

NPDES PERMIT

issued to

FirstLight Hydro Generating Company
c/o FirstLight Power Resources, Inc.
20 Church Street, 16th Floor
Hartford, Connecticut 06103

Facility ID: 096-079

Receiving Stream: Housatonic River

Receiving Water Body ID: CT6000-00_03

Location Address:

FirstLight Hydro Generating Company
Rocky River Station
200 Kent Road
New Milford, Connecticut 06776

Permit ID: CT0030287

Permit Expires: October 25, 2015

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, 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 an NPDES permit program.
- (B) FirstLight Hydro Generating Company, ("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
- (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 for Metals and Cyanide
 - (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 Environmental Protection ("Commissioner"). To request such approval, the Permittee and proposed transferee shall register such proposed transfer with the Commissioner, at least 30 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 Regulations of Connecticut State Agencies.

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 section 22a-430-3(a) and 22a-430-6 of the RCSA, except for "No Observable Acute Effect Level" (NOAEL) which is redefined below.
- (B) In addition to the above, the following definitions shall apply to this permit:

“---” in the limits column on the monitoring table means a limit is not specified but a value must be reported on the DMR.

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

“Annual” means sampling is required in the month of July.

“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.

“C-NOEC” means the highest concentration of effluent to which organisms are exposed in a life cycle or partial life cycle test which causes no adverse effect on growth, survival, or reproduction at a specific time of observation as determined from hypothesis testing where the results exhibit a linear dose-response relationship. However, where the test results do not exhibit a linear dose-response relationship, the Permittee must report the lowest concentration where there is no observable effect.

“Critical Test Concentration” (“CTC”) means the specified effluent dilution at which the Permittee is to conduct a single-concentration Aquatic Toxicity test.

“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.

“EC” means “Effect Concentration”.

“EC₅₀” means the point estimate of the toxicant concentration that would cause an observable adverse effect (e.g., death, immobilization or serious incapacitation) in 50% of the test organisms.

“Every other Month”, in the context of a sample frequency, means in the months of: February, April, June, August, October, and December.

“IC” means “Inhibition Concentration”.

“IC₂₅” means a point estimate of the toxicant concentration that would cause a 25% reduction in a non-lethal biological measurement of the test organism, such as reproduction or growth.

“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.

“Lowest Observed Effect Concentration” (“LOEC”) means the lowest concentration of an effluent or toxicant that results in adverse effects on the test organisms.

“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.

“NA” as a Monitoring Table abbreviation means “Not Applicable”.

“NR” as a Monitoring Table abbreviation means “Not Required”.

“No Observable Acute Effect Level” (“NOAEL”) means any concentration equal to or less than the critical test concentration in a single concentration (pass/fail) toxicity test conducted pursuant to section 22a-430-3(j)(7)(A)(i) RCSA demonstrating 90% or greater survival of test organisms at the CTC.

“No Observed Effect Concentration” (“NOEC”) means the highest tested concentration of an effluent

or toxicant at which no adverse effects are observed on the aquatic test organisms at a specific time of observation.

“Quarterly”, in the context of a sampling frequency, means sampling is required in the months of January, April, July, and October.

“Range During Month” (“RDM”), as a sample type, means the lowest and the highest values of all of the monitoring data for the reporting month.

“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.

“Semi-Annual” means sampling is required in the months of January and July.

SECTION 3: COMMISSIONER'S DECISION

- (A) The Commissioner has issued a final determination and found that the proposed system to treat such discharges will protect the waters of the state from pollution. The Commissioner’s decision is based on Application 199805262 for permit issuance received on December 28, 1998 and the administrative record established in the processing of that application.
- (B) The Commissioner hereby authorizes the Permittee to discharge in accordance with the provisions of this permit, the above referenced application, and all approvals issued by the Commissioner or the Commissioner’s authorized agent for the discharges and/or activities authorized by, or associated with, 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 CGS or regulations adopted thereunder which are then applicable.

SECTION 4: GENERAL EFFLUENT LIMITATIONS

- (A) 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.
- (B) 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.
- (C) The temperature of any discharge shall not increase the temperature of the receiving stream above 85 °F, or in any case, raise the normal temperature of the receiving stream more than 4 °F.

SECTION 5: SPECIFIC EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

- (A) The discharges are restricted by, and shall be monitored in accordance with the tables below. Additionally, the discharges shall not exceed and shall otherwise conform to the specific terms and conditions listed below:
 - (1) All samples shall be comprised of only the wastewater described in this table. 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.

- (2) 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 the Department of Environmental Protection personnel, the Permittee, or other parties.
- (3) The limits imposed on the discharges listed in this permit take effect on the issuance date of this permit. Hence, any sample taken after this date which, upon analysis, shows an exceedance of permit limit(s) will be considered non-compliance.
- (4) The monitoring requirements begin on the date of issuance of this permit if the issuance date is on or before the 12th day of a month. For permits issued on or after the 13th day of a month, monitoring requirements begin the 1st day of the following month.

