pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northeast Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0012726**
Facility Type	**Industrial**	APS ID	**619966**
Major / Minor	**Minor**	Authorization ID	**1383281**

NPDES PERMIT FACT SHEET INDIVIDUAL INDUSTRIAL WASTE (IW) AND IW STORMWATER

Applicant and Facility Information

Applicant Name	**Hydro Extrusion USA, LLC**	Facility Name	**Hydro Extrusion USA**
Applicant Address	53 Pottsville Street	Facility Address	53 Pottsville Street
	Cressona, PA 17929-1217		Cressona, PA 17929-1217
Applicant Contact	Nathan Krammes	Facility Contact	Nathan Krammes
Applicant Phone	(570) 385-8835	Facility Phone	(570) 385-8835
Client ID	141346	Site ID	246794
SIC Code	3354	Municipality	Cressona Borough
SIC Description	Manufacturing - Aluminum Extruded Products	County	Schuylkill
Date Application Received	January 27, 2022	EPA Waived?	No
Date Application Accepted	January 27, 2022	If No, Reason	DEP Discretion

Purpose of Application: Renewal of NPDES permit.

Summary of Review

The applicant is requesting renewal of an NPDES permit to discharge treated industrial wastewater, noncontact cooling water, groundwater and stormwater to the West Branch Schuylkill River, a cold water and migratory fishes (CWF, MF) receiving water in State Water Plan Basin 3-A (Upper Schuylkill River). As per the Department's current existing use list, the receiving stream does not have an existing use that is more protective than the designated use.

The facility falls under SIC 3341 (NAICS 331318 & 331314) – Secondary Smelting and Refining of Nonferrous Metals and performs aluminum billet casting and extrusion. The discharge is subject to Effluent Limitations Guidelines (ELG) for the Aluminum Forming industrial category (40 CFR Part 467), Subpart C – Extrusion Subcategory.

Production numbers for the existing and new sources were taken from Module 15 of the permit application for the various production processes. The month of maximum production over the previous 5 years from the date of permit application submittal was used to calculate the mass limitations. Best practicable control technology (BPT) limits for oil & grease, TSS and pH apply to the existing sources. Best available technology (BAT) limits for chromium, cyanide, zinc and aluminum are more stringent than the BPT limits and apply to the existing sources. New source performance standards (NSPS) apply to the new sources. A copy of the ELG calculation spreadsheet is imaged at the end of this document and the MS Excel file is attached to this fact sheet for future calculations. Mass-based ELG limitations for Chromium, Cyanide and Zinc have been updated after applying the new production numbers. Mass-based limitations for Aluminum, Oil & Grease and TSS are based on the more stringent concentration limitations derived from modeling (Aluminum), the DRBC (TSS) and Chapter 95 (Oil & Grease).

The ELG limits for pH are 6.0 to 10.0 S.U. at all times. Since the technology-based limits from Chapter 95 (§95.2) are more stringent (i.e., 6.0 to 9.0), they would apply. Similarly, technology-based limits for Oil and Grease from Chapter 95 apply because they are more stringent than the ELG limits.

Approve	Deny	Signatures	Date
X		*Brian Burden* Brian Burden, E.I.T. / Project Manager	December 13, 2023
X		Amy M. Bellanca (signed) Amy M. Bellanca, P.E. / Acting Engineer Manager	12-29-23

Summary of Review

Flows conveyed to IMP 010 consist of wastewater treatment plant effluent, boiler blowdown, noncontact cooling water, and carbon filter backwash. The discharge from IMP 010 then combines with stormwater and noncontact cooling water (from air dryer) and discharges through Outfall 002. Outfalls 007, 008 and 009 discharge stormwater and groundwater infiltration.

