



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE HOUSE STATION 17 AUGUSTA, MAINE 04333

BOARD ORDER

IN THE MATTER OF

PUMPKIN HILL POWER COMPANY)	SMALL HYDROELECTRIC GENERATING
Lowell, Maine, Penobscot County)	FACILITIES PERMIT AND
LOWELL TANNERY DAM/WATER POWER PROJECT)	WATER QUALITY CERTIFICATION
#49-8688-19390 L-8688-35-A-x)	FINDINGS OF FACT AND ORDER

Pursuant to the provisions of Title 38, M.R.S.A., Section 626 and Section 401 of the Federal Clean Water Act, the Board of Environmental Protection has considered the application of PUMPKIN HILL POWER COMPANY with its supportive data, agency review comments, staff summary, public comments, and other related materials on file with regard to the above noted project and finds the following facts:

1. PROJECT DESCRIPTION

The applicant proposes the redevelopment of the Lowell Tannery Dam on the Passadumkeag River in Lowell, Maine, for the purpose of generating hydroelectric power.

EXISTING:

The existing Lowell Tannery Dam is located approximately 12 miles upstream of the confluence of the Passadumkeag River with the Penobscot River. The concrete gravity dam is approximately 230 feet in length and 17 feet in height, and includes 120 feet of spillway, a turbine intake, a waste gate section, and a log sluice section. An abandoned powerhouse measuring approximately 20 feet by 60 feet is located at the north end of the dam. The dam currently creates an impoundment with a surface area of approximately 5 acres at an elevation of approximately 180 feet. Impoundment size and elevation vary with flows (180 feet is the elevation of the sill of the breached waste gate).

The existing dam was constructed in the 1920's as a replacement for an older timber crib dam and was used to supply hydroelectrical and hydromechanical power to a lumber mill for a number of years. The dam has been idle since the 1940's.

PROPOSED

The applicant proposes to utilize the hydroelectric potential of the existing dam by: repairing and resurfacing the dam and powerhouse structures; installing new intake and waste gates; and installing two turbine-generator units. Semi-permanent wooden flashboards 3 feet in height are to be installed along the spillway, recreating an impoundment with a surface area of approximately 68.5 acres at a full-pond elevation of 187.5 feet. Approximately 30 acres of additional land will be permanently flowed by the project.

The applicant proposes to utilize two temporary earth fill cofferdams to facilitate construction and excavation activities. Approximately 585 cubic yards of earth and rock are to be excavated and approximately 2,500 cubic yards of earth and organic debris are to be dredged from the intake and outlet areas of the dam and powerhouse.

The applicant further proposes to operate the facility as a run-of-river hydroelectric project, with water levels in the impoundment to be maintained at the crest of the flashboards to the maximum extent possible. An instantaneous inflow of 150 cfs, or inflow to the impoundment, whichever is less, is to be maintained at all times. The applicant also proposes to install such fish passage facilities as may be requested by State and Federal fisheries agencies.

Construction activities are scheduled to begin during the summer low flow period following the issuance of all required local, state, and federal approvals and to be complete in 18 months.

2. JURISDICTION

The proposed redevelopment qualifies as a "small hydroelectric power project" under the terms of Title 38, M.R.S.A., Section 622. The project is thereby exempted from the terms of the Great Ponds Alteration Act, Title 38 M.R.S.A., Sections 386-396, and the Site Location of Development Act, Title 38, M.R.S.A., Sections 481-490.

The project is subject to the jurisdiction of the Federal Energy Regulatory Commission. The applicant has filed an application for license to redevelop and operate the Lowell Tannery Dam Water Power Project (FERC No. 4202). Water Quality Certification is, therefore, considered, pursuant to Section 401 of the Federal Clean Water Act.

The Lowell Tannery Dam and water rights are owned by Lincoln Pulp and Paper Company. The applicant currently possesses no title to the project lands or waters. The applicant is granted standing for this permit based solely upon notification from FERC of acceptance for filing of an application for license for the proposed project.

3. ENERGY PRODUCTION

The proposed hydroelectric generating facility would have a capacity of 875 KW at an average operating head of 18 feet. The facility would utilize flows between 115 cfs and 900 cfs. The estimated average annual power output of 4,466,000 KWH would have the potential of displacing approximately 7,443 barrels of fossil fuel annually.

Project power would be sold to Bangor Hydro-Electric Company for distribution.

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4. FLOW REGULATION

The main branch of the Passadumkeag River is free-flowing with the exception of the obstructions created by the Lowell Tannery Dam and a dam in Passadumkeag near the confluence with the Penobscot River. At least five dams are present at the outlets of ponds and lakes in the watershed above the Lowell Tannery Dam.

Staff states that the project would not have a significant impact on flow regulation.

5. FISH AND WILDLIFE

The Passadumkeag River watershed currently supports significant populations of brook and lake trout, bass, eels, pickerel and perch, as well as a growing run of Atlantic Salmon. Wildlife species that are common to the Northern and Central Maine areas are inhabitants or transients in the project area.

