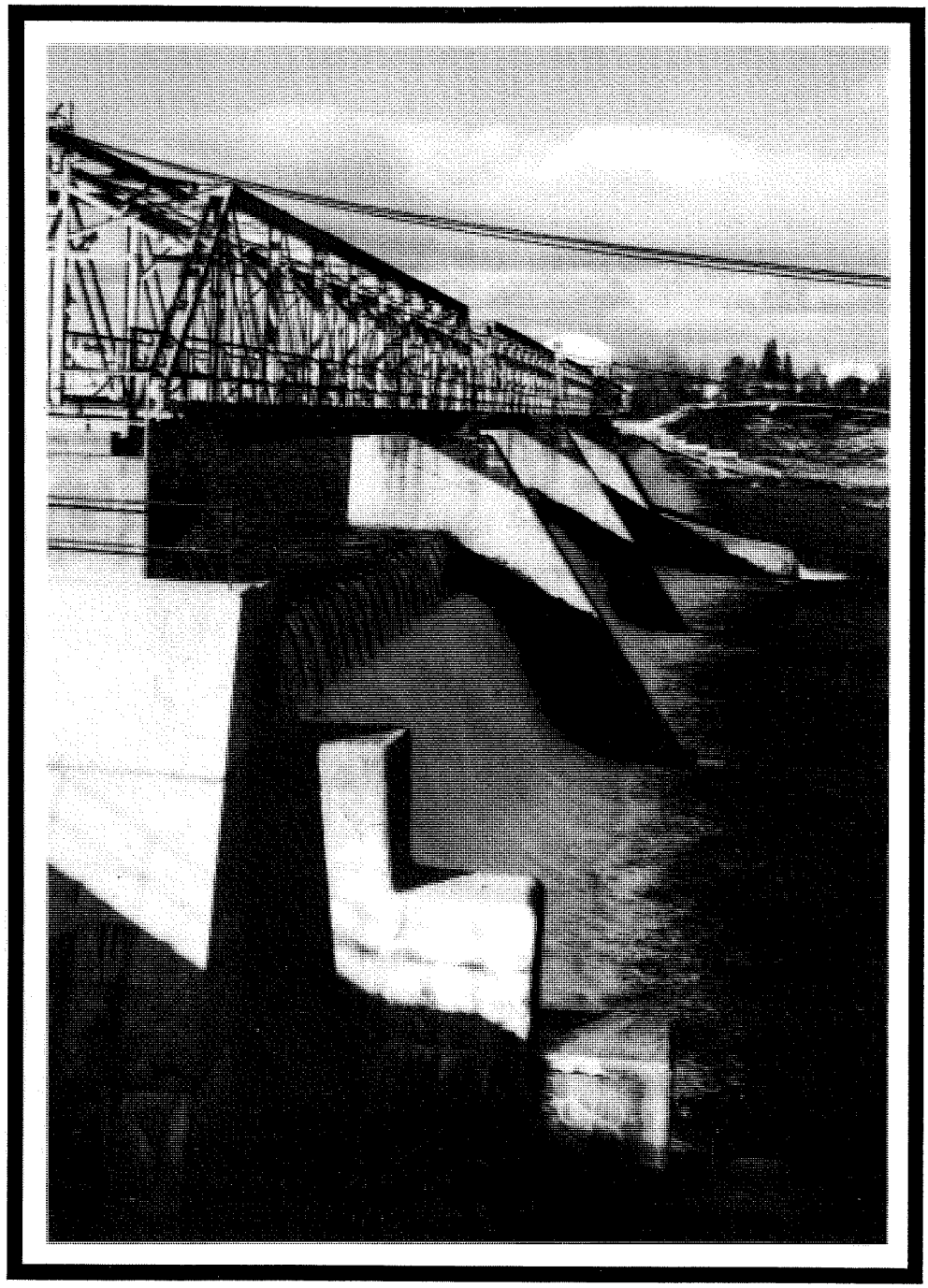
MAINE STATE AGENCY HYDROPOWER POLICY STATEMENTS



FERC REVIEW COORDINATING COMMITTEE
LAND AND WATER RESOURCES COUNCIL
AUGUST 1988

ACKNOWLEDGEMENTS

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The Cover Photo of Shawmut Hydroelectric Facility was taken by Betsy Elder in Nov. 1985.

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Federal Energy Regulatory Commission
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August 1988

STATE OF MAINE
EXECUTIVE DEPARTMENT
STATE PLANNING OFFICE

JOHN R. McKERNAN, JR.
GOVERNOR

RICHARD H. SILKMAN
DIRECTOR

State Planning Office Policies Regarding the Licensing of Hydropower Facilities

The State Planning Office policies regarding the licensing of hydropower facilities exist on two levels; first as the lead agency in coordinating the Federal Energy Regulatory Commission (FERC) licensing process for hydropower permits, and second in holding responsibility for providing comments on botanical and aesthetic resources and flood control aspects of proposed hydropower projects.

Under the authority of Executive Order No. 13, FY86/87, "the State Planning Office, in consultation with the Land and Water Resources Council's FERC Coordinating Committee, shall monitor all State agency comments in FERC proceedings, shall mediate disagreements among State agencies regarding comments submitted to FERC or the applicant, and shall develop procedures for implementing this order." These procedures, referenced in Executive Order No. 13, FY86/87, were developed, signed and elaborate further on the responsibilities of the State Planning Office as the agent for coordination of the FERC process for hydropower permits in the State of Maine. Both the Executive Order and Revised Procedures are part of this policy statement. In addition, the State Planning Office has the responsibility to intervene, in a timely fashion, on the State's behalf, in all FERC licensing proceedings for projects in Maine, and as appropriate, in selected FERC preliminary permit and license exemption proceedings.

In addition, the State Planning Office will assist applicants seeking hydropower licenses (including licenses for water storage projects) from FERC by reviewing and commenting on the Initial Consultation Document, the Draft License Application and the License Application.

The State Planning Office's authority to comment on hydropower projects is based, in part, on Section 10 of the Federal Power Act (as amended in 1986 by the Electric Consumers Protection Act), which requires that FERC, before granting a hydropower license, consider the recommendations of "...State agencies exercising administration over flood control, navigation, irrigation, recreation, cultural and other relevant resources of the State in which the project is located."

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The State Planning Office and the Department of Environmental Protection signed, on November 5, 1984, a Memorandum of Agreement for Hydropower Project Reviews that obligates the State Planning Office to provide technical assistance in reviewing the environmental impacts of hydropower projects that the Department of Environmental Protection reviews under the Maine Waterway Development and Conservation Act (38 MRSA, Section 630 et. seq.) and that the Land Use Regulation Commission (LURC) reviews with its hydropower permitting authority under 38 MRSA Sections 630-636. The LURC's authority to issue Water Quality Certification for hydropower projects stems from its designation as a certifying agency by Executive Order No. 8, FY85/86, effective January 15, 1986.

The State Planning Office's review of hydropower projects both under the FERC process and the State of Maine Water Development and Conservation Act focuses on two areas of responsibility: 1) the Critical Areas Program, and 2) Flood Control and Federal Flood Insurance Program.

The State Planning Office, by legislative mandate, Title 5, Chapter 312, State Register of Critical Areas, has established a Register of Critical Areas which contains an inventory of sites and areas of significant natural, scenic, or scientific value duly classified as "critical areas" as defined in Section 3312. Also by legislative mandate, the State Planning Office shall recommend the protection of Critical Areas on the Register whose natural qualities are threatened with adverse alteration or destruction. An applicant for any given hydropower project should consult with the SPO to determine if there are any Critical Areas on the site.

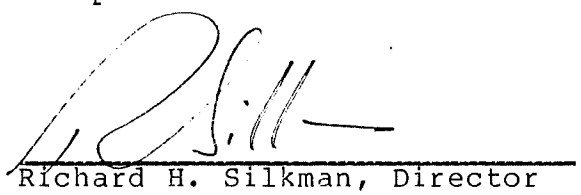
Although the National Flood Insurance Program is being administered by the Department of Economic Community Development, the State Planning Office is the designated member of the FERC Coordinating Committee to provide review and comments on flood control. The State Planning Office will provide a description of the status of all project lands in the National Flood Insurance Program, will review and comment on the adequacy of the project proposal, and will offer recommendations, including a specific statement of and justification for any conditions of approval, based upon the following:

-- the applicant's description of known flood conditions, both past and present;

-- the applicant's description and analysis of the anticipated flood control benefits or flood hazards resulting from the proposed project; and

-- the applicant's proposals for the timing, location, and nature of construction activities and operational modes, including design proposals, for the enhancement of flood control benefits and reduction of flood hazards.

Should any of the proposed project activities have an effect on water levels or flood levels, the applicant should follow procedures for calculating flood elevations as outlined by the Federal Emergency Management Agency (FEMA) and work closely with affected towns in revising the flood insurance maps. These flood analysis activities on the part of the applicant are essential for meeting FEMA requirements and for assuring continued local eligibility for participation in the National Flood Insurance Program.



Richard H. Silkman, Director

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OFFICE OF
THE GOVERNOR

NO. 13FY 86/87

DATE March 4, 1987

PROVIDING FOR THE ESTABLISHMENT OF A TIMELY AND COORDINATED STATE PROCESS AND THE DEVELOPMENT OF A CONSISTENT STATE POSITION IN FEDERAL HYDROPOWER LICENSING AND RELICENSING PROCEEDINGS

WHEREAS, interest in developing the hydropower potential of Maine's rivers has increased significantly in recent years; and

WHEREAS, a great many existing hydropower facilities, which generate inexpensive, renewable, and clean electric power to the citizens and businesses of Maine, currently require or will soon require federal relicensing; and

WHEREAS, the Legislature, through the 1983 Maine Waterway Development and Conservation Act (38 MRSA Section 630-636), has declared that "hydropower justifies singular treatment"; and that "it is the policy of the State to support and encourage the development of hydropower projects by simplifying and clarifying requirements for permits, while assuring reasonable protection of natural resources and the public interest in use of the waters of the State"; and

WHEREAS, the Maine Waterway Development and Conservation Act consolidated State regulatory authority for hydropower development into a single permit to be issued by either the Board of Environmental Protection or the Land Use Regulation Commission including action on water quality certification pursuant to Section 401 of the Federal Clean Water Act; and

WHEREAS, most applicants for hydropower projects to be located in the State must apply to the Federal Energy Regulatory Commission (FERC) for a federal license or exemption; and

WHEREAS, effective State participation in FERC proceedings demands that comments from State agencies be communicated in a clear, consistent and timely fashion, and that the State secure status as an official intervenor in these proceedings;

NOW, THEREFORE, I, John R. McKernan, Jr., Governor of the State of Maine, do hereby direct that:

1. A final decision by the Board of Environmental Protection or the Land Use Regulation Commission issued in accordance with the Maine Waterway Development and Conservation Act where applicable, and the water quality certification of the project issued pursuant to Section 401 of the Federal Clean Water Act, and the applicable State certification procedures shall represent the official position of the State of Maine regarding the subject application;

2. The State's sole, official recommendations for any terms and conditions upon the federal license shall be those contained in the Board of Environmental Protection or the Land Use Regulation Commission decisions, superseding all preliminary recommendations by individual State agencies;

3. All State agency comments submitted subsequent to State action on the subject project shall include a copy of the decisions rendered by the State permitting agencies;

4. All State agency comments submitted prior to action on a State permit shall advise FERC that the official position of the State is that established through the decisions of the Board of Environmental Protection or the Land Use Regulation Commission; and

5. The State shall have responsibility to intervene, in a timely fashion, on the State's behalf, in all FERC licensing proceedings for projects in Maine, and, as appropriate, in selected FERC preliminary permit and license exemption proceedings; and

6. Pursuant to this policy, the State Planning Office, in consultation with the Land and Water Resources Council's FERC Coordinating Committee, shall monitor all State agency comments in FERC proceedings, shall mediate any disagreements among State agencies regarding comments submitted to FERC or the applicant, and shall develop procedures for implementing this Order.

(This Executive Order supersedes Executive Order #17, FY84/85.)

JOHN R. McKERNAN, JR.
Governor

REVISED PROCEDURE TO ENSURE THAT STATE AGENCY COMMENTS IN FEDERAL HYDROPOWER PROCEEDINGS ARE TIMELY, COORDINATED, AND CONSISTENT

The following replaces the procedure adopted by the Land and Water Resources Council in June 1985. It is designed to ensure that State agency consultations and comments regarding FERC proceedings are timely, well coordinated, and consistent with the Maine Waterway Development and Conservation Act where applicable, with Executive Order # 13, FY86/87, and with Administration policy as set forth in this document.

FERC licensing is a Federal process which sets forth a defined role for the State. In order to develop an efficient response to this process, procedures and practices need to be carefully structured.

1. FERC Coordinating Committee

The membership of the standing committee of the Land and Water Resources Council, known as the FERC Coordinating Committee, will comprise the following or their designated representatives:

-- Director, State Planning Office (Chairman)
-- Director, Office of Energy Resources
-- Director, Land Use Regulation Commission
-- Chairman, Public Utilities Commission

-- Commissioner, Department of Conservation

-- Commissioner, Department of Environmental Protection

-- Commissioner, Department of Inland Fisheries & Wildlife

-- Commissioner, Department of Marine Resources

-- State Historic Preservation Officer

-- Chairman, Atlantic Sea Run Salmon Commission

The Committee will advise and assist the State Planning Office in fulfilling its functions as lead agency in FERC reviews.