Table A

Discharge Serial Number: **DSN 101-1** Monitoring Location: **1**
 Wastewater Description: **Service water strainer equalizing water; Units 1 & 2 stuffing box wastewater; Unit 1 & 2 headcover siphon wastewater; Unit 3 headcover leakage wastewater; Draft tube drain valve operating wastewater; House pump priming line leakage wastewater; Unit 1 & 2 cooling water; Unit 3 cooling water; Air compressor blowdown; Penstock drain valve wastewater; Draft tube wastewater; Groundwater**

Monitoring Location Description: **End of pipe discharge from sump pump #1** Zone of Influence: **Not Applicable**

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level ³	Monitoring Required with Toxicity Testing
		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		
Acute Aquatic Toxicity, <i>Daphnia pulex</i> CTC = 100% (NOAEL)	%	NA	NA	NR	NA	NOAEL ≥90%	Semi-annual	Grab		
Acute Aquatic Toxicity, <i>Pimephales promelas</i> CTC = 100% (NOAEL)	%	NA	NA	NR	NA	NOAEL ≥90%	Semi-annual	Grab		
Chronic Aquatic Toxicity, <i>Ceriodaphnia dubia</i> (C-NOEC)	%	NA	NA	NR	NA	---	Annual	Grab		
Chronic Aquatic Toxicity, <i>Pimephales promelas</i> (C-NOEC)	%	NA	NA	NR	NA	---	Annual	Grab		
Copper, Total	mg/L	NA	NA	NR	NA	---	Quarterly	Grab	0.004	✓
Duration of Discharge	hr/day	---	---	Daily/Monthly	Daily Flow	NA	NR	NA		
Flow, Average & Maximum ²	gpd	---	1,440,000 ²	Daily/Monthly	Daily Flow ²	NA	NR	NA		
Flow, Day of Sampling	gpd	NA	1,440,000 ²	Daily/Monthly	Daily Flow ²	NA	NR	NA		
Lead, Total	mg/L	NA	NA	NR	NA	---	Quarterly	Grab	0.001	✓
Oil and Grease, Total	mg/L	NA	10.0	Every other Month	Grab Sample Average	15.0	NR	Grab		✓
pH, Day of Sampling	SU	NA	NA	NR	NA	6.0-9.0	Quarterly	Grab		
Temperature, Day of Sampling	° F	NA	NA	NR	NA	---	Quarterly	Grab		
Tetrachloroethylene	µg/L	NA	NA	NR	NA	---	Semi-Annual	Grab		✓
Zinc, Total	mg/L	NA	NA	NR	NA	---	Quarterly	Grab	0.005	✓

Table A Footnotes and Remarks:

Footnotes:

¹ The first entry in this column is the 'Sample Frequency'. If a 'Reporting Frequency' does not follow this entry and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

² For this parameter, the Permittee shall maintain at the facility a record of the total flow for each day and shall submit the record of the total flow for each day and shall report the Average Daily Flow and the Maximum Daily Flow for each month. The Daily Flow shall be estimated using good engineering practices and in accordance with the manufacturer's performance data (Attachment 1). The maximum flow noted in this table is a combined maximum flow for both DSN 101 and DSN 104.

³ Minimum Level refers to Section 6(A)(3) of this permit.

Remarks:

1. DSN 101 and DSN 104 discharge wastewater of a similar composition. Therefore monitoring shall only be required for either one or the other discharges as follows: The following parameters shall not be monitored/reported for DSN 101, if they are also monitored/reported for DSN 104 on the day of sampling: pH and temperature. The following parameter shall not be monitored/reported for DSN 101, if it is also monitored/reported for DSN 104 on an every other month basis: Oil&Grease. The following parameters shall not be monitored/reported for DSN 101, if they are also monitored/reported for DSN 104 on a quarterly basis: Copper, Lead, and Zinc. The following parameters shall not be monitored/reported for DSN 101, if they are also monitored/reported for DSN 104 on a semi-annual basis: Acute Aquatic Toxicity and Tetrachloroethylene. The following parameter shall not be monitored/reported for DSN 101, if it is also monitored/reported for DSN 104 on an annual basis: Chronic Aquatic Toxicity. If the noted monitoring data is provided for DSN 104 and not for DSN 101, the DMR for DSN 101 shall clearly state that results are not provided for the noted parameters for DSN 101 because they have been reported for DSN 104.

2. The duration of the acute testing is 48 hours. Results for acute aquatic toxicity shall be reported on the DMR as % survival consistent with Paragraph 6(B)(5).

3. The duration of the chronic testing is 7 days. Results for chronic aquatic toxicity shall be reported on the DMR as the C-NOEC (Chronic-No Observed Effect Concentration).

4. The Permittee shall state on the cover letter to the DMR whether groundwater is a component of the sample tested during the semi-annual monitoring event.

