



**National Pollutant Discharge Elimination System Permit
Issued To**

Firstlight CT Hydro LLC
907 Bantam Road
Litchfield, CT 06750
Bantam Station

Location Address:

907 Bantam Road
Litchfield, CT 06750
Bantam Station

Permit Number: CT0030806

Receiving Water Body: Bantam River

Effective Date: November 2, 2023

Receiving Water Body ID: CT6705-00_02

Permit Expires: November 2, 2023

SECTION 1: GENERAL PROVISIONS

- (A) This permit is issued in accordance with Section 22a-430 of Chapter 446k, Connecticut General Statutes (“CGS”), and Regulations of Connecticut State Agencies (“RCSA”) adopted thereunder, as amended, and Section 402(b) of the Clean Water Act (“CWA”), as amended, 33 USC 1251, *et. seq.*, and pursuant to an approval dated September 26, 1973, by the Administrator of the United States Environmental Protection Agency for the State of Connecticut to administer a NPDES permit program.
- (B) **Firstlight CT Hydro LLC** (“Permittee”) shall comply with all conditions of this permit including the following sections of the RCSA which have been adopted pursuant to section 22a-430 of the CGS and are hereby incorporated into this permit. Your attention is especially drawn to the notification requirements of subsections (i)(2), (i)(3), (j)(1), (j)(6), (j)(8), (j)(9)(C), (j)(10)(C), (j)(11)(C), (D), (E), and (F), (k)(3) and (4) and (l)(2) of Section 22a-430-3.

Section 22a-430-3: General Conditions

- (a) Definitions
- (b) General
- (c) Inspection and Entry
- (d) Effect of a Permit
- (e) Duty to Comply
- (f) Proper Operation and Maintenance
- (g) Sludge Disposal
- (h) Duty to Mitigate
- (i) Facility Modifications; Notification
- (j) Monitoring, Records and Reporting Requirements
- (k) Bypass

- (l) Conditions Applicable to POTWs
- (m) Effluent Limitation Violations (Upsets)
- (n) Enforcement
- (o) Resource Conservation
- (p) Spill Prevention and Control
- (q) Instrumentation, Alarms, Flow Recorders
- (r) Equalization

Section 22a-430-4: Procedures and Criteria

- (a) Duty to Apply
 - (b) Duty to Reapply
 - (c) Application Requirements
 - (d) Preliminary Review
 - (e) Tentative Determination
 - (f) Draft Permits, Fact Sheets
 - (g) Public Notice, Notice of Hearing
 - (h) Public Comments
 - (i) Final Determination
 - (j) Public Hearings
 - (k) Submission of Plans and Specifications, Approval
 - (l) Establishing Effluent Limitations and Conditions
 - (m) Case by Case Determinations
 - (n) Permit Issuance or Renewal
 - (o) Permit Transfer
 - (p) Permit Revocation, Denial or Modification
 - (q) Variances
 - (r) Secondary Treatment Requirements
 - (s) Treatment Requirements
 - (t) Discharges to POTWs - Prohibitions
- (C) Violations of any of the terms, conditions, or limitations contained in this permit may subject the permittee to enforcement action including, but not limited to, seeking penalties, injunctions and/or forfeitures pursuant to applicable sections of the CGS and RCSA.
- (D) Any false statement in any information submitted pursuant to this permit may be punishable as a criminal offense under section 22a-438 or 22a-131a of the CGS or in accordance with section 22a-6, under section 53a-157b of the CGS.
- (E) The authorization to discharge under this permit may not be transferred without prior written approval of the Commissioner of Energy and Environmental Protection (“Commissioner”). To request such approval, the permittee and proposed transferee shall register such proposed transfer with the Commissioner, at least thirty days prior to the transferee becoming legally responsible for creating or maintaining any discharge which is the subject of the permit transfer. Failure, by the transferee, to obtain the Commissioner’s approval prior to commencing such discharge(s) may subject the transferee to enforcement action for discharging without a permit pursuant to applicable sections of the CGS and RCSA.

- (F) No provision of this permit and no action or inaction by the Commissioner shall be construed to constitute an assurance by the Commissioner that the actions taken by the permittee pursuant to this permit will result in compliance or prevent or abate pollution.
- (G) Nothing in this permit shall relieve the permittee of other obligations under applicable federal, state and local law.
- (H) An annual fee shall be paid for each year this permit is in effect as set forth in section 22a-430-7 of the RCSA.
- (I) The permittee shall operate and maintain its collection and treatment system in accordance with its Operation and Maintenance Plan and with all approvals issued in accordance with RCSA section 22a-430-3(i)(3).

SECTION 2: DEFINITIONS

- (A) The definitions of the terms used in this permit shall be the same as the definitions contained in section 22a-423 of the CGS and sections 22a-430-3(a) and 22a-430-6 of the RCSA.
- (B) In addition to the above, the following definitions shall apply to this permit:

“40 CFR” means Title 40 of the Code of Federal Regulations.

“Average Monthly Limit” means the maximum allowable “Average Monthly Concentration” as defined in section 22a-430-3(a) of the RCSA when expressed as a concentration (e.g., mg/l). Otherwise, it means “Average Monthly Discharge Limitation” as defined in Section 22a-430-3(a) of the RCSA.

Connecticut Water Quality Standards means the regulations adopted under RCSA sections 22a-426-1 through 22a-426-9, as amended.

