

**REVIEW OF APPLICATION  
OF THE LACHUTE HYDROELECTRIC FACILITIES  
FOR CERTIFICATION  
BY THE LOW IMPACT HYDROPOWER INSTITUTE**

Prepared by Diane Barr

September 26, 2021

**I. INTRODUCTION**

The LaChute Hydro Company (Applicant)<sup>1</sup>, owner of the Upper LaChute and Lower LaChute hydroelectric projects (Projects), provided an application in May 2021 to the Low Impact Hydropower Institute for Low Impact Hydropower Certification. The Upper LaChute (4.9 MW) and Lower LaChute (3.6 MW) projects are recognized by the Federal Energy Regulatory Commission (FERC) as Project number P-5760 and P-5761, respectively. The projects both received their FERC exemption status in 1987. A Stage 1 Intake Review Report was prepared by the Reviewer on June 24, 2021, which included a request for additional information from the Applicant. On September 13, 2021, the Applicant submitted the supplemental information as requested. The Reviewer’s report contained herein was conducted in compliance with the LIHI Handbook, 2<sup>nd</sup> Edition, revision 2.04 dated April 1, 2020.

**II. PROJECT’S GEOGRAPHIC LOCATION**

The Upper LaChute Hydroelectric Project and the Lower LaChute Hydroelectric Project are both located on the LaChute River, in the Village of Ticonderoga, Essex County, New York between River Miles 2.53 (Upper La Chute) and 1.12 (Lower La Chute). The LaChute River carries flow from Lake George to Lake Champlain and is approximately 2.5 miles long. See Figure 1-Location Map. The watershed is Lake George. The location of the Project features include:

Upper LaChute	Lat/Long	Lower LaChute	Lat/Long
Mill Dam A:	43°50'14.18"N, 73°25'48.77"W	Mill Dam D	43°50'58.72"N, 73°25'34.62"W
Mill Dam B:	43°50'35.83"N, 73°25'53.58"W	Mill Dam F	43°50'58.40"N, 73°25'14.26"W
Mill Dam C:	43°50'47.97"N, 73°25'42.54"W		

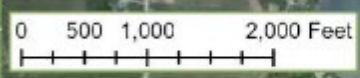
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<sup>1</sup> A subsidiary of Central Rivers Power, which is a subsidiary of Hull Street Energy

# Upper and Lower LaChute Project Overview Location



Path: D:\KAT\empl\LaChute\111\_LaChute\LI.aprx



**Legend**

Penstocks

**LaChute Hydro Company LLC**  
Ticonderoga, NY

Drawn By: ADY	Date Drawn: 04-08-2021	Checked By: KPN	Date Checked: 04-12-2021
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### III. PROJECT AND IMMEDIATE SITE CHARACTERISTICS

The Project site characteristics are divided by each project below describing the dam features, bypass reach, electric generation capacity, and overall power production methods.

**Upper LaChute:** The Upper LaChute Project consists of three dams, Mill A dam below Lake George Outlet dam, the control structure for the water surface level of Lake George into the LaChute River, Mill B dam, and Mill C dam. The headwaters for Upper LaChute are Lake George, a 44 square mile reservoir in upstate New York. New York State Department of Environmental Conservation (NYSDEC) establishes the releases from Lake George. Water releases are then conveyed 2,300 feet downstream by a 9-ft diameter steel penstock to a powerhouse located near Mill C. The bypassed reach is approximately 1 mile long. The powerhouse has a single turbine-generator unit rated at 4,900 kilowatts. Figures 1-4, depict the project features.

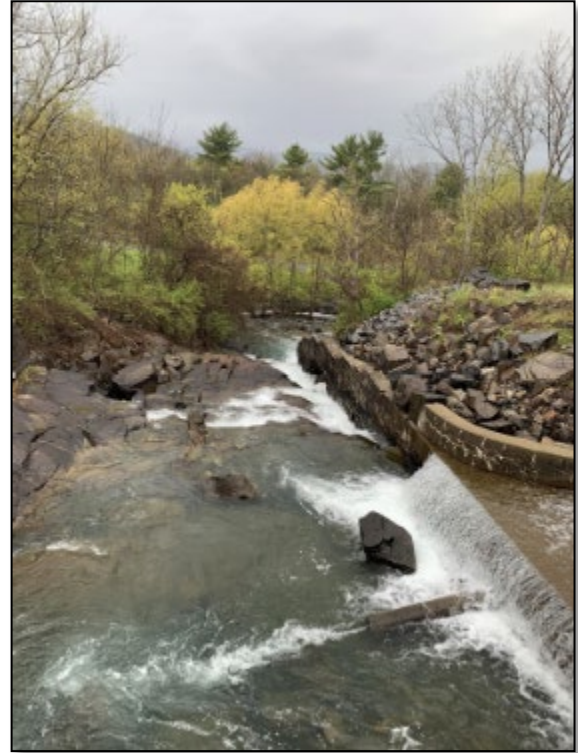


Figure 1-Upper LaChute Bypass Reach below Mill A Dam



Figure 2-Upper LaChute Intake and Fish Bypass Facility





Figure 3-Upper LaChute Mill C Dam Impoundment



Figure 4-Upper LaChute Mill B Dam

**Lower LaChute:** The Lower LaChute Project receives inflows from Mill D dam, Figure 5, as well as inflows from Trout Brook, a tributary to the La Chute River. The Mill D dam is located about 4,100 feet downstream of the Mill A dam and is the fourth in a series of six dams. The dam creates a bypassed reach approximately 0.36 miles long. The powerhouse at Mill F dam, Figure 6, receives water from a 9-ft diameter penstock located just below the falls. The Lower LaChute Project operates as run-of-river and has a headpond with 2.3 acres of surface area. The powerhouse has a single turbine-generator unit rated at 3,600 kW.