The discharge was modeled using a low flow yield (LFY) of 0.2 cfs/mi^2 (USGS StreamStats Q_{7-10} flow of 11.3 cfs divided by drainage area of 54.1 mi^2). RMI values for modeling inputs were obtained using the Department's eMapPA., drainage areas were delineated using USGS's StreamStats interactive map, and elevations were obtained using the elevation profile tool of StreamStats. A flow of 0.1 MGD was used in the modeling which was the flow used in the last permit cycle and appears to remain a representative flow value for the WWTP discharge.

DEP's Toxics Management Spreadsheet (TMS) modeled the discharge through IMP 101 using the pollutant group sampling results provided with the application as well as eDMR results. Water quality-based effluent limitations were recommended for Acrylamide and monitoring/reporting requirements were recommended for Total Aluminum and Total Zinc. The submitted Acrylamide analytical results were all non-detect. Since there is currently no target QL for Acrylamide and the reported results were all non-detect, current DEP guidance indicates limitations/monitoring for this parameter is not required. The previously issued permit already includes limitations for Total Aluminum and Total Zinc.

The Total Dissolved Solids (TDS) daily maximum limitation of 2,000 mg/L originating from DRBC Docket D-2005-001-5 is carried over from the previous permit. The docket includes monthly monitoring requirements for influent and effluent $CBOD_5$, therefore, the quarterly monitoring requirement for BOD_5 is removed from the permit. Monthly monitoring/reporting for Fecal Coliform is included in the latest document and will replace the quarterly monitoring requirement. The 50 mg/L monthly average TSS limitation from the docket is included in the permit and used to calculate the TSS mass limitation.

Quarterly monitoring requirements for Bromide and Ammonia-N are carried over from the previous renewal.

The receiving stream is subject to the West Branch Schuylkill River Watershed TMDL and the Upper Schuylkill River Watershed TMDL for acid mine drainage affected segments. The TMDLs address the three primary metals associated with acid mine drainage (Iron, Manganese, Aluminum) and pH. There is no Waste Load Allocation (WLA) for this facility. Limitations for Total Aluminum and pH are included in the permit and quarterly monitoring/reporting requirements for Total Iron and Total Manganese are carried over from the previously issued permit. The maximum concentrations reported for Total Iron and Total Manganese on eDMR over the past two years (0.13 mg/L – Total Iron, 0.021 mg/L Total Manganese) are well below water quality criteria (1.5 mg/L 3-day avg. – Total Iron, 1.0 mg/L maximum Total Manganese); therefore the discharge is not contributing to the impairment and establishment of mass load limits for these parameters is not necessary.

The TMDL endpoint (water quality criterion) for Total Aluminum is 0.75 mg/L. Over the past two years, the Total Aluminum average concentration for Outfall 010 was 1.77 mg/L and the maximum daily was 6.79 mg/L. Previous water quality modeling indicated that concentration limits of 15.2 mg/L (average monthly) and 23.7 mg/L (max daily) should apply, which translate into mass limits of 12.7 lbs/day and 19.8 lbs/day. The Toxics Management Spreadsheet didn't recommend more stringent limitations for Total Aluminum. pH values over the previous two years for all outfalls were between the 6.0 – 9.0 S.U. range.

A PCB TMDL for the Schuylkill River was approved by EPA on April 7, 2007. The TMDL evaluated 40 likely and potential point sources in the Schuylkill River watershed. This facility was not identified as a potential point source. Limits/monitoring for Total PCBs for all outfalls and monitoring points (010, 002, 007, 008 & 009) are carried over from the previously issued permit. Based on a review of the past two years of eDMR data, all Total PCB analytical results were below the Department's target QL of 1.75 µg/L for all outfalls (target QL is 0.25 µg/L for each of the 7 PCB parameters). The QL used by the laboratory was below DEP's target QL for each analysis (0.2 µg/L before April 2023, 0.095 µg/L on and after April 2023). Note that the human health water quality criteria for each of the seven PCBs is 0.044 **ng/L** (0.000044 µg/L). Over the previous two years, PCB was only detected once at the facility (Outfall 009, September 2023 – PCB 1248 0.19 µg/L). eDMR results since 2017 show PCBs are occasionally detected at various outfalls. The special condition pertaining to PCB WQBELs below quantitation limits is carried over from the previous permit.