Table B

Discharge Serial Number: **DSN 102-1** | Monitoring Location: **1**
 Wastewater Description: **Flood waters from the station powerhouse, including residual wastewaters described in Tables A & C**
 Monitoring Location Description: **Sample port on the emergency discharge piping** | Zone of Influence: **Not Applicable**

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level ³	Monitoring Required with Toxicity Testing
		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		
Acute Aquatic Toxicity, <i>Daphnia pulex</i> CTC = 100%	%	NA	NA	NR	NA	NOAEL ≥90%	Monthly	Grab		
Acute Aquatic Toxicity, <i>Pimephales promelas</i> CTC = 100%	%	NA	NA	NR	NA	NOAEL ≥90%	Monthly	Grab		
Copper, Total	mg/L	NA	NA	NR	NA	---	Monthly	Grab	0.004	✓
Duration of Discharge	hr/day	---	---	Daily/Monthly	Daily Flow	NA	NR	NA		
Flow, Average & Maximum ²	gpd	---	1,656,000	Daily/Monthly	Daily Flow ²	NA	NR	NA		
Flow, Day of Sampling	gpd	NA	1,656,000	Daily/Monthly	Daily Flow ²	NA	NR	NA		
Lead, Total	mg/L	NA	NA	NR	NA	---	Monthly	Grab	0.001	✓
Oil and Grease, Total	mg/L	NA	10.0	Monthly	Grab Sample Average	15.0	NR	Grab		✓
pH, Day of Sampling	SU	NA	NA	NR	NA	6.0-9.0	Monthly	Grab		
Temperature, Day of Sampling	° F	NA	NA	NR	NA	---	Monthly	Grab		
Tetrachloroethylene	µg/L	NA	NA	NR	NA	---	Monthly	Grab		✓
Zinc, Total	mg/L	NA	NA	NR	NA	---	Monthly	Grab	0.005	✓

Table B Footnotes:

Footnotes:

¹ The first entry in this column is the 'Sample Frequency'. If a 'Reporting Frequency' does not follow this entry and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

² For this parameter, the Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Average Daily Flow and the Maximum Daily Flow for each month. The Daily Flow shall be estimated using good engineering practices and in accordance with the manufacturer's performance data (Attachment 2).

³ Minimum Level refers to Section 6(A)(3) of this permit.

Remarks:

1. This discharge point is only to be used in the event of a flooding emergency at the station. The discharge must be managed in accordance with the terms and conditions of Section 9(B) of this permit.

2. The duration of the acute testing is 48 hours. Results for acute aquatic toxicity shall be reported on the DMR as % survival consistent with Paragraph 6(B)(5).

Table C

Discharge Serial Number: **DSN 104-1** Monitoring Location: **1**

Wastewater Description: **Service water strainer equalizing water; Units 1 & 2 stuffing box wastewater; Unit 1 & 2 headcover siphon wastewater; Unit 3 headcover leakage wastewater; Draft tube drain valve operating wastewater; House pump priming line leakage wastewater; Unit 1 & 2 cooling water; Unit 3 cooling water; Air compressor blowdown; Penstock drain valve wastewater; Draft tube wastewater; Groundwater**

Monitoring Location Description: **End of pipe discharge from sump pump #2** Zone of Influence: **Not Applicable**

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level ³	Monitoring Required with Toxicity Testing
		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		
Acute Aquatic Toxicity, <i>Daphnia pulex</i> CTC = 100% (NOAEL)	%	NA	NA	NR	NA	NOAEL ≥90%	Semi-annual	Grab		
Acute Aquatic Toxicity, <i>Pimephales promelas</i> CTC = 100% (NOAEL)	%	NA	NA	NR	NA	NOAEL ≥90%	Semi-annual	Grab		
Chronic Aquatic Toxicity, <i>Ceriodaphnia dubia</i> (C-NOEC)	%	NA	NA	NR	NA	---	Annual	Grab		
Chronic Aquatic Toxicity, <i>Pimephales promelas</i> (C-NOEC)	%	NA	NA	NR	NA	---	Annual	Grab		
Copper, Total	mg/L	NA	NA	NR	NA	---	Quarterly	Grab	0.004	✓
Duration of Discharge	hr/day	---	---	Daily/Monthly	Daily Flow	NA	NR	NA		
Flow, Average & Maximum ²	gpd	---	1,440,000 ²	Daily/Monthly	Daily Flow ²	NA	NR	NA		
Flow, Day of Sampling	gpd	NA	1,440,000 ²	Daily/Monthly	Daily Flow ²	NA	NR	NA		
Lead, Total	mg/L	NA	NA	NR	NA	---	Quarterly	Grab	0.001	✓
Oil and Grease, Total	mg/L	NA	10.0	Every other Month	Grab Sample Average	15.0	NR	Grab		✓
pH, Day of Sampling	SU	NA	NA	NR	NA	6.0-9.0	Quarterly	Grab		
Temperature, Day of Sampling	° F	NA	NA	NR	NA	---	Quarterly	Grab		
Tetrachloroethylene	µg/L	NA	NA	NR	NA	---	Semi-Annual	Grab		✓
Zinc, Total	mg/L	NA	NA	NR	NA	---	Quarterly	Grab	0.005	✓

Table C Footnotes and Remarks:

Footnotes:

¹ The first entry in this column is the 'Sample Frequency'. If a 'Reporting Frequency' does not follow this entry and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

² For this parameter, the Permittee shall maintain at the facility a record of the total flow for each day and shall submit the record of the total flow for each day and shall report the Average Daily Flow and the Maximum Daily Flow for each month. The Daily Flow shall be estimated using good engineering practices and in accordance with the manufacturer's performance data (Attachment 1). The maximum flow noted in this table is a combined maximum flow for both DSN 101 and DSN 104.

