, and methods of management at each area;
3. Goals, procedures, and densities for snag management;
4. Riparian forested buffers along the entire Back Channel corridor;
5. Placing and maintaining duck boxes throughout the riparian corridor;
6. Managing forest to enhance vegetation species and structure diversity for a variety of native wildlife, with an emphasis on waterfowl;

7. Ramping seasonal high flows into the Back Channel to decrease channel scouring and destruction of vegetation;
8. Minimizing adverse effects to forest and riparian systems during implementation of proposed management; and
9. Monitoring and reporting of results.
10. An implementation schedule and provisions for the plan's periodic review and revision.

The licensee shall prepare the plan after consultation with the Maine Department of Inland Fisheries and Wildlife, the Maine Department of Environmental Protection, and the U.S. Fish and Wildlife Service. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how agency comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. No Back Channel management activities shall begin until

Project No. 2458-009      -53-

the licensee is notified by the Commission that the plan is approved. Upon Commission approval the licensee shall implement the plan, including any changes required by the Commission.

Article 413. The licensee shall implement an upgraded spring and fall brook trout stocking program to provide a seasonal fishery in Millinocket Stream. Each stocking shall consist of about 500 fish ranging in size from 1/3 to one pound, and shall be distributed among five locations approved by the Maine Department of Inland Fisheries and Wildlife (DIFW).

Within six months of the date of issuance of this license, the licensee shall file for Commission approval a plan prepared in consultation with the DIFW, the U.S. Fish and Wildlife Service, the Maine Department of Environmental Protection (DEP),

and the U.S. Environmental Protection Agency (EPA), for stocking, including monitoring of the results of the stocking program for five years to determine if the desired results are being achieved.

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

The Commission reserves the right to require changes to the plan. No activities shall begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval the licensee shall implement the plan, including any changes required by the Commission.

Based on the results of the monitoring and recommendations received from DIFW and DEP, the licensee shall prepare and submit a revised stocking plan if deemed necessary to meet the goal of providing a seasonal brook trout fishery in Millinocket Stream.

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

Project No. 2458-009      -54-

The Commission reserves the right to require changes to the plan. No activities shall begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval the licensee shall implement the plan, including any changes required by the Commission.

Article 414. Within two years of issuance of the license, the licensee shall construct and provide for the operation and maintenance of the following recreational facilities:

1. Space for three vehicles and five trailered vehicles at the Dead Man's Curve boat access site;
2. Space for four vehicles at the Route 157 boat access along Dolby Pond; and
3. Remove boulders and other obstruction at the shoreline and provide six additional gravel vehicle spaces to the parking area at the Green Bridge boat access site above Quakish Lake.

The design and construction of all proposed recreational facilities shall consider the needs of the disabled in accordance with the Americans with Disabilities Act.

Article 415. The licensee, after consultation with the U.S. Fish and Wildlife Service (FWS), U.S. National Park Service (NPS), Maine Department of Inland Fisheries and Wildlife (DIFW), Maine Department of Conservation (DOC), and Maine Bureau of Parks and Recreation, shall monitor recreation use of the Penobscot Mills project area to determine whether existing recreation facilities are meeting recreation needs. Monitoring studies shall begin within six years of the date of issuance of the license, and shall include at a minimum the collection of annual recreation use data.

Every six years during the term of the license, the licensee shall file a report with the Commission on the monitoring results. This report shall include:

1. Annual recreational use figures;
2. A discussion of the adequacy of the licensee's recreation facilities at the project site to meet recreation demand;
3. A description of the methodology used to collect all study data;

Project No. 2458-009      -55-

4. If there is a need for additional facilities, a recreation plan proposed by the licensee to accommodate recreational demand in the project area;
5. If there is need for additional facilities, the

licensee's design of recreational facilities shall conform to the national standards established by the Architectural and Transportation Barriers Compliance Board pursuant to the Americans with Disabilities Act of 1990;

6. Documentation of agency consultation and agency comments on the report after it has been prepared and provided to the agencies; and
7. Specific descriptions of how the agency comments are accommodated by the report.

The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations prior to filing the report with the Commission.