“Daily Concentration” means the concentration of a substance as measured in a daily composite sample, or the arithmetic average of all grab sample results defining a grab sample average.

“Daily Quantity” means the quantity of waste discharged during an operating day.

“Dilution Factor” means the inverse of the “Instream Waste Concentration”.

“DMR” means Discharge Monitoring Report.

“Gpd” means gallons per day.

“Instantaneous Limit” means the highest allowable concentration of a substance as measured by a grab sample, or the highest allowable measurement of a parameter as obtained through instantaneous monitoring.

“Maximum Daily Limit” means the maximum allowable “Daily Concentration” (defined above) when expressed as a concentration (e.g., mg/l). Otherwise, it means the maximum allowable “Daily Quantity” as defined above, unless it is expressed as a flow quantity. If expressed as a flow quantity, it means “Maximum Daily Flow” as defined in Section 22a-430-3(a) of the RCSA.

“Range During Sampling” (“RDS”), as a sample type, means the maximum and minimum of all values recorded as a result of analyzing each grab sample of: 1) a Composite Sample or, 2) a Grab Sample Average. For those permittees with continuous monitoring and recording pH meters, Range During Sampling means the maximum and minimum readings recorded with the continuous monitoring device during the Composite or Grab Sample Average sample collection.

“Reporting Frequency” means the frequency at which monitoring results must be provided.

“Semi-annually” when used as a sampling frequency in this permit, means that sample reporting is required in the months of March and September.

SECTION 3: COMMISSIONER'S DECISION

- (A) The Commissioner has issued a final determination and found that the discharge will not cause pollution of the waters of the state. The Commissioner’s decision is based on Application No. 202203789 for permit issuance received on April 01, 2022, and the administrative record established in the processing of that application.
- (B) Effective from issuance date for a term not to exceed five years and until this permit expires or is modified or revoked, the Commissioner hereby authorizes the Permittee to discharge in accordance with the terms and conditions of Permit No. CT0030806, issued by the Commissioner to the Permittee based on Application No. 202203789, received by the Department of Energy and Environmental Protection (“DEEP”) on April 01, 2022, and all modifications and approvals issued by the Commissioner or the Commissioner’s authorized agent for the discharge and/or activities authorized by, or associated with, Permit No. CT0030806, following the issuance date of this permit.
- (C) The Commissioner reserves the right to make appropriate revisions to the permit in order to establish any appropriate effluent limitations, schedules of compliance, or other provisions which may be authorized under the Federal Clean Water Act or the CGS or regulations adopted thereunder, as amended. The permit as modified or renewed under this paragraph may also contain any other requirements of the Federal Clean Water Act or the CGS or regulations adopted thereunder which are then applicable.
- (D) This permit contains a determination under section 316(b) of the Federal Water Pollution Control Act, 33 U.S.C. § 1326(b) regarding cooling water intake structures and Conn. Gen. Stat. § 22a-430(a), and compliance with this permit is sufficient to assure the protection and propagation of a balanced indigenous population of shellfish, fish and wildlife in and on the receiving waters. Based on the evaluation detailed in the fact sheet, DEEP has

determined that the facility employs BTA pursuant to 40 CFR § 125.90(b).

SECTION 4: GENERAL EFFLUENT LIMITATIONS

- (A) The permittee shall assure that the discharge will not cause or contribute to an instream violation of the *Connecticut Water Quality Standards*.
- (B) No discharge shall contain, or cause in the receiving stream, a visible oil sheen or floating solids, or cause visible discoloration or foaming in the receiving stream.
- (C) No discharge shall cause acute or chronic toxicity in the receiving water body beyond any zone of influence specifically allocated to that discharge in this permit.
- (D) The temperature of any discharge shall not increase the temperature of the receiving stream above 85 °F, or in any case, raise the temperature of the receiving stream by more than 4 °F.
- (E) There shall be no discharge of polychlorinated biphenyl (PCB) compounds.

SECTION 5: SPECIFIC EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

- (A) The discharge is restricted by and shall be monitored in accordance with the following tables in this section. The wastewater discharge shall not exceed the effluent limitations in these tables and shall otherwise conform to the specific terms and conditions listed in the tables. The permittee shall comply with the “Remarks” and “Footnotes” noted in the tables that follow. Such remarks and footnotes are enforceable like any other term or condition of this permit.
- (B) All samples shall be comprised of only the wastewater described in these tables. Samples shall be collected prior to combination with receiving waters or wastewater of any other type, and after all approved treatment units, if applicable. All samples collected shall be representative of the discharge during standard operating conditions. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. Collection of permit required effluent samples in any location other than the authorized location noted in this permit shall be a violation of this permit.
- (C) In cases where limits and sample type are specified but sampling is not required by this permit, the limits specified shall apply to all samples which may be collected and analyzed by DEEP personnel, the permittee, or other parties.
- (D) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.

Table A

Discharge Serial Number: DSN 101		Monitoring Location: 1
Wastewater Description: Turbine Leakage		
Monitoring Location Description: From piping below turbine shaft packing		
Discharge is to: Bantam River	Dilution Factor: None	Outfall Location: Latitude 41.72327 N and Longitude - 73.23915 W

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING		
			Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency ¹	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample/Reporting Frequency	Sample Type or measurement to be reported
Flow, Maximum during 24-hr period	50047	Gpd	NA	1,000	Daily	Total Daily Flow ²	NA	NR	NA

Footnotes:

¹The first entry in this column is the “Sample Frequency”. If a “Reporting Frequency” does not follow this entry, then the “Reporting Frequency” is semi-annually.