Part C.IV of the previously issued permit required the installation of a natural media filtration (NMF) system to remove PCBs from the discharge by December 31, 2018. As per the January 14, 2020 DEP inspection report: NMF is used to remove PCBs from groundwater filtration by passively treating "dry flow". Dry flow refers to the groundwater infiltration into the stormwater collection system under dry weather conditions. The "dry flow" from Outfalls 007, 008 & 009 collection systems are pumped to the NMF to help remove PCBs. The NMF also treats the first flush, which is considered the first ½ hour of a rain event. Flow through the NMF is discharged at Outfall 002.

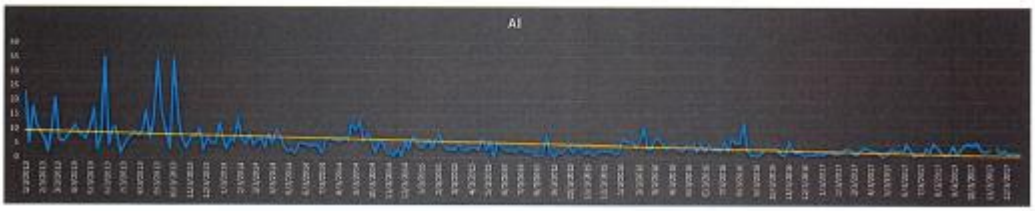
Summary of Review

The previously issued permit established Total Thallium limitations that became effective on November 1, 2018 (0.0144 mg/L monthly average, 0.0225 mg/L daily maximum, 0.0360 mg/L IMAX). The permittee requested to have the Total Thallium limitations removed from the permit entirely since it's not expected to be discharged after process changes were made at the facility. In a letter from the permittee, dated November 21, 2022, the following justifications for removing Total Thallium limitations from the permit were provided:

The history of Thallium at our facility was based on the discovery of it in one sample during the 2013 permit renewal sampling event. During this time frame we were utilizing our spent caustic from our press tooling cleaning operations in our water treatment plant to raise the pH of the wastewater. The press tooling cleaning process involves the dissolving alloyed aluminum from hardened steel press tooling. When the caustic becomes unusable for the press tooling cleaning process, it was transferred to our wastewater treatment plant to be utilized in the process of neutralizing the water. Based on how heavily the caustic was used to clean the press tooling, it would contain different levels of metal loading. Due to this unpredictable metal loading, we stopped using the spent caustic in our wastewater treatment plant at the end of 2013, after the 2013 permit renewal sampling event.

In 2014 there was a testing event trying to identify the source and presence of Thallium in the process. Since this testing event was after we ended the reuse of spent caustic in the wastewater treatment plant, we were unable to detect Thallium in the process. Our new NPDES permit was received on August 1, 2018 with the new Thallium testing requirement. Regular testing from that point on has always yielded non-detects for the presence of Thallium.

The graph below shows our aluminum loading in our wastewater. This depicts the unpredictable loading of aluminum until the end of 2013 where we switched to virgin caustic.



Discharge Monitoring Reports since the previous permit effective date (8/1/2017) all show non-detect concentrations for Total Thallium. Most of the reported non-detect results were analyzed at or below DEP's target QL of 2 µg/L. The remaining results were all below the monthly average limitation of 14.4 µg/L. Ceasing the use of spent caustic at the WWTP is a process change that's considered an "alteration of the permitted facility" as well as "new information" about the WWTP when considering the federal anti-backsliding regulations. This exception to the general prohibition of backsliding allows for the Total Thallium limitation to be removed from the permit and to be replaced with quarterly monitoring/reporting. Limitations may be re-established in future permit renewals if reported Total Thallium concentrations indicate there's reasonable potential to exceed the water quality standards.