2. Lead Agency

The State Planning Office will be the lead agency in the FERC hydropower process. Its objective will be to expedite the processing of applications, monitor application status and paper flows, coordinate and review agency requests and comments and attempt to resolve disputes between applicants and agencies to assure that state policies will be implemented and the interests of the State well-served.

3. Submission of Consultation Documents and Draft Applications

To implement an efficient, coordinated approach to hydropower licensing, applicants should meet with the State Planning Office to determine the appropriate State agencies for consultation purposes with respect to a particular application. The applicant shall be responsible for distributing consultation

documents, drafts and applications to appropriate agencies as determined by the State Planning Office.

4. Comments and Study Requests

A. Designated Agencies

In order to assure efficient use of the State's manpower resources and to avoid overlapping and inconsistent multiple comments or requests, one State agency will be designated to collect, review, consolidate, and synthesize any and all comments and study requests related to a designated subject area and provide to the State Planning Office a single unified comment and study request document. The agency designated below will have the responsibility for providing comments or study requests on the listed topics and for providing coordinated comments or study requests on these topics to the State Planning Office:

-- Recreation and Water Use - Department of Conservation

-- Fisheries and Wildlife - Department of Inland Fisheries and Wildlife (Marine Resources for Anadromous fisheries)

-- Botanical and Aesthetic Resources - State Planning Office

-- Water Quality - Department of Environmental Protection

-- Land Use and Management (including public lands) - Department of Conservation

-- Energy - Office of Energy Resources

-- Flood Control - State Planning Office

-- Historical; Archeological - State Historic Preservation Office

Where a comment relates to a topic not identified above, it should be submitted directly to the State Planning Office.

Applicants are encouraged to schedule informal meetings with individual agencies and are especially encouraged to meet informally with agencies even before consultation meetings to discuss issues of concern.

B. State Policy

In submitting requests for studies or comments to the State Planning Office, agencies shall work to ensure that such comments and study requests are specific to the project under consideration, that they relate to areas and issues of high State priority and are consistent with State laws and Administration mandates and with Executive Order 13 and this procedure, and that they are not unnecessarily burdensome to the applicant.

As part of the consultation comments, the Department of Marine Resources (DMR) or the Department of Inland Fisheries and Wildlife (IF&W), depending on which agency has jurisdiction, shall indicate whether or not it will be requesting the construction, repair, or alteration of fishways in any dam proposed to be licensed or exempted.

C. Procedure

The agency designated to provide the comments or study requests to the State Planning Office shall do so within 60 days of receipt of the initial consultation documents. Failure to submit comments or study requests within this period will be interpreted to mean that the agency wishes to make no comments or to request no studies. Extensions of the comment period may be granted where the applicant requests that an agency delay its comments and the State Planning Office receives timely notification of this request.

The State Planning Office will review the study requests and comments to assure consistency with this policy and to avoid conflicts or overlap. The State Planning Office will provide a final document of requests and comments to applicants within 90 days of the submission of the initial consultation documents and draft application. The State Planning Office will at the same time notify the applicant in writing of those agencies which have waived, or are deemed to have waived, comments or requests.

D. Mediation

If an applicant has any disagreements with agency requests or comments, it may request a joint conference with the State Planning Office and the relevant agency to reach agreement on issues in dispute. Any agreement shall be communicated to the State Planning Office and, in turn, to the applicant in the form or a revised request for studies or comment.

5. FERC Proceedings

A. Status

The State Planning Office shall be responsible for maintaining a record of the status of all hydropower project proceedings pending before FERC. SPO shall also compile and distribute, on a periodic basis, information on the current status of all hydropower project applications before FERC, including their status in State permitting proceedings.

B. Intervention

The State Planning Office shall automatically intervene on the State's behalf in all FERC licensing proceedings for hydropower projects in Maine, and, as appropriate, in selected FERC preliminary permit and license exemption proceedings.

C. Agency Comments

The State Planning Office shall monitor and review all proposed State agency comments to FERC on all licensing, relicensing and exemption applications for consistency with Executive Order 13 and this procedure. No later than fifteen days prior to any FERC comment deadline, each State agency shall either (a) forward proposed comments to the State Planning Office and to all other agencies involved in the consultation and comment process, or (b) notify the State Planning Office that it has no comments.

The State Planning Office will review all agency comments for consistency and direct the agency to send them to FERC. If SPO finds that comments by agencies are conflicting or inconsistent with State policy, it shall 1) direct the agency whose comments are in question to withhold the transmittal of these comments to FERC, and 2) convene a meeting of the agencies affected to discuss the issues and to mediate a resolution consistent with State policy. Any revised comments which result from such a meeting will be circulated for further comment and within five days forwarded to FERC, if appropriate.

D. Comments Prior to BEP or LURC Decision

State agency comments to FERC or to applicants on hydropower license, relicense and exemption applications, submitted prior to regulatory actions of BEP and LURC, shall recommend no specific

terms or conditions upon the federal license or exemption.

This shall not apply to comments submitted by the State Historic Preservation Officer pursuant to the National Historic Preservation Act.

E. Comments Subsequent to BEP or LURC Decision

Comments submitted to FERC subsequent to action by the BEP or LURC shall include a copy of the State decision issued pursuant to the MWDCA where applicable, and of the action on water quality certification pursuant to Section 401 of the Federal Clean Water Act. The written finding of fact shall include a summary of comments submitted by State agencies prior to the decision.

In addition, all comments submitted prior to State permit decisions shall include the following notice to FERC:

> "These comments represent this agency's assessment to date of the proposed project, based on our statutory responsibilities. A decision of the Maine Board of Environmental Protection (or Maine Land Use Regulation Commission) on any application for a State hydropower permit and action by the Board on water quality certification pursuant to Section 401 of the Federal Clean Water Act, and any terms and conditions contained therein, shall represent the sole official position of the State of Maine regarding the subject application."

F. Comments after FERC Comment Deadline

Any comments proposed after FERC's official comment deadline has passed shall first be forwarded to all other agencies on the Committee, and shall be reviewed in accordance with the procedure outlined in Section 5.C, para. 2.

G. Other FERC Proceedings

This coordination procedure shall also apply to State agency review and comment on draft FERC Environmental Impact Statements relating to specific projects, and on proposed FERC regulations.

For any project which falls under LURC jurisdiction, DEP and LURC shall also provide for the coordination of water quality certification proceedings before the BEP under the provisions of Section 401 of the Federal Clean Water Act, to assure consistent action by the two permitting bodies.

RICHARD H. SILKMAN, DIRECTOR
MAINE STATE PLANNING OFFICE

kam/8/15

STATE OF MAINE
Department of Environmental Protection

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JOHN R. McKERNAN, JR.
GOVERNOR

DEAN C. MARRIOTT
COMMISSIONER

August 4, 1988

ADMINISTRATIVE REGULATIONS FOR HYDROPOWER PROJECTS

The following represents the efforts of the Department of Environmental Protection and the Land Use Regulation Commission to develop a set of written policies to guide applicants through the hydro permitting and licensing process.

Since these agencies administer the Maine Waterway Development and Conservation Act and Maine Rivers Policy, our "written policies" consist of the Administrative Regulations for Hydropower Projects adopted jointly by the BEP and LURC. These regulations, which became effective September 29, 1987, are attached hereto and incorporated herewith.

DEAN C. MARRIOTT, Commissioner
Department of Environmental Protection

PAUL B. FREDERIC, Director
Land Use Regulation Commission

REGIONAL OFFICES
• Portland • • Bangor • • Presque Isle •

ADMINISTRATIVE REGULATIONS FOR HYDROPOWER PROJECTS

ADOPTED

December 10, 1986

Pursuant to

Maine Waterway Development and Conservation Act
38 M.R.S.A., Section 630 et. seq.
and
Maine Rivers Act
12 M.R.S.A., Section 401 et. seq.

Chapter 450
of the Rules and Regulations of the
MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION

Chapter 11
of the Rules and Regulations of the
Land Use Regulation Commission
MAINE DEPARTMENT OF CONSERVATION

06-096 DEPARTMENT OF ENVIRONMENTAL PROTECTION

Chapter 450 ADMINISTRATIVE REGULATIONS FOR HYDROPOWER PROJECTS

and

04-061 DEPARTMENT OF CONSERVATION
LAND USE REGULATION COMMISSION

Chapter 11 ADMINISTRATIVE REGULATIONS FOR HYDROPOWER PROJECTS

SUMMARY: The Department of Environmental Protection and the Land Use Regulation Commission have adopted joint regulations for the processing of applications for hydropower projects under the Maine Waterway Development and Conservation Act and Maine Rivers Policy. The purpose of these regulations is to provide guidance on the administration of the Act, including guidance on how the Board and Commission will interpret the provisions of the Act and the Maine Rivers Policy and will approach the judgments they must make under the criteria set forth in the Act and the Policy.

Administrative Regulations for Hydropower Projects

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and
04-061 Land Use Regulation Commission
DEPARTMENT OF CONSERVATION
Chapter 11 ADMINISTRATIVE REGULATIONS FOR HYDROPOWER PROJECTS

Section 1 Authority

These regulations are promulgated pursuant to the Administrative Procedures Act, 5 M.R.S.A., Chapter 375; 12 M.R.S.A., Chapter 206-A; and 38 M.R.S.A., Sec. 343-A to interpret the Maine Rivers Policy, 12 M.R.S.A., Sec. 401-405 and the Maine Waterway Development and Conservation Act, 38 M.R.S.A., Sec. 630-637.

Section 2 Purpose

In adopting the Maine Waterway Development and Conservation Act, the Legislature established "that it is the policy of the State to support and encourage the development of hydropower projects by simplifying and clarifying requirements for permits, while assuring reasonable protection of natural resources and the public interest in use of waters of the State".

The purpose of these regulations is to further this policy by providing guidance on the administration of the Act, including guidance on how the Board and Commission will interpret the provisions of the Act and the Maine Rivers Policy and will approach the judgements they must make under the criteria set forth in the Act and the Policy.

Section 3 Definitions

The following terms, as used in these regulations, shall have the following meanings, unless the context indicates otherwise:

A. Act:

"Act" means the Maine Waterway Development and Conservation Act, 38 M.R.S.A., Sec. 630-637.

B. Board:

"Board" means the Board of Environmental Protection.

C. Commission:

"Commission" means the Land Use Regulation Commission of the Maine Department of Conservation.

D. Commissioner:

"Commissioner" means the Commissioner of the Department of Environmental Protection.

E. Department:

"Department" means the Department of Environmental Protection.

F. Director:

"Director" means the Director of the Land Use Regulation Commission.

G. Hydropower Project or Project:

"Hydropower project, or project," means any development which utilizes the flow of water as a source of electrical or mechanical power, or which regulates the flow of water for the purpose of generating electrical or mechanical power. A hydropower project development includes all powerhouses, dams, water conduits, transmission lines, water impoundments, roads and other appurtenant works and structures that are part of the development." (38 M.R.S.A., Sec. 632.3)

H. Mitigation:

"Mitigation" means any action taken or not taken to avoid, minimize, rectify, reduce, eliminate, or compensate for actual or potential adverse environmental impacts. Such actions include, but are not limited to:

1. Avoiding an impact altogether by not taking a certain action or parts of an action;

2. Minimizing an impact by limiting the magnitude or duration of an activity or by controlling the timing of an activity;

3. Rectifying an impact by repairing, rehabilitating, or restoring the affected environment.

4. Reducing or eliminating an impact over time through preservation and maintenance operations during the life of the project; and

5. Compensating for an impact by replacing affected resources or environments or providing substitute resources or environments.

Section 4 Permit Requirements

A. Prohibition

The Maine Waterway Development and Conservation Act (38 M.R.S.A., Sec. 633) states "No person may initiate construction or reconstruction of a hydropower project, or structurally alter a hydropower project in ways which change water levels or flows above or below the dam, without first obtaining a permit from the (Board or Commission) . . . Normal maintenance and repair of an existing and operating hydropower project shall be exempt from (the requirement for a permit) provided that:

1. The activity does not involve any dredging or filling below the normal high-water line of any great pond, coastal wetland, river, stream or brook; and

2. The activity does not involve any dredging or filling on the land adjacent to any great pond, coastal wetland, river, stream or brook such that any dredged spoil, fill or structure may fall or be washed into those waters."

B. Activities Requiring a Permit

The following types of activities, by way of example, are subject to the requirement for a permit:

1. The construction of a new hydropower project, including a new water storage dam, or a new hydroelectric generating facility of any kind, whether utilizing a dam, a natural water feature, natural current velocities, or tidal action;

2. The reconstruction of a hydropower project;

3. The structural alteration of a hydropower project in ways which change water levels or flows above or below the dam, including, but not limited to:

   a. The addition or alteration of flashboards; and

   b. The installation of additional or enlarged turbines; and

4. Any dredging or filling below the normal high-water line of a water body to facilitate maintenance and repair of an existing and operating hydropower project.