Figure 5-Lower LaChute Mill D Dam



Figure 6-Lower LaChute Powerhouse and Mill F Dam falls

#### IV. ZONES OF EFFECT

A facility is broken down into separate Zones of Effects (ZOE's) or areas with different physical characteristics, such as impoundments, bypassed reaches, downstream regulated river segments. Four Zones of Effect (ZOE) were designated by the Applicant and four were determined to be appropriate. The Upper LaChute consists of Zone 1 and 2, split into Impoundment and Bypass Reach, respectively. The Lower LaChute consists of Zone 3 and 4, split into Lower Bypass Reach and Tailwater, respectively. See Table 1-ZOE's and Standards.

Facilities are evaluated using a consistent set of eight criteria, goals, and standards for each ZOE. There are eight criteria and supporting goal statements as shown in Table 1. The LIHI Handbook includes goal statements for each criterion to define the purpose or objective that must be achieved. For each criterion and supporting goal statement, there is a set of alternative standards establishing a comprehensive menu by which the criterion goal can be met. The Applicant selects the appropriate standard for each criterion in each zone. To determine if the Project meets the LIHI criteria for Low Impact Certification, the Reviewer evaluates if the Standard selected is (1) the appropriate standard and (2) if the facility meets the goal for each of the eight criteria. If the Reviewer determines that an alternate standard is more applicable, this is noted in the report.

Table 1-ZOE's and Standards depict the four zones as well as the LIHI Standard the Applicant select for each Criterion, A-H. The Review recommends two changes in the Applicant standard selection. These are shown in **RED** below. The Applicants ZOE's are shown in Figure 7-Zones of Effects.

**TABLE 1-ZONES OF EFFECT AND STANDARDS**

Zone		1	2	3	4
Project Area		Upper LaChute		Lower LaChute	
Description		Impoundment	Bypass Reach	Lower Bypass Reach	Tailwater
River Mile Extent:		Lake George to 2.53 RM	2.53 RM to 1.48 RM	1.48 RM to 1.12 RM	1.12 RM to Lake Champlain
Criterion					
<b>A</b>	<b>Ecological Flows</b>	2	2	2	2
<b>B</b>	<b>Water Quality</b>	2	2	2	2
<b>C</b>	<b>Upstream Fish Passage</b>	1	1	1	1
<b>D</b>	<b>Downstream Fish Passage</b>	1 (2)	1 (2)	1 (2)	1 (2)
<b>E</b>	<b>Shoreline and Watershed Protection</b>	1	1	1	1
<b>F</b>	<b>Threatened and Endangered Species</b>	2	2	2	2
<b>G</b>	<b>Cultural and Historic Resources</b>	1	1	1	1
<b>H</b>	<b>Recreational Resources</b>	3 (2)	3 (2)	3	3 (2)