Article 416. Within 12 months of the date of issuance of this license, the licensee shall file with the Commission, for approval, a plan for establishing and collecting fees for use of recreational facilities within the project boundary. The plan should include the costs of constructing and maintaining the recreational facilities, the fee structure (apportioned between fees for use of project and non-project recreation facilities). The licensee shall prepare the plan after consultation with the U.S. Fish and Wildlife Service, the Maine Department of Inland Fisheries and Wildlife and the Maine Department of Environmental Protection, Maine Bureau of Parks and Recreation, American Rivers, American Whitewater Affiliation, Appalachian Mountain Club, Conservation Law Foundation, Maine Audubon Society, and the Fin and Feather Club.

The licensee shall include with the plan documentation of consultation with the agencies, copies of comments and recommendations on the completed plan, as well as specific descriptions of how agency comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. No activities shall begin until the licensee is notified

by the Commission that the plan is approved. Upon Commission approval the licensee shall implement the plan, including any changes required by the Commission.

Article 417. The licensee shall implement the provisions of the "Programmatic Agreement among the Federal Energy Regulatory Commission, the Advisory Council on Historic Preservation, and the Maine State Historic Preservation Officer, for managing historic properties that may be affected by license issuing for the continued operation of the Penobscot Mills hydroelectric power projects in the state of Maine," executed on July 1, 1996. The Commission reserves the authority to require changes to any Cultural Resources Management Plan or plans at any time during the term of the license.

Article 418. Within one year from the date of issuance of the license, the licensee shall file, for Commission approval, a Shoreline Management Plan for lands owned by the licensee around the Penobscot Mills Project impoundments and, at a minimum, shall include:

1. maps of the project showing the project boundary;
2. the criteria used for selecting the buffer zone widths (using for each impoundment a 200-foot distance outward from the impoundment's normal maximum surface elevation);
3. substantiation for any proposed deviations for building set-back and buffer zone restrictions
3. provisions for maintaining no tree-cutting, vegetative protection zones and building set back restrictions around the project's impoundments;
4. descriptions and substantiation for designating the buffer zone; the no-tree cutting, vegetative protection area; and building set-back restrictions;
5. allowable uses for the buffer zone lands;
6. conditions to be specified for such allowable uses; and
7. provisions for maintaining appropriate public access to the project impoundment.

The licensee shall prepare the plan after consultation with the United States Department of the Interior, the Maine Land Use Regulation Commission, and the Towns of Millinocket and East Millinocket, Maine. The licensee shall include with the plan, documentation of consultation, copies of comments and

recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

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

Article 419. (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 water for which the licensee may grant permission without prior Commission approval are:

1. Landscape plantings;
2. Non-commercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more

than 10 water craft at a time and where said facility is intended to serve single-family type dwellings;

Project No. 2458-009      -58-

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 cost 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;

Project No. 2458-009      -59-

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 a 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

Project No. 2458-009      -60-

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 Hydropower Licensing, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked exhibit G or K map may be used), the nature of the proposed use, the identity of any federal or state agency official consulted, and any federal or state approvals required for the proposed use. Unless the Director, within 45 days from the filing date, requires the licensee to file an application for prior approval, the licensee may convey the intended interest at the end of that period.

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

1. Before conveying the interest, the licensee shall consult with federal and state fish and wildlife or recreation agencies, as appropriate, and the State Historic Preservation Officer.
2. Before conveying the interest, the licensee shall determine that the proposed use of the lands to be conveyed is not inconsistent with any approved exhibit

R or approved report on recreational resources of an exhibit E; or, if the project does not have an approved exhibit R or approved report on recreational resources, that the lands be conveyed do not have recreational value.

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

Project No. 2458-009      -61-

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

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

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

boundary.

Article 420. The licensee shall consult with the Maine Department of Conservation (DOC) regarding the need for a study to mark and remove submerged hazards to recreational navigation in the Millinocket Lake and North Twin impoundment.

If a study is requested by DOC, the licensee shall, within six months of the date of issuance of the license, file a plan for establishing benchmark impoundment levels in Millinocket Lake and North Twin impoundment and investigating the need for marking or removing submerged hazards in the lake and impoundment. This plan shall be prepared in consultation with the DOC. The plan shall include documentation of agency consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific description of how the agencies' comments are accommodated by the plan.