C. Activities Not Requiring a Permit

The following types of normal maintenance and repair activities at existing and operating hydropower projects, by way of example, are specifically exempt from the requirement for a permit, provided that the activity does not diminish water quality below applicable standards:

1. The resurfacing or repair of dams, canals, powerhouses, retaining walls, or other structures where no cofferdam, dredging, filling, or permanent water level alteration is involved;

2. The repair, removal or replacement of flashboards, stop logs, gates, or intake racks where no cofferdam, dredging, filling, or permanent water level alteration is involved;

3. Removal of materials collected on trash racks;

4. Removal of dri-ki and other accumulated materials where no significant disturbance of soils or lake or river bottom materials is involved;

5. Installing or removing booms;

6. Placement and removal of non-earthen cofferdams temporarily installed immediately adjacent to an existing structure for the purpose of inspecting or repairing the structure;

7. Removal of sediment and debris from gated canals, tunnels and penstocks from which the water has been removed; and

8. Sealing of leaks in gates, stop logs and flashboards.

D. Jurisdiction

The Board or Commission acquires jurisdiction under the Maine Waterway Development and Conservation Act when a person either files an application to construct, reconstruct, or structurally alter a hydropower project, or initiates the unapproved construction, reconstruction, or structural alteration of a hydropower project, as defined by 38 M.R.S.A., Sec. 632.3 and Sec. 633 and these regulations.

Section 5 Standard of Review

A. Maine Waterway Development and Conservation Act

The Maine Waterway Development and Conservation Act, 38 M.R.S.A., Sec. 636, states that the Board or Commission shall approve a project when it finds that the applicant has demonstrated that seven criteria have been met. The criteria are as follows:

"1. Financial capability. The applicant has the financial capability and technical ability to undertake the project. In the event that the applicant is unable to demonstrate financial capability, the (Board or Commission) may grant the permit contingent upon the applicant's demonstration of financial capability prior to commencement of activities permitted" (38 M.R.S.A., Sec. 636.1).

"2. Safety. The applicant has made adequate provisions for protection of public safety" (38 M.R.S.A, Sec. 636.2).

"3. Public benefits. The project will result in significant economic benefits to the public, including, but not limited to, creation of employment opportunities for workers of the State" (38 M.R.S.A, Sec. 636.3).

To meet this criterion, the applicant must demonstrate that the benefits claimed from the proposed project are real, in that these benefits would not result but for the project. Further, the applicant must demonstrate that the project's economic benefits are greater than it's economic costs, and that the resulting net benefit is significant.

"Benefit" is a term which requires a comparison between at least two conditions. Further, this section of the law calls for the Board and Commission to judge if the benefits are "significant". This too is a comparative term which can only be reasonably evaluated in light of other courses of action which might reasonably be pursued. Therefore, in order to accurately evaluate the existence and extent of the economic benefits that may result from a proposed hydropower project, it is necessary to compare two alternative futures: the economic conditions likely to exist if the project is built versus those likely to exist without the project.*

*Note: Experience has shown that the vast majority of projects have resulted in significant public economic benefits. This is because these relatively small projects at existing dams have lacked any substantial public economic costs, and the most likely alternative has been continued oil fired generation. However, a small number of projects have

In cases involving new dams which would result in substantial economic costs, the consideration of alternatives is not limited to continued oil-fired generation; therefore, a demonstration that this criterion has been met must include comparing the benefits claimed from the project against the economic conditions that would otherwise result from any alternative source(s) of energy generation or conservation that might reasonably be pursued in the event that the project is not built.

Economic benefits and costs will be identified and measured using generally accepted methods and procedures, such as those published by the United States Water Resources Council. In accordance with these methods and procedures, economic benefits may include, but are not limited to, increases in the income or purchasing power of Maine citizens, energy security from reducing dependence upon fossil fuels, and creation of employment opportunities for workers of the State.

Similarly, in accordance with these methods and procedures, economic costs may include, but are not limited to, decreases in the income or purchasing power of Maine citizens, the value of other hydroelectric generating opportunities diminished or eliminated by a project, and the elimination of employment opportunities for workers of the State.

"4. Traffic movement. The applicant has made adequate provision for traffic movement of all types out of or into the development area" (38 M.R.S.A, Sec. 636.4).

"5. Maine Land Use Regulation Commission. Within the jurisdiction of the Maine Land Use Regulation Commission, the project is consistent with zoning adopted by the commission" (38 M.R.S.A, Sec. 636.5).

A proposal is consistent with such zoning if the proposed hydropower project, or portions of that project, as occur within the Commission's jurisdiction, are not prohibited uses under the zoning designation and standards in effect at the time of consideration as set forth in Chapter 10 of the Commission's Rules and Regulations.

In those instances where the project, or portions of that project, are prohibited uses under the zoning designation and standards in effect at the time of consideration, the applicant must file and obtain favorable action from the Commission on a rezoning petition or must amend the project

Note (continued): **required a more thorough analysis of what was likely to happen if these projects were not built. Experience has also shown that these have been new dams which would have resulted in substantial public economic costs.**

to avoid conflicts with the Commission's zoning in order to satisfy this criterion.

"6. Environmental mitigation. The applicant has made reasonable provisions to realize the environmental benefits of the project, if any, and to mitigate its adverse environmental impacts" (38 M.R.S.A, Sec. 636.6).

Mitigation is not necessarily limited to the replacement of affected resources or environments (i.e., in-kind or on-site mitigation) but may involve the provision of substitute resources or environments (i.e., out-of-kind or off-site mitigation). In-kind or on-site mitigation measures will be preferred. Off-site or out-of-kind measures may be accceptable where in-kind or on-site measures are demonstrated not to be feasible or desirable.

Whether an applicant's provisions to realize environmental benefits or to mitigate adverse environmental impacts are reasonable depends in part upon the significance of the resource(s) affected.

"7. Environmental and energy considerations. The advantages of the project are greater than the direct and cumulative adverse impacts* over the life of the project based upon the following considerations:

"a. Whether the project will result in significant benefit or harm to soil stability, water quality, coastal and inland wetlands or the natural environment of any surface waters and their shorelands;

*Note: Significant cumulative adverse impacts are harms to the environment which add to the impacts of other existing, facilities or uses such that a threshold of acceptability for the total impact is exceeded. For example, when viewed in isolation, a particular project might be seen as having only a minor on-site impact on water quality, e.g., a slight reduction in dissolved oxygen or a slight reduction in a run of anadramous fish. However, even minor reductions in dissolved oxygen at the site to levels well above the minimum acceptable standard might cause downstream areas affected by other existing projects or discharges to violate water quality standards. Likewise, a seemingly small reduction in the number of salmon (say 10 percent loss at the project in question) might, when combined with the effects of other existing dams, cause a run to fail because the number of fish needed to sustain a breeding population was not maintained.

"b. Whether the project will result in significant benefit or harm to fish and wildlife resources. In making its determination, the (Board or Commission) shall consider other existing uses of the watershed and fisheries management plans adopted by the Department of Inland Fisheries and Wildlife, the Department of Marine Resources, and the Atlantic Sea Run Salmon Commission;

"c. Whether the project will result in significant benefit or harm to historic and archaeological resources;

"d. Whether the project will result in significant benefit or harm to the public rights of access to and use of the surface waters of the State for navigation, fishing, fowling, recreation and other lawful public uses;

"e. Whether the project will result in significant flood control benefits or flood hazards;

"f. Whether the project will result in significant hydroelectric energy benefits, including the increase in generating capacity and annual energy output resulting from the project, and the amount of nonrenewable fuels it would replace; and

"g. For an application filed after July 16, 1986, whether there is reasonable assurance that the project will not violate applicable water quality standards, as required for water quality certification under the United States Water Pollution Control Act, Section 401."

"The (Board or Commission) shall make a written finding of fact with respect to the nature and magnitude of the impact of the project on each of the considerations under this (criterion), and a written explanation of their use of these findings in reaching their decision" (38 M.R.S.A., Sec. 636.7).

The benefits of a project need not be greater than its harms for each of the specified environmental and energy considerations in order for this overall criterion to be satisfied. Therefore, this criterion has been met if, in the Board's or Commission's judgment, the applicant has demonstrated that the weight of the advantages of the project is greater than the weight of the direct and cumulative adverse impacts over the life of the project based upon the specified environmental and energy considerations.

Determining whether the advantages of the project are greater than it's adverse impacts requires attaching value or weight to the project's various benefits and harms.*

In cases involving new dams which would result in substantial adverse impacts, the consideration of alternatives is not limited to continued oil-fired generation; therefore, a demonstration that this criterion has been met must include a description of the environmental and energy benefits and harms of the proposed project in comparison with the benefits and harms that would result from any alternative source(s) of energy generation or conservation that might reasonably be pursued in the event that the project is not built.

B. The Maine Rivers Policy: Special Protection for Outstanding River Segments

12 M.R.S.A., Sec. 403, declares that certain river and stream segments, designated as outstanding rivers, are to be accorded special protection, by virtue of their unparalleled natural and recreational values. This special protection takes the following form:

"No license or permit under Title 38, sections 630 to 636, may be issued for the construction of new dams on the river and stream segments subject to this special protection without the specific authorization of the Legislature, or for additional development or redevelopment of existing dams on the river or stream segments subject to this special protection where the additional development or redevelopment diminishes the significant resource values of these river and stream segments."

The outstanding river segments are identified in 12 M.R.S.A., Sec. 403. The significant resource values of the special protection rivers are those identified by the 1982 Maine Rivers Study, as provided in 12 M.R.S.A., Sec. 403.

Based on this special protection, the Board or Commission can only approve a permit pursuant to the Act for a new dam on an outstanding river segment where (1) the Legislature specifically authorizes the Board or Commission to consider such a permit and (2) the Board or Commission then finds that the project meets the criteria of 38 M.R.S.A., Sec. 636, as outlined in subsection A above.

Similarly, the Board or Commission can only approve a permit pursuant to the Act for the additional development or redevelopment of

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Note: Experience has shown that this weighing has not been difficult for the vast majority of projects as no substantial adverse environmental impacts would have occurred to be balanced against the energy benefits of these projects. However, a small number of projects have required a more thorough analysis. Experience has also shown that these have been new dams with substantial adverse impacts.

an existing dam on an outstanding river segment where (1) the Board or Commission finds that the project does not diminish the significant resource values of the outstanding river segment, and (2) the Board or Commission further finds that the project meets the criteria of 38 M.R.S.A., Sec. 636, as outlined in subsection A above.

In determining whether or not significant resource values identified by the Maine Rivers Study will be diminished, the Board or Commission will not consider measures proposed to replace or substitute for losses.

For the purposes of 12 M.R.S.A., Sec. 403, "existing dams on the river or stream segments subject to special protection" shall mean man-made barriers across the outstanding river segments identified in 12 M.R.S.A., Sec. 403, which impound water and which, as of June 17, 1983, had not been breached, deteriorated, or modified to the point where they no longer impounded water at or near their design level at normal flows.

For the purposes of 12 M.R.S.A., Sec. 403, "additional development or redevelopment of existing dams on a river or stream segment subject to special protection " shall mean any activities associated with the installation, reinstallation or expansion of hydroelectric or hydromechanical generating capacity at existing dams, as defined above, that do not result in any increase in water levels above these dams or any dewatering of river segments below these dams except during construction.

Dams located at the outlet of lakes or ponds specifically identified in 12 M.R.S.A, Sec. 403 shall not be considered to be on the outstanding river segments.

Section 6 Administering Agency

The Act shall be administered by the Land Use Regulation Commission within its jurisdiction, including the unorganized townships, plantations and certain organized towns, and by the Board of Environmental Protection elsewhere in the State.

In the event a proposed project and areas directly affected by the project overlap the jurisdictions of the Board and Commission, permitting jurisdiction pursuant to the Act shall be determined as follows:

A. Where the proposed construction, reconstruction, or structural alteration activities occur solely within one agency's jurisdiction, that agency shall be the permitting agency.

B. Where the proposed construction, reconstruction, or structural alteration activities occur within the

jurisdictions of both agencies, or where water is diverted in one jurisdiction and other project facilities are located in the other jurisdiction, a case-by-case determination shall be made by the two agencies as to which will administer the permitting process.

Where a proposed project and areas directly affected by the project overlap the State's boundaries, to the extent possible, a joint review of the project will be conducted by the Board or Commission and the agency having similar jurisdiction within the other state or Canadian Province.

Section 7 Information Requirements

To receive a permit, every applicant must demonstrate that the criteria of 38 M.R.S.A., Sec. 636 have been met. In all cases, such information shall be required as is deemed necessary by the Board, Commission or their staffs to describe the proposed project and its impacts in sufficient detail to enable the Board, Commission or their staffs to make an informed judgment on a particular project.

Where information required by the Board, Commission, or their staffs is contained in an Application for License or Exemption or an Application for Amendment of License or Exemption for a hydropower project that has been or is being filed with the Federal Energy Regulatory Commission (FERC), that information may be submitted as complete or partial fulfillment of these information requirements.

Because of the differing nature of every project proposed for approval, an applicant is advised to consult with staff of the Commission or Department (whichever is applicable) prior to submitting an application.

