pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southeast Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0244571**
Facility Type	**Industrial**	APS ID	**1070966**
Major / Minor	**Minor**	Authorization ID	**1409759**

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

Applicant and Facility Information

Applicant Name	**CRC Industries Inc.**	Facility Name	**CRC Industries Warminster Facility GWCU**
Applicant Address	885 Louis Drive	Facility Address	885 Louis Drive
	Warminster, PA 18974-2820		Warminster, PA 18974-2820
Applicant Contact	Luiz Dias	Facility Contact	Arnetia Carroll
Applicant Phone	(215) 420-9270	Facility Phone	(215) 442-6211
Client ID	63167	Site ID	2378
SIC Code	3999	Municipality	Warminster Township
SIC Description	Manufacturing - Manufacturing Industries	County	Bucks
Date Application Received	September 1, 2022	EPA Waived?	Yes
Date Application Accepted		If No, Reason	

Purpose of Application: Permit Renewal

Summary of Review

Applicant requests renewal of an NPDES permit to discharge treated effluent from a groundwater remediation system to a municipal storm sewer that flows to an unnamed tributary to Little Neshaminy Creek. Stormwater discharges are also covered under the permit.

The facility manufactures chemicals used in general maintenance and repair for automotive and other industrial purposes. The company submitted a “Cleanup Plan” on December 9, 2010 to the Department’s Environmental Cleanup Program. By letter dated January 11, 2011, it was approved in accordance with the provisions of the Land Recycling and Environmental Remediation Standards Act (Act 2).

Groundwater contaminated with mainly PCE and TCE is pumped from five recovery wells into an equalization tank and then into air stripper where > 99% VOCs are volatilized into an air stream. The emissions from air stripper are captured by the blower and treated with two 2000-lb vapor-phase granular activated carbon (VGACs) units connected in series and treated air emissions are then discharged to the atmosphere. The liquid stream collected from the sump of the air stripper is further polished with two 500-lb liquid-phase granular activated carbon units (LGACs) connected in series and then treated liquid effluent discharged to the storm drain.

93% sulfuric acid is added at a rate of up to 2.0 gallons per day to the pump and treat influent water to neutralize the pH and prevent calcium carbonate scaling and solidification of the liquid-phase activated carbon units.

The groundwater recovery and pump and treatment system were activated on September 26, 2013. The pump and treatment system was designed as an engineering control to contained shallow chlorinated (mainly PCE and TCE) plume within CRC industry property boundary. Written approval to terminate the cleanup operations must be received from DEP prior to shut down the system.

Approve	Deny	Signatures	Date
X		*Sara Abraham* Sara Reji Abraham, E.I.T. / Project Manager	November 1, 2022
X		*Pravin Patel* Pravin C. Patel, P.E. / Environmental Engineer Manager	11/01/2022

Summary of Review

DMR review shows the discharge is in compliance with the permit limitations most of the time.
No comments received from Operations section.

The discharge is to a municipal storm sewer that flows to an Unnamed Tributary to Little Neshaminy Creek. Based on the USGS Hatboro Topographic Map, the unnamed tributary is intermittent for approximately 3000 feet. Therefore, both groundwater criteria (drinking water standards) and Ch. 93 surface water quality standards are applied to the discharge.

In the past the facility was using a Chemical additive and the condition for chemical additive use was included in the permit. Current application doesn't report the use of any chemical additive other than sulfuric acid. The special condition for the chemical additive use is included in the draft permit similar to the current permit.

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.