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.

The licensee shall submit the results of the hazard identification study, if required, to the DOC, BLQC, and the

Project No. 2458-009      -62-

Commission. The licensee shall then develop a plan in consultation with the DOC and Maine Department of Environmental Protection for marking and/or removing hazards in Millinocket Lake and North Twin impoundment. The plan shall include documentation of agency consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific description of how the agencies' comments are accommodated by the plan.

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

Article 502. If the licensee's project was directly benefitted by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement during the term of the original license (including extensions of the 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.

(E) 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.

(F) This order is final unless a request for rehearing is filed within 30 days from the date of its issuance, as provided in Section 313(a) of the Federal Power Act. 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 license.

By the Commission.

( S E A L )

Lois D. Cashell,  
Secretary.

## Appendix

### Water Quality Certification Conditions for the Penobscot Mills Project No. 2458

THEREFORE, the Department GRANTS certification that there is a reasonable assurance the continued operation of the NORTH TWIN, MILLINOCKET, DOLBY, AND EAST MILLINOCKET HYDROELECTRIC DEVELOPMENTS, as described above, will not violate applicable water quality standards, and EXPRESSLY WAIVES its authority to certify that the continued operation of the Penobscot Mills Hydroelectric Developments, as described above, will meet applicable water quality standards in the section of the West Branch known as the Back Channel, SUBJECT TO THE FOLLOWING CONDITIONS:

#### 1. MINIMUM FLOWS

- A. Except as temporarily modified by operating emergencies beyond the applicant's control, as defined below, the Millinocket, Dolby, and East Millinocket developments shall be operated as run-of-river facilities while providing an instantaneous minimum flow of 2,000 cfs to the West Branch at Millinocket.
- B. Operating emergencies beyond the applicant's control include, but may not be limited to, equipment failure or other temporary abnormal operating condition, generating unit operation or interruption under power supply emergencies, and orders from local, state, or federal law enforcement or public safety authorities.
- C. The applicant shall, within 6 months of FERC relicensing or upon such schedule as may be established by FERC, submit plans for providing and monitoring the minimum flows required in Part A of this condition. These plans shall be reviewed by and must receive approval of the DEP Bureau of Land Quality Control.

## 2. WATER LEVELS

- A. Except as temporarily modified by approved maintenance activities, inflows to the project area, or by operating emergencies beyond the applicant's control, as defined below, the water level in the North Twin impoundment shall be maintained at or above the lake trout spawning/incubation level for the period on or about October 15 through May 1 annually, unless the minimum flow of 2,000 cfs cannot be maintained at Millinocket.
- B. Operating emergencies beyond the applicant's control include, but may not be limited to, equipment failure or other temporary abnormal operating condition,

-2-

generating unit operation or interruption under power supply emergencies, and orders from local, state, or federal law enforcement or public safety authorities.

## 3. DOLBY DISSOLVED OXYGEN STUDY

The applicant shall investigate the extent to which dissolved oxygen deficits in the Dolby impoundment are due

to discharges from the Millinocket Mill. The applicant shall submit the results of the dissolved oxygen investigation, and a discussion of possible corrective actions, to the DEP in conjunction with the next renewal of the Waste Discharge License for the Millinocket Mill.

#### 4. TOXIC METALS STUDY

The applicant shall cooperate in a study to be conducted by the Department and the Environmental Protection Agency to determine the interrelationship and impacts of atmospheric deposition and water level fluctuations on concentrations of mercury, cadmium, lead, and other toxic metals on aquatic life in the project waters.

#### 5. NORTH TWIN FISHWAY

- A. The applicant shall undertake appropriate repairs and/or modifications to the existing North Twin fishway.
- B. The applicant shall, within 12 months of FERC relicensing or upon such a schedule as may be established by FERC, submit a plan for repairing and/or modifying the North Twin fishway, prepared in consultation with the Department of Inland Fisheries & Wildlife. This plan shall be reviewed and must receive approval of the DEP Bureau of Land Quality Control.