Section 8 Process and Time Limits for Decisions

A. Commissioner or Director Action

For those applications delegated* to the Commissioner of the Department of Environmental Protection or the Director of the Land Use Regulation Commission, the Commissioner or Director shall make a

*** Note: Delegation of authority to the Commissioner of the Department of Environmental Protection to make decisions pursuant to the Act is provided for in Chapter 1 of the Department's Regulations. Delegation of authority to the Director of the Land Use Regulation Commission to make certain decisions pursuant to the Act is provided for by Commission action.**

decision as expeditiously as possible, and shall, within 60 working days of receipt of a properly completed application, either:

"1. Approve the proposed project upon such terms and conditions as are appropriate and reasonable to protect and preserve the environment and the public's health, safety and general welfare, including the public interest in replacing oil with hydroelectric energy;

"2. Disapprove the proposed project, setting forth in writing the reasons for the disapproval;" (38 M.R.S.A., Sec. 635) or

3. Refer the proposed project to the Board or Commission, as appropriate, in which case the Board's or Commission's decision shall be reached within 105 working days of the agency's receipt of the completed application.

B. Board or Commission Action

Upon receipt of a properly completed application, the Board or Commission shall either:

"1. Approve the proposed project upon such terms and conditions as are appropriate and reasonable to protect and preserve the environment and the public's health, safety and general welfare, including the public interest in replacing oil with hydroelectric energy;

"2. Disapprove the proposed project, setting forth in writing the reasons for the disapproval; or

"3. Schedule a hearing on the proposed project. Any hearing held under this subsection shall follow the notice requirements and procedures for an adjudicatory hearing under Title 5, Chapter 375, subchapter IV. After any hearing is held under this subsection, the Board (or Commission) shall make findings of facts and issue an order approving or disapproving the proposed project, as provided in subsections 1 and 2." (38 M.R.S.A., Sec. 635.)

The Board or Commission shall make its decision as expeditiously as possible but in no case will the decision be later than 105 working days after acceptence of the application, except as provided in subsection C.

C. Waiver of Time Limits

The Act provides that, following one extension of up to 45 working days, the time limit requirement for decisions may be waived by the Commissioner or Director only at the request of the applicant.

D. Action on Water Quality Certification

As provided by 38 M.R.S.A., Sec. 634.1, the issuance of a water quality certificate,as required under the United States Water Pollution Control Act, Sec. 401, shall be mandatory in every case where the Board or Commission approves an application for a hydropower project permit under the Act, except in those cases where the Board or Commission has found that the applicant has not demonstrated that the project will not result in significant harm to water quality or will not violate applicable water quality standards.

The Commissioner or Director, as appropriate, shall act to issue or deny water quality certification within 5 working days following the decision by the Board or Commission to approve or disapprove a proposed project pursuant to 38 M.R.S.A., Sec. 636. Such action shall be based solely on the finding of the Board or Commission pursuant to 38 M.R.S.A., Sec. 636.7(G), as to whether there is a reasonable assurance that the project will not violate applicable water quality standards.

As provided by 38 M.R.S.A., Sec. 363-C, the waters of a new or proposed hydroelectric impoundment shall be deemed to be Class GP-A, if the Commissioner finds that it is reasonably likely that the impoundment would : (1) thermally stratify; (2) exceed 30 acres in surface area; and (3) not have any upstream direct discharges except cooling water. The Commissioner shall notify the Board or Commission, as appropriate, of any classification determination made pursuant to this statutory provision as soon as sufficient information is available to make such a determination

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Section 9 Terms and Conditions of Approval

A. Authority

The Act provides that the Board or Commission may approve "the proposed project upon such terms and conditions as are appropriate and reasonable to protect and preserve the environment and the public's health, safety and general welfare, including the public interest in replacing oil with hydroelectric energy. These terms and conditions may include, but are not limited to:

"A. Establishment of a water level range for the body of water impounded by a hydropower project;

"B. Establishment of instantaneous minimum flows for the body of water affected by a hydropower project; and

"C. Provisions for the construction and maintenance of fish passage facilities;

"In those cases where the proposed project involves maintenance, reconstruction or structural alteration at an existing hydropower

project and where the proposed project will not alter historic water levels or flows after its completion, the (Board or Commission) may impose temporary terms and conditions of approval relating to paragraph A or paragraph B but shall not impose permanent terms and conditions that alter historic water levels or flows." (38 M.R.S.A., Sec. 635.1)

B. Nature of Terms and Conditions

Such case-specific terms and conditions as may be placed by the Board or Commission on its approval of a proposed project shall specify particular means of satisfying minor or easily corrected problems, or both, relating to compliance with the Act and shall not substitute for or reduce the burden of proof of the applicant to demonstrate to the Board or Commission that each of the standards of the Act has been met.

C. Standard Conditions of Approval

Unless otherwise specifically stated in the approval, all Board, Commissioner, Commission, and Director approvals shall be subject to the following standard conditions:

1. 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 Commission prior to implementation.

2. Noncompliance

Should the project be found, at any time, not to be in compliance with any of the conditions of this approval, or should the permittee construct or operate this project in any way other than specified in the application or supporting documents, as modified by the conditions of this approval, then the terms of this approval shall be considered to have been violated.

3. Compliance with all Applicable Laws

The permittee shall secure and appropriately comply with all applicable federal, state and local licenses, permits, authorizations, conditions, agreements, and orders prior to or during construction and operation.

4. Inspection and Compliance

Authorized representatives of the Board, Commission or the Attorney General shall be granted access to the premises of the permittee at any reasonable time for the purpose of inspecting the construction or operation of the project and assuring compliance by the permittee with the conditions of this approval.

5. Initiation and Completion of Construction

If construction is not commenced within 3 years and completed within 7 years from the date of issuance of this permit, this approval shall lapse, unless a request for an extension of these deadlines has been approved by the Board or Commission.

6. Construction Schedule

Prior to construction, the permittee shall submit a final construction schedule for the project to the Commissioner or Director.

7. Approval Included in Contract Bids

A copy of this approval must be included in or attached to contract bid specifications for the project.

8. Approval Shown to Contractor

Work done by a contractor pursuant to this approval shall not begin before a copy of this approval has been shown to the contractor by the permittee.

9. Notification of Project Operation

The permittee shall notify the Commissioner or Director of the commencement of commercial operation of the project within 10 days prior to such commencement.

10. Assignment or Transfer of Approval

This approval shall expire upon the assignment or transfer of the property covered by this approval unless written consent to transfer this approval is obtained from the Board or Commission. To obtain approval of transfer, the permittee shall notify the Board or Commission 30 days prior to assignment or transfer of property which is subject to this approval. Pending Board or Commission determination on the application for a transfer or assignment of ownership of this approval, the person(s) to whom such property is assigned or transferred shall abide by all of the terms and conditions of this approval. To obtain the Board's or Commission's approval of transfer, the proposed assignee or

transferee must demonstrate the financial capability and technical ability to (1) comply with all terms and conditions of this approval and (2) satisfy all other applicable statutory criteria.

A "transfer" is defined as the sale or lease of property which is the subject of this approval, or the sale of 50 percent or more of the stock of or interest in a corporation or a change in a general partner of a partnership which owns the property subject to this approval.

Section 10 Access to the Site

The filing of an application for approval of a development pursuant to 38 M.R.S.A., Sec.633, constitutes the granting of permission by the applicant to allow Board or Commission members and their staffs, and others authorized by the Board or Commission access to the site of the proposed development in order to facilitate review of such application.

Section 11 Severability

The provisions of this Chapter are severable. If a section, sentence, clause, or phrase of this Chapter is adjudged by a court of competent jurisdiction to be invalid, such decision shall not affect the validity of the remaining portions of this Chapter.

* * *

AUTHORITY: 5 M.R.S.A., Chapter 375
12 M.R.S.A., Chapters 200 and 206-A
38 M.R.S.A., Sec. 343-A and Sec. 630-637

EFFECTIVE DATE: 91 days after the adjournment of the First Regular Session of the 113th Maine Legislature, as provided by 38 M.R.S.A., Sec. 637.

ACCEPTED FOR FILING : January 5,1987

Effective Date: Sept. 29,1987

STATE OF MAINE
Department of Environmental Protection

MAIN OFFICE: RAY BUILDING, HOSPITAL STREET, AUGUSTA
MAIL ADDRESS: State House Station 17, Augusta, 04333
207-289-7688

JOHN R. McKERNAN, JR.
GOVERNOR

DEAN C. MARRIOTT
COMMISSIONER

Under Maine law, hydropower development is regulated by the Maine Rivers Policy (12 M.R.S.A. Sections 401-406) and the Maine Waterway Development and Conservation Act (38 M.R.S.A. Sections 630-637). Both of these laws were enacted by Public Law 1983, Chapter 458, the so-called "Rivers Bill".

The Maine Rivers Policy protects outstanding segments of rivers and streams in the State from the construction of new dams, and provides for more stringent review of the additional development of dams existing on these segments. The Maine Waterway Development and Conservation Act (MWDCA) requires a single application and permit for the construction of all hydropower projects, structural alteration of some projects, and certain maintenance and repair projects.

Under federal law, hydropower development is regulated by the Federal Power Act and the Clean Water Act. The Federal Power Act is administered by the Federal Energy Regulatory Commission (FERC). The Clean Water Act is administered by the states.

Administrative regulations for hydropower projects have been adopted pursuant to the MWDCA by the Land Use Regulation Commission (LURC) and the Board of Environmental Protection (BEP). These regulations became effective on September 29, 1987.

The following is a summary of the laws and procedures involved in applying for a hydropower permit or water quality certification. This summary is intended only as an overview. For more specific information, please refer to the appropriate statutes and regulations.

II. Hydropower Permitting

A. What is a hydropower project?

A hydropower project is any development which utilizes the flow of water as a source of electrical or mechanical power, or which regulates the flow of water for the purpose of generating electrical or mechanical power. A hydropower project development includes all powerhouses, dams, water conduits, transmission lines, water impoundments, roads, and other appurtenant works and structures that are part of the development. 38 M.R.S.A. Section 632(3).

B. When is a MWDCA permit required?

Pursuant to 38 M.R.S.A. Section 633, a MWDCA permit is required for:

1. The construction or reconstruction of a hydropower project, or the structural alteration of a hydropower project in ways which change water levels or flows above or below a dam; and

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2. The maintenance and repair of an existing hydropower project involving any dredging or filling below the normal high-water line of a great pond, coastal wetland, river, stream or brook; or any dredging or filling on land adjacent to those waters such that any dredged spoil, fill or structure may fall or be washed into those waters. Refer to Section 4(B) of the regulations for examples of the types of projects requiring a permit.

C. When is a MWDCA permit not required?

Pursuant to 38 M.R.S.A. Section 633(3), a MWDCA permit is not required for normal maintenance and repair of an existing and operating hydropower project provided that no dredging or filling is involved. Refer to Section 4(C) of the regulations for examples of the type of projects not requiring a permit.

D. When is water quality certification required?

Pursuant to U.S Public Law 92-5200, Section 401 (as amended), known as the Clean Water Act, any applicant for a federal license or permit for an activity which may result in a discharge to navigable waters must obtain State certification that the activity will not violate applicable water quality standards. Water quality certification is considered in conjunction with every hydropower permit issued, and as a part of the federal licensing/relicensing process. Refer to Section 8(D) of the regulations for an explanation of the certification review and approval process.

E. Who administers these laws?

LURC reviews applications for MWDCA permits and water quality certification for existing and proposed hydropower projects located in unorganized townships and plantations. The BEP performs the same function for projects located within organized municipalities. If a hydropower project overlaps the jurisdiction of LURC and the BEP, a determination will be made pursuant to Section 6 of the regulations as to which agency has jurisdiction.

III. Protection of Outstanding River Segments

The Maine Rivers Policy protects certain outstanding river segments from hydropower development, due to their unparalleled natural and recreational values. A total of 1,051 miles of eighteen rivers and streams have been protected, including segments of the Allagash River, the Aroostook River, the Dead River, the Dennys River, the East Machias River, the Fish River, the Kennebec River, the Machias River, the Mattawamkeag River, the Moose River, the Narraguagus River, the Penobscot River, the Pleasant River, the Rapid River, the Saco River, the St. John River, the Sheepscot River, and the West Branch Pleasant River. 12 M.R.S.A. Section 403.

No permit may be issued by the BEP or LURC for the construction of a new dam on an outstanding river segment without the specific authorization of the Legislature. In addition, no permit may be issued for the additional development or redevelopment of an existing dam where the significant resource values of the river segment would be diminished. 12 M.R.S.A. Section 403.

Development of new hydroelectric dams on a segment of the upper St. Croix River is subject to special review, due to the special status of the river as an international boundary. 12 M.R.S.A. Section 405.

IV. Applications: Processing and Permitting

A. What is the application review process?

When an application is received, it is reviewed for completeness. If an application is incomplete, additional information may be requested from the applicant, or the application may be returned without processing. If the application is deemed complete, it is accepted for processing.

The application is circulated among the Department of Conservation, the Department of Inland Fisheries and Wildlife, the Department of Marine Resources, the Department of Transportation, the Maine Historic Preservation Commission, the Office of Energy Resources, the Public Utilities Commission, and the Division of Environmental Evaluation and Lakes Studies within the Department of Environmental Protection. 38 M.R.S.A. Section 634(3). The agencies are asked to review and comment on the application. Municipal officials, abutting landowners, and members of the general public are also given an opportunity to comment on the application.

Refer to the Chapter 1 of the DEP Regulations or Chapter 4 of the LURC regulations for additional information.