²The Permittee may estimate daily flow for this discharge.

Remarks:

1. Abbreviations used for units are as follows: gpd means gallons per day; mg/L means milligrams per liter; SU means Standard Units. Other abbreviations are as follows: NA means Not Applicable; NR means Not Required; RDS means Range During Sampling.

Table B

Discharge Serial Number: **DSN 102**

Monitoring Location: **1**

Wastewater Description: **Turbine Leakage**

Monitoring Location Description: **Beneath the servo motor control packing**

Discharge is to: **Bantam River**

Dilution Factor: **None**

Outfall Location: **Latitude 41.72327 N and Longitude -73.23914 W**

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING		
			Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency ¹	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample/Reporting Frequency	Sample Type or measurement to be reported
Flow, Maximum during 24-hr period	50047	Gpd	NA	1,000	Daily	Total Daily Flow ²	NA	NR	NA

Footnotes:

¹The first entry in this column is the “Sample Frequency”. If a “Reporting Frequency” does not follow this entry, then the “Reporting Frequency” is semi-annually.

²The Permittee may estimate daily flow for this discharge.

Remarks:

1. Abbreviations used for units are as follows: gpd means gallons per day; mg/L means milligrams per liter; SU means Standard Units. Other abbreviations are as follows: NA means Not Applicable; NR means Not Required; RDS means Range During Sampling.

Table C

Discharge Serial Number: DSN 103		Monitoring Location: 1
Wastewater Description: Non-Contact Cooling Water		
Monitoring Location Description: NCCW Piping leading to tail race		
Discharge is to: Bantam River	Dilution Factor: None	Outfall Location: Latitude 41.72329 N and Longitude - 73.23910 W

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING		
			Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency ¹	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample/Reporting Frequency	Sample Type or measurement to be reported
Flow, Maximum during 24-hr period	50047	Gpd	NA	3,880	Daily	Total Daily Flow ²	NA	NR	NA

Footnotes:

¹The first entry in this column is the “Sample Frequency”. If a “Reporting Frequency” does not follow this entry, then the “Reporting Frequency” is semi-annually.

²The Permittee may estimate daily flow for this discharge.

Remarks:

1. Abbreviations used for units are as follows: gpd means gallons per day; mg/L means milligrams per liter; SU means Standard Units. Other abbreviations are as follows: NA means Not Applicable; NR means Not Required; RDS means Range During Sampling.

SECTION 6: SAMPLE COLLECTION, HANDLING AND ANALYTICAL TECHNIQUES

- (A) All samples shall be collected, handled, and analyzed in accordance with the methods approved under 40 CFR 136, unless another method is required under 40 CFR subchapter N or unless an alternative method has been approved in writing pursuant to 40 CFR 136.5. To determine compliance with limits and conditions established in this permit, monitoring must be performed using sufficiently-sensitive methods approved pursuant to 40 CFR 136 for the analysis of pollutants having approved methods under that part, unless a method is required under 40 CFR subchapter N or unless an alternative method has been approved in writing pursuant to 40 CFR 136.5.
- (B) All metals analyses identified in this permit shall refer to analyses for Total Recoverable Metal as defined in 40 CFR 136, unless otherwise specified.
- (C) The term Minimum Level (ML) refers to either the sample concentration equivalent to the lowest calibration point in a method or a multiple of the method detection limit (MDL). MLs may be obtained in several ways: They may be published in a method; they may be sample concentrations equivalent to the lowest acceptable calibration point used by the laboratory; or they may be calculated by multiplying the MDL in a method, or the MDL determined by a lab, by a factor.
- (D) The value of each parameter for which monitoring is required under this permit shall be reported to the maximum level of accuracy and precision possible, consistent with the requirements of this section of the permit.
- (E) Analyses for which quantification was verified to be at or below an ML, and which indicate that a parameter was not detected, shall be reported as “less than x” where ‘x’ is the numerical value equivalent to the ML for that analysis. If the permittee is required to submit its DMRs through the NetDMR system, the permittee shall report the non-detect value consistent with the reporting requirements for NetDMR.
- (F) Results of analyses which indicate that a parameter was not present at a concentration greater than or equal to the ML specified for that analysis shall be considered equivalent to zero for purposes of determining compliance with effluent limitations or conditions specified in this permit.
- (G) It is a violation of this permit for a permittee or his/her designated agent, to manipulate test samples in any manner, to delay sample shipment, or to terminate or to cause to terminate a toxicity test. Once initiated, all toxicity tests must be completed.
- (H) Analyses required under this permit shall be performed in accordance with CGS section 19a-29a. An “environmental laboratory”, as that term is defined in the referenced section, that is performing analyses required by this permit, shall be registered and have certification acceptable to the Commissioner, as such registration and certification is necessary.

