

Lakeport Hydroelectric Project (FERC No. 6440)



Relicensing Joint Agency Meeting



- 1. Welcome and Introductions
- 2. Overview of the Project
- 3. Review of FERC Traditional Licensing Process and Schedule
- 4. Detailed Overview of the Project Features and Operations
- 5. Overview of Information Provided in the Pre-Application Document (PAD) and other sources
- 6. Public Utility Regulatory Policies Act (PURPA) Benefits
- 7. Proposed Resource Studies
- 8. Next Steps
- 9. Comments
- 10. Site Visit

Plymouth

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Holderness •

Ashland-

Meredith

Center Harbor

New Hampton

Moultonborough

Lakeport Hydroelectric Project Gilford

Laconia

Belknap

Sanbornton

Franklin Niedha Belmont

Vermont

Wolfeboro

Alton

30

Lake Winnipesaukee







Lakeport Hydroelectric Project









First Stage

- Applicant issues NOI, PAD, request to use TLP, and newspaper notice;
- Commission approves use of TLP (within 60 days of filing NOI);
- <u>Applicant conducts joint agency/public meeting and site visit</u> (within 30 to 60 days of TLP Approval/Notice of Commencement);
- Resource agencies and tribes provide written comments and study requests (no later than 60 days following the meeting);
- Only if necessary agencies, tribes, or applicant request dispute resolution on studies with the Commission.

Second Stage

- Applicant completes reasonable and necessary studies (usually one to two field seasons spring through fall);
- Applicant provides draft application and study results to resource agencies and tribes (usually a few months after the last study season);
- Resource agencies and tribes comment on draft application (no later than 90 days after receipt of the Draft License Application);
- Only if necessary the Applicant conducts a joint meeting if substantive disagreements exist.

Third Stage

• Applicant files final application with Commission and sends copies to agencies and tribes (no later than two years prior to license expiration).

TLP Process Overview

Party	Activity	Time Frame	Deadline
TLP Stage 1			
Licensee	Deadline to File NOI and PAD	5 to 5 1/2 years before license expiration	August 31, 2018
FERC	FERC issues Public Notice of NOI, PAD and TLP Request to agencies, tribes and interested public	Concurrent with NOI	September 1, 2018
FERC, Stakeholders	Comments on TLP Request	Within 30 days of Public Notice	September 30, 2018
FERC	FERC issues Notice of Commencement	Within 60 days of Public Notice	October 30, 2018
Licensee	Notify FERC of Joint Meeting and Publish Notice in Newspaper	At least 14 days in advance of meeting	December 4 & 5, 2018
Licensee	Joint Public Meeting and Site Visit	30-60 days following Notice of Commencement	December 19, 2018
Stakeholders	Comments and Study Requests	Due 60 days after Joint Meeting	February 16, 2019
Licensee	Study Plan Development	Following receipt of PAD comments and study requests	Through April 2019
TLP Stage 2			
Licensee	Conduct Field Studies	One season of field studies	June through October 2019
Licensee	Draft License Application and Study results	Produced following conclusion of studies	March 4, 2021
Stakeholders	Comments on Draft Application	90 day comment period	June 2, 2021
TLP Stage 3			
Licensee	Final Application	No later than 2 years before current license expires	August 31, 2021
FERC	FERC issues Public Notice of Application	Within 14 days of final license application submittal	September 14, 2021
FERC	FERC License Expires		August 31, 2023

Winnipesaukee River

- City of Laconia, NH
- Lakeport Dam, between Paugus and Opechee Bays
- 17 river miles upstream from the Pemigewasset River
- First of six hydroelectric Projects on the river (upstream to downstream)

Climate of the Project

- Northeastern highland ecoregion
- Variable temperatures with cold winters, and mild summers
- Average air temperature of 47.1°F;
- Average liquid precipitation 45.4 inches, average snowfall 62.0 inches.

Project Overview (cont.)

