National Pollutant Discharge Elimination System Factsheet

SECTION 1 FACILITY SUMMARY

APPLICANT	Firstlight CT Housatonic LLC
PERMIT NO.	CT0030821
APPLICATION NO.	202108464
DATE APPLICATION RECEIVED	07/23/2021
LOCATION ADDRESS	1 Roosevelt Drive Monroe, CT 06468
FACILITY CONTACT	Daniel Timlake Office Phone: 860 350 3617 Email: Daniel.timlake@firstlightpower.com
MAILING ADDRESS	143 West Street, Suite E New Milford, CT 06776
DMR CONTACT	Daniel Timlake Office Phone: 860 350 3617 Email: Daniel.timlake@firstlightpower.com
SECRETARY OF STATE BUSINESS ID	0607778
PERMIT TERM	5 Years
PERMIT CATEGORY	National Pollutant Discharge Elimination System ("NPDES") MINOR ("MI")
SIC & NAICS CODE(S)	4911
APPLICABLE EFFLUENT GUIDELINES	NA
PERMIT TYPE	Issuance
OWNERSHIP	Private
RECEIVING WATER	Housatonic River
WATERBODY SEGMENT ID'S	CT6000-00-5+L4_01
WATERBODY CLASSIFICATION	SB
DISCHARGE LOCATIONS	DSN 001 Latitude 41N 22' 56.75" Longitude 73W 10' 16.03" DSN 002 Latitude 41N 22' 57.26" Longitude 73W 10' 16.08" DSN 003 Latitude 41N 22' 57.62" Longitude 73W 10' 16.12" DSN 004 Latitude 41N 22' 56.90" Longitude 73W 10' 16.03" DSN 005 Latitude 41N 22' 57.30" Longitude 73W 10' 16.08"
COMPLIANCE SCHEDULE	N/A
DEEP STAFF ENGINEER	Patrick Bieger, Environmental Engineer Phone: 860 424 3805 Email: Patrick.bieger@ct.gov

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1.1 PERMIT FEES

***Application Fee**:*

Filing Fee	Invoice No.: DEP378666	Amount: $1,300	Date Paid: 7/23/2021
Processing Fee	Invoice No.: DEP379577	Amount: $3,925	Date Paid: 9/23/2021

Annual Fee:

	WASTEWATER CATEGORY (per RCSA sec. 22a-430-7)	FLOW CATEGORY	DSN	ANNUAL FEE (per RCSA sec. 22a-430-7 and CGS sec. 22a-6f)
	Floor Drain Wastewater		DSN002, 003, 004, 005	$0
	Non-Contact Cooling Water		DSN 001	$775
TOTAL				**$775**

1.2 APPLICATION SUBMITTAL INFORMATION

On July 23, 2021, the Department of Energy and Environmental Protection ("DEEP") received an application (Application 202108464) from Firstlight CT Housatonic LLC ("the Permittee", "the Applicant", "the facility") in Monroe for the issuance of its NPDES permit. Consistent with the requirements of Section 22a-6g of the Connecticut General Statutes ("CGS"), the Permittee published a Notice of Permit Application in the Connecticut Post on July 8, 2021. On October 14, 2021, the application was determined to be timely and administratively sufficient.

The Permittee seeks authorization for the following in Application 202108464:

DSN	PROPOSED AVERAGE DAILY FLOW (gpd)	PROPOSED MAXIMUM DAILY FLOW (gpd)	PROPOSED WASTESTREAMS	TREATMENT TYPE	DISCHARGE TO
001	2,876	18,920	Non-contact cooling water from Turbines 1-4	N/A	Housatonic River
002	0	417,600	Emergency pump out water	N/A	Housatonic River
003	0	417,600	Emergency pump out water	N/A	Housatonic River
004	10	12	Turbine 4 leakage	N/A	Housatonic River
005	30	36	Turbine 1-3 leakage	N/A	Housatonic River

1.3 OTHER PERMITS

The Permittee has permit coverage for other wastewater discharges under the following permitting mechanisms:

- Stormwater from construction activities on the site is permitted under the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (GSN003823); and
- The non-contact cooling water discharge from the site was covered under the Comprehensive General Permit for Discharges to Surface Water and Groundwater (CTCSW0019). This coverage is automatically terminated with the issuance of this permit.

The Permittee also has a Diversion permit (60000-008-HYD-IM) that authorizes the withdrawal of water from the Stevenson Hydroelectric Station at Lake Zoar.