Remark:

1. DSN 101 and DSN 104 discharge wastewater of a similar composition. Therefore monitoring shall only be required for either one or the other discharge as follows: The following parameters shall not be monitored/reported for DSN 104, if they are also monitored/reported for DSN 101 on the day of sampling: pH and temperature. The following parameter shall not be monitored/reported for DSN 104, if it is also monitored/reported for DSN 101 on an every other month basis: Oil&Grease. The following parameters shall not be monitored/reported for DSN 104, if they are also monitored/reported for DSN 101 on a quarterly basis: Copper, Lead, and Zinc. The following parameters shall not be monitored/reported for DSN 104, if they are also monitored/reported for DSN 101 on a semi-annual basis: Acute Aquatic Toxicity and Tetrachloroethylene. The following parameter shall not be monitored/reported for DSN 104, if it is also monitored/reported for DSN 101 on an annual basis: Chronic Aquatic Toxicity. If the noted monitoring data is provided for DSN 101 and not for DSN 104, the DMR for DSN 104 shall clearly state that results are not provided for the noted parameters for DSN 104 because they have been reported for DSN 101.

2. The duration of the acute testing is 48 hours. Results for acute aquatic toxicity shall be reported on the DMR as % survival consistent with Paragraph 6(B)(5).

3. The duration of the chronic testing is 7 days. Results for chronic aquatic toxicity shall be reported on the DMR as the C-NOEC (Chronic-No Observed Effect Concentration).

4. The Permittee shall state on the cover letter to the DMR whether groundwater is a component of the sample tested during the semi-annual monitoring event.

SECTION 6: SAMPLE COLLECTION, HANDLING AND ANALYTICAL TECHNIQUES

(A) Chemical Analysis

- (1) Chemical analyses to determine compliance with effluent limits and conditions established in this permit shall be performed using the methods approved pursuant to the 40 CFR 136 for the analysis of pollutants having approved methods under that part unless an alternative method has been approved in writing pursuant to 40 CFR 136.4 or as provided in section 22a-430-3(j)(7) of the RCSA. Chemicals which do not have approved methods of analysis defined in 40 CFR 136 shall be analyzed in accordance with methods specified in this permit, unless an alternative method has been specifically approved in writing by the Commissioner.
- (2) All metals analyses identified in this permit shall refer to analyses for Total Recoverable Metal as defined in 40 CFR 136 unless otherwise specified.
- (3) The Minimum Levels specified in Tables A, B, and C represent the concentrations at which quantification must be achieved and verified during the chemical analyses for those noted parameters. Analyses for these parameters must include check standards within ten percent of the specified Minimum Level or calibration points equal to or less than the specified Minimum Level.
- (4) 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.
- (5) Effluent analyses for which quantification was verified during the analysis at or below the minimum levels specified in this section 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 analytical method detection limit for that analysis.
- (6) Results of effluent analyses which indicate that a parameter was not present at a concentration greater than or equal to the Minimum Level specified for that analysis shall be considered equivalent to zero (0.0) for purposes of determining compliance with effluent limitations or conditions specified in this permit.

(B) Acute Aquatic Toxicity Testing

- (1) Samples for monitoring Aquatic Toxicity shall be collected and handled as prescribed in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (EPA-821-R-02-012), or the most current version.
 - (a) Grab samples shall be chilled immediately following collection. Samples shall be held at 4 °C until Aquatic Toxicity testing is initiated.
 - (b) Effluent samples shall not be dechlorinated, filtered, or modified in any way, prior to testing for Aquatic Toxicity unless specifically approved in writing by the Commissioner for monitoring at this facility.
 - (c) Chemical analyses of the parameters identified in Section 5, Tables A, B & C shall be conducted on an aliquot of the same sample tested for Aquatic Toxicity.
 - (i) At a minimum, pH, specific conductance, total alkalinity, total hardness, and total residual chlorine shall be measured in the effluent sample and, during Aquatic Toxicity tests, in the highest concentration of test solution and in the dilution (control) water at the beginning of the test and at test termination. If total residual chlorine is not detected at test initiation, it does not need to be measured at test termination. Dissolved oxygen, pH, and temperature shall be measured in the control and all test concentrations at the beginning of the test, daily thereafter, and at test termination.