# LaChute Project Zone Of Effect

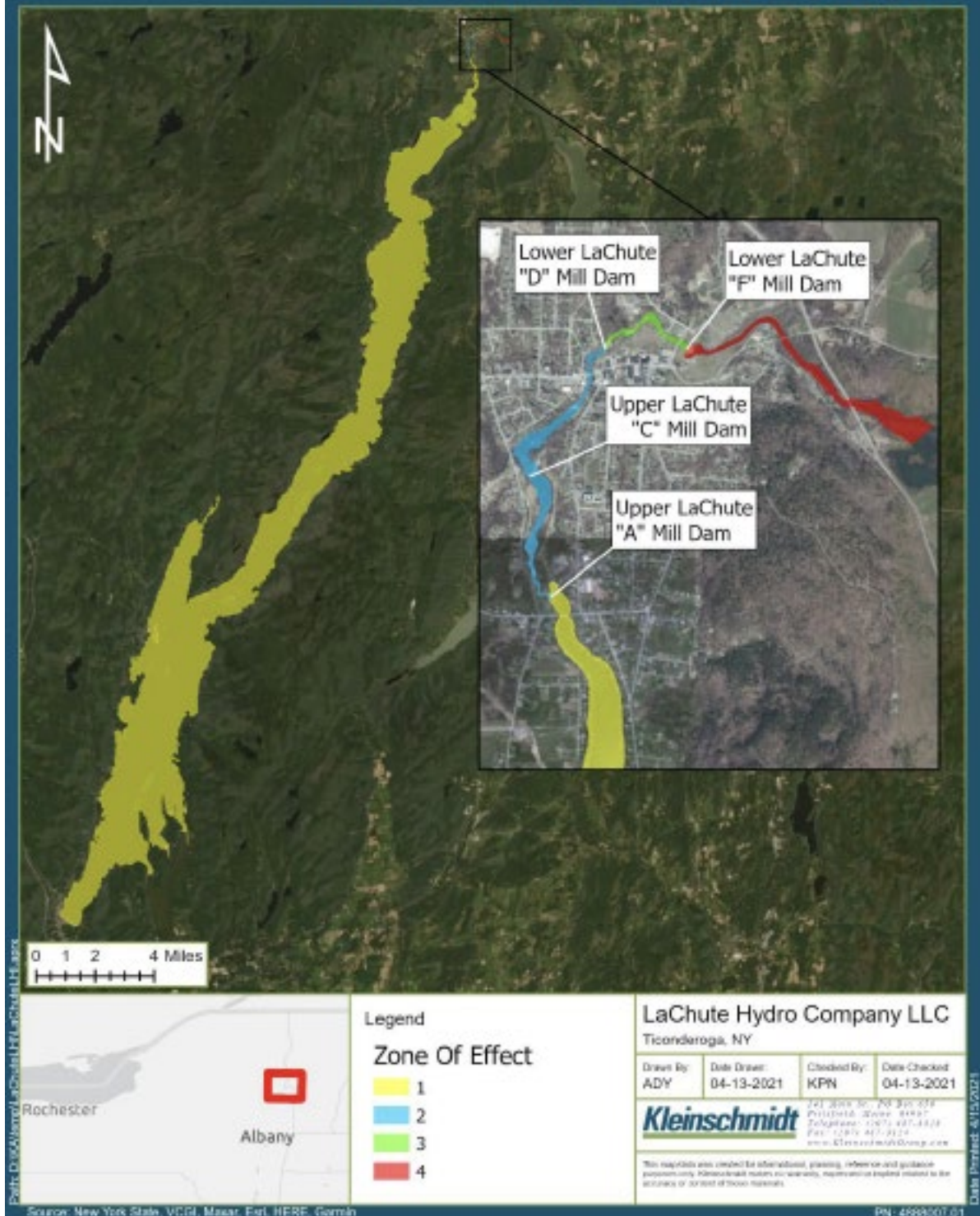


Figure 7-Zones of Effects



## V. REGULATORY AND COMPLIANCE STATUS

The Project is separated into two Federal Energy Regulatory Commission (FERC) licenses. The Upper LaChute FERC Project number is P-5760 and The Lower LaChute is P-5762. Both Projects received their FERC License Exemptions in 1984. In 2015, the FERC issued a Transfer Order due to the sale of the asset to the LaChute Hydro Company, LLC. The New York State Department of Environmental Conservation (NYSDEC) issued a Section 401 Water Quality Certification (CWA 401) on August 11, 1986. The CWA 401 included 11 special conditions. In meeting one of the CWA 401 conditions, in 1992 the LaChute Hydro Company, LLC developed an agreement with the NYSDEC on its operations, *Lake George Dam Operating Guidelines for the Upper LaChute Hydroelectric Project*. The LaChute Hydro Company established the bypass minimum flow in a letter to NYDEC dated April 2, 1996. The Project owner at that time filed the Operating Guidelines and a revised version with FERC in August 1992. These agreements and guidelines were provided as Attachment D in the Application. The LaChute Hydro Company, LLC operations are annually reviewed by NYSDEC per the operating guidelines.

Annual certifications of minimum flow compliance were reported to FERC from the 1990s up to 2013. In a July 1, 2013, letter from FERC (Accession No. 20130701-3027), FERC determined that under the existing exemptions and subsequent amendment orders, there are no exemption requirements for filing annual statements; therefore, discontinuing that practice for both Projects; however, deviations must still be reported. Based on the FERC eLibrary data base there have not been any deviations/non-compliance issues since the 2013 letter was issued.

## VI. PUBLIC COMMENTS RECEIVED OR SOLICITED BY LIHI

The application was posted for public comment on August 5, 2021, and the notice was forwarded to agencies and stakeholders listed in the application. The deadline for submission of comments was October 4, 2021. No formal comments were received. Outreach to and the response from NYSDEC is provided in Appendix A.

## VII. DETAILED CRITERIA REVIEW

### A. Ecological Flow Regimes

**Goal:** The flow regimes in riverine reaches that are affected by the facility support habitat and other conditions suitable for healthy fish and wildlife resources.

**Assessment of Criterion and Standard:** The Applicant appropriately selected Standard A-2, Agency Recommendation for all Zones.

Operation of the Upper LaChute River Project is dictated by flow releases from Lake George. The releases from Lake George are set by New York State statutes and guidelines and regulated by the NYSDEC. The Project operation is stipulated in the 1992 *Lake George Dam Operating Guidelines for the Upper LaChute Hydroelectric Project* as well as under the NY §38 Navigation Law, regulating the water surface of Lake George, dated March 27, 1957. These conditions establish a run-of-river mode. In addition to the run-of-river operations, the Navigation Law requires several lake level operation conditions. These include:

- (1) a maximum water surface elevation of 319.93 ft above mean sea level (msl) (4.00 ft) above the datum elevation gage 315.93 ft msl through the year.
- (2) minimum water surface elevation of 313.43 ft msl (2.5 ft below datum elevation gage 315.93 ft msl) from June 1 to December 1.

- (3) Between June 1 and September 30 water surface elevation will average 316.43 ft msl (3.5 ft above datum elevation gage 315.93 ft msl).
- (4) If the lake raises above 319.93 ft msl that all gates shall be opened and that if the level of the lake drops below 313.43 ft msl from June 1 to December 1, no water shall be withdrawn from the lake for the purpose of generating power.

The Upper LaChute follows both operating requirements and guidelines. These are outlined below:

### **Operating Requirements**

1. In the event the lake rises above 319.93 ft msl, all gates shall be opened and, if operable, the hydroelectric facility having an intake structure at the outlet dam will be operated to full capacity, such discharges to be reduced in the event they cause safety problems or unusual flooding downstream.
2. If Lake elevation is at 313.43 ft msl or below, no water withdrawals are permitted from the Lake other than the minimum flows described below.
3. A minimum flow of 30 cubic feet per second (cfs) shall always be maintained in the LaChute River for water quality purposes, irrespective of hydrological conditions.
4. The Operator of the flows into the LaChute River must notify the Village of Ticonderoga of impending increase in flow at least 4 hours prior to making changes in station discharges or gate openings at the outlet dam.