1.4 DESCRIPTION OF INDUSTRIAL PROCESS

Firstlight CT Housatonic LLC is a business that performs hydroelectric generation. Wastewater is discharged to Housatonic River by way of DSNs 001-005 under this proposed permit.

1.5 FACILITY DESCRIPTION

The Applicant's facility is a Federal Energy Regulatory Commission ("FERC") licensed hydroelectric generation plant located at the southernmost edge of Lake Zoar, at the junction of Route 34 and the Housatonic River in Monroe. The facility is a dispatchable facility and is scheduled by the electricity market to run for the majority of operating hours. The turbines were placed into operation in 1937. There has been no major construction or changes to the facility since 1937; however, supplemental modernization improvements have occurred on the turbines.

The facility consists of four water powered turbines. Each turbine has three waste streams, turbine leakage from the generator bearing gasket, non-contact cooling water, and emergency discharges collected in the sumps located around each turbine. Turbine leakage and non-contact cooling water are generated 24/7, with a manual shut off that is used when the facility is not generating electricity. Turbines 1-3 are identical water lubricated turbines, while Turbine 4 is an oil lubricated turbine. The oil is self-contained in the turbine and does not mix with any waters leaving the facility. The discharges from the facility enter the Housatonic River via three separate discharge locations. The first location is below the facility where turbine leakage flows down the turbines and discharges through the facility's tailrace. The second and third location are from discharge pipes on the eastern wall of the facility. These pipes discharge roughly 50 feet above the Housatonic River.

DSN 001 represents the confluence of all non-contact cooling water generated from Turbines 1-4, before it comingles with other wastewaters and discharges to the Housatonic River through the tailrace.

DSN 002 and 003 represent emergency pump out discharges. These activities should only occur if the facility floods or during other emergency events. Emergency pump out water from Turbines 1 and 2 are collected in dedicated sumps and commingle in a pipe that discharges on the east side of the building to the Housatonic River via DSN 002. Turbines 3 and 4 are collected in dedicated sumps and commingle in a pipe that also discharges on the east side of the building to the Housatonic River via DSN 003.

The routine leakage discharge from Turbine 4 is represented as DSN 004. The leakage collects in the sump of Turbine 4 and discharges via the Turbine 3 and 4 emergency pump out discharge pipe (DSN 003). The sampling location for DSN 003 and DSN 004 are the same. Compliance with the monitoring requirements for DSN 004 requires sampling to be completed when there is no flow from the emergency pump out system from Turbines 3 and 4.

Leakage from Turbines 1-3 drains beneath the turbines and is discharged via the tailrace. These discharges are represented as DSN 005. They discharge at a low volume (~12 gpd per turbine). There is no dedicated sample location since they drain directly into the tailrace. However, Turbines 1-3 are lubricated by water only and their leakage is not expected to contain oil and grease.

1.6 FACILITY CHANGES

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

1.7 TREATMENT SYSTEM DESCRIPTION

The discharge consists of only turbine leakage made solely of river water. There is no treatment system at the facility.

1.8 COMPLIANCE HISTORY

Is the Permittee subject to an ongoing enforcement action? ☒Yes ☐No

Consent Order Number WC5435 ("the order"), issued November 9, 2006, required the Permittee to investigate all discharges from hydroelectric facilities, including Stevenson Station, and submit discharge permit applications for all facilities with unpermitted wastewater discharges. DEEP received the report "Investigation and Remediation of Discharges at Ten Hydroelectric Stations" on June 6, 2008, an addendum "Investigation and Remediation of Discharges at Ten Hydroelectric Stations Addendum" required by Paragraph B.2.d of the order on November 2, 2009, and a subsequent report with an updated monitoring plan on March 29, 2024. DEEP issued an approval on May 2, 2024, indicating that the Permittee was in compliance with Paragraph B.2.d. of the order. The reports identified the discharges of turbine, non-contact cooling water, and building leakage from this facility.

1.9 GENERAL ISSUES RELATED TO THE APPLICATION

1.9.1 FEDERALLY RECOGNIZED INDIAN LAND

As provided in the permit application, the site is not located on federally recognized Indian land.

1.9.2 COASTAL AREA/COASTAL BOUNDARY

The activity is not located within a coastal boundary as defined in CGS 22a-94(b).