B. How long is the application process?

For those applications delegated to the DEP Commissioner or LURC Director, a decision will be made within 60 working days after acceptance of the application. For those applications not delegated, the Board or Commission will make a decision within 105 working days after acceptance of the application. Following one extension of up to 45 working days, these time limit requirements may be waived only at the request of the applicant. 38 M.R.S.A. Sections 344(3) and 635-A.

C. What decisions can be made?

An application may be approved, disapproved, or scheduled for hearing. Once a hearing is held, an application will be approved or disapproved. Any approval may be subject to conditions, including but not limited to the establishment of a water level range for the body of water impounded by the project; the establishment of instantaneous minimum flows for the body of water affected by the project; and provision for the construction and maintenance of fish passage facilities. 38 M.R.S.A. Section 635.

D. When will a MWDCA permit be issued?

A MWDCA permit will be issued when the following criteria have been met:

1. The applicant has the financial capability and technical ability to undertake the project;

2. The applicant has made adequate provisions for the protection of public safety;

3. The project will result in significant economic benefits to the public;

4. The applicant has made adequate provisions for traffic movement associated with the project;

5. The project is consistent with LURC zoning, where applicable;

6. The applicant has made reasonable provisions to realize the environmental benefits of the project and to mitigate its adverse environmental impacts;

7. The advantages of the project are greater than the direct and cumulative adverse impacts over the life of the project based upon specified environmental and energy considerations. These considerations include impacts on soil stability, water quality, wetlands, natural environment, fish and wildlife resources, historic and archeological resources, public access, flood control, and energy generation.

38 M.R.S.A. Section 636.

E. When will water quality certification be granted?

Water quality certification will be granted when the applicant has shown there is a reasonable assurance that the proposed activity will not violate the applicable state water quality standards. The issuance of a water quality certificate is mandatory in every case where the Board or Commission approves an application under the MWDCA unless the Board or Commission has found that the applicant has not demonstrated the project will not violate applicable water quality standards. 38 M.R.S.A. Section 634.

Refer to the State's Water Classification Program (38 M.R.S.A. Sections 464-470) for a description of the applicable water quality standards and the classification of all waters of the State.

V. Who Do You Call?

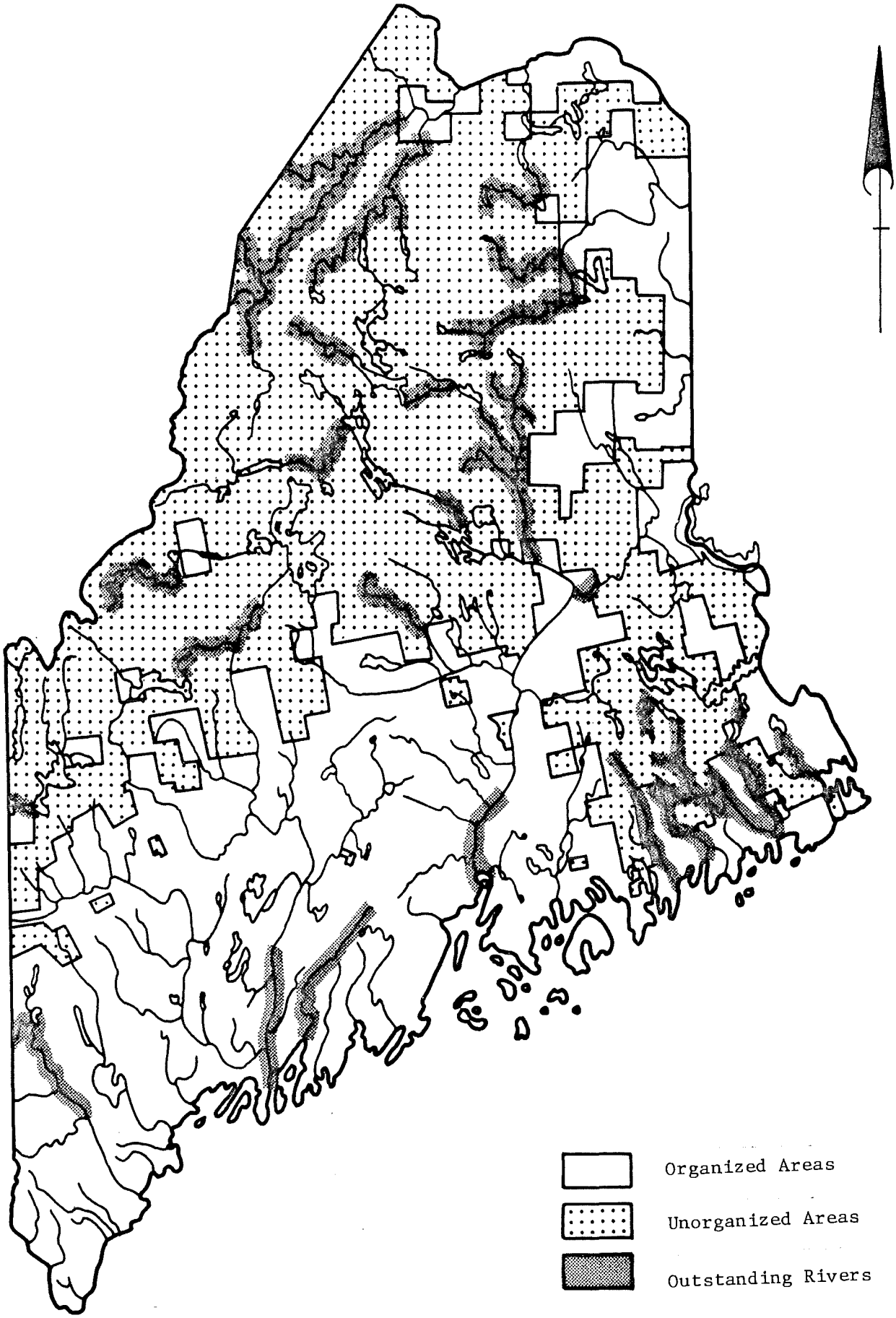
For additional information on hydropower development and permitting, contact one of the agencies listed below.

A. For a project in an organized municipality:

Department of Environmental Protection
Bureau of Land Quality Control
State House Station #17
Augusta, Maine 04333
(207) 289-2111

B. For a project in an unorganized territory:

Land Use Regulation Commission
Division of Land Development Review
State House Station #22
Augusta, Maine 04333
(207) 289-2631


Organized Areas
Unorganized Areas
Outstanding Rivers

John R. McKernan, Jr.
Governor

William J. Vail
Commissioner

DEPARTMENT OF INLAND FISHERIES AND WILDLIFE

Telephone (207) 289-3371

DP B.2. December, 1987

ADMINISTRATIVE POLICY REGARDING HYDROPOWER PROJECTS

The Department of Inland Fisheries and Wildlife's (DIF&W) legislative mandate is "to preserve, protect and enhance the inland fisheries and wildlife resources of the State; to encourage the wise use of these resources; to ensure coordinated planning for the future use and preservation of these resources; and to provide for effective management of these resources." (Title 38 MRSA Subsection 7011). It is within the context of this mandate the Department evaluates beneficial and/or detrimental effects of hydropower projects.

DIF&W reviews, assesses, and provides recommendations at all stages of hydropower project development. This involvement ranges from informal preliminary consultations with developers, to formal consultation as required by the Federal Energy Regulatory Commission (FERC) regulations, and includes technical review and comment for consideration by the Department of Environmental Protection (DEP) or the Land Use Regulation Commission (LURC) administering the Maine Waterway Development and Conservation Act for State hydropower permits. Identification of affected resources, significant issues, and informational needs lead to specific recommendations for studies, project design or operational configurations to minimize adverse effects upon resources, mitigation for unavoidable losses, and terms or conditions for Federal or State licenses or permits to achieve our mandate.

Hydroelectric power projects require site specific determination of actual or potential effects upon inland fish and wildlife resources and their utilization. However, major categories of concerns or issues commonly exist with nearly all projects and can be addressed with general guidelines or policies. The following items are provided to alert others of our general concerns and to provide guidelines for consistency of review and recommendations.

1. **Instantaneous Flow**
   Stream flow has both biological and aesthetic considerations. Hydropower projects are often developed and operated in terms of average discharge from a dam, which may involve wide fluctuations of flow over a period of time. As far as fish and other aquatic organisms are concerned, even short periods of flow below a habitat-sustaining minimum quantity can be harmful. Therefore, instantaneous flow, the flow at any given time, should not be less than a determined suitable minimum. Likewise,

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periodic flushes of high flows, followed by quick reduction to low flows, may disrupt normal aquatic organism regimes and habitat.

Fish and other aquatic organisms have adapted to natural seasonal changes in streamflows. Low flows which occur during summer, combined with warm water temperatures, are generally considered to cause periods of greatest stress on aquatic organisms in Maine waters. Requirements for maintenance of an instantaneous minimum flow which does not degrade aquatic habitat below natural summer low flow conditions will be recommended to sustain these organisms. Higher flows may be desired for certain periods for protection of certain life stages such as during spawning, egg incubation, or migration.

DIF&W endorses and will evaluate minimum flows based upon the Interim Regional Policy for New England Stream Flow Recommendations, developed by the U.S. Fish and Wildlife Service. Basically, it recommends maintenance of at least an aquatic base flow (ABF) which is the August median flow, unless a lower flow can be demonstrated to be biologically adequate to maintain aquatic organisms. An approximation of the median flow will be recommended on streams where inadequate gaging records exist for specific determination of the August median flow. This approximation has been calculated using historical flow records for appropriate regional unregulated streams and is 0.5 cubic feet per second per square mile of drainage area (cfsm) at the project. Higher flows may be recommended during spawning and incubation periods, for migration, or for optimizing angling opportunity. Whenever instantaneous inflow immediately upstream of the project is less than the ABF, outflow shall equal inflow.

Flows will generally be recommended in bypass channels if they contain significant productive fisheries habitat or angling opportunity. Gradual or phased changes (ramping) from generating to non-generating flows may be required to prevent stranding of fish as water levels drop below a project. Phased change from non-generating to generating flows (upramping) is also sometimes desirable. Both of these issues may require specific studies to develop recommendations.

If desired, site specific studies may be performed by the project developer to demonstrate that fish and other aquatic organisms will be adequately protected by some other flow regime. Several techniques for field surveys and modelling of flow requirements have been developed. These are grouped under the title "Instream Flow Incremental Methodology" (IFIM) as developed by the U.S. Fish and Wildlife Service and others. Our Department can assist with development of study plans and evaluation of results.

2. **Water Management Regime**

The amount and time of occurrence of fluctuations in water levels and flows are important to various wildlife and fish species. Waterfowl benefit from stable water levels for nesting and brood rearing. Furbearers can be flooded out if water levels are raised after they go into winter quarters, or stranded if areas are dewatered after they become established for the winter. Drawdowns in early spring could prevent smelt from reaching spawning areas in lake tributaries. Lake trout (togue) eggs could be exposed and frozen by winter drawdowns. Bass spawn along shallow shorelines in late spring and early summer. Drawdowns during this period can destroy nests. Anadromous (alewife, Atlantic salmon, shad, smelt) and catadromous (eels) fish need good stream flows to migrate to spawning areas. Trout and salmon resident in streams often must move to particular areas to spawn successfully.

Where significant waterfowl, loon, or other shorebird nesting habitat may be affected by project-induced impoundment fluctuations, we generally recommend no greater than one foot surface elevation change during the period from ice-out to July 15. Greater fluctuations as a result of natural, unregulated causes are acknowledged to occur at some projects. Impoundments containing significant bass populations dependent upon natural spawning will also be subject to recommendations for restricting the degree of fluctuations to one foot during the period May 1 through July 1, or for the same time period as for waterfowl if both are of concern.

Impoundment drawdown regulation is also recommended for the protection and success of fall spawning togue populations. Water elevations adequate to cover identified spawning areas are to be established and specified. Drawdown to this level should occur prior to October 1 in northern portions of the State and October 15 in southern areas. During the overwinter period (November 15 to May 1) the impoundment level may be allowed to rise and fall provided it does not drop below the elevation occurring during the October/November spawning period.

Aquatic furbearer populations can be protected by regulating impoundment fluctuations to no greater than one foot surface elevation change during the period October 15 through ice-out in the spring.

Impoundments used primarily for annual storage and release present special problems for maintenance of fish and wildlife resources due to the degree and timing of fluctuations. Specific recommendations require a detailed description of the hydraulic cycle, species present, and habitat affected.

3. Water Quality

Hydropower projects have potential impacts upon water temperature, dissolved oxygen concentrations, eutrophication, soil erosion, sedimentation, and related substrate alteration. All of these may change habitat values for fish and wildlife resources, or the suitability of the habitat to support certain species. Project impacts during any construction or maintenance activities as well as from the mode of operation are areas of major concern. Generally, true run-of-the-river modes of operation cause fewer water quality related problems for fish and wildlife resources than storage and release or daily peaking operations.

4. Comprehensive Drainage Management

Operation of one hydroelectric facility may involve manipulation of water in upstream areas, perhaps far removed from the generating site. These implications must be considered in initial planning and decision making. Attention should be given to leveling or evenly releasing storage from different parts of a basin. This is to minimize extreme fluctuations in flow releases and corresponding adverse effects upon aquatic resources.