### **Operating Guidelines**

1. On January 1 the lake level should not be below 319.03 ft msl (3.1 ft above gage) when it can gradually be brought down to a low of 313.33 ft msl (2.6 feet below gage) on March 1 to provide storage for spring runoff.
2. Snow surveys are made at seven specified snow courses in the watershed in January, February, March, and April, if necessary. Based on this information, after January 1st, regulate discharges to provide storage for calculated spring runoff, and to the extent possible, to prevent the lake level from exceeding 319.93 ft msl.
3. By May 15th, the level of the Lake should be at a maximum of 319.93 ft msl to assure desired levels during the navigation season, June through November. Desired average lake level during the navigation season is 316.43± so by having the level high on May 15 there is some allowance for evaporation. To the extent possible, the lake level should not be allowed to fall below 319.73 ft msl (3.8 ft above gage elevation) on June 1, 316.43 ft msl (3.5 ft above gage elevation) by October 1, nor below 319.23 ft msl (3.3 ft above gage elevation) by December 1.
4. From July through September, the lake level typically drops steadily due to evaporation, even with no withdrawals from the lake other than the 30 cfs minimum flow. Precipitation during October and November normally recharges the lake, and to the extent possible lake level should average 319.33 ft msl (3.4 ft above gage elevation) during this period to facilitate the activity of removing boats from the lake.
5. The normally cold months of December and January are critical for homeowners who draw their water from the lake. If conditions warrant a winter drawdown towards 318.53 ft msl (2.6 ft below gage



elevation), the lake level will be maintained above 3.0 ft until the lake is frozen during this period to provide adequate water depth over water intake lines to prevent their freezing.

The Bypass ZOE's has established operations criteria as follows:

1. Continuous minimum flow of 30 cfs. This flow was established by NYSDEC to be the minimum base flow necessary to maintain aquatic life in the river. The Upper bypass is estimated at the Mill C Dam via a notch sized for such a flow. From that point, the 30 cfs can be split into 20 cfs into the fish bypass plus 10 cfs through on the of the gates at Lake George Dam. This is achieved during the fall salmon trapping season. At other times the full 30 cfs is released through the fish bypass. The different flow regimes accommodate increased turbulence when the trap device is installed. The 30 cfs velocity can result in turbulence where aquatic species may become impinged.
2. Bypass flows for the Lower LaChute Project are monitored at the "D" Mill Dam. A minimum of 30 cfs is spilled at the dam based on the staff gauge mark of 100 or better.

The Applicant provided a detailed summary of minimum flow compliance monitoring procedures (Appendix B).

**Reviewers Findings:** Based on the review of the application, supporting documentation, and (input from agencies/stakeholders as applicable), and other publicly available information) the Project satisfies the Ecological Flow Regimes criterion.

## B. Water Quality

**Goal:** Water Quality is protected in waterbodies directly affected by the facility, including downstream reaches, bypassed reaches, and impoundments above dams and diversions.

**Assessment of Criterion and Standard:** The Applicant appropriately selected Standard B-2, Agency Recommendation for all Zones.

The NYSDEC issued Section 401 Water Quality Certifications (CWA 401) for each Project on August 11, 1986. The CWA 401s included 11 special conditions. In meeting one of the CWA 401 conditions, in 1992 the LaChute Hydro Company, LLC developed an agreement with the NYSDEC on its operations, *Lake George Dam Operating Guidelines for the Upper LaChute Hydroelectric Project*. Water quality is maintained through Lake George water surface elevation management and minimum flows that were determined by the NYSDEC in the 1992 Lake George Dam Operating Guidelines.

### Upper LaChute Impoundment ZOE

The Upper LaChute Impoundment, Lake George, is established by the A Mill Dam. The A Mill Dam operates to maintain Lake George water surface elevations. No pulsing occurs at this facility, reducing the amount of water fluctuation in the Lake. Lake George is listed on the 2018 Section 303(d) List for silt and sediment pollution from urban and storm runoff, and erosion which was documented in 2002. According to the LIHI application, the Lake George Watershed Association performs a variety of projects around the Lake to help prevent polluted stormwater, including sediment, silt, nutrient, and salt from entering the Lake.

The Reviewer accessed the 2019 NYSDEC Lake George Basin Bay site results. The NYSDEC published record validated the Applicant's information that Lake George is classified as Class AA-S(TS) by New York State (NYSDEC 2020c). Per the 2019 report, the trophic state is oligotrophic with no reported algae blooms, with invasive plant

species, and an overall Priority Water Body listed as impaired. The NYSDEC considers the best uses for these types of waters to be: drinking water, culinary or food processing, primary or secondary contact recreation and fishing. Class AA-S waters are free of floating solids often associated with industrial wastes, sewage waste or other wastes. This means no discharge of these wastes into the body of water are permitted. No alteration of flow that impairs the water for their best uses is allowed. No turbidity that causes a substantial visible change to natural conditions is allowed. The "TS" of the classification, establishes the presence of trout populations and spawning support.

The Reviewer validated the Applicant's characterization that Lake George is listed on the 2018 Section 303(d) List for silt and sediment pollution from Urban and Storm runoff, and erosion via [https://www.dec.ny.gov/docs/water\\_pdf/section303d2018.pdf](https://www.dec.ny.gov/docs/water_pdf/section303d2018.pdf). [The LaChute river itself is not listed as impaired.](#) The Project related activities and land do not contribute to any pollution in Lake George as their lands are located downstream of Lake George.

### **Upper and Lower LaChute Bypass Reaches ZOEs**

The Reviewer validated the Applicant's characterization that the Upper and Lower LaChute Bypass reaches starting from the Lake George Outlet (Mill A) to Mill F is classified as Class C(TS) (NYSDEC 2020c). According to NYSDEC, Class C fresh surface waters are best used for fishing. Since this section of the LaChute River is the Bypassed Reach, it is classified as "TS" indicating trout populations are supported and may support trout spawning.

The NYSDEC establishes the LaChute Hydro facilities minimum release of 30 cfs and maximum 1,380 cfs flows in the downstream and bypass reaches to provide appropriate habitat for fish and wildlife.