- (d) Tests for Aquatic Toxicity shall be initiated within 36 hours of sample collection.
- (2) Monitoring for Aquatic Toxicity to determine compliance with the permit limit on Aquatic Toxicity (invertebrate) above shall be conducted for 48-hours utilizing neonatal *Daphnia pulex* (less than 24-hours old)
- (3) Monitoring for Aquatic Toxicity to determine compliance with the permit limit on Aquatic Toxicity (vertebrate) above shall be conducted for 48-hours utilizing larval *Pimephales promelas* (1-14 days old with no more than 24-hours range in age).
- (4) Tests for Aquatic Toxicity shall be conducted as prescribed for static non-renewal acute tests in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (EPA-821-R-02-012), except as specified below.
 - (a) For Aquatic Toxicity Limits expressed as an NOAEL value, Pass/Fail (single-concentration) tests shall be conducted at a specified Critical Test Concentration (CTC) equal to 100%, as prescribed in section 22a-430-3(j)(7)(A)(i) of the Regulations of Connecticut State Agencies.
 - (b) Organisms shall not be fed during the tests.
 - (c) Copper nitrate shall be used as the reference toxicant.
 - (d) Synthetic freshwater prepared with deionized water adjusted to a hardness of 50 mg/L (\pm 5 mg/L) as CaCO₃ shall be used as dilution water.
- (5) Compliance with limits on Aquatic Toxicity shall be determined as follows:
 - (a) For limits expressed as an NOAEL value, compliance shall be demonstrated when the results of a valid pass/fail Aquatic Toxicity test indicates there is 90% or greater survival in the effluent at the specified CTC.

(C) Chronic Aquatic Toxicity Testing

- (1) Chronic toxicity testing shall be performed on the discharge as prescribed for static renewal tests in accordance with the test methodology established in *Short term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms* (EPA-821-R-02-013) for *Ceriodaphnia dubia* survival and reproduction and *Pimephales promelas* larval survival and growth.
- (2) Chronic toxicity tests shall utilize a minimum of five effluent dilutions prepared using a dilution factor of 0.5 (100% effluent, 50% effluent, 25 % effluent, 12.5 % effluent, 6.25 % effluent, 0 % effluent).
- (3) Housatonic River water collected immediately upstream of the area influenced by the discharge shall be used as site water control (0% effluent) and dilution water in the toxicity tests.
- (4) A laboratory water control consisting of synthetic freshwater prepared at a hardness of 50 mg/L (\pm 5 mg/l) as CaCO₃ shall be included in the test protocol in addition to the site water control.
- (5) Grab samples of the Housatonic River water for use as site water control and dilution water shall be collected on: day 0, for test solution renewal on day 1 and day 2 of the test; day 2, for test solution renewal on day 3 and day 4 of the test; and day 4, for test solution renewal on day 5, 6, and 7 of the test. Samples shall not be dechlorinated, pH or hardness adjusted, or chemically altered in any way.
- (6) All samples of the discharge and the Housatonic River water used in the chronic toxicity test shall, at a minimum, be analyzed and results reported in accordance with the provisions listed in Section 6(A) of this permit for the following parameters:

pH
Hardness

Copper (Total recoverable and dissolved)
Nickel (Total recoverable and dissolved)

Alkalinity
Conductivity
Chlorine, Total Residual

Nitrogen, Ammonia (total as N)
Nitrogen, Nitrate (Total as N)
Solids, Total Suspended
Zinc (Total recoverable and dissolved)

- (7) If the laboratory control fails to meet test acceptability criteria for either of the test organisms at the end of the 7-day chronic test, then the test is considered invalid and the test must be repeated.
- (8) Within 60 days of the conclusion of the chronic aquatic toxicity testing, the Permittee shall submit a summary of the test results which includes, at a minimum, percent survival in each replicate test chamber and all supporting chemical/physical measurements performed in association with the toxicity test. Endpoints to be reported are 48-hour LC₅₀ (acute endpoint), 7-day LC₅₀ (survival), 7-day EC₅₀ (growth), LOEC (growth), NOEC (growth) and IC₂₅.

SECTION 7: REPORTING REQUIREMENTS

- (A) The results of chemical analyses and any aquatic toxicity test required above shall be entered on the Discharge Monitoring Report (DMR), provided by this office, and reported to the Bureau of Materials Management and Compliance Assurance (Attn: DMR Processing) at the following address. The report shall also include a detailed explanation of any violations of the limitations specified. The DMR shall be received at this address by the last day of the month following the month in which samples are collected.

Bureau of Materials Management and Compliance Assurance
Water Permitting and Enforcement Division (Attn: DMR Processing)
Connecticut Department of Environmental Protection
79 Elm Street
Hartford, CT 06106-5127

- (B) Complete and accurate aquatic toxicity test data, including percent survival of test organisms in each replicate test chamber, LC₅₀ values and 95% confidence intervals for definitive test protocols, and all supporting chemical/physical measurements performed in association with any aquatic toxicity test, including measured daily flow and hours of operation for the 30 consecutive operating days prior to sample collection, shall be entered on the Aquatic Toxicity Monitoring Report form (ATMR) and sent to the Bureau of Water Protection and Land Reuse at the following address. The ATMR shall be received at this address by the last day of the month following the month in which samples are collected.