SECTION 7: REPORTING REQUIREMENTS

- (A) The results of chemical analyses and any aquatic toxicity test required by this permit will be submitted electronically by or on behalf of the NPDES-regulated facility, any person providing the electronic signature for such documents shall meet all relevant requirements of this section, and shall ensure that all of the relevant requirements of 40 CFR part 3 (including, in all cases, subpart D to part 3) (Cross-Media Electronic Reporting) and 40 CFR part 127 (NPDES Electronic Reporting Requirements) are met for that submission.
- (B) Monitoring results will be reported at the monitoring frequency specified in this permit. Any monitoring required more frequently than monthly will be reported on an attachment to the DMR, and any additional monitoring conducted in accordance with 40 CFR 136, or another method required for an industry-specific waste stream under 40 CFR subchapter N or O, or other methods approved by the Commissioner, will also be included on the DMR, or as an attachment, if necessary, and the results of such monitoring will be included in the calculation and reporting of the data submitted in the DMR. All aquatic toxicity reports will also be included as an attachment to the DMR. A report will also be included with the DMR which includes a detailed explanation of any violations of the limitations specified.
- (C) NETDMR REPORTING REQUIREMENTS. The Permittee will report electronically using NetDMR, a web-based tool that allows Permittees to electronically submit Discharge Monitoring Reports (DMRs) and other required reports through a secure internet connection. Specific requirements regarding NetDMR, submittal of reports using NetDMR, are described below:
- (D) SUBMITTAL OF NETDMR SUBSCRIBER AGREEMENT. The Permittee will electronically submit the signed Connecticut DEEP NetDMR Subscriber Agreement to DEEP at deep.netdmr@ct.gov prior to using NetDMR.
- (E) SUBMITTAL OF REPORTS USING NETDMR. The Permittee and/or the signatory authority will electronically submit DMRs and applicable reports required under this permit to DEEP using NetDMR. DMRs will be submitted electronically no later than the last day of the month following the completed reporting period. The Permittee will also electronically file any written report of noncompliance as an attachment in NetDMR. NetDMR is accessed from: <https://npdes-ereporting.epa.gov/net-netdmr>
- (F) “NO DISCHARGE” SUBMISSIONS. If this permit requires monitoring of a discharge, but a discharge has not occurred within the frequency of sampling specified in the permit, the Permittee must submit the DMR and ATMR, as scheduled, indicating “NO DISCHARGE”. For those Permittees whose required monitoring is discharge dependent (e.g., per batch), the minimum reporting frequency is monthly. Therefore, if there is no discharge during a calendar month for a batch discharge, a DMR must be submitted indicating such by the end of the following month.

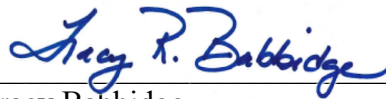
SECTION 8: RECORDING AND REPORTING OF VIOLATIONS, ADDITIONAL TESTING REQUIREMENTS

- (A) In addition to any other written reporting requirements, the permittee shall report any instances of noncompliance with this permit with its DMR. Such reporting shall be due no later than the last day of the month following the reporting period in which the noncompliant event occurred. The information provided in the DMR shall include, at a

minimum: the type of violation, the duration of the violation, the cause of the violation, and any corrective action(s) or preventative measure(s) taken to address the violation.

- (B) The permittee shall notify the Bureau of Materials Management and Compliance Assurance, Water Permitting and Enforcement Division, within 72 hours and in writing within thirty days of the discharge of any substance listed in the application, but not listed in the permit, if the concentration or quantity of that substance exceeds two times the level listed in the application.
- (C) If any sample analysis indicates that an aquatic toxicity effluent limitation in Section 5 of this permit has been exceeded, or that the test was invalid, another sample of the effluent shall be collected and tested for aquatic toxicity and associated chemical parameters, as described above in Section 7, and the results reported to the Bureau of Materials Management and Compliance Assurance (Attn: DMR Processing), at the address listed above, within 30 days of the exceedance or invalid test. Results of all tests, whether valid or invalid, shall be reported.
- (D) If any two consecutive test results or any three test results in a twelve-month period indicate that an aquatic toxicity limit has been exceeded, the permittee shall immediately take all reasonable steps to eliminate toxicity wherever possible and shall also submit a report, for the review and written approval of the Commissioner, which describes in detail the steps taken or that shall be taken to eliminate the toxic impacts of the discharge on the receiving water and it shall also include a proposed schedule for implementation. Such report shall be submitted in accordance with the timeframe set forth in section 22a-430-3(j)(10)(C) of the RCSA. The permittee shall implement all actions in accordance with the approved report and schedule.

This permit is hereby issued on November 2, 2023.



Tracy Babbidge
Deputy Commissioner
Department of Energy & Environmental Protection