All chemical additives utilized at the facility are on DEP's approved list and are summarized in an attachment to the application. The usage rates were modeled using DEP's Toxics Management Spreadsheet for all parameters with water quality criteria listed. Quarterly monitoring/reporting is added to the permit for the chemical additives listed below and results shall be reported on the Daily Effluent Monitoring supplemental report. Data collected during this permit term on residual additives discharged through IMP 010 will help determine if limitations are necessary for future renewals.

- Spectrus NX104 is a microbial control agent used 3.5 days/week at a maximum rate of 36.4 lbs/day. The TMS recommends a monthly average mass limitation of 0.12 lbs/day and daily maximum limitation of 0.19 lbs/day.

- Spectrus NX1102 is a microbial control agent used 2 days/week at a maximum rate of 63.3 lbs/day. The TMS recommends a monthly average mass limitation of 1.18 lbs/day and a daily maximum limitation of 1.85 lbs/day.

- Depositrol SF5109 is a deposit control agent used daily at a maximum rate of 8.5 lbs/day. The TMS recommends a monthly average mass limitation of 1.18 lbs/day and a daily maximum limitation of 1.85 lbs/day.

The Part C condition "Requirements Applicable to Stormwater Outfalls" is carried over from the previous renewal. Outfalls 007, 008 & 009 all have limitations for pH, Oil & Grease and Total PCBs and must be sampled for monthly, at a minimum. Flows must be monitored weekly. The monitoring requirements for Outfall 002 are carried over from the previous renewal.

Summary of Review

Monitoring requirements from Appendix B of the current PAG-03 permit (below) are included for each stormwater outfall. The semiannual Oil & Grease monitoring requirements below will not be included since the stormwater outfalls already have limitations or monitoring requirements in place for that parameter.

Pollutant	Monitoring Requirements [1],[2]		Benchmark Values
	Minimum Measurement Frequency	Sample Type	
Total Nitrogen (mg/L) [3]	1 / 6 months	Calculation	XXX
Total Phosphorus (mg/L)	1 / 6 months	Grab	XXX
Total Suspended Solids (TSS) (mg/L)	1 / 6 months	Grab	100
Oil & Grease (mg/L)	1 / 6 months	Grab	30
Total Aluminum (mg/L)	1 / 6 months	Grab	XXX
Total Zinc (mg/L)	1 / 6 months	Grab	XXX
Total Copper (mg/L)	1 / 6 months	Grab	XXX
Total Iron (mg/L)	1 / 6 months	Grab	XXX
Total Lead (mg/L)	1 / 6 months	Grab	XXX

The benchmark value for TSS is not an effluent limitation, and exceedances do not constitute permit violations. However, if the permittee's sampling demonstrates exceedances of benchmark values for two or more consecutive monitoring periods, the permittee shall act in accordance with Part C.III.G of the permit.

An updated stormwater drainage map was submitted with the permit application showing an adjacent parcel of land purchased by the permittee. Stormwater from that area drains to Outfall 009.

A TMS analysis was conducted at the point of potable water supply withdrawal (Pottstown Borough Water Authority), which is approximately 63 miles downstream of the discharge along the Schuylkill River. Results show the discharge is not expected to affect this water supply.

The permit expired on July 31, 2022 and the application for renewal was submitted in a timely manner. The EPA waiver is not in effect because the discharge contains detectable concentrations of parameters of concern from an approved TMDL.