Bureau of Water Protection and Land Reuse (Attn: Aquatic Toxicity)
Connecticut Department of Environmental Protection
79 Elm St.
Hartford, CT 06106-5127

- (C) If this permit requires monitoring of a discharge on a calendar basis (e.g., monthly, quarterly, etc.), 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) 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 5 and Section 6, 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.

- (B) If any two consecutive test results or any three test results in a twelve month period indicates that an Aquatic Toxicity Limit has been exceeded, the Permittee shall immediately take all reasonable steps to eliminate toxicity wherever possible and shall submit a report to Bureau of Materials Management and Compliance Assurance (Attn: Aquatic Toxicity) for the review and approval of the Commissioner in accordance with section 22a-430-3(j)(10)(c) of the RCSA describing proposed steps to eliminate the toxic impact of the discharge on the receiving water body. Such a report shall include a proposed time schedule to accomplish toxicity reduction and the Permittee shall comply with any schedule approved by the Commissioner.
- (C) 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.

SECTION 9: SPECIAL CONDITION

- (A) Within sixty days of issuance of this permit, the Permittee shall submit the following to the Department:
 - (1) Documentation that the high level alarm associated with the 54" Valve Pit is installed and operational;
 - (2) Documentation that the sampling port associated with the emergency discharge is installed.
- (B) The Permittee shall take all reasonable steps to prevent a discharge from occurring from DSN 102. In the event that there is a discharge from DSN 102 that occurs due to emergency conditions, the Permittee shall comply with the following conditions:
 - (1) Take all reasonable steps to minimize the discharge;
 - (2) Comply with the Best Management Practice ("BMP") found at Attachment 3 of this permit entitled "BMP for Pumping of the 54" valve Pit at Rocky River";
 - (3) Verbally notify the Department within 24 hours of cessation of the emergency discharge and provide: the cause of the emergency condition, the amount of gallons discharged during the emergency event, and information concerning any problems/issues encountered during the discharge period;
 - (4) Within sixty days following cessation of the emergency discharge, the Permittee shall provide certified, written documentation to the Department which shall include: the duration of the event; the total flow discharged; the reason(s) for the event; a summary of the steps that the Permittee took to properly manage the discharge; a description of any deviations from the referenced BMP; any and all operating/activity records summarizing/detailing the event; any and all laboratory results of the discharge.