The Department of Marine Resources (DMR), the Department of Inland Fisheries and Wildlife (IF & W), and the Atlantic Sea Run Salmon Commission (ASRSC) are currently managing the Penobscot River and its major tributaries for the restoration of anadromous fish species, particularly sea-run salmon, shad, and alewives. The Passadumkeag River watershed contains extensive spawning and nursery habitat for alewives and substantial spawning and nursery habitat for salmon and shad. DMR estimates that the watershed above the Lowell Tannery Dam has the potential to produce between 1.2 and 2.4 million pounds annual harvest of alewives.

At the present time, the Passadumkeag River is open to the passage of anadromous fish, due to the presence of fishways at the dams along the main stem Penobscot River and the deteriorated condition of the two dams on the main stem Passadumkeag River.

A substantial commercial fishery for catadromous eels exists at the mouth of the river. Significant numbers of eels pass through the project site to mature in the lakes and ponds in the watershed.

The long-term protection of fish and wildlife habitat is dependent upon the presence of adequate water levels, flows, fish passage facilities and erosion and sedimentation control plans. DMR states that the project would not significantly affect habitat for anadromous fish provided that a) adequate upstream and downstream fish passage facilities are constructed concurrent with project development and b) an instantaneous minimum flow of 150 cfs or inflow, whichever is less, is maintained from the project at all times. ASRSC additionally states that the project would not significantly

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affect habitat for sea-run salmon provided that any activity that could contribute to siltation in the river is kept to a minimum during the salmon spawning period from October 1 to November 10 annually. IF & W additionally states that the project would not significantly affect habitat for inland and anadromous fish provided that a) all vegetation is cleared at ground level up to full-pond elevation within the impoundment, b) the timing of any blasting is coordinated with ASRSC, c) sedimentation resulting from any dredging is adequately contained, and d) cofferdam construction and utilization is planned so as to minimize erosion and to not preclude fish passage at any time.

6. PUBLIC USES

The Passadumkeag River in the project area is regularly used by canoeists and anglers. The river is listed in the 1976 Appalachian Mountain Club canoe guide as a canoe touring river.

At the present time, the public has unimpeded access to the dam site and canoe portage opportunities around the dam.

The long-term protection of public uses is dependent upon the presence of adequate recreational facilities and public access to the project area. The Department of Conservation (DOC) states that the project would not significantly affect recreational activities provided that a) an adequate canoe portage trail is developed and maintained at the dam and b) improved public access for boating, fishing, and swimming in the project area is developed and maintained.

7. WATER QUALITY

The Passadumkeag River is currently classified as having Class B-1 waters from Grand Falls to the confluence with the Penobscot River. The project waters are thus judged to be suitable for recreational purposes, including water contact recreation, and for fish and wildlife habitat.

The estimated average annual flow for the Passadumkeag River at the project site is 506 cfs from a drainage area of 300 square miles. Flows-of-record range from a maximum of 5,680 cfs to a minimum of 5 cfs. The 7 day average low flow which has a 1 in 10 year recurrence interval (7Q10) for the Passadumkeag River at the project site is calculated to be 47 cfs.

The long-term protection of water quality is dependent upon the maintenance of adequate flows and water levels to prevent violations of standards and unreasonable impacts on designated uses. The Division of Environmental Evaluation and Lake Studies (DEELS) states that the project would not significantly affect the chemical and physical characteristics of the water in the project area provided that the proposed instantaneous minimum flow regime is maintained. The effects on designated uses are discussed in paragraphs 5 and 6 above.

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8. OTHER ENVIRONMENTAL CONSIDERATIONS

The environment would be affected during the construction phase of the project by the installation and removal of cofferdams, the installation of new gates, and the dredging and excavation of intake and outlet areas.

Significant erosion and sedimentation can be prevented if proper care is taken during and following construction. The applicant has not submitted any specific plans for the disposal of cofferdam fill, or dredged or excavated spoils. The applicant has not submitted the specific details of any plan to control erosion and sedimentation.

The Passadumkeag River from its confluence with the Penobscot River to its headwaters is listed in the Department of Conservation's 1982 Maine Rivers Study as a "C" River. "C" Rivers have been found to possess a composite natural and recreational resource value with statewide significance. The significant resource values of the Passadumkeag are: geologic hydrologic features; an undeveloped river corridor character; anadromous fishery resources; and canoe touring.

Of the significant resources that have been identified, only anadromous fishery resources and canoe touring appear to be affected by the project. The affects on these resources are discussed in paragraphs number 5 and 6 above.