1.9.3 ENDANGERED SPECIES

As provided in the permit application, the site is located within an area identified as a habitat for endangered, threatened, or special concern species according to the 2020 *Federal Listed Species and Natural Communities Map*. The review determined that there would be no anticipated negative impacts to State-listed species resulting from the proposed activity at the Permittee's site.

1.9.4 AQUIFER PROTECTION AREAS

As provided in the permit application, the site is not located within a protected area identified on a Level A or B map.

1.9.5 CONSERVATION OR PRESERVATION RESTRICTION

As provided in the permit application, the property is not subject to a conservation or preservation restriction.

1.9.6 PUBLIC WATER SUPPLY WATERSHED

As provided in the permit application, the facility is not located within a public water supply watershed.

SECTION 2 RECEIVING WATER BODY INFORMATION

The water classification of section CT6000-00-5+L4_01 of the Housatonic River is SB. Class SB waters are designated for habitat for marine fish, other aquatic life, and wildlife; commercial shellfish harvesting; recreation; industrial water supply; and navigation. This segment of the Housatonic River is listed on the State's 305(b) list of impaired waters and is impaired for its designated use of recreation (final-2022-iwqr-appendix-a-1-connecticut-305b-assessment-results-for-rivers-and-streams.pdf). The causes of impairment are the presence of nutrients, algae, and chlorophyll-A.

This segment of the Housatonic River is also subject to A Total Maximum Daily Load Analysis to Achieve Water Quality Standards for Dissolved Oxygen in Long Island Sound, December 2000 (Total Maximum Daily Load for Long Island Sound (ct.gov)). The discharge from this Permittee is characteristically similar to the Housatonic River and there are no chemical additions to the water during the hydroelectric generation process. Based on a review of the information provided in the application, the facility is not adding any additional pollutants or nutrients to the receiving stream.

SECTION 3 PERMIT CONDITIONS AND EFFLUENT LIMITATIONS

3.1 EFFLUENT GUIDELINES

No categories found under the federal 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 001-004. The Steam Electric Power Generating Point Source Category under 40 CFR Part 423 was reviewed for applicability as the facility is a hydroelectric power plant. Under the applicability in 40 CFR Part 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 Part 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
pH			X	
Oil and Grease				X
Temperature			X	
Temperature Differential			X	

3.3 BASIS FOR LIMITS

Technology and water-quality based requirements are considered when developing permit limits. Technology-based effluent limits ("TBELs") represent the minimum level of control imposed under the Clean Water Act ("CWA"). Industry-specific technology-based limits are set forth in 40 CFR Sections 405 – 471 (EPA's Effluent Limitation Guidelines) and in RCSA Section 22a-430-4(s)(2). Water quality-based limits are designed to protect water quality and are determined using the procedures set forth 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 Section 22a-429-9 of the *Connecticut Water Quality Standards* ("WQS").

3.4 ZONE OF INFLUENCE

A zone of influence of 300 cubic feet per second (cfs) fs or 8,078,956 gallons per hour (gph) has been allocated to DSN 001 This is based on the turbines' minimum flow through flow rate required by the facility's FERC permit. The discharge of the non-contact cooling water from DSN 001 mixes with the 300 cfs of river water flowing through the facilities' draft tubes before discharging below the building and entering the Housatonic River.

3.5 RESONABLE POTENTIAL ANALYSIS

Pursuant to CWA Section 301(b)(1)(C) and 40 CFR Section 122.44(d)(1), NPDES permits must contain any requirements in addition to TBELs that are necessary to achieve water quality standards established under Section 303 of the CWA. See also 33 United States Code ("USC") Section 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 Section 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 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 Section 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 Limits ("WQBELs") or require additional monitoring if there is insufficient data to develop a WQBEL for that pollutant. See 40 CFR Section 122.44(d)(1)(i).

Zinc, copper, and nitrate are present in the Housatonic River upstream of the facility and as a result also present in the discharge. A reasonable potential analysis was not conducted on these pollutants because the facility does not add these chemicals to its processes or wastewater, and the only source of these pollutants is the river water used as the facility's intake water.

Monitoring for pH, temperature, and oil and grease is included in the permit to further characterize the discharges.

3.6 WATERBODY AMBIENT CONDITIONS

Parameter	Value
7Q10	128 cfs
Temperature	40-78.6 deg. F.

3.7 TEMPERATURE

The facility discharges non-contact cooling water; therefore, a reasonable potential analysis was conducted for the temperature discharge of DSN 001.