Act 14 Notifications:

Warminster Township	-	August 31, 2022
Bucks County	-	August 31, 2022

Permit Conditions:

A. Acquire Necessary Property Rights
B. WQM Permit Requirement
C. Dry Stream Discharge
D. Chemical Additives Condition
E. Stormwater Outfalls Requirements
F. Groundwater Cleanup Condition
G. PFCs Treatment and Monitoring
H. WQBELs Below Quantitation Limits

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.06 mgd maximum* 0.043 mgd LTA
Latitude	40º 12' 27.56"	Longitude	-75º 4' 49.17"
Quad Name	Hatboro	Quad Code	1745
Wastewater Description:	Groundwater Cleanup Discharge		
Receiving Waters	Municipal Storm sewer to an Unnamed Tributary of Little Neshaminy Creek (WWF, MF)	Stream Code	02647
NHD Com ID	25479770	RMI	2.3
Drainage Area	0.54 mi^2	Yield (cfs/mi^2)	0.1
Q_{7-10} Flow (cfs)	0.054**	Q_{7-10} Basis	Default yield (Previous fact sheet)
Elevation (ft)	260	Slope (ft/ft)	0.00717
Watershed No.	2-F	Chapter 93 Class.	WWF, MF
Assessment Status	Impaired		
Cause(s) of Impairment	Pathogens, PCB, Water Flow/Variability, Siltation		
Source(s) of Impairment	Unknown, Urban runoff/Storm sewers		
Nearest Downstream Public Water Supply Intake	Aqua PA Southeast Division on Neshaminy Creek approximately 21 miles downstream		

* Original permit application indicated maximum daily flow of 0.06 mgd and long-term average design flow of 0.043 mgd. Current application reported a maximum flow of 0.02 mgd.

** Topo map indicates stream is intermittent for approximately 3000 feet. If perennial, then Q7-10 calculated using default streamflow yield of 0.1 cfsm. Using default regression equation, harmonic mean flow is 0.579 cfs.

In addition to the Department's "Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers" (391-2000-014), DRBC's Water Quality Regulations address protection of groundwater. Section 3.40.2 defines groundwater to include all water beneath the surface of the ground and 3.40.4.A.2 requires that concentrations at any point shall not exceed drinking water standards.

The criteria for the parameters, contained in Chapter 93, and Maximum Contaminant Levels (MCLs) are shown below:

	CCC (µg/l)	CMC (µg/l)	HH (µg/l)	MCL (µg/l)
Tetrachloroethylene	140	700	10 (CRL)	5
Trichloroethylene	450	2,300	0.6 (CRL)	5
Vinyl Chloride	NA	NA	0.02 (CRL)	2

As part of the original permit application review, data was input into the Department's PentoxSD model for toxics analysis and water quality-based limits were determined for tetrachloroethylene, trichloroethylene, and vinyl chloride. For use in the PentoxSD model, the default yield for Q7-10 of 0.1 cfsm was used, per Department technical guidance. Qhm was calculated using the default regression equation $Qr = 7.43 \times (Q_{7-10})^{0.874}$, also from Department guidance. These translate to Q7-10 = 0.54mi2 x 0.1 cfsm = 0.054 cfs and $Qhm = 7.43 \times (0.054cfs)^{0.874} = 0.579$ cfs. The MCLs, since applicable to protect groundwater, were input for the discharge concentrations and the long-term average design discharge flow rate of 0.043 mgd was used to calculate the limits for the parameters of concern. The following limits were calculated:

	Average Monthly Limit (mg/l):
Tetrachloroethylene:	0.005
Trichloroethylene:	0.005
Vinyl Chloride:	0.00024

The above limits are in the current permit and are recommended to continue in the draft permit.
The effluent limit of Vinyl Chloride is below the recommended Target Quantitation Limit (QL) and the permittee has trouble finding a lab to do this test to report at the current very stringent range. Therefore, a special condition is included in the Part C of the permit to explain how to monitor and report Vinyl Chloride since the WQBEL is below the Quantitation Limit. Part A of the permit contains the WQBEL for Vinyl Chloride.

In 2014, the permittee began testing the influent and effluent for Perfluorooctanoic acid (PFOA) and Perfluorooctanesulfonic acid (PFOS), due to its presence in the groundwater. The facility is located near the former Naval Air Warfare Center, which is investigating the extent of PFCs that may have been released due to historical activities at the site.

