pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northwest Regional Office
CLEAN WATER PROGRAM

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

Application Type	**Renewal**	Application No.	**PA0221481**
Facility Type	**Industrial**	APS ID	**1007798**
Major / Minor	**Minor**	Authorization ID	**1299053**

Applicant and Facility Information

Applicant Name	**Norfolk Southern Railway Company**	Facility Name	**Norfolk Southern Meadville Yard**
Applicant Address	1200 Peachtree Street, N.E., Box 13	Facility Address	Linden Alley
	Atlanta, GA 30309		Meadville, PA 16335
Applicant Contact	Terri Allen	Facility Contact	Chris Hunsicker
Applicant Phone	(404) 582-4239	Facility Phone	(412) 893-7242
Client ID	87064	Site ID	270442
SIC Code	4011	Municipality	Meadville City
SIC Description	Trans. & Utilities - Railroads, Line-Haul Operating	County	Crawford County
Date Application Received	December 3, 2019	EPA Waived?	Yes
Date Application Accepted	December 16, 2019	If No, Reason	-

Purpose of Application: Application for a renewal of an NPDES permit for discharge of treated contaminated groundwater.

Summary of Review

Act 14 - Proof of Notification was submitted and received.
This facility is not subject to any ELGs.
A Part II Water Quality Management permit is not required at this time.
The applicant should be able to continue to meet the limits of this permit, which will protect the uses of the receiving stream.

I. OTHER REQUIREMENTS:

A. Right of Way
B. Solids Handling
C. NPDES Permit Supersedes WQM Permits
D. Modification or Revocation for Changes to BAT or BCT

SPECIAL CONDITIONS:

II. None

There are 2 open violations in efacts associated with the subject Client ID (87064) as of 11/10/2020 (see Attachment 1).

Approve	Deny	Signatures	Date
X		Stephen A. McCauley	11/10/2020
		Stephen A. McCauley, E.I.T. / Environmental Engineering Specialist	
X		Justin C. Dickey	November 10, 2020
		Justin C. Dickey, P.E. / Environmental Engineer Manager	

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.04032
Latitude	41º 37' 48.1"	Longitude	-80º 9' 31.8"
Quad Name	-	Quad Code	-
Wastewater Description:	Groundwater Cleanup Discharge		
Receiving Waters	French Creek (WWF)	Stream Code	51591
NHD Com ID	127350470	RMI	31.32
Drainage Area	801.17	Yield (cfs/mi^2)	0.07
Q_{7-10} Flow (cfs)	58.04	Q_{7-10} Basis	Calculated
Elevation (ft)	1063.8	Slope (ft/ft)	0.0049
Watershed No.	16-D	Chapter 93 Class.	WWF
Existing Use	-	Existing Use Qualifier	-
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Impaired*		
Cause(s) of Impairment	Mercury		
Source(s) of Impairment	Source Unknown		
TMDL Status	-	Name	-

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

Nearest Downstream Public Water Supply Intake	Aqua Pennsylvania, Inc. - Emlenton		
PWS Waters	Allegheny River	Flow at Intake (cfs)	1,376
PWS RMI	90.0	Distance from Outfall (mi)	65.5

* - The discharge is treated oil contaminated groundwater from the diesel shop and fueling area and is not expected to contain mercury.

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.

Narrative: This Fact Sheet details the determination of draft NPDES permit limits for an existing discharge of 0.04032 MGD of treated Industrial Waste from existing groundwater extraction wells in Meadville City, Crawford County.

Treatment consists of: A settling chamber, an oil/water separator, and an effluent manhole where the effluent is pumped.