5. Fish Passage

If new dams are built or old dams which are not currently obstructions are repaired, it may be necessary to provide upstream and downstream passage for fisheries resources. IF&W is empowered to require a fishway in any dam within inland waters (Title 12 MRSA, Subsection 7701-A). However, both Federal and State hydropower regulatory processes also contain provisions for fish passage consideration. Existing Department policy for fish passage requirements is as follows (DP-C.3.):

"As provided in Maine's Fishways and Dams Law, Title 12, MRSA, Sections 7701-7702, fish passage will be required for Atlantic sea-run salmon, landlocked salmon, brook trout, brown trout, rainbow trout, alewives, shad, and other species as necessary when a dam blocks:

1. Upstream passage to useable spawning, nursery, or adult area capable of supporting a substantial recreational fishery;

2. Upstream passage from useable spawning, nursery or adult area to lake habitat capable of supporting a substantial recreational fishery;

3. Upstream passage to spawning and nursery habitat important to the maintenance of a substantial commercial fishery;

4. Adequate downstream passage needed to maintain a substantial recreational or commercial fishery."

Even the most efficient fishways do not pass all fish reaching a dam. If fishways in several dams must be ascended and/or descended, a run of fish can be significantly depleted. Cumulative effects upon passage at multiple dams must be addressed where applicable.

Fish passage facilities require a flow of water for operation and this water requirement may not be compatible with maximum hydropower generation.

6. Habitat Alteration

Impoundments usually change flowing water to standing water, thus changing habitat conditions necessary for some species, while favoring other species. For example, young salmon and trout live in flowing nursery areas and loss of these areas reduces the number of adult fish a waterway can produce. Conversely, an increase in slow-moving or lake type habitat favors warmwater species such as bass, which may be considered to compete unfavorably with coldwater species or to provide a viable fishery in their own right, depending upon resource management goals. Salmonid management is the preferred goal where habitat is suitable.

Wildlife habitat alterations may include loss of terrestrial habitat when an impoundment is created or enlarged, gains or losses of productive wetlands, or alteration of productivity if the impoundment is fluctuated. Projects affecting rare, threatened, or endangered wildlife or critical habitats will require careful determination of alternatives to avoid adverse impacts.

Mitigation for losses of substantial amounts of significant fisheries or wildlife habitat or public resource use opportunity will be recommended. The type and amount of mitigation may require use of formal studies such as the Habitat Evaluation Procedure (HEP) as developed by the USF&WS, to evaluate the overall habitat value lost and to provide a comparative basis for proposed replacement.

7. Public Access

Fish and wildlife resource use opportunity by the public may be enhanced or degraded by hydropower projects. Creation of public access to a waterbody where none existed before is an example of enhancement, loss of fishing opportunity if a stream segment is dewatered would represent degradation. Existing or potential fisheries or wildlife uses and public use

opportunity need to be described as well as other recreational uses of the project area. Adequacy of existing access and proposals for improvements, if necessary, are to be considered. In most cases DIF&W encourages development of improved public access to project waters and will recommend that public use be allowed, subject to necessary constraints for protection of public health, safety, and project civil works.

William J. Wail,
Commissioner

/ale

ATLANTIC SEA RUN SALMON COMMISSION
P.O. Box 1298
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HYDROPOWER REVIEW POLICY

(Adopted April 26, 1988; Revised May 26, 1988)

The Atlantic Sea-Run Salmon Commission (ASRSC) was established for the purposes of undertaking projects in research, planning, management, restoration and propagation of the Atlantic Sea-Run Salmon in the State (Title 12, MRSA, Section 6251A). The Commission reviews reviews license or permit applications and provides recommendations at all stages of hydropower project development on rivers of concern. Those rivers include the following: St. Croix, Dennys, E. Machias, Machias, Pleasant, Narraguagus, Union, Penobscot, Ducktrap, Sheepscot, Kennebec, Androscoggin, Saco, Aroostook, and St. John rivers. The ASRSC also has an interest in a number of smaller coastal drainages where Atlantic salmon are known to occur. This involvement ranges from informal preliminary consultations with developers, to formal consultation as required by the Federal Energy Regulatory Commission (FERC) regulations, and includes technical review and comment for consideration by the Department of Environmental Protection (DEP) or the Land Use Regulation Commission (LURC) administering the Maine Waterway Development and Conservation Act for State hydropower permits. Identification of significant issues and informational needs regarding Atlantic salmon lead to specific recommendations for studies, project design or operational conditions to minimize adverse effects upon resources, mitigation for unavoidable losses, and terms or conditions for Federal or State licenses or permits to achieve the agency objectives.

Hydroelectric power projects require site specific determination of actual or potential effects upon Maine's Atlantic salmon resource. Significant issues of concern are commonly present in most hydropower projects and can be addressed by using these general guidelines. The following policy is designed to provide guidelines to promote consistent reviews and recommendations for hydropower projects and to inform the public of the Commission's general concerns.

1.Fish Passage

The anadromous Atlantic salmon must successfully undertake upstream and downstream migrations in order to complete its life cycle, therefore, fish passage facilities are a necessity at dams on Atlantic salmon rivers. The Salmon Commission will generally recommend to regulatory agencies that upstream and downstream passage facilities be required for hydropower projects at sites where historical spawning and nursery habitat for Atlantic salmon lies upstream of an existing or proposed dam. While the Commission has no direct authority to prescribe fish passage facilities, Federal and State hydropower processes contain provisions for fish

passage consideration. The Maine Departments of Inland Fisheries and Wildlife and Marine Resources also have statutory authority to require fish passage at dams. The ASRSC hydropower review process occurs in close consultation with the U.S. Fish and Wildlife Service (USFWS), which through the Secretary of the Interior, has the authority to prescribe fish passage at Federally licensed dams. ASRSC fish passage recommendations generally adhere to the following guidelines:

A. Upstream fish passage facilities shall utilize state of the art technologies to move upstream migrating salmon past the barrier in question. Such structures may include conventional fishways, mechanical fish lifts, or trap and transport facilities. Trapping salmon at a barrier for transport to upstream areas is not considered a permanent fish passage strategy, but it may be acceptable as an interim measure to move salmon to upstream areas prior to the construction of the permanent facilities needed to pass salmon at all barriers within a river system. The ASRSC will assist in the development of an appropriate operational program for any fish passage facilities constructed.

B. Downstream passage facilities will be requested at projects that lie downstream from Atlantic salmon spawning and nursery areas. The facilities that are necessary are site specific, but generally include trashrack screening and a by-pass outlet as part of the overall design.

C. Appropriate pre- and post-construction studies may be required to evaluate the effectiveness of fish passage facilities constructed at new or existing dams. Even the most efficient fish passage facilities do not pass all the salmon reaching a dam. The applicant should be prepared to quantify the impacts of the project upon the existing Atlantic salmon resource or the potential for future Atlantic salmon restoration. Appropriate plans to mitigate losses attributable to fish passage inefficiency should be formulated as part of the license application.

D. On rivers where other dams exist, the cumulative impact of an additional barrier may be a serious consideration. The applicant for a hydropower permit or license may be asked to address the cumulative impact of the proposed project upon Atlantic salmon during the consultation process. Plans to mitigate unavoidable salmon population or habitat losses should be formulated as part of the permit or license application.

2. Minimum Flows

Stream flow has both biological and aesthetic considerations. Atlantic salmon require a instantaneous minimum flow in order to maintain habitat productivity. Likewise, periodic flushes of high flows, followed by rapid reduction to low flows, may disrupt aquatic organisms, reduce habitat productivity, and affect fish behavior.

Atlantic salmon and other aquatic organisms have adapted to natural seasonal changes in streamflows. Summer low flows, combined with warm water temperatures, are generally considered to cause the greatest stress on salmon in Maine waters. A minimum flow which does not degrade salmon habitat below natural summer low flow conditions will be recommended to sustain habitat productivity for Atlantic salmon. Higher flows may be recommended for certain periods if needed for the protection of certain life history stages, such as spawning, migration, egg incubation, or to provide angling opportunity.

The ASRSC endorses and will evaluate minimum flows based upon the Interim Regional Policy for New England Stream Flow Recommendations, developed by the USFWS. This policy recommends maintenance of an aquatic base flow (ABF) equal to the median August flow, unless a lower flow is demonstrated to be biologically adequate to maintain aquatic organisms. For those streams that do not have an adequate database of historical flows, a regional average ABF for unregulated streams in New England will be used. That flow is 0.5 cubic foot per second per square mile of drainage area at the project (0.5 cfsm). Whenever instantaneous inflow to the project is less than ABF, outflow from the project shall equal inflow.

Minimum flows may be recommended in bypass channels if they contain significant productive Atlantic salmon habitat or provide angling opportunity. Gradual or phased changes (ramping) from generating to non-generating flows may be required to prevent stranding of fish as water levels drop below a project. Similarly, phased changes from non-generating flows to generating flows (upramping) may also be required.

The ASRSC may request studies to develop site-specific flow recommendations. If desired, site specific studies may be performed by the developer to demonstrate the adequacy of an alternate minimum flow regime. Techniques for field surveys and modelling of flow requirements have been developed and are grouped under the title "Instream Flow Incremental Methodology" as developed by the USFWS and others. The ASRSC can assist with the development of study plans and evaluation of results.

3. Habitat Loss or Alteration

Construction activities associated with a new or redeveloped hydroelectric project may reduce the quality and quantity of Atlantic salmon habitat and sportfishing opportunity in the project area. Construction activities associated with dam building or repair may also alter or eliminate productive or potentially productive habitat areas. The ASRSC will recommend that appropriate measures be taken to minimize project related habitat impacts. The applicant should prepare plans to mitigate for those impacts that are unavoidable. Formal studies using accepted methodologies such as the Habitat Evaluation Procedures (HEP), developed by USFWS, may be required to evaluate the habitat values that require mitigation and to compare alternative mitigation plans.

4. Comprehensive Watershed Management

Operation of a hydroelectric facility may involve manipulation of water in upstream areas, perhaps far removed from the generating site. These implications must be considered in initial planning and decision making. Attention should be given to leveling or evenly releasing storage in different parts of a watershed, which would minimize extreme fluctuations in flows and adverse impacts upon habitat productivity, salmon migrations, and angling opportunity.

5. Water Quality

Hydropower projects have potential impacts upon water temperature, dissolved oxygen concentrations, eutrophication, soil erosion, sedimentation, and related substrate alterations. All of these may change habitat suitability for Atlantic salmon. Project impacts from construction and maintenance activities as well as those resulting from project operation are areas of concern. Generally, run-of-the-river operating modes cause fewer water quality related problems for fish than do storage and peaking operations.

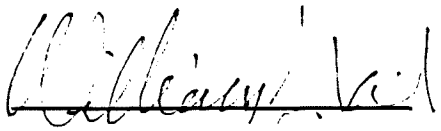
6. Angling Opportunity and Public Access

Use opportunity for an Atlantic salmon sport fishery may be enhanced and/or degraded by hydropower activities. Creation of public access to a river where none existed before is an enhancement of use opportunity, whereas opportunity is lost if a stream segment is inundated or dewatered. Existing or potential fishery use opportunities need to be described in the license or permit application. The applicant also needs to address any project related impacts upon those opportunities. In most cases the ASRSC encourages the development of improved public access to project waters and recommends that public use be allowed, subject to necessary constraints for protection of public health, safety, and project civil works.

7. Mitigation

The Atlantic salmon populations of the State of Maine are resources of national significance, and priority is given to avoiding adverse impacts to salmon populations and historical or accessible salmon habitats and angling sites. In the event that a hydropower project is approved and certain unavoidable impacts occur, the ASRSC will recommend to regulatory agencies that appropriate mitigation take place. In general, the ASRSC follows the USFWS Mitigation Policy for critical Atlantic salmon habitats, which require no net loss of in-kind habitat value. "In-kind" is interpreted to mean of a similar type (i.e. spawning habitat, parr nursery area) within the same watershed. The ASRSC does not consider the stocking of hatchery-reared Atlantic salmon to be an acceptable substitute for losses of Atlantic salmon spawning and nursery habitat resulting from the construction of a new dam or major modification to an existing dam. The ASRSC recognizes that there may be extraordinary circumstances under which exceptions to this mitigation policy

may be warranted. For less critical habitat types, the ASRSC may consider alternative mitigation proposals on a case specific basis and weigh the balance between resource values lost and benefits gained to the Atlantic salmon resource and fishery use opportunity.



William J. Vail, Chairman
Adopted 4/26/1988

John R. McKernan, Jr.
Governor

William J. Brennan
Commissioner

DEPARTMENT OF MARINE RESOURCES

Telephone (207) 289-2291

Policy Concerning Hydropower Projects

The Department of Marine Resources is established to conserve and develop marine and estuarine resources; to conduct and sponsor programs of scientific research and development for commercial, marine recreational, and anadromous fishery resources; to provide information on environments and stock levels of commercially and recreationally valuable marine and anadromous fish organisms; and to solve particular problems which relate to the State's commercial, marine recreational, and anadromous fishing industry (Title 12 M.R.S.A. §§6021, 6051, and 6052).

A Memorandum of Agreement between the Departments of Marine Resources and Environmental Protection (October 9, 1984) defines the DMR's role in the review of hydropower projects.