#### 6. NORTH TWIN TOGUE MONITORING

- A. The applicant shall conduct a study to monitor togue reproductive success in the North Twin impoundment following licensing.
- B. The applicant shall, within 12 months of FERC relicensing or upon such a schedule as may be established by FERC, submit a plan for monitoring togue reproductive success in the North Twin impoundment, prepared in consultation with the Department of Inland Fisheries & Wildlife. This plan shall include provisions for documenting togue spawning success and for correlating water level management or other

achieved. The plan shall be reviewed by and must receive approval of the DEP Bureau of Land Quality Control.

- C. The applicant shall submit the results of the study and any recommendations to improve togue reproductive success in the North Twin impoundment to the consulting agencies and to the DEP.

## 7. WETLANDS ENHANCEMENT

- A. The applicant shall provide enhancement of existing wetlands in the Penobscot Mills Project area.
- B. The applicant shall, within 12 months of FERC relicensing or upon such a schedule as may be established by FERC, submit plans for evaluating, implementing, and monitoring wetland enhancements as required by Part A of this condition. These plans shall be developed in consultation with IF&W and the Department. These plans shall be reviewed by and must receive approval of the DEP Bureau of Land Quality Control.

## 8. NORTH TWIN HAZARD STUDY

- A. The applicant shall consult with the Department of Conservation regarding the need for a study to mark and remove submerged hazards to recreational navigation in the North Twin impoundment.
- B. If a study is requested by DOC, the applicant shall, within 6 months of FERC relicensing or upon such a schedule as may be established by FERC, submit a plan for establishing benchmark impoundment levels in the North Twin impoundment and investigating the need for marking or removing submerged hazards in the lake. This plan shall be prepared in consultation with the Department of  
  
Conservation and shall be reviewed by and receive approval of the DEP Bureau of Land Quality Control.
- C. The applicant shall submit the results of a hazard study, if required, to DOC and the DEP. The applicant shall then develop and submit a plan for marking and/or removing hazards in the North Twin impoundment as recommended by DOC. This plan shall be reviewed by and must receive approval of the DEP Bureau of Land Quality Control.



## 9. RECREATIONAL ACCESS

- A. The applicant shall improve existing recreational access facilities in the project area by: providing parking areas for four vehicles at the Route 157 Causeway site and for three vehicles and five trailered vehicles at the Dead Man s Curve site; and removing boulders at the boat lanch [sic] and adding gravel to expand the size of the parking area at the boat put-in site located upstream of Quakish Lake at the Green Bridge.
- B. The applicant shall, within 6 months of FERC relicensing or upon such a schedule as may be established by FERC, submit a plan for implementing Part A of this condition. This plan shall be reviewed by and must receive approval of the DEP Bureau of Land Quality Control.

## 10. LIMITS OF APPROVAL

This approval is limited to and includes the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. All variances from the plans and proposals contained in said documents are subject to review and approval of the Board or Department prior to implementation.

## 11. COMPLIANCE WITH ALL APPLICABLE LAWS

The applicant shall secure and appropriately comply with all applicable federal, state and local licenses, permits, authorizations, conditions, agreements and orders required for the operation of the project.

## 12. EFFECTIVE DATE

This water quality certification shall be effective on the date of issuance of a new hydropower project license by the Federal Energy Regulatory Commission (FERC) and shall expire with the expiration of the FERC license.

## MILLINOCKET LAKE STORAGE DAM

THEREFORE, the Department GRANTS certification that there is a reasonable assurance that the continued operation of the MILLINOCKET LAKE STORAGE DAM DEVELOPMENT, as described above, will not violate applicable water quality standards, SUBJECT TO

## THE FOLLOWING CONDITIONS:

-5-

### 1. MINIMUM FLOWS

- A. Except as temporarily modified by operating emergencies beyond the applicant's control, as defined below, a minimum flow of 60 cfs shall be maintained from the Millinocket Lake Storage Dam to Millinocket Stream from May 1 to October 15 annually, and a minimum flow of 20 cfs shall be maintained during the remainder of the year.
- B. Operating emergencies beyond the applicant's control include, but may not be limited to, equipment failure or other temporary abnormal operating condition, generating unit operation or interruption under power supply emergencies, and orders from local, state, or federal law enforcement or public safety authorities.
- C. The applicant shall, within 6 months of FERC relicensing or upon such a schedule as may be established by FERC, submit plans for providing and monitoring the minimum flows required in Part A of this condition. These plans shall be reviewed by and must receive approval of the DEP Bureau of Land Quality Control.