ELG%20Calculation %20Spreadsheet.xls: TMS PA0012726.pdf TMS Chemical Additives.pdf TMS PA0012726 PWS.pdf StreamStats Outfall.pdf StreamStats Schuylkill Confluenc Elevations RMIs.pdf

DRBC Docket 2005-001-5.pdf

Public Participation

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania*

Summary of Review
Bulletin at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	010 (IMP), 002, 007, 008, 009	Design Flow (MGD)	0.100 MGD
Latitude	(See permit)	Longitude	(See permit)
Quad Name	Pottsville	Quad Code	1336

Wastewater Description: 010: WWTP effluent, boiler blowdown, NCCW, carbon filter backwash
002: discharge from 010 and stormwater
007: stormwater and groundwater infiltration
008: stormwater and groundwater infiltration
009: stormwater and groundwater infiltration

Receiving Waters	West Branch Schuylkill River	Stream Code	2329
NHD Com ID	25991190	RMI	0.4
Drainage Area	54.1 mi^2	Yield (cfs/mi^2)	0.2
Q_{7-10} Flow (cfs)	10.82	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	521	Slope (ft/ft)	0.005
Watershed No.	3-A	Chapter 93 Class.	CWF, MF
Existing Use	-	Existing Use Qualifier	-
Exceptions to Use	-	Exceptions to Criteria	-

Assessment Status	Impaired		
Cause(s) of Impairment	Other Habitat Alterations, PCB, Siltation, Water/Flow Variability, Metals		
Source(s) of Impairment	Channelization, Source Unknown, Bank Modifications, Abandoned Mine Drainage, Road Runoff, Urban Runoff/Storm Sewers		
TMDL Status	Final, 04/07/2007 Final, 04/01/2005 Final, 03/28/2007	Name	Schuylkill River PCB TMDL W Branch Schuylkill River TMDL (AMD) Upper Schuylkill River Watershed TMDL (AMD)

Background/Ambient Data		Data Source
pH (SU)	-	-
Temperature (°F)	-	-
Hardness (mg/L)	-	-
Other:	-	-

Nearest Downstream Public Water Supply Intake	Pottstown Borough Water Authority		
PWS Waters	Schuylkill River	Flow at Intake (cfs)	210 (1050 mi^2 DA, 0.2 LFY)
PWS RMI	57	Distance from Outfall (mi)	~63

PA0012726 - Hydro Extrusion USA, LLC - Calculation of Technology-Based limits from 40 CFR 467 Subpart C