### **Lower LaChute Tailwater ZOE**

The Reviewer validated the Applicant's characterization that the Lower LaChute Tailwater starting from Mill F to Lake Champlain is classified as Class C by accessing the NYSDEC environmental mapper and the DECinfo Locator Map. The tailwater is considered a Class C fresh surface water best used for fishing.

The Lower LaChute operates as run-of-river and therefore has the same minimum and maximum flows that are required upstream. This provides appropriate habitat for fish and wildlife.

**Reviewers Findings:** The Project Water Quality Certificate is 35 years old. The 2<sup>nd</sup> Edition LIHI Handbook establishes that a Water Quality Certificate should be recently issued, and "recent" is defined as 10 years. In situations when the Water Quality Certificate is not current, the Applicant has the option to directly contact the NYSDEC and obtain their concurrence that the existing Water Quality Certificate is valid in meeting the state's water quality objectives. The Applicant received confirmation from the NYSDEC on October 8, 2021 that the 1986 Water Quality Certificate still represents an effective protection. The Reviewer reached out to the NYSDEC via email during the report development as the Applicant had not received correspondence from the NYSDEC. The NYSDEC responded on October 12, 2021, including the above referenced letter, stating that the WQC operating conditions are accurate and satisfy the water quality standards under the operating agreement between the Applicant and NYSDEC. The NYSDEC letter is included in Appendix A. Of a minor note, the Applicant had not provided the required agency contact list as part of the original application but provided the list on August 5, 2021 as supplementary material.

Based on the review of the application, supporting documentation, and publicly available information the Project satisfies Water Quality criterion.

### C. Upstream Fish Passage

**Goal:** The facility allows for the safe, timely, and effective upstream passage of migratory fish. This criterion is intended to ensure that migratory species can successfully complete their life cycles and maintain healthy populations in areas affected by the facility.

**Assessment of Criterion and Standard:** The Applicant appropriately selected Standard C-1, Not Applicable/De Minimis Effect for all Zones.

The LaChute river is 3.5 miles long and drops 230 feet in elevation from Lake George to Lake Champlain. The Applicant reported that a series of cascades and falls along the reach make natural fish passage upstream difficult or impossible for many species.

The Applicant provided a comprehensive evaluation of fish species and their upstream migratory interests. The Project waters support a mix of warmwater and coldwater fish species. According to the Applicant's supplied information, a total of 43 species are known to be in the Project vicinity, of which six (6) are migratory species either presently or historically found. These include Blueback Herring (*Alosa aestivalis*), Alewife (*Alosa pseudoharengus*), American Eel (*Anguilla rostrata*), Lake Sturgeon (*Acipenser fulvescens*), Atlantic Salmon (*Salmo salar*) and Sea Lamprey (*Petromyzon marinus*) (Carlson et. al. 2016). The WQC Condition 25 requires annual hatchery funding to support fish stocking efforts.

There are Atlantic salmon in Lake George, but they are considered non-native and maintained only by a stocking program. Spawning in the tributaries is not sufficient to support the species. In 1817, American eels were recorded in Lake George, and are all but rare or absent now based on the Applicant's information provided. Lake Champlain once had a thriving population, it has since declined. Improved passage and stocking in Lake Champlain has demonstrated slight increases in population numbers, but there is not enough to rebuild an American Eel stock in Lake Champlain. The limited Lake Champlain population establishes that it would be unlikely for eels to attempt migration into Lake George. The American eel species is identified as a High Priority species of Greatest Conservation Need in New York (Carlson et. al. 2016). American eels have demonstrated their capacity to complete their life cycle in Lake Champlain for adults and for spawning in the Sargasso Sea. Therefore, the absence of passage at the Project do not seem to inhibit their population.

The remaining migratory species of Blueback Herring, Alewife, and Sea Lamprey are considered unsuitable for the LaChute River basin based on either their non-native or invasive status (Sea Lamprey is considered invasive in the Lake Champlain basin). All three species pose a threat to the trout and salmon. Their passage at the Project is not desirable since they have the potential to impact native fish populations in Lake George (Fuller et al. 2021).

The Applicant included the Lake Sturgeon (*Acipenser fulvescens*) as a migratory species found in Lake Champlain, noting that there are no historic records of the species upstream of the lake in the LaChute River (Lake Champlain Lake Sturgeon Recovery Plan, 2016). The LaChute River is not included in restoration goals under the recovery plan.

**Reviewers Findings:** Based on the review of the application, supporting documentation, and other publicly available information the Project satisfies the Upstream Passage criterion.



#### D. Downstream Fish Passage

**Goal:** The facility allows for the safe, timely, and effective downstream passage of migratory fish. For riverine (resident) fish, the facility minimizes loss of fish from reservoirs and upstream river reaches affected by Facility operations. All migratory species can successfully complete

**Assessment of Criterion and Standard:** The Applicant appropriately selected Standard D-2, Agency Recommendation for all Zones.

As noted previously in Criterion C - Upstream Fish Passage, the migratory species that may be present are discussed. The application notes that no fish in Lake George require downstream passage into the LaChute River to complete their lifecycle but the WQC requires downstream passage measures to allow resident fish to move safely downstream.

##### Upper LaChute Impoundment ZOE

Lake George fish can pass through a downstream bypass at the Upper LaChute Dam, see Figure 8. The bypass includes a buried pipe with an underground sluice that carry fish to the bypass reach. The conveyance includes is a concrete bay for fish trapping. In 2002, the NYSDEC established that trapping at the Project was unnecessary due the negative effects on fish and wildlife. Attachment D of the application validated this finding. The Applicant annually revisits this determination with the NYSDEC. The Upper LaChute Facilities Mill A Dam has angled trash racks with 1-inch clear spacing on the intake structure to prevent fish entrainment.