The previous permit was issued on 2/13/2018 with effluent monitoring for PFOA and PFOS to comply with Health Advisory Level (HAL) of 0.070 ppb. Permit was appealed by the permittee due to the inclusion of the PFOA and PFOS limit. After many discussions, the Department and permittee reached to an agreement on a special condition to be included in Part C with PFOA and PFOS monitoring in Part A of the permit. Accordingly, a permit amendment was issued on 11/20/2018.

As a result, the numerical limit of PFOA + PFOS = 0.07 ppb that was included in the permit issued on 2/13/18 has been revised as monitor only. However, monitoring frequency has been increased from quarterly to monthly. The Part C condition requires that when the effluent concentration of PFOA+PFOS reaches 50 ppt (0.05 ppb) at the end of first GAC unit, the GAC media should be replaced within 10 business days and it is expected that the discharge will not exceed HAL in the effluent.

The sampling results show that the total PFOA and PFOS discharge concentrations are well below the HAL.
The monitoring requirement and the special condition for PFOA and PFOS are recommended to continue in the draft permit.

Internal Monitoring Point (IMP) 101 is established to monitor the effluent from the First GAC unit for PFOA and PFOS.

Based on the permittee's request the monitoring frequency of the effluent parameters at Outfall 001 is changed to once per month which is reasonable for this type of discharge to characterize the nature of the discharge.

There are three stormwater outfalls at the site: 002, 003 and 004

Outfall 004 is considered as representative of the site and monitoring is required for the following parameters similar to the requirements in the current permit: COD, TSS, O&G, TKN, TP, PCE, TCE, Toluene, Xylenes and Vinyl Chloride.
The SIC code reported in the application is 3999 which corresponds to Appendix S of the General permit.
pH and Total Zinc are also included in the permit consistent with Appendix S.

Outfalls 002 and 003 are typically dry and not required to be monitored.

Compliance History

DMR Data for Outfall 001 (from August 1, 2021 to July 31, 2022)

Parameter	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21
Flow (MGD) Average Monthly	0.014	0.013	0.012	0.015	0.014	0.014	0.010	0.010	0.011	0.014	0.015	0.014
Flow (MGD) Daily Maximum	0.015	0.015	0.015	0.015	0.014	0.014	0.011	0.012	0.013	0.015	0.017	0.016
pH (S.U.) Instantaneous Minimum	6.55	6.85	6.76	7.01	6.30	6.54	6.30	6.22	6.78	6.0	6.58	6.0
pH (S.U.) Instantaneous Maximum	7.59	7.05	6.81	7.14	6.99	6.68	6.84	6.45	7.17	6.7	7.03	6.8
TSS (mg/L) Average Monthly	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
TSS (mg/L) Instantaneous Maximum	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Tetrachloro-ethylene (mg/L) Average Monthly	< 0.0009	< 0.0009	< 0.0009	< 0.0012	< 0.0009	< 0.0009	0.0013	0.0012	0.0009	0.001	0.0007	< 0.0009
Trichloroethylene (mg/L) Average Monthly	< 0.00053	< 0.00053	< 0.00053	< 0.00053	< 0.00053	< 0.00053	< 0.00053	< 0.00053	< 0.00053	< 0.00053	< 0.0004	< 0.00053
PFOA (ug/L) Average Monthly	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.004	0.002	< 0.002	< 0.002	0.0067
PFOA (ug/L) Daily Maximum	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.004	0.002	< 0.002	< 0.002	0.0067
PFOS (ug/L) Average Monthly	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.0059
PFOS (ug/L) Daily Maximum	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.0059
Total PFOA and PFOS (ug/L) Average Monthly	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	0.006	0.004	< 0.004	< 0.004	0.0126
Total PFOA and PFOS (ug/L) Daily Maximum	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	0.006	0.004	< 0.004	< 0.004	0.0126
Vinyl Chloride (ug/L) Average Monthly	< 0.18	< 0.19	< 0.18	< 0.19	< 0.17	< 0.19	< 0.19	< 0.18	< 0.19	< 0.18	< 0.29	< 0.18

DMR Data for Outfall 004 (from August 1, 2021 to July 31, 2022)