Section 22a-426-9(a)(1) of the WQS states there shall be no changes from natural conditions that would impair any existing or designated uses assigned to Class SB waters and, in no case exceed 83 degrees Fahrenheit (deg. F.), or in any case raise the temperature of surface water more than 4 deg. F. During the period including July, August, and September, the temperature of the receiving water shall not be raised more than 1.5 deg. F. Additionally, the allowable temperature increase resulting from discharges in the estuarine segments of the Housatonic River shall be consistent with the criteria for non-tidal segments.

The Permittee discharges into the estuarine segment of the Housatonic River and therefore will follow the non-tidal segment requirement, which does not include the 1.5 deg. F. restriction.

Based on the FERC regulation, Firstlight CT Housatonic LLC must maintain a flow of 300 cfs through the turbines when possible and the facility has to stop the generation of electricity if less than 400 cfs of water is flowing through the turbines. Non-contact cooing water will discharge when there is waterflow through the turbines but there will be minimal heat transfer at flows below 400 cfs as the turbine will not be generating heat. Therefore, there will be at least 300 cfs (8,078,956 gph) of water available for mixing when the facility is discharging cooling water. This flow has been defined as the zone of influence for the reasonable potential analysis.

A review of Housatonic River temperature data from United State Geological Survey ("USGS") from June 2022 to October 2022, showed the highest and lowest temperature to be 40 deg. F. and 78.6 deg. F., respectively (http://waterdata.usgs.gov/ct/nwis/). For the purpose of this analysis, 32 deg. F. was assumed to be the minimum temperature of the river during winter months.

The maximum recorded volume of non-contact cooling water discharged from this facility is 18,920 gpd. The maximum observed temperature of non-contact cooling water observed between July 2023 and October 2024 was 81 deg. F. This temperature is considered representative of the current commingled non-contact cooling water discharge, which were commingled in November 2023. A conservative assumption of a max discharge temperature of 100 deg. F. was used in the reasonable potential analysis. The Permittee has been able to meet this limit under the Comprehensive General Permit for Discharges to Surface Water and Ground Water.

The following mixing equation is used to determine if the maximum discharge temperatures have the potential to exceed 83 deg. F. and raise the receiving water by more than 4 deg. F.:

Mixing equation

$QT = Q_1T_1 + Q_2T_2$

Where Q is the summation of the river flow rate and effluent flow rate, ($Q = Q_1+Q_2$).

T is the river temperature after discharge in deg. F.

Q_1 is the zone of influence in gph.

T_1 is the temperature of the receiving stream prior to discharge in deg. F.

Q_2 is the max effluent flow rate in gph.

T_2 is the effluent temperature in deg. F.

	Q_1	T_1	Q_2	T_2	Q	T	Delta T
Winter	8,078,956	32	789	100	8,079,745	32.006	0.006
Summer	8,078,956	78.6	789	100	8,079,745	78.602	0.002

The results above show that the predicted temperature increase would be 0.006 deg. F. in the winter at the lowest receiving stream temperature and 0.002 deg. F. in the summer during the highest river temperature. This results in a maximum river temperature of 32.006 deg. F. and 78.602 deg. F., respectively. The calculated max receiving water temperature and delta T is consistent with WQS Section 22a-426-9(a)(1), which states that the discharge must not raise the temperature of the receiving stream more than 4 deg. F or exceed 83 deg. F. Therefore, the facility does not have reasonable potential to violate the WQS. The permit will contain a monitoring requirement for temperature to measure discharge temperature to evaluate compliance with the WQS.

3.8 WHOLE EFFLUENT TOXICITY

The Permittee shall comply with effluent standards or prohibitions established by CWA Section 307(a) and RCSA Section 22a-430-4(l) 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 of turbine leakage and non-contact cooling water. The source of the wastewater is intake water from Lake Zoar, located 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 similar to the Housatonic River.

3.9 WATER QUALITY BASED EFFLUENT LIMITATIONS (WQBELs)

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 Section 301(b)(1)(C) and 40 CFR Section 122.44(d)(1),122.44(d)(5), 125.84(e) and 125.94(i).

There is reasonable potential for the Permittee to exceed the water quality criteria for the maximum temperature allowed to be discharged into a class SB river. A limit of 83 deg. F. will

be included in the permit as an end of pipe limit. This limit will ensure the discharge does not exceed the water quality criteria for temperature

3.10 TECHNOLOGY BASED EFFLUENT LIMITATIONS

Technology-based treatment requirements represent the minimum level of control that must be imposed under CWA Section 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 Section 125 Subpart A and RCSA Section 22a-430-4(l)(4)(A).