Project Boundary and Features



December 19, 2018

> Dam

- Concrete gravity structure with a gated section, overflow spillway, and stoplog section
- 200 feet long, 10 feet high
- Three gates are 10 feet high and 18 feet wide
- > Reservoir
 - Lake Winnipesaukee held in public trust by the State of New Hampshire
 - Approximately 71 square miles at an elevation of 504.32 feet NGVD29
 - NHDES regulates outflow and direct Lakeport's run-of-release operations







Intake Structure

- 40 feet wide
- Trashrack with 2.0 clear spacing with ³/₄ inch eel overlays

> Powerhouse

- Turbine area and control house
- Turbines are mounted on outdoor pilings and platform that is about 840 square feet
- Three identical Flygt turbine generators each with a capacity of 200 kW
- Average head is approximately 10 feet

Tailrace

• Approximately 50 feet wide and 200 feet long

Transmission Line

- Generator units are connected to 0.48 kV leads that feed 12.4 kW transformers
- 250 foot long line connects the transformers to the power grid at the existing Elm Street lines.

Project Facilities – Trashrack and Overlays



Project Facilities - Powerhouse



Project Facilities - Tailrace



> Run-of-Release

- As directed by NHDES NHDES regulates inflows used for generation
- NHDES monitors Lake Winnipesaukee water levels
- NHDES direct Lakeport operators to set the units to maintain a specific water level

> Minimum Flow

- No license requirement
- NHDES provides at least 200 cfs (usually 250 cfs to 1,050 cfs) to meet downstream agreements
- Usually met through Project generation discharges

> Operating Regime

- For 250 cfs provided by NHDES Unit 1 is set to 230 cfs and 20 cfs is released at the dam to keep the wooden apron saturated
- Up to the maximum hydraulic capacity of the Project (1,050 cfs) Units 2 and 3 are turned on
- Inflows greater than 1,050 cfs results in spill at the dam

Annual Average Generation from 2013 to 2017 ranged from 1.712,695 kWh (2016) to 2,592,652 kWh (2017)

All water comes from Lake Winnipesaukee as directed by NHDES. Lakeport has no control over Lake Winnipesaukee water levels.

Existing Environment – Geology and Soils

- > Bedrock is entirely meta-sedimentary and meta-volcanic rock
- > Moderate seismic activity
- > The tailrace is lined on either side by concrete retaining walls.
- > Soils are glacial deposits
 - Well drained to somewhat excessively drained
 - Sandy and sandy-loam mixture

Existing Environment – Water Quantity

> Winnipesaukee River mean monthly flows ranges from 313 to 808 cfs

- Instantaneous hourly flows range from 0 to 2,348 cfs
- High flows typically in winter/spring and low flows occur in late-summer/early-fall
- Lakeport has no control over inflow to the Project



December 19, 2018

Existing Environment – Water Quality

- Opechee Bay and Paugus Bay are marginally impaired due to nonnative aquatic plants and elevated levels of mercury in fish tissue
- Source of the non-native aquatic plants is unknown
- Elevated levels of mercury in fish tissue is attributed to atmospheric deposition; a TMDL is in place
- Surface water quality generally consistent with state standards (Class B)
- Mean water temperature approx. 17°C
- Mean dissolved oxygen range 6.1 to 9.1 mg/L
- ➢ pH 6.7
- Oligotrophic to mesotrophic



- Mixture of warm water species
- Popular games species in smallmouth and largemouth bass, bluegill and pumpkinseed sunfish, yellow perch and rainbow trout
- > Diadromous species include:
 - River herring (alewife and blueback herring) and American eel
 - NHFG stocked river herring in Lake Winnisquam 2.2 river miles downstream
 - In the vicinity of the Project American eel low abundance
- > Eel Passage
 - Eagle Creek and the U.S. Fish and Wildlife Service entered into a Fish Passage and Project Operations Memorandum of Agreement (MOA) in 2014
 - MOA provides provision for exclusion, safe, and effective downstream passage for eel
 - ³/₄ inch trashrack overlays
 - Eel collection box; monitored daily during the downstream migration period (Aug 15 to Nov 15)
 - Lakeport cooperates with USFWS and NHFG for eel passage improvements and/or modifications at the Project.

> Aquatic Habitat

- Limited to the tailrace area; approx 0.5 acre in area
- General shallow with boulder and cobble substrate
- Shoreline is rip-rap
- > No Essential Fish Habitat present.