Process		Production* (million lbs/day)	Pollutant	BPT Effluent Limits (467.32) (lbs/million off-lbs) Daily Max	BPT (lbs/million off-lbs) Mon Avg	BPT (lbs/day) Daily Max	BPT (lbs/day) Mon Avg	BAT Effluent Limits (467.33) (lbs/million off-lbs) Daily Max	BAT (lbs/million off-lbs) Mon Avg	BAT (lbs/day) Daily Max	BAT (lbs/day) Mon Avg	NSPS Effluent Limits (467.34) (lbs/million off-lbs) Daily Max	NSPS (lbs/million off-lbs) Mon Avg	NSPS (lbs/day) Daily Max	NSPS (lbs/day) Mon Avg
Core	**Existing Sources**	0.56	Chromium	0.16	0.066	0.09	0.04	0.15	0.061	**0.08**	**0.03**	0.13	0.051	**0.08**	**0.03**
	New Sources	0.58	Cyanide	0.11	0.044	0.06	0.02	0.098	0.041	**0.05**	**0.02**	0.068	0.027	**0.04**	**0.02**
			Zinc	0.53	0.22	0.30	0.12	0.49	0.21	**0.27**	**0.12**	0.35	0.14	**0.20**	**0.08**
			Aluminum	2.34	1.16	1.31	0.65	2.19	1.09	**1.23**	**0.61**	2.07	0.92	**1.20**	**0.53**
			Oil & Grease	7.32	4.39	**4.10**	**2.46**					3.39	3.39	**1.97**	**1.97**
			TSS	15	7.13	**8.40**	**3.99**					5.1	4.07	**2.96**	**2.36**
			pH		7.0 - 10.0 S.U.				7.0 - 10.0 S.U.				7.0 - 10.0 S.U.		
Extrusion Press Leakage	**Existing Sources**	0.56	Chromium	0.65	0.27	0.36	0.15	0.65	0.27	**0.36**	**0.15**	0.11	0.045	**0.06**	**0.03**
	New Sources	0.58	Cyanide	0.43	0.18	0.24	0.10	0.43	0.18	**0.24**	**0.10**	0.06	0.024	**0.03**	**0.01**
			Zinc	2.16	0.9	1.21	0.50	2.16	0.9	**1.21**	**0.50**	0.31	0.126	**0.18**	**0.07**
			Aluminum	9.51	4.73	5.33	2.65	9.51	4.73	**5.33**	**2.65**	1.82	0.81	**1.06**	**0.47**
			Oil & Grease	29.56	17.74	**16.55**	**9.93**					2.98	2.98	**1.73**	**1.73**
			TSS	60.6	28.82	**33.94**	**16.14**					4.47	3.58	**2.59**	**2.08**
			pH		7.0 - 10.0 S.U.				7.0 - 10.0 S.U.				7.0 - 10.0 S.U.		
Direct Chill Casting	**Existing Sources**	0.78	Chromium	0.59	0.24	0.4602	0.1872	0.59	0.24	**0.46**	**0.19**	0.49	0.2	**1.08**	**0.44**
Contact Cooling Water	**New Sources**	2.2	Cyanide	0.39	0.16	0.3042	0.1248	0.39	0.16	**0.30**	**0.12**	0.27	0.11	**0.59**	**0.24**
			Zinc	1.94	0.81	1.5132	0.6318	1.94	0.81	**1.51**	**0.63**	1.36	0.56	**2.99**	**1.23**
			Aluminum	8.55	4.26	6.669	3.3228	8.55	4.26	**6.67**	**3.32**	8.12	3.6	**17.86**	**7.92**
			Oil & Grease	26.58	15.95	**20.7324**	**12.441**					13.29	13.29	**29.24**	**29.24**
			TSS	54.49	25.92	**42.5022**	**20.2176**					19.94	15.95	**43.87**	**35.09**
			pH		7.0 - 10.0 S.U.				7.0 - 10.0 S.U.				7.0 - 10.0 S.U.		
Press Heat Treatment	**Existing Sources**	0.37	Chromium	3.39	1.39	1.25	0.51	0.9	0.37	**0.33**	**0.14**	0.76	0.31	**0.41**	**0.17**
Contact Cooling Water	**New Sources**	0.54	Cyanide	2.24	0.93	0.83	0.34	0.59	0.25	**0.22**	**0.09**	0.41	0.17	**0.22**	**0.09**
			Zinc	11.25	4.7	4.16	1.74	2.98	1.25	**1.10**	**0.46**	2.08	0.86	**1.12**	**0.46**
			Aluminum	49.55	24.66	18.33	9.12	13.1	6.52	**4.85**	**2.41**	12.45	5.52	**6.72**	**2.98**
			Oil & Grease	154.1	92.46	**57.02**	**34.21**					20.37	20.37	**11.00**	**11.00**
			TSS	315.91	150.25	**116.89**	**55.59**					30.56	24.45	**16.50**	**13.20**
			pH		7.0 - 10.0 S.U.				7.0 - 10.0 S.U.				7.0 - 10.0 S.U.		

* Based on month of maximum production over the previous 5 years.
(Max Monthly Production (million lbs) ÷ 30 days) = million lbs/day
see 362-0400-001, 10/97 - Chapter 2.A.1.a.

Limits (sum of **bold** values)

	Daily Max (lbs/day)	Mon Avg (lbs/day)
Chromium	2.87	1.17
Cyanide	1.71	0.70
Zinc	8.60	3.57
Aluminum	44.91	20.90
Oil & Grease	142.33	102.98
TSS	267.65	148.67
pH	7.0 - 10.0 S.U.	