This permit is hereby issued on October 26, 2010

/s/ AMEY W. MARRELLA
AMEY W. MARRELLA
Commissioner

AWM:CMG

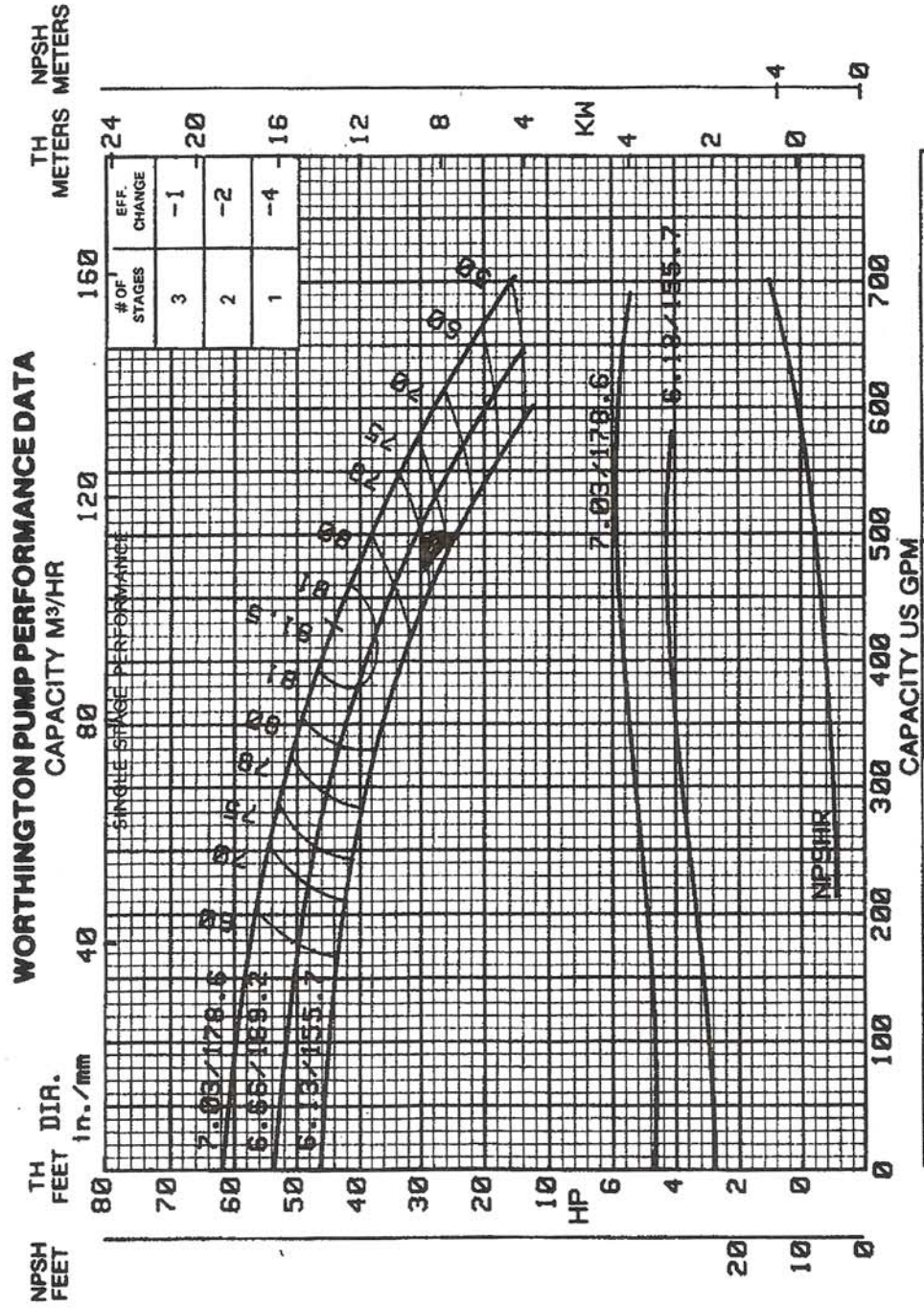
ATTACHMENT 1

Customer _____ Worthington S.O. _____
 Project _____ Proposal/Order No. _____
 Cust. Proposal/Order No. _____ Certified By _____
 Customer Item No. _____ Date _____

Liquid/Service _____ Sp. Gr. _____ Visc. _____ SSU _____
 Capacity _____ Head _____ Temp. _____ °F/°C Consistency _____ %