Existing Environment – Wildlife and Botanical Resources

- Wildlife resources in the general vicinity of the Project consist of various species of mammals, birds, and reptiles characteristic of hemlock-hardwood-pine forests and developed habitat of NH
- Botanical resources are limited to the shoreline area of the tailrace consistent with hemlock-hardwood-pine forests
- > Aquatic Invasive species are present in the area
 - Variable milfoil (upstream and downstream)
 - Curly-leaf pond weed (downstream)

Existing Environment – Wetlands and Riparian Habitat

- Wetlands 1 Type, Lacustrine (deep water habitats the lack trees, shrubs, and persistent emergent vegetation)
- Riparian and Littoral Habitat exists along shoreline areas of the tailrace and areas of the reservoir immediately upstream of the Project



Existing Environment – Rare, Threatened, and Endangered Species

> New Hampshire and Federally Listed Species

- New Hampshire no special status species are known to occur in the immediate geographical area of the Project
- Federal Species northern longeared bat and small-whorled pagonia are not known to occur in the vicinity of the Project but have the potential to occur
 - There are no designated critical habitats in the project vicinity for these two species
- Due to the relative size of the Project area Lakeport does not expect rare, threatened, and endangered species to occur in the Project vicinity.

Existing Environment – Recreation and Land Use

- The Project resides within NH's most popular and important recreational area Lake Winnipesaukee
- In Project vicinity there are numerous recreational opportunities (campgrounds, golf courses, historic areas, natural recreation areas, parks and picnic areas, opportunities for water and winter sports)
- There are no formal recreation facilities at the Project; however, people do utilize the tailwater for shoreline fishing.
- > Exempt from FERC's Form 80 filing requirements
- > Land Use is predominantly developed land and open water

Existing Environment – Aesthetics Resources

- > Public view of the Project is limited from the Elm Street bridge
- View of the Project from other surrounding areas is limited by building and mature vegetation



Existing Environment – Cultural Resources

- There are no known cultural resources within the Project Boundary
- There are three historic properties in the vicinity of the Project
 - Goss Reading Room
 - Lake Company Office
 - United Baptist Church of Lakeport





- Lakeport proposes to continue to operate the project in accordance with the existing FERC license and MOA.
- To continue to operate the project as currently licensed, Lakeport proposes the Project boundary include only the intake structure, powerhouse, tailrace, electrical equipment and transmission lines, and appurtenant facilities

Public Utility Regulatory Policies Act (PURPA)

> What are PURPA benefits?

- Benefits under section 210 of the Public Utility Regulatory Policies Act of 1978 (PURPA) requires electric utilities to purchase electricity from, and to sell electricity to, qualifying facilities, which may include hydroelectric projects.
- Lakeport intends to seek PURPA benefits
- > Lakeport currently is sells power to the ISO New England power grid

> Lakeport is not proposing any resource studies at this time.

NEXT STEPS

- File comments and/or study requests w/in 60 days <u>by February 16, 2019</u> with Eagle Creek with a courtesy copy to Louis Berger
- FERC study request criteria create better study requests:
 - 1. Describe goals and objectives of each study proposal and information to be obtained;
 - 2. Explain the relevant resource mgmt. goals of the agencies or Indian tribes with jurisdiction over the resource to be studied;
 - 3. If the requester is not a resource agency, explain any relevant public interest considerations;
 - 4. Describe existing information concerning the subject of the study proposal and the need for additional information;
 - 5. Explain any nexus between project operations and effects on the resource to be studied and how the study results would inform the development of license requirements;
 - 6. Explain how any study methodology is consistent with generally accepted practice in the scientific community;
 - 7. Describe consideration of level of effort and costs, and why any proposed alternative studies would not be sufficient to meet the stated information needs.



PLEASE SEND ANY COMMENTS OR QUESTIONS TO:

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MATTHEW BURAK Louis Berger mburak@louisberger.com (518) 727-5453

Site Visit

- > There is Site Visit after today's meeting
- Site Visit will consist of walking around the Project, but not on the dam
- A tour of the Project Powerhouse will be limited to those 16 years of age and older

100 Elm Street, Laconia, NH