Figure 8-Downstream Bypass

##### Upper LaChute Bypass Reach ZOE

Downstream passage at Mill B (abandoned) is provided at the base of the dam, where water is directed due to the abandoned nature of the dam, Figure 9-Mill B Dam flow through.

##### Lower Bypass Reach ZOE

The Upper LaChute Mill D utilizes the minimum flow weir to provide fish downstream passage at the Project intake as well as angled trash racks with 1-inch clear spacing on the intake structures to prevent fish entrainment. Water flow in the bypass reaches adheres to the minimum flow requirements.



Figure 9-Mill B Dam flow through

## Lower LaChute Tailrace ZOE

Mill F, Figure 10, allows for a natural water fall which does not specifically provide formal downstream passage but rather an unobstructed flow downstream.

**Reviewers Findings:** Based on the review of the application, supporting documentation, and other publicly available information the Project satisfies the Downstream Passage criterion.



Figure 10-Mill F Falls

## E. Shoreline and Watershed Protection

**Goal:** The Facility has demonstrated that enough action has been taken to protect, mitigate and enhance the condition of soils, vegetation and ecosystem functions on shoreline and watershed lands associated with the facility.

**Assessment of Criterion and Standard:** The Applicant appropriately selected Standard E-1, Not Applicable/De Minimis Effect for all Zones.

### All ZOE:

The Upper and Lower LaChute Projects are located within the Lake George watershed. The watershed at the dam is approximately 233 square miles. LaChute Hydro operates based on the requirements put forth by the NYSDEC, and therefore does not directly influence the shoreline at Lake George. LaChute Hydro keeps the Lake George impoundment at a maximum water surface elevation of 319.93 ft above mean sea level (msl) (4.00 ft above the datum elevation gage 315.93 ft msl) through the year, and a minimum water surface elevation of 313.43 ft msl (2.5 ft below datum elevation gage 315.93 ft msl) from June 1 to December 1, with due allowance for natural fluctuations or emergencies. In addition, the water surface elevation between June 1 and September 30 is to be an average of 316.43 ft msl (3.5 ft above datum elevation gage 315.93 ft msl). The law further states that if the level of the lake raises above 319.93 ft msl that all gates shall be opened and that if the level of the lake drops below 313.43 ft msl from June 1 to December 1, no water shall be withdrawn from the lake for the purpose of generating power.

The Lake George shoreline is a deciduous and evergreen forest. The shoreline includes residential and commercial properties and maintained areas of ornamental grass. The bypass reaches are a mix of natural and developed lands. The stretch between Mill A and Mill C has deciduous trees along the riverbanks and transitions into ornamental lawns and agrarian fields. Further downstream from Mill C to Mill D, the lands become increasingly developed with residential and commercial properties. Wetlands in the Upper LaChute Project vicinity are made up of reservoir dependent (Lake George), tributaries, ponds, and freshwater wetlands. The entirety of Lake George is identified as lake; from Mill A dam to Mill C Dam is identified as pond, and Mill C dam to Mill D dam is also pond, with a forested wetland island. (LaChute Hydro, LLC, 2021)

The Project does not have, nor is required to have, a FERC shoreline or watershed management plan. A review of the FERC eLibrary indicated that no issues related to shoreline and watershed protection have occurred.

### **Reviewers Findings:**

Based on information provided in the application, supporting documentation, and publicly available information, the Project is operated a manner that has a de minimis effect on the watershed. Therefore, the Project satisfies the Shoreline and Watershed Protection criterion.

### **F. Threatened and Endangered Species Protection**

**Goal:** The facility does not negatively impact federal or state listed species.

**Assessment of Criterion and Standard:** The Applicant appropriately selected Standard F-2, Finding of No Negative Effects

#### **All ZOE's:**

Neither the WQC, nor the FERC exemptions contained requirements related to federal or state-listed threatened or endangered species. One federally listed endangered species, the Indiana Bat (*Myotis sodalists*) and one federally listed threatened species, the Northern Long-eared Bat (*Myotis septentrionalis*), may be found within the Project's vicinity. The State of New York lists the Indiana Bat as state endangered and the Northern Long-eared Bat as state threatened (LaChute Hydro, LLC, 2021). There are no critical habitats for either species within the Project area. The Projects do not provide a continued risk for bat habitat degradation for any transient bats that may be present in areas controlled by the Projects, that are mostly developed lands.

Thirteen migratory bird species may also be present in the Project vicinity, including the state listed Bald Eagle, Eastern whip-poor-will, and rusty blackbird. These species are also unlikely to be affected by Project operations.

The NY State Environmental Resources Mapper shows five (5) Significant Natural Communities and nine (9) Natural Communities in the vicinity of the Upper and Lower LaChute Projects. It is not anticipated that the Projects will impact these species with the continued operations. The Project does not directly operate within these plant communities, and therefore is not anticipated to impact these species with the continued operations. The Applicant submitted a data request to NYSDEC and provided the report as an application supplement. The report identifies bald eagle downstream of the Project at the delta at Lake Champlain, and at Lake George. Peregrine falcon and timber rattlesnake are also present at Lake George. Two state-listed plants, veiny meadow rue and false hop sedge have been observed in a downstream marsh although not since 1995. Eight additional state-listed plants have been observed at or within 0.1 miles of Lake George.

### **Reviewers Findings:**

Based on information provided in the application, supporting documentation, and publicly available information, the Project is operated a manner that is unlikely to have negative effects on protected species. Therefore, the Project satisfies the Threatened and Endangered Species Protection criterion.

### **G. Cultural and Historic Resource Protection**

**Goal:** The facility does not unnecessarily impact cultural or historic resources that are associated with the Facility's lands and waters, including resources important to local indigenous populations, such as Native Americans.