Streamflow: French Creek at Carlton, 1909-1924 (USGS Gage no. 03023500):

Q_{7-10}:	72.3	cfs	(USGS StreamStats)
Drainage Area:	998	sq. mi.	(USGS StreamStats)
Yieldrate:	0.072	cfsm	(calculated)

French Creek @ Outfall 001:

Yieldrate:	0.072	cfsm	(calculated above)
Drainage Area:	801.17	sq. mi.	(USGS StreamStats)
% of stream allocated:	100%	Basis:	No nearby discharges
Q_{7-10}:	58.04	cfs	

2. Wasteflow: Outfall 001

Maximum discharge: 0.04032 MGD = 0.0624 cfs

Runoff flow period: 24 hours Basis: Discharges with flow equalization

The calculated stream flow is greater than 3 parts to the discharge flow. In accordance with the SOP, since this is an existing discharge, and there is more than 3 parts stream flow (Q7-10) to 1 part effluent (design flow), no treatment requirements will be required from document number 391-2000-014, titled, “Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers”, dated April 12, 2008.

Flow will continue to be monitored as authorized under Chapter 92a.61, and as recommended in the SOP.

3. Parameters:

The following parameters were evaluated: pH, Total Suspended Solids, and Oil and Grease.

a. pH

Between 6.0 and 9.0 at all times

Basis: Application of Chapter 95.2 technology-based limits.

b. Total Suspended Solids (TSS)

Limits are 30 mg/l as a monthly average and 60 as a daily maximum.

Basis: Application of Chapter 92a.48 technology-based limits. Similar to the previous NPDES Permit, only an instantaneous maximum limitation of 75 mg/l for Total Suspended Solids will be required.

c. Oil and Grease

Limits are 15 mg/l as a monthly average and 30 as a daily maximum.

Basis: Application of Chapter 95.2 technology-based limits. Similar to the previous NPDES Permit, only an instantaneous maximum limitation of 30 mg/l for Oil and Grease will be required.

4. Reasonable Potential Analysis:

A Reasonable Potential Analysis was performed in accordance with State practices for Outfall 001 by first using the Toxics Screening Analysis Spreadsheet to determine which parameters should be modeled using the Pentox program. Based on the Toxics Screening Analysis Spreadsheet (see Attachment 2), none of the parameters sampled in the renewal application were required to be modeled for Outfall 001.

Result: No WQBELs are necessary for this renewal.

5. NO_2-NO_3, Fluoride, Phenolics, Sulfates, Chlorides, and TDS:

Nearest Downstream potable water supply (PWS): Aqua Pennsylvania, Inc. - Emlenton

Distance downstream from the point of discharge: 65.5 miles (approximate)

☒ No limits necessary
☐ Limits needed

Basis: Significant dilution is available. While none of the parameters were sampled in the renewal application, the downstream PWS to the discharge flow ratio is greater than 20,000:1.

6. Attachment List:

Attachment 1 - Open violations in efacts for client ID
Attachment 2 - Toxics Screening Analysis Spreadsheet

If viewing this electronically, please refer to the following PDF to view the above Attachments:

Adobe Acrobat Document

Threatened and Endangered Mussel Species Concerns and Considerations

The main segment of the French Creek from the Union City Reservoir to the confluence with the Allegheny River was designated by the United States Fish and Wildlife Services (USFWS) as “Critical Habitat” for the rabbitsfoot mussel, a federally listed threatened species, and is known to also contain other threatened and endangered mussel species. Due to this being a direct discharge to the French Creek, located just upstream of the Meadville Area STP (PA0026271), potential mussel impacts were evaluated.

The USFWS has indicated in comment letters on other NPDES permits that to protect threatened and endangered mussel species, wastewater discharges containing ammonia-nitrogen (NH_3-N), chloride (Cl^-) and nickel, where mussels or their habitat exist, can be no more than 1.9 mg/l, 78 mg/l, and 7.3 µg/l, respectively.

The Department reviewed the renewal application sampling data for these three parameters to determine potential impacts that the discharge may have to threatened and endangered mussel species. The application did not contain any effluent samples for Ammonia-Nitrogen, Chloride, or Nickel.