Parameter	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21
COD (mg/L) Daily Maximum		57.2						26.6				
TSS (mg/L) Daily Maximum		10.0						< 4.0				
Oil and Grease (mg/L) Daily Maximum		< 4.8						< 4.9				
TKN (mg/L) Daily Maximum		1.27						< 0.50				
Total Phosphorus (mg/L) Daily Maximum		0.22						0.26				
Tetrachloro-ethylene (mg/L) Daily Maximum		< 0.0005						0.00144				
Toluene (mg/L) Daily Maximum		< 0.0005						< 0.0005				
Trichloroethylene (mg/L) Daily Maximum		< 0.0005						< 0.0005				
Total Xylenes (mg/L) Daily Maximum		< 0.001						< 0.001				
Vinyl Chloride (mg/L) Daily Maximum		< 0.0005						< 0.0005				

DMR Data for Outfall 101 (from August 1, 2021 to July 31, 2022)

Parameter	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21
PFOA (ug/L) Average Monthly	0.0078	0.0056	0.0083	0.0230	0.0227	0.0147	0.0081	0.032	0.0023	0.016	< 0.002	0.0189
PFOA (ug/L) Daily Maximum	0.0078	0.0056	0.0083	0.0231	0.0227	0.0147	0.0081	0.032	0.0023	0.016	< 0.002	0.0189
PFOS (ug/L) Average Monthly	0.0055	0.0045	0.0065	0.0301	0.0301	0.0155	0.0072	0.053	0.0029	0.019	< 0.002	0.0312
PFOS (ug/L) Daily Maximum	0.0055	0.0045	0.0065	0.0301	0.0301	0.0155	0.0072	0.053	0.0029	0.019	< 0.002	0.0312
Total PFOA and PFOS (ug/L) Average Monthly	0.0133	0.0101	0.0148	0.0531	0.0528	0.0302	0.0153	0.085	0.0052	0.035	< 0.004	0.0501

Total PFOA and PFOS (ug/L) Daily Maximum	0.0133	0.0101	0.0148	0.0531	0.0528	0.0302	0.0153	0.085	0.0052	0.035	< 0.004	0.0501

Compliance History

Effluent Violations for Outfall 001, from: September 1, 2021 To: July 31, 2022

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
Vinyl Chloride	09/30/21	Avg Mo	< 0.29	ug/L	.24	ug/L

Proposed Effluent Limitations and Monitoring Requirements

Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	1/month	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/month	Grab
Total Suspended Solids	XXX	XXX	XXX	30.0	XXX	75.0	1/month	Grab
Tetrachloroethylene	XXX	XXX	XXX	0.005	XXX	0.0125	1/month	Grab
Trichloroethylene	XXX	XXX	XXX	0.005	XXX	0.0125	1/month	Grab
PFOA (ug/L)	XXX	XXX	XXX	Report	Report	XXX	1/month	Grab
PFOS (ug/L)	XXX	XXX	XXX	Report	Report	XXX	1/month	Grab
Total PFOA and PFOS (ug/L)	XXX	XXX	XXX	Report	Report	XXX	1/month	Calculation
Vinyl Chloride (ug/L)	XXX	XXX	XXX	0.24	XXX	0.6	1/month	Grab

Proposed Effluent Limitations and Monitoring Requirements

Outfall 004, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
pH (S.U.)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Chemical Oxygen Demand (COD)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Suspended Solids	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Oil and Grease	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Kjeldahl Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Zinc, Total	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Tetrachloroethylene	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Toluene	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Trichloroethylene	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Xylenes, Total	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Vinyl Chloride	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab

Proposed Effluent Limitations and Monitoring Requirements

IMP 101, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
PFOA (ug/L)	XXX	XXX	XXX	Report	Report	XXX	1/month	Grab
PFOS (ug/L)	XXX	XXX	XXX	Report	Report	XXX	1/month	Grab
Total PFOA and PFOS (ug/L)	XXX	XXX	XXX	Report	Report	XXX	1/month	Calculation