

Southwest Regional Office CLEAN WATER PROGRAM

Application Type Renewal
Facility Type Storm Water
Major / Minor Minor

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

Application No. PAS406101

APS ID 1078158

Authorization ID 1421968

	Applicant and	d Facility Information	
Applicant Name	Evoqua Water Technologies LLC	Facility Name	Evoqua Water Technologies LLC - Darlington Facility
Applicant Address	118 Park Road	Facility Address	118 Park Road
	Darlington, PA 16115-1636		Darlington, PA 16115-1636
Applicant Contact	Chelsea Murphy	Facility Contact	David Adams
Applicant Phone	(724) 827-8181. Ext 1568	Facility Phone	(724) 827-8181 Ext 1564
Client ID	304273	Site ID	3615
SIC Code	4953	Municipality	Darlington Township
SIC Description	Refuse Systems	County	Beaver
Date Application Rec	eived November 1, 2012	EPA Waived?	Yes
Date Application Acc	epted	If No, Reason	

Summary of Review

The Department received a renewal NPDES permit application from Siemens Industry, Inc for their thermal treatment of spent activated carbon facility located in Darlington of Beaver County, on November 1, 2012. The Facility has an SIC Code of 4953 and North American Industry Classification System Code of 562211.

Subsequent to the renewal application, the Department received a transfer application to change ownership from Siemens Industry, Inc to Siemens Water Technologies. The application, received on May 8, 2013, noted no change to the flow or pollutant concentrations.

The Department received a letter from Siemens Water Technologies on January 17, 2014 notifying the name change to "Evoqua Water Technologies, LLC", however, the application was not submitted.

The Department received an updated renewal NPDES permit application and a transfer application on December 23, 2022.

The facility consists of 45,400 ft² of building space including the storage, scrubber, and reactivation buildings on approximately 20 acres. A perimeter fence surrounds the active area of the property with access through five fence gates or directly through the administration building. The facility has municipal water. Two on-site water wells provide water for process use and bottled water is provided for drinking purposes. There is no POTW connection available. The site generates process wastewater; however, it is shipped offsite. The facility has an on lot septic system (shower, toilet, sink). No process water is included.

Approve	Deny	Signatures	Date
х		Angela Rohrer / Environmental Engineering Specialist	January 4, 2023
Х		Michael E. Fifth, P.E. / Environmental Engineer Manager	February 17, 2023

Summary of Review

Around the exterior of the building are paved lots, access roads, shipping and receiving areas, and storage areas. The remainder of the property is undeveloped fields, some of which are used for trailer and spent carbon storage.

Evoqua is authorized to accept spent sorbents (principally activated carbon) classified as hazardous and residual waste for storage and thermal treatment. Storage is in containers and tanks; the thermal treatment process removes contaminants from the sorbent and the sorbent is regenerated to specific product customer for reuse or sold for use in other applications.

Stormwater management controls at Evoqua consist of maintaining the storage of raw and waste materials contained to prevent stormwater exposure, and covered loading and unloading facilities designed to prevent runoff into stormwater outfalls. Best management practices that are conducted generally include good housekeeping practices, standard procedures for loading/unloading of materials, indoor/enclosed storage of materials, and providing spill response supplies.

The facility operates as a processing facility dedicated to serving a wide variety of industries that regularly use sorbents, principally activated carbon, in manufacturing and purification processes. The primary product of the operation is reactivated carbon. Evoqua Water Technologies receives spent carbon from its clients in its various granulated, pelletized, or beaded forms contains a variety of adsorbed chemicals. Evoqua Water Technologies is capable of removing the adsorbed chemicals and provide an end product that has been recycled (free of adsorbed chemicals) and is ready for reuse. The carbon is returned to its owner after reactivation or it is sold for reuse in other adsorption applications.