BASED upon the above Findings of Fact, the Board concludes that the advantages will outweigh the adverse impacts of the project over the life of the facility provided that:

1. Water levels are maintained between elevation 187.5 feet (the crest of the flashboards) and elevation 184.5 feet (the crest of the dam) at all times;
2. An instantaneous minimum flow of 150 cfs, or a flow equal to inflow to the impoundment when inflow is less than 150 cfs, is maintained from the project at all times;
3. Adequate upstream and downstream fish passage facilities are constructed and are operational with the commencement of project operation;
4. Construction activities are scheduled in such a manner that adequate fish passage remains available at the site at all times;
5. Any in-stream blasting activities are undertaken in such a manner as to minimize the impact on migratory fish;
6. Adequate canoe portage and public recreational access facilities are developed and maintained;
7. Acceptable plans for the disposal of all cofferdam fill and dredged and excavated spoils are formulated and followed;

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8. Acceptable plans for the control of erosion and sedimentation during the construction and operation of the project, including plans for the construction, installation, removal, and timing of cofferdams, and plans for any dredging in-the-wet are formulated and followed; and
9. The impoundment is cleared to ground level of all vegetation up to elevation 187.5 feet.

THEREFORE, the Board of Environmental Protection APPROVES the application of PUMPKIN HILL POWER COMPANY to redevelop the hydroelectric potential of the Lowell Tannery Dam on the Passadumkeag River in Lowell, Maine, as described in paragraph number one above, and GRANTS certification that there is a reasonable assurance that the activity will not violate applicable Water Quality Standards, subject to the following terms and conditions:

1. Except as irreconcilably limited by inflows to the impoundment, by temporary abnormal operating conditions, by unit operation or interruption under power supply emergencies, or by order of state, local, or federal authorities, where all such conditions are beyond the applicant's control, and commencing with project operation, water levels in the impoundment shall be maintained between elevations 187.5 feet and 184.5 feet at all times.
2. Except as irreconcilably limited by order of state, local, or federal authorities, and commencing with project construction, an instantaneous minimum flow of 150 cfs, or a flow equal to inflow to the impoundment when such inflow is less than 150 cfs, shall be maintained from the project at all times.
3. Upstream and downstream fish passage facilities shall be constructed and shall be operational with the commencement of project operation. The applicant must submit final design and construction plans for these facilities prior to project construction or within 1 year of the issuance of this permit, whichever comes first. These plans shall be reviewed and must receive approval of the Atlantic Sea Run Salmon Commission, the Department of Marine Resources and the Commissioner prior to project construction.
4. Commencing with project construction, fish passage shall remain available at the project dam at all times.
5. The applicant shall coordinate any blasting activities with the Atlantic Sea Run Salmon Commission in order that the impact of these activities on the migration, spawning, and production of Atlantic Salmon will be minimized.
6. Canoe portage and public recreational access facilities shall be developed and maintained at the project site. The applicant must submit final design and construction plans for these facilities prior to project construction or within 1 year of the issuance of this permit, whichever comes first. These plans shall be reviewed and must receive approval of the Department of Conservation and the Commissioner prior to project construction.

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7. The applicant shall submit the specific details of the following plans: a) a plan to securely dispose of all cofferdam material and dredged and excavated spoils; and b) a plan to control erosion and sedimentation during and following project construction, including plans for the installation, removal, and timing of cofferdams and plans for any dredging in-the-wet. Such plans must be submitted prior to project construction or within 1 year of the issuance of this permit, whichever comes first. These plans shall be reviewed and must receive approval of the Commissioner prior to construction.
8. The impoundment shall be cleared to ground level of all vegetation up to elevation 187.5 feet.
9. The applicant shall take all necessary measures to insure that its activities and the activities of its agents do not result in measurable erosion of soils on the site during the construction and operation of the project covered by this approval.
10. The applicant shall notify the Department of the completion of project construction and the commencement of operation within 10 days following such completion and commencement.
11. 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 Department prior to implementation.
12. The applicant 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.
13. A copy of this permit must be included in or attached to contract bid specifications for the project.
14. Construction shall commence within 2 years from the date the granting of this approval unless a license has been issued for the project within 2 years by the Federal Energy Regulatory Commission, in which case construction shall commence in accordance with the terms of that license.

If construction is not commenced within the authorized period of time, as is applicable; this approval shall lapse and the applicant shall reapply to the Board for a new approval. The applicant may not commence construction of the project until a new approval is granted. Reapplications for approval shall state the reasons why the construction was not begun within the authorized period of time, as is applicable, and the reasons why the applicant will be able to begin construction within 2 years from the date of the granting of a new approval, if such approval is granted. Reapplications for approval may include information submitted in the initial application by reference.

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15. If the construction of the project upon the terms and conditions hereof is not completed and the operation of the project is not commenced within 5 years from the date of the granting of this approval, the Board may reexamine its approval and impose such additional terms or conditions or prescribe such other necessary corrective actions as it deems necessary to respond to significant changes in circumstances which may have occurred within the 5 year period.

DONE AND DATED AT AUGUSTA, MAINE, THIS 27TH DAY OF JULY, 1983.

BOARD OF ENVIRONMENTAL PROTECTION

By: 
HENRY E. WARREN, Chairman

PLEASE NOTE ATTACHED SHEET FOR APPEAL PROCEDURES.....