2153-2 Page 41
 February 1985
 10M41
 1760 RPM

500 GPM
 29 FT. TDH
 Rocky River
 STATION SUMP PUMPS (2)

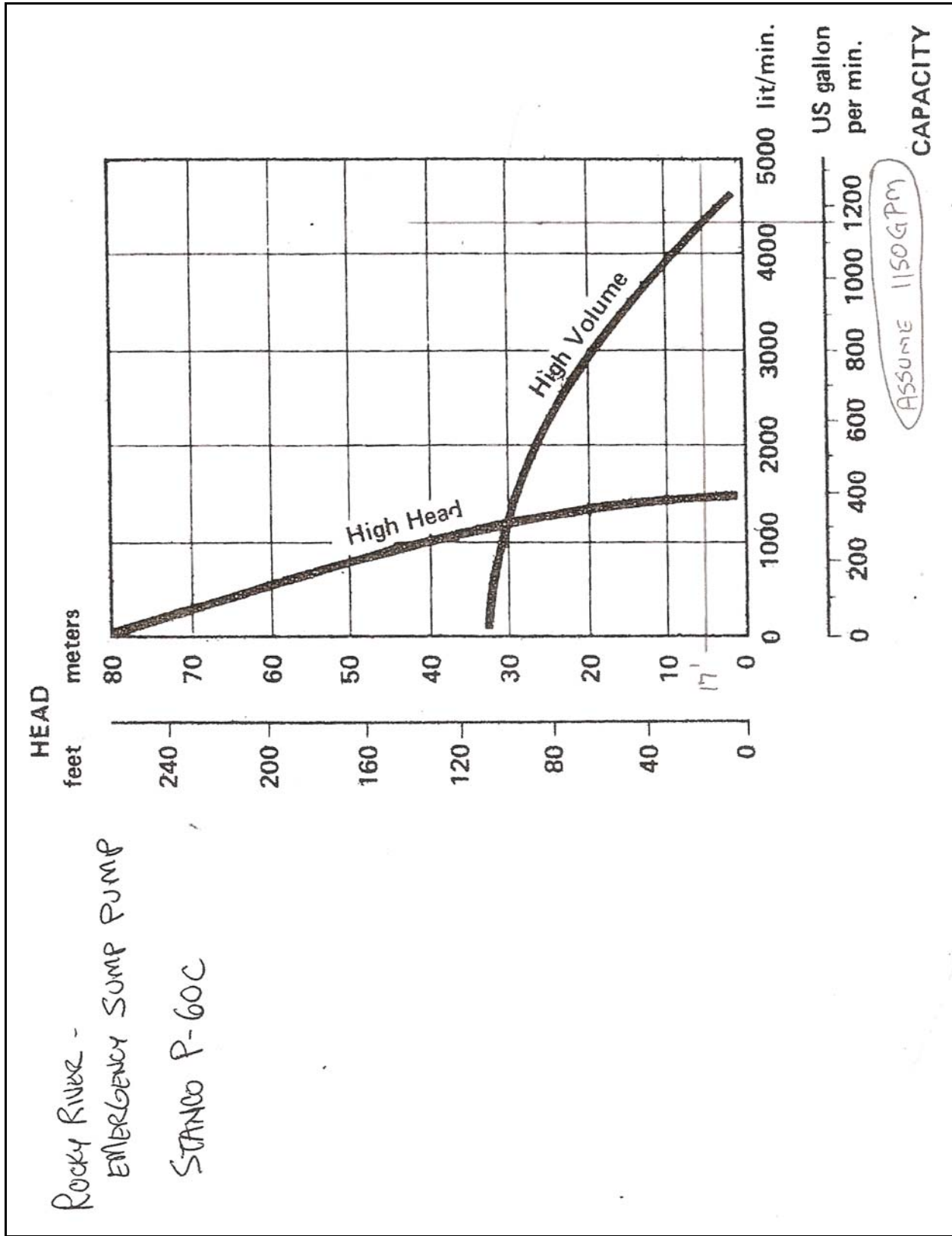


EFF. SHOWN FOR STD. MATERIALS AND FOUR MORE STAGES CORRECTIONS FOR SPECIAL MATERIALS OPTIONS LISTED IN SECTION 2153.3.	
CURVE NO.	A-24074
SIZE	10M41
RPM	1760

Worthington - Tansytown, Maryland

WORTHINGTON

ATTACHMENT 2



ATTACHMENT 3

BMP for Pumping of the 54" Valve Pit at Rocky River

1. Applicability

This procedure applies to backup pumping of the 54" Valve Pit at the Rocky River Powerhouse where water and possible contaminants can collect before being pumped to the environment.

2. Background

Within the Rocky River powerhouse, there is a common collection area for multiple internal leakage sources that was designed to drain into the station sump before being pumped into the river. In February 1981, through an unforeseen series of events, a river flood caused a back-feeding of river water into the station and subsequent station flooding. The financial damage from this event was very significant.

In order to avoid a repeat of this rare but costly event, the owner at that time decided to install an emergency backup pump, which would pump waters from this 54" Valve Pit directly to the river. From the time it was installed, this pump has never been used for emergency purposes. However, on rare occasions it has been used to facilitate the draining of penstocks (supply pipes for generation water) filled with lake water.

It is recognized that oil or grease, under the wrong conditions, could leak from equipment and could mix with clean water and find its way to the 54" Valve Pit. This document establishes a Best Management Practice (BMP) for the prevention of pumping such contaminated water from the 54" Valve Pit.

3. Responsibility

All CT Hydro personnel involved in the pumping of possible contaminated water from the 54" Valve Pit are responsible for adhering to this procedure.

4. Procedure

- 4.1.** The primary focus of this procedure will be to prevent any contaminants from being pumped to the river from the 54" Valve Pit area when there is a need to activate the backup pump.
- 4.2.** Within the Rocky River powerhouse, all employees are aware of the possibility of both oil and grease leaking from machinery and mixing with water that is routed to the 54" Valve Pit. In recognition of this, the backup pump is secure from casual operation, via use of a keyed switch, and that key is under the control of the Station Operator. The Station Operator is not to release the key or turn on the pump until this BMP has been read and the attached Activity Record is signed.
- 4.3.** If water has accumulated and activated an initial action level alarm for the 54" Valve Pit, an employee will immediately visit and perform a visual inspection of the liquid within the 54" Valve Pit. The visual inspection is to thoroughly look for any evidence of oil contamination in this standing water.
- 4.4.** If oil or grease contamination is observed, there shall be an immediate effort to capture and remove all oil and residue by appropriate environmentally acceptable means. This most often will be through the use of oil absorbent pads, pigs, etc. Before beginning any pumping, participating employee(s) will hold a pre-job tailboard to understand/discuss the risks of oil or grease entering the water and ways to control it. Part of this tailboard will include referencing an appropriate SPCC plan to ensure awareness of spill reporting if an accident should happen. **Until this is done, pumping is not allowed.**
- 4.5.** When it has been determined that the standing water is free from contaminants, pumping can begin by operating the pump switch. After the pump is activated, regular and frequent visual inspections of the 54" Valve Pit will occur.
- 4.6.** Employees are aware of the added contamination potential if the water level should overtop the 54" Valve Pit area. As such there is a overtopping level alarm/sensor that will shut the pump off, alert the Rocky

River Operator and prevent any new potential contaminants from being discharged to the river. This condition in all likelihood would flood the station; a situation that is acceptable to FirstLight as it would be protective of the environment.

4.7. Whenever pumping of the 54” Valve Pit occurs, the accompanying Activity Record shall be filled out and saved for a period of three years. This record will document that this BMP was referenced and followed.

5. Reference Documents

- SPCC plans

6. Document Control

Author:	Gary Smolen
Date Created:	12/09/09
Date of Last Revision:	

Activity Record of Pumping from the 54" Valve Pit at Rocky River

Date _____

Employees involved _____

Upon initial visual inspection of pooled water, was there any evidence of oil or other contamination?

- No (Go to bottom of form, and have participating employees sign)
- Yes, Describe:

Describe actions taken to clean all contamination:

By signing this form, all participating employees are saying that they read and followed the BMP that this form is a part of, observed the collected water just prior to and during its release, and did not observe any oil or other contaminants in the release.

Participating Employees:

RETAIN THIS RECORD FOR THREE (3) YEARS