The site utilizes rotary kiln lines for its operations, which are all serviced by an afterburner and a wet scrubber system. All of the kilns function and operate essentially the same varying only in size and throughput. The rotary reactivation kilns are gas fired and steam from boiler is introduced to promote the reactivation process. The flow of sorbent in the kiln is counter-current to the direction of firing and the flow of off-gases in the process. The reactivated product is discharged to a cooler and then is screened for sizing. The off-gases from the kilns are discharged to a pollution abatement system consisting of an afterburner and wet scrubber.

The reactivation process for carbon that is packaged in 55-gallon drums or 1,000-pound bags is transferred by forklift to the kiln surge hopper or transferred directly as slurry from a tanker truck. The hoppers feed the carbon directly into the kiln. The duration of time and quantity of carbon treated in the kilns depends on a number of variables, including the carbon type and the type of contaminants present. After treatment in the kiln, the carbon is processed through a smaller tubular device that is rotated in a bath of cold water (a quencher). The carbon is then passed through a screener, which sorts out carbon that is too coarse or too fine for re-use purposes. The reactivated carbon is fed into 1,000-pound bags for transport back to the generator.

The regeneration process reduces the weight of the carbon by 10 to 15 percent because of moisture loss; additional weight loss is caused by the loss of fine and oversized material and by removal and destruction of contaminants. Evoqua Water Technologies adjusts for this loss by adding virgin carbon to the regenerated material to ensure that the final weight of the material matches the weight delivered to Evoqua Water Technologies by generator.

The facility was last inspected by Amanda Schmidt, on April 8, 2021, with no violations noted.

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 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.

ischarge, Receivin	g Waters and Water Supply Inform	ation	
Outfall No. 001		Design Flow (MGD)	0
Latitude 40° 4	17' 47"	Longitude	-80° 28' 09 "
Quad Name Ne	ew Galilee	Quad Code	1202
Wastewater Descri	ption: Stormwater. Vehicular activ	ities, gravel, salt (snow/ice cor	itrol), and grass
Receiving Waters	North Fork Little Beaver Creek	Stream Code	33323
NHD Com ID	99676964	RMI	11.26
Drainage Area	96.5	Yield (cfs/mi²)	0.022
Q ₇₋₁₀ Flow (cfs)	2.2	Q ₇₋₁₀ Basis	USGS StreamStats
Elevation (ft)	875	Slope (ft/ft)	0.0001
Watershed No.	20-B	Chapter 93 Class.	HQ-CWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impair	ment		
Source(s) of Impair	rment		
TMDL Status		Name	
Nearest Downstrea	am Public Water Supply Intake	Steubenville Ohio Water Auth	ority
PWS Waters	Ohio River	Flow at Intake (cfs)	Unknown
PWS RMI	959	Distance from Outfall (mi)	Greater than 20 Miles in Ohio

Discharge, Receiving Waters and Water Supply Inforn	nation	
Outfall No. 002	Design Flow (MGD)	0
Latitude 40° 47' 45.44"	Longitude	-80° 28' 06.75 "
Quad Name New Galilee	Quad Code	1202
Wastewater Description: Uncontaminated stormwate	er runoff from facility roof drains	
Receiving Waters North Fork Little Beaver Creek	Stream Code	33323
NHD Com ID <u>99676964</u>	RMI	11.26
Drainage Area 96.5	Yield (cfs/mi²)	0.022
Q ₇₋₁₀ Flow (cfs) 2.2	Q ₇₋₁₀ Basis	USGS StreamStats
Elevation (ft) 875	Slope (ft/ft)	0.0001
Watershed No. 20-B	Chapter 93 Class.	HQ-CWF
Existing Use	Existing Use Qualifier	
Exceptions to Use	Exceptions to Criteria	
Assessment Status Attaining Use(s)		
Cause(s) of Impairment		
Source(s) of Impairment		
TMDL Status	Name	
Nearest Downstream Public Water Supply Intake	Steubenville Ohio Water Autho	ority
PWS Waters Ohio River	Flow at Intake (cfs)	Unknown
DWO DAN	D: 4	Greater than 20 Miles in
PWS RMI 959	Distance from Outfall (mi)	Ohio

Outfall 002 is a new outfall that discharges uncontaminated stormwater runoff exclusively from the roof drains from the nearby building. There is no comingling, nor is there any industrial exposure in this area. No monitoring is required.