TB/PB

National Pollutant Discharge Elimination System Fact Sheet

SECTION 1 FACILITY SUMMARY

<i>APPLICANT</i>	FirstLight CT Hydro LLC
<i>PERMIT NO.</i>	CT0030806
<i>APPLICATION NO.</i>	202203789
<i>DATE APPLICATION RECEIVED</i>	April 01, 2022
<i>LOCATION ADDRESS</i>	907 Bantam Road, Litchfield, CT 06750 Bantam Station
<i>FACILITY CONTACT</i>	Daniel Timlake Office Phone: 860-350-3617 Email: daniel.timlake@firstlightpower.com
<i>MAILING ADDRESS</i>	143 West Street, Suite E New Milford, CT 06776
<i>DMR CONTACT</i>	Kevin Gerardi Office Phone: 860-350-3631 Email: kevin.gerardi@firstlightpower.com
<i>SECRETARY OF STATE BUSINESS ID</i>	1304727
<i>PERMIT TERM</i>	5 Years
<i>PERMIT CATEGORY</i>	Minor NPDES
<i>SIC CODE/NAICS</i>	4911, 221111
<i>APPLICABLE EFFLUENT GUIDELINES</i>	N/A
<i>PERMIT TYPE</i>	New Issuance
<i>OWNERSHIP</i>	Private
<i>RECEIVING WATER</i>	DSN Nos.: 101-103 Bantam River
<i>WATERBODY SEGMENT ID'S</i>	CT6705-00_02
<i>WATERBODY CLASSIFICATION</i>	AA
<i>DISCHARGE LOCATIONS</i>	DSN 101 Lat: 41.72327 N Long: 73.23915 DSN 102 Lat: 41.72327 N Long: 73.23914 DSN 103 Lat: 41.72329 N Long: 73.23910
<i>COMPLIANCE ACTIONS</i>	N/A
<i>DEEP STAFF ENGINEER</i>	Patrick Bieger Patrick.bieger@ct.gov

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1.1 PERMIT FEES

Application Fee:

Filing Fee	Invoice No.: April 07, 2021	Amount: \$1,300	Date Paid: April 4, 2022
Processing Fee	Invoice No.: N/A	Amount: \$1,300	Date Paid: June 28, 2022

Annual Fee:

	WASTEWATER CATEGORY (per 22a-430-7)	FLOW CATEGORY	DSN	ANNUAL FEE (22a-430-7 & CGS 22a-6f)
	<i>Floor Drain Wastewater</i>	2,000 gpd	101-102	\$0
	<i>Non-contact Cooling Water</i>	3,880 gpd	103	\$775
TOTAL				\$775

1.2 OTHER PERMITS

Comprehensive Wastewater Discharge General Permit (“Comprehensive General Permit”) No.: CTCSSW0010.

This permit covers the non-contact cooling water discharge DSN 103. Once authorized under this permit, DSN 103 will no longer be authorized under the Comprehensive General Permit.

1.3 APPLICATION INFORMATION

On April 01, 2022, the Department of Energy and Environmental Protection (“DEEP”) received an application (Application No. 202203789) from FirstLight CT Hydro LLC (“Permittee”, “Applicant”) for a facility in Litchfield for authorization to be covered under a NPDES permit. Consistent with the requirements of § 22a-6g of the Connecticut General Statutes (CGS), the applicant caused a Notice of Permit Application to be published in the Register Citizen on March 15, 2022. On February 1, 2023, the application was determined to be timely and administratively sufficient.

The permittee seeks authorization for the following in Application No. 202203789:

DSN	PROPOSED AVERAGE DAILY FLOW (gpd)	PROPOSED MAXIMUM DAILY FLOW (gpd)	PROPOSED WASTESTREAMS	TREATMENT TYPE	DISCHARGE TO
101	500	1,000	Turbine Leakage	NA	Bantam River
102	500	1,000	Turbine Leakage	NA	Bantam River
103	2,000	3,880	Non-Contact Cooling Water	NA	Bantam River

1.4 COMPLIANCE HISTORY

The applicant is required to permit this facility under Consent Order Number: WC5435.

1.5 DESCRIPTION OF INDUSTRIAL PROCESS

FirstLight CT Hydro LLC is a business that performs hydroelectric generation. This wastewater is discharged to the Bantam River by way of DSN Nos. 101-103 under this proposed permit.

1.6 FACILITY DESCRIPTION

The facility is a Federal Energy Regulatory Commission (FERC) licensed hydroelectric generation plant in Town of Litchfield. The facility is a run-of-river-station, meaning it operates based on the water level and flow of its intake stream (Bantam River) and consists of one turbine. The facility started operation in 1905 and has not been in operation since 2020.

1.7 FACILITY CHANGES

This is a new permit, hence there were no requested changes to the facility for this permit issuance.

1.8 TREATMENT SYSTEM DESCRIPTION

The discharge consists of turbine leakage and non-contact cooling water both made solely of river water. There is no treatment system at the facility.

1.9 GENERAL ISSUES RELATED TO THE APPLICATION

1.9.1 FEDERALLY RECOGNIZED INDIAN LAND

The facility is not located on federally recognized Indian land.

1.9.2 COASTAL AREA/COASTAL BOUNDARY

The facility is not located in a coastal area or coastal boundary.

1.9.3 ENDANGERED SPECIES

A Natural Diversity Data Base (NDDB) request was made during the application process. It was found that DEEP did not anticipate any negative impacts to State-listed species resulting from the discharges.

1.9.4 AQUIFER PROTECTION AREAS

The discharge is not located in an aquifer protection area.

1.9.5 CONSERVATION OR PRESERVATION RESTRICTION

The property is not subject to a conservation or preservation restriction.

1.9.6 PUBLIC WATER SUPPLY WATERSHED

The facility is not located in a public supply watershed.

SECTION 2 RECEIVING WATER BODY INFORMATION

The water classification of section CT6705-00_02 of the Bantam River is AA. Class AA waters are designated for: existing or proposed drinking water supplies, habitat for fish and other aquatic life and wildlife; recreation; and industrial and agricultural water supply. This segment of the Bantam River is not impaired and is meeting water quality standards. The discharge is not subject to a Total Maximum Daily Load (TMDL).