**Assessment of Criterion and Standard:** The Applicant appropriately selected Standard G-1, Not Applicable / De Minimis Effect for all Zones.

**All ZOE:**

No Project facilities are listed on the National Register of Historic Places and the Projects are not required to have a Cultural Resources Management Plan or similar plan. The State Historic Preservation Office (SHPO), in a letter dated February 11, 1987, stated that the Upper and Lower Projects will not have an adverse impact on historical and cultural resources in the area that are eligible for inclusion on the National Register of Historic Places (FERC 2001). The Lower powerhouse was constructed in keeping with the historical nature of the Village of Ticonderoga and was designed to blend in with the Village’s historical architecture.

**Reviewers Findings:**

Based on information provided in the application, supporting documentation, and publicly available information, the Project is operated a manner that has no negative effects on cultural or historic resources. Therefore, the Project satisfies the Cultural and Historic Resource Protection criterion.

**H. Recreational Resources**

**Goal:** The facility accommodates recreation activities on lands and waters controlled by the facility and provides recreational access to its associated lands and waters without fee or charge.

**Assessment of Criterion and Standard:** The Applicant selected Standard H-3, Assured Accessibility, for all Zones. The Standard H-3, Assured Accessibility, is not the appropriate Standard for three of the four Zones based on the information provided in the application. Each Zone of Effect is presented below, with the recommended Standard.

**Upper LaChute Impoundment**

**Standard: H-2 Agency Recommendation**

Lake George offers multiple recreation opportunities including fishing, boating, and camping. The Project is required to meet elevation requirements in accordance with the Lake George Dam Operating Guidelines under the Water Quality Certificate. In meeting these lake level elevations Lake George’s recreation interests are met, as well as other shoreline benefits. The FERC exemption did not expressly state these recreational commitments, but rather incorporated them through the inclusion of the Water Quality Certificate.

**Upper LaChute Bypass ZOE**

**Standard: H-2 Agency Recommendation**

Water Quality Certificate Condition 25(g) requires a parking area and fishing access, Figure 11, in the Upper LaChute Project. The Project provides parking access and fishing to the Mill C Dam, fulfilling Condition 25(g) as confirmed by a 2004 FERC environmental inspection.



Figure 11 -Angler Access Area Upper LaChute (across the water)

## **Lower LaChute Bypass ZOE**

### **Standard: H-3 Assured Accessibility**

The Applicant states that the Lower LaChute Project provides a fishing platform that is handicap accessible, constructed of concrete with hand railings and a dirt parking lot. No map or pictures of this facility were provided; however, a 2001 FERC environmental inspection notes that the location is within the Lower LaChute Bypass, along with a paved boat ramp with gravel parking located across the river. Since the FERC exemption does not require these facilities, they are provided voluntarily.

## **Tailwater ZOE**

### **Standard: H-2 Agency Recommendation**

Water Quality Certificate Condition 25(j) requires a boat launch below the F Mill although the FERC exemption does not include any recreation requirements. According to the FERC environmental inspection report, the Applicant cooperated in development of Bicentennial Park which is located below the dam and powerhouse and consists of a walking trail, lighted areas, benches, playground, and the Heritage Museum all of which were built atop an old mill site.

The Applicant provided evidence of compliance with this requirement in a response from the Intake Review requesting evidence that this condition has been met. The boat launch is located on the north side of the river below the Lower LaChute dam (F Mill). A handicap accessible fishing access and parking area are located on the south side of the river as well.

### **Reviewers Findings:**

Based on information provided in the application, supporting documentation, and publicly available information, the Project is operated a manner that satisfies the Recreation Resources Standards.

## **VIII. GENERAL CONCLUSIONS AND REVIEWER RECOMMENDATION**

Based on this review, the Upper and Lower LaChute Projects meet the LIHI criteria for certification as Low Impact Hydropower facilities. A 5-year term is recommended for each facility.

## Appendix A - Agency Correspondence



# NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Natural Resources, Region 5  
232 Golf Course Road, Warrensburg, NY 12885  
P: (518) 623-1203 | F: (518) 623-3603  
www.dec.ny.gov

October 8, 2021

Mr. Skip Medford, Manager Stakeholder Relations  
Central Rivers Power  
670 N Commercial Street, Suite 204  
Manchester, NH 03101

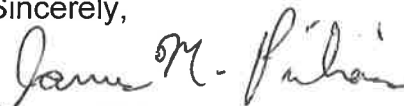
**Re: Upper & Lower LaChute Projects (FERC #5760 & #5762)  
Renewable Energy Credits (RECs)**

Dear Mr. Medford:

The New York State Department of Environmental Conservation (Department) has reviewed the September 10<sup>th</sup>, 2021, email request for concurrence with Lachute Hydro Company, LLC's operation of both the Upper LaChute Project (FERC #5760) and the Lower LaChute Project (FERC#5762) located on LaChute River, Essex County, New York. The project is operated under the requirements of the FERC exemptions and in compliance with the 1992 Lake George Dam Operating Guidelines and the original 401 Water Quality certifications issued for both projects. These operation guidelines have been recently reviewed by both the Department and the Lake George Park Commission staff. The terms and conditions set forth in the documents provided remain valid and will continue to be implemented.

The Department appreciates the opportunity to review the request. If you have any questions or require additional information, please contact James Pinheiro at (518) 623-1264 or via email at [james.pinheiro@dec.ny.gov](mailto:james.pinheiro@dec.ny.gov).

Sincerely,

  
James Pinheiro  
Aquatic Biologist

Cc: USFWS, Cortland, NY (J. Wiley)  
NYSDEC BOF (R. Fiorentino),  
DEP (E. Burns)  
LGPC Director (D. Wick)

**From:** [Diane Barr](#)  
**To:** [Pinheiro, James M \(DEC\)](#)  
**Cc:** [Maryalice Fischer](#)  
**Subject:** Re: Upper and Lower LaChute Low Impact Hydro Certification Application Review  
**Date:** Tuesday, October 12, 2021 3:56:20 PM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)

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Thanks so much for putting this together!!