Subpart A of 40 CFR Section 125 establishes criteria and standards for the imposition of technology-based treatment requirements in permits under Section 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 Section 402(a)(1). EPA promulgates New Source Performance Standards ("NSPS") under CWA Section 306 and 40 CFR Section 401.12. See also 40 CFR Section 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 Section 402(a)(1)(B) and RCSA Section 22a-430-4(m) to establish effluent limitations on a case-by-case basis using best professional judgment ("BPJ").

There are no federal TBELs for hydroelectric generation wastewaters.

3.11 COMPARISON OF LIMITS

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. A summary of the calculations used in the reasonable potential analysis, or effluent limitations can be found in Section 3.5 of this factsheet.

PARAMETER	UNITS	LIMITS	
		WATER QUALITY ***Water Quality Standards***	
		AVERAGE MONTHLY LIMIT OR pH Minimum	**MAXIMUM DAILY LIMIT OR pH Maximum**
pH	S.U.	6.8	8.5

3.12 SAMPLING FREQUENCY, TYPE, AND REPORTING

Sample Type	Sample Frequency	Parameter	Reason
Grab Sample	Semi-annually	Oil and Grease	RCSA Sections 22a-430-4(l)(4)(A) and 22a-430-4(m)
		pH	RCSA Section 22a-430-4(l)(4)(A) and 22a-430-4(m)
	Weekly	Temperature	RCSA Section 22a-430-4(l)(4)(A) and 22a-430-4(m)

3.13 OTHER PERMIT CONDITIONS

Semi-annual monitoring shall be conducted between April 1 and September 30 and October 1 and March 31. April through September data shall be reported on the September DMR. October through March Data shall be reported on the March DMR.

Flow reporting for all DSNs can be estimated and any calculations used for the estimation attached to the Permittee's DMRs.

Flows from DSN 005 are required to be broken up and reported by individual turbine flow and submitted as an attachment to the DMR.

3.14 COMPLIANCE SCHEDULE

The permit has a compliance schedule that follows the requirements found under 40 CFR Section 122.47 and RSCA Section 22a-430-4(l)(3).

Does the Permit contain a compliance schedule? ☐ Yes ☑ No

3.15 ANTIDEGRADATION

Implementation of the Antidegradation Policy follows a tiered approach pursuant to the federal regulations (40 CFR Section 131.12) and consistent with the Connecticut Antidegradation Policy included in the Connecticut Water Quality Standards (Section 22a-426-8(b-f) of the Regulations of Connecticut State Agencies). 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, while 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 Standards, RCSA 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 Section 303d of the federal Clean Water Act or any TMDL established for the waterbody.

The Applicant and its discharges have existed since 1937 with minor modifications to the turbine and the facility. The source water for the Applicant's facility is Lake Zoar upstream of the facility, and the Applicant does not add chemicals nor alter the water prior to it discharging back to the Housatonic River. DEEP has determined the discharges will not have a negative impact on the water quality of the Housatonic River.

DEEP has determined that the discharges and activities associated with this permit are consistent with the maintenance, restoration, and protection of the existing and designated uses of the Housatonic River.

3.16 ANTI-BACKSLIDING

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

3.17 CATEGORICAL DISCHARGE CONDITIONS

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

3.18 COOLING WATER INTAKE STRUCTURE SECTION 316(B)

Section 316(b) of the Federal Water Pollution Control Act, U.S.C. Section 1326(b) states that "any standard established pursuant to Section 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"s) for minimizing adverse environmental impact".

The federal regulations establish requirements under Section 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 of water from waters of the United States and use at least 25 percent of the water they withdraw exclusively for cooling purposes. Section 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."
Section 125.90(b), states "Cooling water intake structures not subject to requirements under Section 125.94 through 125.99 or subparts I or N of this part must meet requirements under Section 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 states 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 Section 125.90(b). The following factors are considered in establishing BTA on a BPJ basis in accordance with EPA's memo:

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 3,993,000,000 gallons per day and the maximum flow of NCCW is 18,920 gallons per day. The percentage of cooling water used at the facility during maximum flow is 0.0000047%; assuming only 1% of the maximum flow through the facility the maximum percentage of cooling water used would only be 0.00047%.
2. *Cooling water withdrawn relative to waterbody flow*. The percentage of cooling water utilized would be approximately 3% of the river's 7Q10 flow.
3. *Location of the intake structure.* This facility has two cooling water intake structures each within the facility's powerhouse intake structure, which also houses the turbine penstocks.
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 cleared when the pressure differential inhibits operations. The operating pressure ranges from 11-13 psi. Additionally, the NCCW is gravity fed to the turbines. The flow and pressure would be negligible compared to the flow and pressure through the penstock itself.