SECTION 3 PERMIT CONDITIONS AND EFFLUENT LIMITATIONS

3.1 FEDERAL EFFLUENT LIMIT GUIDELINES

No categories found under the Effluent Limit Guidelines and Standards of Title 40 Code of Federal Regulations (CFR) Chapter 1 Subchapter N match the description of wastewaters discharged by DSNs 101-103. 40 CFR § 423 Steam Electric Power Generating Point Source Category was reviewed for applicability as the facility is a hydroelectric power plant. Under the Applicability Section in 423.10, it was determined that this category applies to electricity resulting primarily from fossil-type fuels or nuclear fuel. The applicant uses water turbines to generate electricity; therefore, this activity would not fall under 40 CFR § 423. There is no applicable federal effluent limit guideline for the proposed discharges.

3.2 POLLUTANTS OF CONCERN

The following pollutants are included as monitoring pollutants in the permit for the reasons noted below:

POLLUTANT	REASON FOR INCLUSION			
	POLLUTANT WITH AN APPLICABLE TECHNOLOGY-BASED LIMIT	POLLUTANT WITH A WASTE LOAD ALLOCATION FROM A TMDL	POLLUTANT IDENTIFIED AS PRESENT IN THE EFFLUENT THROUGH SAMPLING	POLLUTANT OTHERWISE EXPECTED TO BE PRESENT IN THE EFFLUENT
There are no pollutants of concern.				

3.3 BASIS FOR LIMITS

Technology and water-quality based requirements are considered when developing permit limits. Technology-based limits represent the minimum level of control imposed under the Clean Water Act (“CWA”). Industry-specific technology-based limits are set forth in 40 CFR § 405 – 471 (EPA’s Effluent Limitation Guidelines) and in Regulations of Connecticut State Agencies (RCSA) § 22a-430-4(s)(2). Water quality-based limits are designed to protect water quality and are determined using the procedures set for in EPA’s *Technical Support Document for Water Quality-Based Toxics Control*, 1991 (“TSD”). When both technology and water quality-based limits apply

to a particular pollutant, the more stringent limit would apply. In addition, water quality-based limits are required when any pollutant or pollutant parameter (conventional, non-conventional, toxic, and whole effluent toxicity) is or may be discharged at a level that causes, has reasonable potential to cause, or contributes to an excursion above any water quality criteria. Numeric water quality criteria are found in RCSA § 22a-429-9 of the *Connecticut Water Quality Standards*.

3.4 MIXING ZONE

A mixing zone has not been allocated in this permit.

3.5 RESONABLE POTENTIAL ANALYSIS

Pursuant to CWA § 301(b)(1)(C) and 40 CFR § 122.44(d)(1), NPDES permits must contain any requirements in addition to Technology-Based Effluent Limits (TBELs) that are necessary to achieve water quality standards established under § 303 of the CWA. *See also* 33 U.S.C. § 1311(b)(1)(C). In addition, limitations “must control any pollutant or pollutant parameter (conventional, non-conventional, or toxic) which the permitting authority determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any water quality standard, including State narrative criteria for water quality.” 40 CFR § 122.44(d)(1)(i). To determine if the discharge causes, or has the reasonable potential to cause, or contribute to an excursion above any water quality standard (WQS), EPA considers: 1) existing controls on point and non-point sources of pollution; 2) the variability of the pollutant or pollutant parameter in the effluent; 3) the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity); and 4) where appropriate, the dilution of the effluent by the receiving water. *See* 40 CFR § 122.44(d)(1)(ii).

If the permitting authority determines that the discharge of a pollutant will cause, has the reasonable potential to cause, or contribute to an excursion above WQSS, the permit must contain Water Quality-Based Effluent Limitations (WQBELs) or require additional monitoring if there is insufficient data to develop a WQBEL for that pollutant. *See* 40 CFR § 122.44(d)(1)(i).

The discharge includes non-contact cooling water. Due to the mixture of the non-contact cooling water discharge with the turbine discharge (not covered in this permit) and the percentage of the non-contact cooling water discharge to the average river flow (0.0008%) it was determined that temperature does not have a reasonable potential to cause an excursion of the water quality standards.

There are no parameters found present in the discharge that have a reasonable potential to cause or contribute to an excursion above the WQS.

3.6 WATERBODY AMBIENT CONDITIONS

The 7Q10 is 0.299 cfs.

The 7Q10 was found by using Cervione’s regression equation:

$7Q10 = 0.67A_{sd} + 0.01A_{till}$, where A_{sd} and A_{till} are the drainage areas of stratified drift and till covered bedrock.

Using USGS's StreamStats, the Stratified drift was 3.11% and the drainage area at the location of the discharge is 9.5 square miles.

3.7 WHOLE EFFLUENT TOXICITY

The permittee shall comply with effluent standards or prohibitions established by § 307(a) of the Federal Clean Water Act and may not discharge toxic pollutants in concentrations or combinations that are harmful to humans, animals, or aquatic life.

If toxicity is suspected in the effluent, DEEP may require the permittee to perform acute or chronic whole effluent toxicity testing. Toxicity is not expected in the effluent due to the characteristics of the discharged waters. The wastewater is comprised mainly of turbine leakage and non-contact cooling water. The source of these waters are taken from Bantam River upstream of the discharge. No chemicals or other substances are added to the water while in the turbine or when used for cooling. Therefore, the water discharged from the turbines and the non-contact cooling water are characteristically identical to the Bantam River.