DMR reviews, assesses, and provides relevant biological and technical recommendations at all stages of hydropower project development. Staff involvement ranges from informal consultations with developers to formal consultations as required by FERC regulations. DMR participation in the State permit process, under the Maine Waterway Development and Conservation Act administered by DEP and LURC, is specified in a Memorandum of Agreement between DMR and DEP (Memorandum of Agreement: Hydropower Project Reviews, October 9, 1984). The DMR review process identifies data needs, species and habitat concerns, and potential impacts to resources and users. For those identified concerns and issues, DMR recommends appropriate studies, project design, construction, techniques, and/or operations to minimize potential adverse effects on aquatic resources and mitigate unavoidable losses through prescribed conditions on Federal or State licenses or permits. Hydroelectric power projects require site specific review and analysis of effects on diadromous*, marine, and estuarine resources and their utilization. However, specific biological requirements of the fishery resource impose some common constraints on all hydropower projects. The following criteria are essential to maintenance of fishery resources and associated aquatic communities:

1) Minimum Flows - Instantaneous minimum stream flows are essential to the maintenance of healthy aquatic communities. Water use associated with hydropower projects is often deleterious

*Diadromous - A collective term for anadromous and catadromous fish species: those species which require freshwater and salt water habitat at various life cycles.

State House Station 21, Augusta, Maine 04333 — *Offices at* Stevens School Complex, Hallowell

to fishery resources and other aquatic communities. Flow management at hydropower dams is programmed to provide for energy production as system demand requires, which often results in alternating periods of high to negligible stream flows. From the standpoint of fish and other aquatic organisms, even short periods of flow below minimum habitat-sustaining requirements can be harmful. Therefore, a continuous instantaneous minimum flow that will assure protection of aquatic resources is necessary. In addition, releases of high flows and reduction to low flows should be phased over a period of time to allow aquatic organisms to adjust to flow changes. Fish and other aquatic organisms endemic to New England streams have adapted to natural seasonal changes in stream flows. Unregulated low flows which normally occur during summer, in combination with warm water temperatures, generally determine the annual biological output of the system. Maintenance of an instantaneous minimum flow which does not degrade aquatic habitat below natural summer low flow conditions will be recommended to sustain these organisms. Higher flows may be required at certain times for protection of certain life stages, such as during spawning, egg incubation, or migration.

DMR endorses and evaluates minimum flows based upon the Interim Regional Policy for New England Stream Flow recommendations, as developed by the U.S. Fish & Wildlife Service. This policy recommends maintenance of an aquatic base flow (ABF) which is the August median flow, unless studies demonstrate that a lower flow is adequate to maintain aquatic organisms. For streams with an inadequate database on stream flow, an approximation of median flow will be recommended. This approximation, calculated from appropriate regional unregulated streams, is 0.5 cubic feet per second per square mile of drainage area (CFSM) at the project. Higher flows may be required during spawning and incubation periods, for migration and for optimizing fishing opportunity. Whenever instantaneous inflow immediately upstream of a project is less than ABF, outflow from the project shall be at least equal to inflow.

Flow requirements in bypass channels will depend upon the significance of such areas for fish production, fishing opportunity, or upstream and downstream fish passage. Phased changes from non-generating to generating flows may also be desirable, especially during certain seasons (for upstream/downstream migration of diadromous fish).

Site specific studies by the developer to demonstrate the adequacy of alternative flows may be carried out in consultation with DMR. Instream Flow Incremental Methodology (IFIM), as developed by the U.S. Fish & Wildlife Service, is recognized by DMR as an acceptable technique for field surveys and modelling of flow requirements.

2) Habitat Loss or Alteration - Construction of new dams, alteration of existing impoundments, or diversion of water from certain river reaches may adversely impact diadromous, estuarine, or marine habitat within, upstream, or downstream of the project site. Construction activities may also cause short-term impacts to aquatic resources, such as erosion, sedimentation, and temporary

barriers to fish migration. Formal studies using accepted methodologies such as HEP, developed by the USF&WS, may be required to evaluate habitat values, identify unavoidable habitat losses, and establish a basis for mitigation proposals.

3) Water Quality - Hydropower projects have potential impacts on dissolved oxygen, water temperatures, sedimentation, soil erosion, eutrophication, and related substrate alteration. All of these may impact habitat values for diadromous, estuarine, or marine resources. Project impacts during construction, maintenance, and operation are areas of major concern. True run-of-the-river operational modes are generally considered less deleterious to water quality and fisheries than cycling or peaking operations.

4) Comprehensive Watershed Management - Diadromous fish species have complex life histories which require dependence on freshwater and marine environments at varying stages of their life cycles. Operation of hydroelectric facilities on a given river may involve phased synchronization of flows at varying sites to meet energy demands of the electrical distribution systems. Attention should be given to leveling or evenly releasing flows from different parts of the basin. Attempts to approximate natural river flows on a daily, seasonal, and annual basis will offer aquatic organisms the best opportunity for survival, growth, and reproduction as well as minimizing other adverse effects.

5) Fish Passage - Dams without fish passage facilities are a major cause of the significant decline in diadromous fish runs in the State of Maine. In order to assure restoration and protection of these resources, upstream and downstream fish passages are essential for rivers which have been identified and programmed for diadromous fish restoration. DMR is empowered to require a fishway in any dam within coastal waters (Title 12 M.R.S.A., §§6121, 6122). In addition, both Federal and State hydropower regulatory processes contain provisions for fish passage consideration. Existing Department policy for fish passage requirements is provided in 12 M.R.S.A., §§6121, 6122 as follows:

> In order to conserve, develop, or restore anadromous fish resources, the Commissioner may require a fishway to be erected, maintained, repaired, or altered in any dam within coastal waters frequented by alewives, shad, salmon, sturgeon, or other anadromous fish species when a dam blocks:
>
> 1. upstream passage to suitable and sufficient spawning and nursery habitat which is capable of producing one or more species of anadromous or migratory fish in such numbers that they will support a substantial commercial or recreational fishery;
>
> 2. upstream passage to habitat necessary to protect or enhance rare, threatened, or endangered fish species;
>
> 3. adequate downstream passage necessary to maintain a substantial recreational or commercial fishery or to protect rare, threatened, or endangered fish species.

It is a widely accepted fact that even the most efficient state-of-the-art upstream and downstream fish passages do not pass all the fish reaching a dam. When fishways in several dams must be ascended and descended, a run of fish can be significantly depleted. Cumulative effects of fish passage at multiple dams must be addressed where applicable.

Fish passage facilities require a flow of water during the entire fish migration season and this water requirement may not be compatible with maximum hydropower generation. However, depending on their location, flows allocated to passage facilities could serve to satisfy wholly, or in part, the instantaneous minimum stream flow requirements at the project.

6) Public Access - Hydropower projects may enhance or degrade public access to aquatic resources due to site constraints or operational mode of project facilities. Creation of new public access to a water body would be considered enhancement, whereas restrictions for safety purposes would be considered an unavoidable negative impact. The DMR encourages public access for aquatic resource utilization wherever possible, subject to necessary constraints for protection of public health, safety, and project civil works.

7) Mitigation - Diadromous, estuarine, and marine fish populations support diverse recreational and commercial fisheries of significant economic value to the State of Maine. In evaluating hydropower project proposals, the DMR will recommend measures that avoid or minimize adverse impacts to the fishery resources and habitat in the project area. Whenever a hydropower project is approved and unavoidable impacts occur, the DMR will recommend that appropriate mitigation be provided to offset population losses and losses of other fishery values associated with the hydropower project. Such mitigation may include improving biological productivity of remaining habitat or providing access to new and historically inaccessible habitat. Mitigation efforts should be applied within the same watershed where losses occur; however, the DMR may consider on a case by case basis, out-of-basin enhancement proposals to offset unavoidable losses.

WILLIAM J. BRENNAN,
Commissioner

John R. McKernan, Jr.
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Executive Department
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August 8, 1988

Office of Energy Resources Policy Regarding Licensing of Hydropower Facilities

Office of Energy Resources (OER) policy supports development of indigenous and renewable resources, as well as cost-effective and diversified energy supplies for Maine - including hydroelectricity.

As a member of Maine's FERC Coordinating Committee for hydropower licensing, the OER will review hydropower applications to identify energy benefits for Maine. The OER will comment at length on applications which appear particularly valuable or which pose significant problems. In the remaining cases, the OER will submit brief statements supporting those projects with low variable costs and opposing those which offer little economic benefit.

OER reviews will consider a hydroelectric project's energy benefits, including increases in generating capacity and annual energy output, amounts of nonrenewable fuels replaced, and anticipated cost savings for Maine. OER comments will be based on

1) a description of existing hydroelectric generating capacity and annual energy output at a project site,

2) a description of planned hydroelectric generating capacity and estimated annual energy output at a project, and OER's estimate of the potential capacity and energy output, if different,

3) a description and analysis of project impacts on Maine's energy and hydropower goals, as established in the current Comprehensive Hydropower Plan and State Energy Plan,

4) a project's ability to maximize a site's cost-effective hydropower potential, and

5) estimated incremental costs of a project's capacity and energy, compared to estimated energy costs from other sources.

Upon request, OER will make available information about potential capacity and costs at current and proposed hydroelectric sites.

Director

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John R. McKernan, Jr.
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Robert R. LaBonta
Commissioner

DEPARTMENT OF CONSERVATION
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Maine Department of Conservation Policies Regarding the Licensing of Hydropower Facilities

Background

The Department of Conservation will assist applicants seeking hydropower licenses (including licenses for water storage projects) from the Federal Energy Regulatory Commission (FERC) by: 1) reviewing and commenting on the Initial Stage Consultation document, the Second Stage Consultation document, and the License Application; 2) visiting the project site with the applicant to gather additional information and discuss the project impact on natural resources, and to identify studies that the applicant should undertake to address Department concerns; and 3) providing some technical assistance in the siting and designing of recreational facilities.

The Department of Conservation's authority to comment on hydropower projects is based, in part, on Section 10 of the Federal Power Act (as amended in 1986 by the Electric Consumers Protection Act), which requires that FERC, before granting a hydropower license, consider recommendations of ". . .State agencies exercising administration over flood control, navigation, irrigation, recreation, cultural and other relevant resources of the State in which the project is located". The Department of Conservation and the Department of Environmental Protection signed on September 6, 1984, a Memorandum of Agreement for Hydropower Project Reviews that obligates the Department of Conservation to provide technical assistance in reviewing the environmental impacts of hydropower projects that the Department of Environmental Protection reviews under the Maine Waterway Development and Conservation Act (38 M.R.S.A., Section 630 et. seq.). The authority of the Land Use Regulation

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Commission (LURC) to comment on project impacts stems from its land use zoning authority under 12 MRSA Chapter 206-A, and its hydropower permitting authority under 38 MRSA Sections 630-636. The LURC's authority to issue Water Quality Certification for hydropower projects stems from its designation as a certifying agency by Executive Order #8 FY85/86, effective January 15, 1986.

The Department's review of hydropower projects both under the FERC process and the State of Maine Waterway Development and Conservation Act focuses on four areas: 1) the adequacy of existing public recreational facilities, as well as proposed recreational facilities to meet public needs, primarily boat access, and canoe put-in, take-out and portage facilities; 2) the affect of the project on public lands, if any; 3) the need, if any, for a LURC zoning change or hydropower permit for the project, if all or part of the affected area is within LURC jurisdiction, and 4) the need for a Water Quality Certification from LURC, if LURC is the hydropower permitting agency.

Recreation

In the Initial Stage Consultation process, the Bureau of Parks and Recreation will review project plans to determine if adequate provisions either exist, or will be made for public boat or canoe access and canoe portage at the impoundment and downstream in the tailrace area of the project; and that water level fluctuations do not adversely affect access facilities at the impoundment, public beaches, or existing downstream recreation opportunities.

The Bureau can provide the applicant technical assistance in the following areas:

- Assessing the adequacy of existing boat access sites and facilities to meet public recreation needs;

- Evaluating the potential of land owned by the applicant and/or public land for public boat access;

- Evaluating the impacts of water level fluctuations;

- Providing concept plans and design criteria for boat access site development;

- Reviewing the applicant's plans and specifications for boat access site development;

- Planning for canoe put-in, take-out, and portage facilities to provide for continuing use of the waterway;

For major projects, bureau staff consider it useful to conduct site visits. It would be very helpful if the applicant, prior to a site visit:

- Identify any existing boat or canoe access facilities or portages serving the impoundment or waterway, that are currently available for use by the general public, including information on ownership, management, fees charged if any, and hours and dates available for use by the general public, etc.

- Identify its land holdings and any public land holdings (federal, state, and local) within and bordering the project boundary that might be suitable for public boat access development, in case it is determined such facilities are needed.

- Identify public recreational facilities that might be affected by water level fluctuation.

- Identify downstream recreation opportunities that might be

affected by altered flow schedules.

Following site visits and/or when requested by the applicant, Bureau staff will confer with the applicant and provide the applicant with a letter acknowledging the understanding/concensus concerning facilities that may be recommended by the Bureau.