Based on this information, DEEP's BPJ concludes that this facility meets BTA pursuant to 40 CFR Section 125.90(b).

3.19 VARIANCES AND WAIVERS

The facility did not request a variance or a waiver.

3.20 E-REPORTING

The Permittee is required to electronically submit documents in accordance with 40 CFR Section 127.

SECTION 4 SUMMARY OF NEW PERMIT CONDITIONS AND LIMITS FROM THE PREVIOUS PERMIT

This facility has not previously been regulated by a NPDES permit.

SECTION 5 PUBLIC PARTICIPATION PROCEDURES

5.1 INFORMATION REQUESTS

The application has been assigned the following numbers by the Department of Energy and Environmental Protection. Please use these numbers when corresponding with this office regarding this application.

APPLICATION NO. 202108464 PERMIT ID NO. CT0030821

Interested persons may obtain copies of the application from Daniel Timlake Firstlight CT Housatonic, 143West Street, Suite E, New Milford, 06776.

The application is available for inspection by contacting Patrick Bieger at Patrick.bieger@ct.gov , at the Department of Energy and Environmental Protection, Bureau of Materials Management and Compliance Assurance, 79 Elm Street, Hartford, CT 06106-5127 from 8:30 - 4 :30, Monday through Friday.

Any interested person may request in writing that his or her name be put on a mailing list to receive notice of intent to issue any permit to discharge to the surface waters of the state. Such request may be for the entire state or any geographic area of the state and shall clearly state in writing the name and mailing address of the interested person and the area for which notices are requested.

5.2 PUBLIC COMMENT

Prior to making a final decision to approve or deny any application, the Commissioner shall consider written comments on the application from interested persons that are received within 30 days of this public notice. Written comments should be directed to Patrick Bieger, Environmental Engineer, Bureau of Materials Management and Compliance Assurance, Department of Energy and Environmental Protection, 79 Elm Street, Hartford, CT 06106-5127 or DEEP.IndustiralNPDESPublicComments@ct.gov and should indicate the permit ID No. CT0030821 in the subject line. The Commissioner may hold a public hearing prior to approving or denying an application if in the Commissioner's discretion the public interest will be best served thereby, and shall hold a hearing upon receipt of a petition signed by at least twenty five (25) persons. Notice of any public hearing shall be published at least thirty (30) days prior to the hearing.

Petitions for a hearing shall be submitted within thirty (30) days from the date of publication of this public notice and should include the application number noted above and also identify a contact person to receive notifications. Petitions may also identify a person who is authorized to engage in discussions regarding the application and, if resolution is reached, withdraw the petition. The Office of Adjudications will accept electronically-filed petitions for hearing in addition to those submitted by mail or hand-delivered. Petitions with required signatures may be sent to deep.adjudications@ct.gov; those mailed or delivered should go to the DEEP Office of Adjudications, 79 Elm Street, Hartford, CT 06106. If the signed original petition is only in an electronic format, the petition must be submitted with a statement signed by the petitioner that the petition exists only in that form. Original petitions that were filed electronically must also be mailed or delivered to the Office of Adjudications within thirty (30) days of electronic submittal. Additional information can be found at www.ct.gov/deep/adjudications.

The Connecticut Department of Energy and Environmental Protection is an Affirmative Action/Equal Opportunity Employer that is committed to complying with the requirements of the Americans with Disabilities Act (ADA). If you are seeking a communication aid or service, have limited proficiency in English, wish to file an ADA or Title VI discrimination complaint, or require some other accommodation, including equipment to facilitate virtual participation, please contact the DEEP Office of Diversity and Equity at 860-418-5910 or by email at deep.accommodations@ct.gov. Any person needing an accommodation for hearing impairment may call the State of Connecticut relay number - 711. In order to facilitate efforts to provide accommodation, please request all accommodations as soon as possible following notice of any agency hearing, meeting, program, or event.