3.8 WATER QUALITY BASED EFFLUENT LIMITATIONS

The CWA and federal regulations require that effluent limitations based on water quality considerations be established for point source discharges when such limitations are necessary to meet state or federal water quality standards that are applicable to the designated receiving water. This is necessary when less stringent TBELs would interfere with the attainment or maintenance of water quality criteria in the receiving water. *See* CWA § 301(b)(1)(C) and 40 CFR §§ 122.44(d)(1), 122.44(d)(5), 125.84(e) and 125.94(i).

Zinc is known to be present in the discharge at levels that can be found in intake water. The facility does not use chemicals or employ processes that would add zinc to the discharge; hence neither a numeric limit nor monitoring is required in the permit.

The water quality criteria for pH in a Class AA surface water is as naturally occurs. The source water used in generating the discharges is the Bantam River and there are no processes or chemical changes to the water as a result of the permitted activities that would result in a change of pH. Therefore, the pH of the discharges is expected to be "as naturally occurs" and monitoring is not required.

DEEP performed a site visit on August 17, 2023. DEEP observed the non-contact cooling water completely piped and there was no visible potential for the waste stream to come into contact with oil and grease from the turbine(s). Additionally, the collection pan for turbine leakage is above the floor in a fenced off area and its location is inaccessible to workers during turbine operation for safety. Based on discussion with representatives from the facility and DEEP's observations, it would not be possible for the waste stream to come in contact with oil and grease or other chemicals at DSN 101. DSN 102 is located behind a wall with direct access to the river and there is no potential for the discharge to come into contact with any chemicals during discharge. DEEP has determined that oil and grease is not a pollutant of concern at this facility and monitoring is not required.

3.9 TECHNOLOGY BASED EFFLUENT LIMITATIONS

Technology-based treatment requirements represent the minimum level of control that must be imposed under CWA §§ 301(b) and 402 to meet best practicable control technology currently available (BPT) for conventional pollutants and some metals, best conventional control technology (BCT) for conventional pollutants, and best available technology economically achievable (BAT) for toxic and non-conventional pollutants. *See* 40 CFR § 125 Subpart A.

Subpart A of 40 CFR § 125 establishes criteria and standards for the imposition of technology-based treatment requirements in permits under § 301(b) of the CWA, including the application of EPA promulgated Effluent Limitation Guidelines (ELGs) and case-by-case determinations of effluent limitations under CWA § 402(a)(1). EPA promulgates New Source Performance Standards (NSPS) under CWA § 306 and 40 CFR § 401.12. *See also* 40 CFR §§ 122.2 (definition of “new source”) and 122.29.

In the absence of published technology-based effluent guidelines, the permit writer is authorized under CWA § 402(a)(1)(B) to establish effluent limitations on a case-by-case basis using best professional judgment (BPJ).

There are no federal technology-based effluent limitations for hydroelectric generation wastewaters.

3.10 COMPARISON OF LIMIT

After preparing and evaluating applicable TBELs and WQBELs, the most stringent limits are applied in the permit. Pollutants of concern that only require monitoring without limits with are not included in the below table and mentioned above in Section 3.

PARAMETER	UNITS	LIMITS	
		WATER QUALITY <i>Water Quality Standards</i>	
		AVERAGE MONTHLY LIMIT OR pH Minimum	MAXIMUM DAILY LIMIT OR pH Maximum
Not Applicable			

3.11 SAMPLING FREQUENCY, TYPE, AND REPORTING

Sample Type	Sample Frequency	Parameter	Reason
Not Required			

The facility does not operate on a schedule of set hours and days. The operation of the facility is dependent on river height, volume, and velocity.

3.12 OTHER PERMIT CONDITIONS

There are no other unique conditions to this permit.

3.13 COMPLIANCE SCHEDULE

Does the Permit contain a compliance schedule? Yes No

3.14 ANTIDegradation

Implementation of the Antidegradation Policy follows a tiered approach pursuant to the federal regulations (40 CFR § 131.12) and consistent with the Connecticut Antidegradation Policy included in the Connecticut Water Quality Standards (§ 22a-426-8(b-f) of the RSCA). Tier 1 Antidegradation review applies to all existing permitted discharge activities to all waters of the state. Tiers 1 and 2 Antidegradation reviews apply to new or increased discharges to high quality waters and wetlands. Tiers 1 and 3 Antidegradation reviews apply to new or increased discharges to outstanding national resource waters.

This discharge is an existing discharge, and the Permittee does not propose an increase in volume or concentration of constituents. Therefore, only the Tier 1 Antidegradation Evaluation and Implementation Review was conducted to ensure that existing and designated uses of surface waters and the water quality necessary for their protection are maintained and preserved, consistent with Connecticut Water Quality Standard, Sec.22a-426-8(a)(1). This review involved:

- An evaluation of narrative and numeric water quality standards, criteria, and associated policies,
- The discharge activity both independently and in the context of other dischargers in the affected waterbodies, and
- Consideration of any impairment listed pursuant to § 303d of the federal Clean Water Act or any TMDL established for the waterbody.

The facility and its discharges have existed since 1905 with minor modifications to the turbine and the facility as a whole to modernize the equipment. The source water for the facility is the Bantam River and the facility does not add chemicals nor alter the water prior to it flowing through the turbine to generate electricity. DEEP does not believe the discharges will cause or contribute to an instream water quality violation or cause pollution in the Bantam River below the facility.