			Development of Effluent Limitations	
Outfall No.	001		Design Flow (MGD)	0
Latitude	40° 47' 47"		Longitude	-80° 28' 09"
Wastewater	Description:	Stormwater		

Technology-Based Limitations

Stormwater Technology Limits

Outfall 001 will be subject to PAG-03 General Stormwater Permit conditions as a minimum requirement because the outfall receives stormwater. The SIC code for the site is 4953 and the corresponding appendix of the PAG-03 that would apply to the facility is Appendix A. The reporting requirements applicable to stormwater discharges are shown in Table 1 below. Along with the monitoring requirements, sector specific BMPs included in Appendix A of the PAG-03 will also be included in Part C of the Draft Permit.

Table 1: PAG-03 Appendix (A) Monitoring Requirements

Parameter	Max Daily Concentration	Measurement Frequency	Sample Type
Total Nitrogen (mg/L)	Monitor and Report	1/6 Months	Calculated
Total Phosphorus (mg/L)	Monitor and Report	1/6 Months	Grab
pH (S.U)	Monitor and Report	1/6 Months	Grab
Total Suspended Solids (TSS)	Monitor and Report	1/6 Months	Grab
Chemical Oxygen Demand (COD) (mg/L)	Monitor and Report	1/6 Months	Grab
Ammonia-Nitrogen (mg/L)	Monitor and Report	1/6 Months	Grab
Total Arsenic (mg/L)	Monitor and Report	1/6 Months	Grab
Total Cadmium (mg/L)	Monitor and Report	1/6 Months	Grab
Total Cyanide (mg/L)	Monitor and Report	1/6 Months	Grab
Total Lead (mg/L)	Monitor and Report	1/6 Months	Grab
Total Mercury (mg/L)	Monitor and Report	1/6 Months	Grab
Total Selenium (mg/L)	Monitor and Report	1/6 Months	Grab
Total Silver (mg/L)	Monitor and Report	1/6 Months	Grab

Water Quality-Based Limitations

Stormwater WQBELs

Water quality analyses are typically performed under low-flow (Q7-10) conditions. Stormwater discharges occur at variable rates and frequencies but not however during Q7-10 conditions. Since the discharges from Outfall 001 are composed entirely of stormwater, a formal water quality analysis cannot be accurately conducted. Accordingly, water quality-based effluent limitations based on water quality analyses are not proposed.

Anti-Degradation

Antidegradation regulations under Chapter 93.4c(a)(I)(i) required discharges to protect the existing use of receiving waters. Chapter 93.4c(b) requires dischargers to consider non-discharge alternatives, public participation and social/economic justification when proposing new, additional or increased discharges to high quality or exceptional value streams. Existing use protection required under Chapter 93.4c(a)(I)(i) is ensured for discharges to high quality streams imposing the most stringent of technology-based, water quality based and non-degrading effluent limitations. In this case, non-degradation effluent limitations are applicable because the discharge is stormwater. Because the discharge is stormwater runoff, the Department can ensure compliance with the anti-degradation policy through the imposition of No Exposure benchmark values. These values reflect the conditions present at a well-maintained facility with little to no industrial stormwater impacts. To ensure that the discharge does not degrade the stream, the no exposure benchmark values will be used as the benchmark value for pH, TSS and COD in the permit. The goal for the permittee is to be consistently below these benchmark values; doing this shows that the discharges are uncontaminated stormwater and will maintain and protect the existing quality of the receiving waters.

Anti-Backsliding

Effluent limitations in the site's current permit can be used pursuant to EPA's anti-backsliding regulation, 40 CFR 122.44(I) and are displayed in Table 2 below. Monitoring for Total Suspended Solids and Chemical Oxygen Demand COD was previously imposed because the parameters were pollutants of concern.