Greatly appreciated.

Diane M. Barr | Principal Regulatory Specialist



680 G Street, Suite C | Jacksonville, OR 97530

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**From:** Pinheiro, James M (DEC) <james.pinheiro@dec.ny.gov>

**Date:** Tuesday, October 12, 2021 at 12:36 PM

**To:** Diane Barr <Diane@camasllc.com>

**Subject:** RE: Upper and Lower LaChute Low Impact Hydro Certification Application Review

Good Afternoon Diane,

My apologies for not responding to your request sooner. This matter did require me to consult multiple state agencies before providing a response. I have attached a letter that outlines our agencies stance. All operating guidelines in the Water Quality Certificate for the Upper & Lower LaChute projects are accurate and satisfies the water quality standards under the operating agreement with NYSDEC.

If you have any questions or concerns regarding this response please feel free to contact me directly.

Thank you,

## James Pinheiro

He/Him/His

Biologist, Region 5 Division of Fish & Wildlife

### New York State Department of Environmental Conservation

232 Golf Course Rd., Warrensburg, NY 12885

P: (518) 623-1264 | F: (518) 623-3603 | [james.pinheiro@dec.ny.gov](mailto:james.pinheiro@dec.ny.gov)

[www.dec.ny.gov](http://www.dec.ny.gov)



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**From:** Diane Barr <Diane@camasllc.com>

**Sent:** Sunday, October 3, 2021 8:57 PM

**To:** Pinheiro, James M (DEC) <james.pinheiro@dec.ny.gov>; Burns, Erin (DEC) <erin.burns@dec.ny.gov>

**Subject:** Upper and Lower LaChute Low Impact Hydro Certification Application Review

*ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.*

Hello,

I am a formal reviewer for the Low Impact Hydro Institute. I am currently reviewing the Upper and Lower LaChute project for certification. The LIHI criteria is for the project to either have Water Quality Certificate within the last 10 years or have concurrence from the respective issuing agency that the current certificate fully satisfies the States interest. I have attached the certificate for your reference.

If you could reply to me stating that the current certificate either meets or does not meet the state of New York's water quality standards by operating under the NYDEC operating agreement, it would be greatly appreciated. This matter is of a time sensitive nature as the Public Notice expires on October 4, 2021. All interested federal and state parties have been provided the Notice.

Thank you.

Diane M. Barr | Principal Regulatory Specialist



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## Appendix B - LaChute Flow Compliance and Monitoring Procedure

**Upper LaChute Project, P-5760-NY**  
**Lower LaChute Project, P-5762-NY**

COMPLIANCE SUMMARY

October 27, 2021

Each project's bypass minimum flow requirement of 30 cfs is provided at the A Mill and D Mill dams, respectively, for the Upper and Lower LaChute hydroelectric projects in Ticonderoga, New York.

**UPPER PROJECT**

For the Upper project, bypass flows are provided by a combination of fish bypass operation and gate(s) operation at the nearby A Mill dam. Both sources discharge just downstream of the A Mill, at the beginning of the bypass reach. A visual impoundment level, generation/flow level, and bypass flow check is maintained and recorded daily, and transmitted weekly to the Lake George Park Commission.

Upper project generation and impoundment (Lake George) levels are controlled according to the Lake George/Roger's Rock Dam Operating Guidelines. Minimum flows are provided in order of first priority, and are able to be verified at the C Mill dam, containing a notch to pass 30 cfs at full, normal level of that intermediate impoundment in the bypass reach, located just upstream of the Upper project powerhouse.

**LOWER PROJECT**

At the Lower project, whose impoundment receives all Upper project discharge (generation plus bypass flows), minimum bypass flow is provided by 2 measures at the D Mill dam. A small, natural ledge spills 11+ cfs at normal Lower project impoundment level (188.8'); the dam crest is 188.7' NGVD 1929. In addition, a stoplog bay passes 22 cfs or greater at normal impoundment level. Both measures discharge to the below-dam area and ensure that slightly over 30 cfs is continuously provided in the bypass reach. Both level and measures (occlusion by debris, etc.) are checked and recorded daily, to document continuous bypass flow provision below D Mill.

Both projects' minimum flow provisions have been stable and effective for decades. The only recent difference in detail is that the local datums are being changed from a site specific elevation where 100' denoted "dam crest", to an NGVD-based system. Thus at Lower LaChute, the former 100' (dam crest) is now recognized to be 188.7', NGVD 1929. Present flow records show impoundment elevations aligned to NGVD;  $\pm 319'$  for Upper and  $\pm 188.8'$  for Lower.

In addition to visual checks, electronic records of pertinent plant operating conditions are available for each site. For minimum flows, the continuous maintenance of proper impoundment levels<sup>1</sup> verified electronically is further confirmation that bypass flows are met, and are used to supplement daily visual checks.

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<sup>1</sup> For Upper project, elevation range 318.43'—319.43' NGVD 29 according to Lake George Operating Guidelines; no established range for Lower project but dam crest is 188.7' NGVD 29.



Upper project, A-Mill dam min flow: gate flow plus fish bypass discharge. See also LIHI Stage 1 Application photo 1.1.



Upper project, C-Mill dam min flow notch from downstream (sized for 30 cfs; any bypass flow over 30 cfs is passed in dam leakage and slight spill)





Lower project, ledge and stoplog bay min flow below primary (intake) D-mill dam on left. See also LIHI Stage 1 Application photo 1.6 for view of stoplog bay, from upstream