DEEP has determined that the discharges and activities are consistent with the maintenance, restoration, and protection of existing and designated uses assigned to the receiving water body by considering all relevant available data.

3.15 ANTI-BACKSLIDING

This is the first individual permit for the facility and its wastewater discharges; hence an anti-backsliding evaluation cannot be performed.

3.16 CATEGORICAL DISCHARGE CONDITIONS

There are no applicable federal or state categorical discharge regulations for these discharges.

3.17 COOLING WATER INTAKE STRUCTURE §316(B)

§ 316(b) of the Federal Water Pollution Control Act, U.S.C. § 1326(b) states that “any standard established pursuant to § 301 or 306 of this Act and applicable to a point source shall require that the location, design, construction, and capacity of cooling water intake structures (CWIS) reflect the best technology available (BTA) for minimizing adverse environmental impact”.

The federal regulations establish requirements under § 316(b) of the CWA for existing power generating facilities and existing manufacturing and industrial facilities with a cooling water intake structure having a design intake flow greater than 2 million gallons per day (MGD) of water from waters of the United States and use at least 25 percent of the water they withdraw exclusively for cooling purposes. § 125.92 defines “cooling water intake structure” as “the total physical structure and any associated constructed waterways used to withdraw cooling water from waters of the United States. The cooling water intake structure extends from the point at which water is first withdrawn from waters of the United States up to and including the intake pumps.” § 125.90(b), states “Cooling water intake structures not subject to requirements under §§ 125.94 through 125.99 or subparts I or N of this part must meet requirements under § 316(b) of the CWA established by the Director on a case-by-case, best professional judgment (BPJ) basis.”

The August 15, 2014, 316(b) final rule applies to existing facilities that withdraw more than 2 MGD of water and uses at least 25% of the actual intake flow exclusively for cooling purposes. In July 2022, EPA published guidance to the Region and state in the Memorandum “Transmittal of the Revised Framework for Best Professional Judgment for Cooling Water Intake Structures at Hydroelectric Facilities.” This document maintains EPA’s interpretation that the 2014 rule’s substantive provisions were not intended to apply to hydroelectric facilities and that instead CWIS at hydroelectric facilities are subject to site—specific requirements set on a BPJ basis pursuant to 40 CFR § 125.90(b). The memorandum continues to give 4 factors to consider in developing BTA on a BPJ basis and are provided below.

- (1) Volume of cooling water used relative to other power generation facilities and relative to total water use at the facility.

The amount of cooling water used at the facility is comparable to the other hydroelectric facilities in Connecticut. The maximum water that could run through the facility is 56,870,000 gallons per day and the maximum flow of non-contact cooling water is 3,880 gallons per day. The percentage of cooling water used at the facility during maximum flow is 0.0068%.

- (2) Cooling water withdrawn relative to waterbody flow.

The application states the percentage of cooling water utilized would be approximately 0.0008% of the river’s flow.

(3) Location of the intake structure.

The intake structure is located within the facility's penstock.

(4) Technologies at the facility.

The facility's penstock includes trash racks to limit the flow of organisms and debris through the penstock. The trash racks are 6" apart and are cleared when the pressure differential inhibits operations. Additionally, the NCCW is gravity fed from the penstock. The flow and pressure would be negligible compared to the flow and pressure through the penstock itself.

Based on this information, DEEP's best professional judgement concludes that this facility meets BTA pursuant to 40 CFR § 125.90(b).

3.18 VARIANCES AND WAIVERS

The facility did not request a variance or a waiver.

3.19 E-Reporting

The permittee is required to electronically submit documents in accordance with 40 CFR Part 127.

SECTION 4 SUMMARY OF NEW PERMIT CONDITIONS AND LIMITS

The new permit requires the facility to comply with the water quality standards and to monitor and report daily flow semi-annually.



FINAL DETERMINATION & RECOMENDATION

DATE: October 17, 2023

TO: Tracy Babbidge, Deputy Commissioner, DEEP

THRU: Jennifer L. Perry, P.E., Chief, Bureau of Materials Management & Compliance Assurance

FROM: Audra Dickson, Director, Water Permitting and Enforcement Division

SUBJECT: Final Determination & Recommendation to issue the NPDES Permit to FirstLight CT Hydro LLC, Bantum Facility (Permit No. CT0030806).

On August 23, 2023, the Department of Energy & Environmental Protection's (DEEP) Water Permitting & Enforcement Division (WPED) published notice of its tentative decision to issue the National Pollutant Discharge Elimination System Permit (NPDES) for FirstLight CT Hydro LLC in the Register Citizen. The notice of tentative decision as well as a draft copy of the permit and its fact sheet were made available to the public for review. The notice provided a thirty-day public comment period. No public comments were received.

No petitions for hearing were received during the thirty-day comment period. The proposed final permit includes revisions from the draft permit on which the tentative decision was made. The revisions include the addition of flow limits and monitoring requirements for all three DSNs consistent with the Permittee's application and clarifying language was added to Section 3.D of the permit regarding the BTA for the cooling water intake structure. The Permittee has been notified of the changes. The proposed final permit is as stringent as the draft permit. The proposed factsheet includes edits to Section 3.5 to expand the discussion on temperature, Section 1.4 to address Consent Order No. WC5435, and minor edits to address typographical errors.

PB