Public Lands

The Bureau of Public Lands is responsible for the multiple-use management of 450,000 acres of State owned land in various locations across the state. The Bureau is also responsible for leasing and management of submerged lands, including the natural bottoms of all Great Ponds, all riverbeds for which the Bureau is a riparian owner, the beds of International Boundary Rivers, and submerged land seaward of the mean low watermark out to the three mile limit. Applicants with projects impacting these lands are required to obtain a lease for the affected lands from the Bureau. The lease from the Bureau is necessary for the Board of Environmental Protection to find that the applicant has Right, Title, or Interest in the property, before the Board may issue a hydropower permit. The Bureau reviews hydropower projects to determine if the project will affect any public lands or submerged lands for which the Bureau has management responsibility, and if there is an effect to determine if the effect is acceptable, or if the adverse impacts should be mitigated. The primary concern of the Bureau is to avoid or reduce the adverse impacts of increased or fluctuating impoundment levels and downstream flows on wildlife habitat, productive timberlands, aesthetic resources, and public access and recreational facilities.

LURC Zoning and Permit Review

The LURC staff review a hydropower proposal to determine if the project will require a hydropower permit from LURC, or a change in LURC zoning. A hydropower permit may be required depending on the nature of the activity. A petition for a zone change may be required depending upon the current zoning of the area to be developed.

Water Quality Certification

LURC has responsibility for issuing a Water Quality Certification as required by Executive Order #8 FY85/86 for hydropower projects for which it has permitting authority under the Maine Waterway Development and Conservation Act. The applicant should identify how project construction and operation, including regulation of water flows, will affect water quality and various in-stream uses. A flow management plan may be required, that takes into account the seasonality of flows, minimum flows, power generation needs, and the flows necessary to provide reasonable boating and fishing opportunities, to resolve the tradeoffs among these competing uses.

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Commissioner, Maine Department of Conservation

9-22-87

Date

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Earle G. Shettleworth, Jr.
Director

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Maine Historic Preservation Commission Hydropower Policy

October 21, 1987

AUTHORITY

The Maine Historic Preservation Commission has dual authority for review of impact of hydroelectric development on cultural resources under State and Federal law. Under the Federal National Historic Preservation Act of 1966 as amended, Section 106, all Federal agencies must consider the effects of their actions on cultural resources that are listed on or eligible for the National Register of Historic Places. The principle mechanism for this consideration is obtaining the comments of the State Historic Preservation Officer. By State law the Director of the Maine Historic Preservation Commission is the State Historic Preservation Officer (SHPO). The Electric Consumer Protection Act of 1986 also includes strong language requiring consideration of effect of relicensing hydroelectric projects on cultural resources. Applicants for a State-level permit under the Maine Waterways Act, Development and Conservation also required to demonstrate mitigation to historic and archaeological resources (c. 458 ss/8). Under Federal law, the FERC applicant must get original comments from the State Historic Preservation Officer concerning cultural resources. This responsibility has resulted in a partial exemption of Maine Historic Preservation Commission comments from the FERC coordination process at the state level. Maine Historic Preservation Commission comments are sent to the FERC hydropower coordinator at the State Planning Office for consideration of possible conflict with other agencies. After consideration for conflict with other agencies, the original comments are sent directly from the Maine Historic Preservation Commission office to the applicant.

DESIRED OUTCOME

As with all Federal projects, the desired outcome of consultation, comments, and cultural resources management fieldwork, including archaeological excavation, is a letter from the State Historic Preservation Officer proclaiming that there will be "no effect", "no adverse effect", or a "conditional no adverse effect" to archaeological sites, structures, or objects listed in or eligible for listing in the National Register of Historic Places. One of these three alternative wordings legally clears the project in the eyes of the Federal agency. A "no effect" determination means that there are either no archaeological sites or historic structures in the project impact area, or that any sites or historic structures in the project impact area are not eligible for the National Register of Historic Places. "No adverse effect" means that any effect that the project may have in the vicinity of a known historic structure or archaeological site will not be adverse. Such impacts can be neutral or positive. One way to obtain a "no adverse effect" determination is to mitigate any adverse effects to an historic structure or archaeological site. Such mitigation in the case of structures can take many forms, including documentation, structural reinforcement, in rare cases moving a building,

and/or other items as determined by the State Historic Preservation Officer. In the case of an archaeological site, mitigation of adverse effect usually takes one of two alternative routes. Either the site can be protected from the adverse effect, such as protection of an eroding bank with an erosion control wall, or the data contained in the archaeological site can be recovered by properly controlled scientific excavation. In the case of excavation, additional assurances such as proper curation of the collection and the associated records are mandated by Federal regulation (36 CFR 79). Addition items of legal protection may be added to either the Maine mitigation options, including nomination to the National Register of Historic Places and possibly an State easement making the antiquities legislation (Act to Preserve Maine's Archaeological Heritage) applicable to the site.

A special case of a "no adverse effect" letter is the conditional "no adverse effect" letter, where the applicant agrees in a separate Memorandum of Agreement to accomplish certain items such as erosion control, archaeological excavation, or easement protection under a separate Memorandum of Agreement with the Maine Historic Preservation Commission, the applicant, and the Federal Energy Regulatory Commission.

TECHNICAL ASSISTANCE

The Maine Historic Preservation Commission will provide detailed comments to the applicant concerning known and potential historic resources in a timely manner at the stage of the initiation of the project application and such later consultation documents or other filings that are involved in licensing, relicensing, or exemption applications. Technical assistance will also include information on the scope of studies needed to comply with the National Historic Preservation Act and to reach a finding of "no effect" or "no adverse effect". Technical information will be provided on the following topic areas: 1) the state of current knowledge of historic resources in the project area and the likelihood of finding currently unknown historic resources (archaeological sites): 2) types of potential impact on those historic resources and the range of possible mitigation options: 3) Scope of necessary studies to prepare to reach the stage of preparation of a mitigation plan, and review of budgets and proposals by archaeological contractors submitted to the applicant based on such scopes; 4) review of mitigation plans before submission to FERC and the Advisory Council on Historic Preservation for concurrance with Section 106.

Note: Under 3 above, scope of necessary studies, the Maine Historic Preservation Commission will provide an outline for a scope of work that will allow applicant to prepare a request for proposal. Applicant is responsible for obtaining proposals from [a] qualified archaeologist(s). Applicants are advised to use archaeological contractors from the Maine Historic Preservation Commission recommended list or risk a situation of adverse impact to archaeological sites. The Maine Historic Preservation Commission staff must be given an opportunity to review all proposals for archaeological work for their adequacy to address necessary cultural resource management concerns, adequacy and appropriateness of archaeological techniques, and appropriateness of budget. Budgets must be adequate to allow the necessary studies and the long-term curation of collections, but they will also be reviewed to make sure that they are not overly ambitious. Implementation of an improper archaeological study can do significant adverse effect to archaeological sites, thus this potential for adverse impact must be reviewed by the State Historic Preservation Officer.

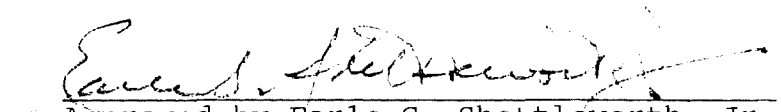
SITUATIONS REQUIRING ARCHAEOLOGICAL FIELDWORK

This section provides some guidelines on the situations which require archaeological fieldwork. In the cases of licenses or exemptions from licensing, archaeological fieldwork will be necessary in all cases where terrain will be flooded that has not been previously flooded. In the case of restoration of a pre-existing water level, landforms under the proposed pool which may still preserve archaeological material will require fieldwork, even if they have been previously flooded.

For situations involving restoration of a pre-existing water level which may rejuvenate erosion around the margin of the pool, or in cases of relicensing, all shoreline that is eroding or is likely to erode in the term of the license must be considered for archaeological survey. The eroding shoreline may be sampled appropriately based upon predictive models, in any necessary fieldwork.

FIELDWORK AND REPORT GUIDELINES

Archaeological surveys will be approached within the guidelines of a three-phase division of fieldwork, with appropriate time for review and collation of results between fieldwork phases. These guidelines are attached in the following three pages, in a format that is routinely supplied to applicants by this office as a separate document.



Approved by Earle G. Shettleworth, Jr.
Director

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CONTRACT ARCHAEOLOGY GUIDELINES

This document is provided as background information to corporations or individuals needing contract archaeological services. It is designed to provide an outline scope-of-work for preparation of proposals by contract archaeologists bidding on the project work.

The archaeological work necessary on most projects can be conceived of in three phases, with progression from one phase to the next being dependent upon the findings of field and laboratory work of the preceeding phase, and their review by the SHPO (Maine Historic Preservation Commission).

Phase I, or Reconnaissance Survey, involves initial search for and location of all archaeological sites within the project impact area, or gathering enough data for statistical assurance that no such sites exist. The process begins with the study of background information: aerial photographs and maps, pre-existing survey data, and/or historic documents. It usually includes a fieldwork component. (For large projects, the background/planning work can be separated as a Phase "0" if the applicant desires. The Phase "0" step seems to be cost effective for larger projects.)

Phase II, or Site Eligibility Survey, consists of testing each site, determining its size and contents, developing enough data to decide whether or not the site is eligible for the National Register of Historic Places, and enough data for budgeting and planning full mitigation.

Phase III, or Mitigation, represents the implementation of some plan to avoid adverse impact to any significant site: either redesigning the project, protecting the site(s) from physical damage, or archaeological excavation in full or in part of the site area to be affected.

Specific Requirements

The following guidelines provide some specifics on the content of background, fieldwork and reporting for each phase. The primary description is written for prehistoric archaeological sites; any differing concerns for historic sites work are noted at the end of each section.

Throughout, the key to successful review and acceptance of the work is the inclusion of logical, detailed statements of work performed, and the justifications for why certain decisions were made (i.e., why a certain field technique was chosen in preference to another).

Phase I work shall include:

(1) A search of existing archaeological data on the project area, including fieldnotes and reports on file in the SHPO office, and other relevant data sources, specifically primary documentary research for historic archaeological sites (Note: may be incorporated into Phase "0");

(2) Collector contact and review of pre-existing artifact collection contents and provenience, where prudent and reasonable (Note: may be incorporated into Phase "0");

(3) Production of a field sampling strategy based upon a predictive model of site location, with some random sampling incorporated to fit the predictive model (Note: may be part of Phase "0"), field research, as appropriate, including walk-over and/or subsurface testing, with appropriate sampling strategy;

Phase II work shall include:

The above topics, but focussed on site-specific areas rather than area-wide research. Judgements and recommendations concerning National Register significance should refer to criteria established in the Maine State Plan for prehistoric and historic archaeology (as draft sections become available). Phase II work must provide enough data for judgement of National Register eligibility and production of a nomination if necessary.

Phase III work will be highly site specific:

In the case of mitigation by excavation, the fieldwork will follow a research-type proposal designed to maximize data recovery within reasonable budget constraints, following the principle that excavation does indeed destroy a site, with the only return being the materials and information derived.

Reports

Phase I reports will include, at a minimum, discussion of the items on the attached "Report Form for Small-Scale Survey". It is not necessary to follow the format nor the ordering of items on this example. Graphics will be clean and clearly reproducable. Photographs will be black and white, minimum of 5"X7" format, and of good quality. Either representative examples or complete test unit soils content records will be appended. All test units must be located on maps, or other such information provided to allow for assessment of testing intensity.

Phase II reports will contain, at a minimum, the same types of information noted above for Phase I reports, but site-focussed rather than area-focussed. For example, enough test unit information will be appended or described to allow independent assessment of site boundaries. For sites that are possibly eligible for the National Register, information necessary to complete a National Register form will be minimally present, including statements concerning significance, black and white photographs, landowner information, etc.

Phase III reports dealing with excavation will essentially constitute a site report of great detail, including relevant laboratory analyses. Written language, graphics and photographic items should be substantially in publishable form.

10/21/87

Report Form for Small-Scale Survey

1. Project Name: _____

2. Location: City/County: _____
   USGS Quadrangle: _____
   UTM Coordinates: _____
   Other Locational References: _____

3. Type of Investigation: _____

4. Principal Investigator: _____

5. Reporter: _____

6. Did survey cover entire area of direct and indirect environmental impact of project? ___ Yes ___ No
   If "no", attach explanation.

7. Dates of Fieldwork: _____

8. Attach map(s) of area(s) surveyed.

9. Attach list of personnel on survey team.

10. Repository for notes: _____

11. Repository for artifacts: _____

12. Environment:
    (a) Attach description of contemporary environment (ca. 1 pg.).
    (b) Attach description of likely relevant prehistoric and/or historic environments, with bases for reconstruction (ca. 1-2 pg.).

13. Research Topics: Attach description of research topics that influenced decision-making about survey design and/or significance of properties.

14. Background Research:
    (a) Attach list of sources consulted (include informants).
    (b) Attach brief description of results (prediction of prehistoric and historic property locations, identification of groups using the area, etc.).

15. Field Research:
    (a) Attach description of surface inspection methods (ca. 1 pg.).
    (b) Attach description of subsurface testing methods (if used).
    (c) Attach description of other methods and techniques if used (i.e., remote sensing).
    (d) Attach description of any constraints on the validity of field observations (i.e., adverse weather conditions, obscurred visibility, etc.).
    (e) Attach description of any methods used to control bias in observation and reporting.
    (f) Attach description of any adjustments made in field methods during survey.

16. Attach description of analytic procedures used.

17. Historic Properties identified (if any). Attach standard State Inventory Forms.

18. Attach evaluation of work reported (ca. 1 pg.).

19. Attach research-related conclusions, if any.

20. Attach recommendations, if any.

FORM 1AS-RFSS