Table 2. Current Effluent Limitation at Outfall 001

Parameters	Mass (lb/day)		Concentration (mg/L)			Monitoring Requirements		Benchmark Value	
	Average Monthly	Daily Maximum	Instant. Minimum	Average Monthly	Daily Maximum	Instant. Maximum	Frequency	Sample Type	mg/L
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	1/quarter	Estimate	
Total Suspended Solids	XXX	xxx	xxx	XXX	xxx	Report	1/quarter	Grab	100.0
Chemical Oxygen Demand	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab	120.0
pH (S.U.)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab	

Proposed Effluent Limitations and Monitoring Requirements

The proposed effluent monitoring requirements for Outfall 001 are displayed in Table 3 below, they are the most stringent values from the above effluent limitation development. The sample frequency has been reduced to semi-annually to be consistent with the PAG-03 general permit sampling frequency. The Flow monitoring requirement has been removed because typically, flow monitoring is not imposed on stormwater discharges. A Part C condition is included in the Draft Permit requiring a Corrective Action Plan when there is an exceedance of the benchmark values, which are also included in the Part C condition. The benchmark values are also displayed below in Table 3. These values are not effluent limitations, an exceedance of the benchmark value is not a violation. As describe above, if there is an exceedance of the benchmark values, a Corrective Action Plan must be conducted to evaluate site stormwater controls and BMPs. Benchmark monitoring is a feedback tool, along with routine inspections and visual assessments, for assessing the effectiveness of stormwater controls and BMPs. An exceedance of the benchmark provides permittees with an indication that the facility's controls may not be sufficiently controlling pollutants in stormwater. To ensure that the discharge is not degrading the high-quality waters, the no exposure benchmark values will be used as the benchmark values in the permit.

Table 3: Proposed Effluent Monitoring Requirements

Parameter	Max Daily Concentration	Measurement Frequency	Sample Type	Benchmark Values
Total Nitrogen (mg/L)	Monitor and Report	1/6 Months	Calculated	XXX
Total Phosphorus (mg/L)	Monitor and Report	1/6 Months	Grab	XXX
pH (S.U)	Monitor and Report	1/6 Months	Grab	6.0 to 9.0
Total Suspended Solids (TSS)	Monitor and Report	1/6 Months	Grab	30.0
Chemical Oxygen Demand (COD) (mg/L)	Monitor and Report	1/6 Months	Grab	30.0
Ammonia-Nitrogen (mg/L)	Monitor and Report	1/6 Months	Grab	XXX
Total Arsenic (mg/L)	Monitor and Report	1/6 Months	Grab	XXX
Total Cadmium (mg/L)	Monitor and Report	1/6 Months	Grab	XXX
Total Cyanide (mg/L)	Monitor and Report	1/6 Months	Grab	XXX
Total Lead (mg/L)	Monitor and Report	1/6 Months	Grab	XXX
Total Mercury (mg/L)	Monitor and Report	1/6 Months	Grab	XXX
Total Selenium (mg/L)	Monitor and Report	1/6 Months	Grab	XXX
Total Silver (mg/L)	Monitor and Report	1/6 Months	Grab	XXX

Based on DMR data, Chemical Oxygen Demand and Total Suspended Solids are pollutants of concern because the discharge concentrations have exceeded the stormwater benchmark values at Outfall 001, see Table 4.

Table 1. DMR data for Outfall 004

DMR RECEIVED DATE	Daily Maximum Chemical Oxygen Demand Concentration (mg/l)	Daily Maximum Total Suspended Solids Concentration (mg/l)
04/23/2018	117	107
07/11/2018	0.0	14
10/19/2018	<1	20.0
01/22/2019	<1	< 1
04/09/2019	494	15.0
07/09/2019	30.3	68.0
10/23/2019	370	185
01/10/2020	<1	37.0
04/16/2020	64.8	7.0
07/10/2020	26.9	11.0
10/12/2020	<1	123
01/11/2021	<1	< 1
04/13/2021	64.6	10.0
07/08/2021	92.7	122
10/15/2021	73.2	< 1
01/13/2022	< 1	< 1
04/25/2022	623	554
06/24/2022	596	33
09/27/2022	169	150
11/23/2022	< 1	14