### 2. WATER LEVELS

- A. Except as temporarily modified by (1) approved maintenance activities (2) inflows to the project area, or (3) operating emergencies beyond the applicant's control, as defined below, the water level in Millinocket Lake shall be maintained between elevations 470.0 and 480.0 feet MSL while providing water to maintain North Twin impoundment levels.
- B. Operating emergencies beyond the applicant's control include, but may not be limited to, equipment failure or other temporary abnormal operating condition, generating unit operation or interruption under power supply emergencies, and orders from local, state, or federal law enforcement or public safety authorities.
- C. The applicant shall, within 6 months of FERC

relicensing or upon such a schedule as may be established by FERC, submit plans for providing and monitoring the water levels in Millinocket Lake as required by Part A of this condition. These plans shall be reviewed by and must receive approval of the DEP Bureau of Land Quality Control.

-6-

### 3. FISH STOCKING PROGRAM

- A. The applicant shall implement an upgraded spring and fall brook trout stocking program to provide a seasonal fishery in Millinocket Stream. Each stocking shall consist of about 500 fish ranging from 1/3 to 1 pound, and shall be distributed among 5 locations approved by the Department of Inland Fisheries & Wildlife.
- B. The applicant shall, in consultation with IF&W, prepare a stocking plan with provisions to monitor the results of the stocking program for 5 years to determine if the desired results are being achieved. This plan shall be reviewed by and must receive approval of the DEP Bureau of Land Quality Control.
- C. Based on the results of the monitoring and recommendations received from IF&W, the applicant shall prepare and submit to the DEP a revised stocking plan if deemed necessary to meet the goal of providing a seasonal brook trout fishery in Millinocket Stream. Any revised plan shall be reviewed by and must receive approval of the DEP Bureau of Land Quality Control.

### 4. WETLANDS ENHANCEMENT

- A. The applicant shall provide enhancement of existing wetlands in the Penobscot Mills Project area.
- B. The applicant shall, within 12 months of FERC relicensing or upon such a schedule as may be established by FERC, submit plans for evaluating, implementing, and monitoring wetland enhancements as required by Part A of this condition. These plans shall be developed in consultation with IF&W and the Department. These plans shall be reviewed by and must receive approval of the DEP Bureau of Land Quality Control.

## 5. TOXIC METALS STUDY

The applicant shall cooperate in a study to be conducted by the Department and the Environmental Protection Agency to determine the interrelationship and impacts of atmospheric deposition and water level fluctuations of concentrations of mercury, cadmium, lead, and other toxic metals on aquatic life in the project waters.

-7-

## 6. MILLINOCKET LAKE HAZARD STUDY

- A. The applicant shall consult with the Department of Conservation regarding the need for a study to mark and remove submerged hazards to recreational navigation in Millinocket Lake.
- B. If a study is requested by DOC, the applicant shall, within 6 months of FERC relicensing or upon such a schedule as may be established by FERC, submit a plan for establishing benchmark impoundment levels in Millinocket Lake and investigating the need for marking or removing submerged hazards in the lake. This plan shall be prepared in consultation with the Department of Conservation and shall be reviewed and receive approval of the DEP Bureau of Land Quality Control.
- C. The applicant shall submit the results of the hazard study to DOC and the DEP. The applicant shall then develop shall then develop and submit a plan for marking and/or removing hazards in Millinocket Lake as recommended by DOC. This plan shall be reviewed and must receive approval of the DEP Bureau of Land Quality Control.

## 7. LIMITS OF APPROVAL

This approval is limited to and includes the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. All variances from the plans and proposals contained in said documents are subject to the review and approval of the Board or Department prior to implementation.

## 8. COMPLIANCE WITH ALL APPLICABLE LAWS

The applicant shall secure and appropriately comply with all applicable federal, state and local licenses, permits, authorizations, conditions, agreements and orders required for the operation of the project.

#### 9. EFFECTIVE DATE

This water quality certification shall be effective on the date of issuance of a new hydropower project license by the Federal Energy Regulatory Commission (FERC) and shall expire with the expiration of the FERC license.