Additionally, a Part C condition is included in the permit requiring the permittee to conduct and submit a Pollutant Reduction Report to the Department within 90 days of the Permit Effective Date. This requirement is due to the elevated levels of Total Suspended Solids and Chemical Oxygen Demand described above. The Pollutant Reduction Report will require the permittee to survey the plant to identify the source of these pollutants and implement measures to eliminate or reduce the pollutants. In the report the permittee shall identify the sources of the pollutants; describe those measures that were implemented after issuance of the permit and their effectiveness in meeting the discharge limitations and/or eliminating or reducing the pollutants; and describe and submit schedules for those measures that will be put into effect.

The Storm Water Pollution Prevention Plan (SWPPP) that is currently employed is not adequate as indicated by the multiple exceedances of the benchmark values at Outfall 001. The SWPPP must be updated as part of the Pollutant Reduction Report to include housekeeping practices, best management practices and treatment technologies that may be installed or implemented to achieve the no exposure benchmark values at Outfall 001.

		Tools and References Used to Develop Permit
		
		WQM for Windows Model (see Attachment)
		Toxics Management Spreadsheet (see Attachment)
		TRC Model Spreadsheet (see Attachment)
		Temperature Model Spreadsheet (see Attachment)
		Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
\boxtimes		Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97.
		Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
\boxtimes		Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
		Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
]	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
		Pennsylvania CSO Policy, 385-2000-011, 9/08.
		Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
		Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
		Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
		Implementation Guidance Design Conditions, 391-2000-006, 9/97.
]	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
		Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
]	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
]	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
		Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
		Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
		Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
		Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
		Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 10/97.
		Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 391-2000-019, 10/97.
		Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 3/99.
		Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 391-2000-022, 3/1999.
		Design Stream Flows, 391-2000-023, 9/98.
]	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
		Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
		Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
		SOP:
		Other:

ATTACHMENT A

StreamStats Report for Evoqua Water Technologies LLC - Darlington Facility

PAS406101 - Darlington Facility - StreamStats Report

Region ID: PA

Workspace ID: PA20230106185300753000

Clicked Point (Latitude, Longitude): 40.79398, -80.46854

Time: 2023-01-06 13:53:42 -0500



Collapse All

Basin Characteristics Parameter Code Parameter Description Value Unit CARBON Percentage of area of carbonate rock 0 percent DRNAREA Area that drains to a point on a stream 96.5 square miles ELEV Mean Basin Elevation 1102 feet **FOREST** Percentage of area covered by forest 38.2645 percent **PRECIP** Mean Annual Precipitation 37 inches **URBAN** Percentage of basin with urban development 10.3146 percent

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	96.5	square miles	2.26	1400
ELEV	Mean Basin Elevation	1102	feet	1050	2580

Low-Flow Statistics Flow Report [Low Flow Region 4]

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	4.77	ft^3/s	43	43
30 Day 2 Year Low Flow	7.39	ft^3/s	38	38
7 Day 10 Year Low Flow	2.2	ft^3/s	66	66
30 Day 10 Year Low Flow	3.31	ft^3/s	54	54
90 Day 10 Year Low Flow	5.31	ft^3/s	41	41

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)

Base Flow Statistics

Base Flow Statistics Parameters [Statewide Mean and Base Flow]

Dozamatar Nama	Value	Unito	Min	Max
Code Parameter Name	value	Units	Limit	Limit
Drainage Area	96.5	square miles	2.26	1720
Mean Annual Precipitation	37	inches	33.1	50.4
Percent Carbonate	0	percent	0	99
Percent Forest	38.2645	percent	5.1	100
	Mean Annual Precipitation Percent Carbonate	Drainage Area 96.5 Mean Annual 37 Precipitation Percent Carbonate 0	Drainage Area 96.5 square miles Mean Annual 37 inches Precipitation Percent Carbonate 0 percent	Parameter NameValueUnitsLimitDrainage Area96.5square miles2.26Mean Annual Precipitation37inches33.1Percent Carbonate0percent0

ATTACHMENT B Site Plan