Since this is a discharge from a groundwater cleanup facility, the effluent is not expected to adversely affect threatened or endangered mussel species in the French Creek considering the expected effluent quality from the wastewater treatment facility, the size of the discharge, and the assimilative capacity of the French Creek once the effluent reaches it.

However, due to there being insufficient data to make an informed decision on the impact of this discharge, the Department will establish annual effluent monitoring for Ammonia-Nitrogen (NH3-N), Chloride, and Nickel to develop a dataset to further evaluate potential impacts for the next permit renewal. None of the three parameters would typically be required for a permit of this nature.

Compliance History

DMR Data for Outfall 001 (from September 1, 2019 to August 31, 2020)

Parameter	AUG-20	JUL-20	JUN-20	MAY-20	APR-20	MAR-20	FEB-20	JAN-20	DEC-19	NOV-19	OCT-19	SEP-19
Flow (MGD) Daily Maximum	0.0	0.0	0.00038	0.00221	0.00092	0.00295	0.0017	0.00268	0.00175	0.0	0.0	0.0
pH (S.U.) Minimum	8.0	6.81	7.96	6.63	7.81	6.85	7.62	7.0	8.02	7.27	7.16	7.25
pH (S.U.) Maximum	8.0	6.81	7.96	6.63	7.81	6.85	7.62	7.0	8.02	7.27	7.16	7.25
TSS (mg/L) Daily Maximum	< 4.0	< 4.0	20.0	10.0	35.0	17.0	29.0	28.0	29.0	51.0	4.0	< 4.0
TSS (mg/L) Instantaneous Maximum	< 4.0	< 4.0	20.0	10.0	35.0	17.0	29.0	28.0	29.0	51.0	4.0	< 4.0
Oil and Grease (mg/L) Daily Maximum	< 4.8	< 4.8	< 4.8	4.8	1.4	< 4.8	< 4.8	< 4.8	< 4.8	3.7	< 4.8	< 5.6
Oil and Grease (mg/L) Instantaneous Maximum	< 4.8	< 4.8	< 4.8	< 4.8	1.4	< 4.8	< 4.8	< 4.8	< 4.8	3.7	< 4.8	< 5.6

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

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	Daily Maximum	Maximum	Instant. Maximum		
Flow (MGD)	XXX	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
TSS	XXX	XXX	XXX	Report	XXX	75.0	1/month	Grab
Oil and Grease	XXX	XXX	XXX	Report	XXX	30.0	1/month	Grab
Ammonia-Nitrogen	XXX	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	8-Hr Composite
Total Nickel	XXX	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	8-Hr Composite
Chloride	XXX	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	8-Hr Composite

Compliance Sampling Location: Outfall 001, prior to mixing with any other wastewaters.

Flow is monitor only based on Chapter 92a.61. The limits for pH and Oil and Grease are technology-based on Chapter 95.2. The limits for Total Suspended Solids are technology-based on Chapter 92a.48. Monitoring for Ammonia-Nitrogen, Total Nickel, and Chloride is based on Chapter 92a.61 due to the mussels in the French Creek.

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

WATER MANAGEMENT SYSTEM
OPEN VIOLATIONS BY CLIENT

Client ID: **87064**
Client: **All**

Open Violations: **2**

CLIENT ID	CLIENT	PF ID	FACILITY	PF KIND	PF STATUS	INSP PROGRAM
87064	NORFOLK SOUTHERN RAILWAY CO	710074	CONWAY RAIL YRD	Industrial Waste	Active	WPC NPDES
87064	NORFOLK SOUTHERN RAILWAY CO	632367	NORFOLK SOUTHERN RAILWAY-CONWAY YARD	Stormwater-Industrial	Inactive	WPC NPDES

PROGRAM SPECIFIC ID	INSP ID	VIOLATION ID	INSPECTION CATEGORY	VIOLATION DATE	VIOLATION CODE	VIOLATION	PF INSPECTOR	INSP REGION
PA0253898	2900693	854479	PF	06/25/2019	CSL301	CSL - Unauthorized, unpermitted discharge of industrial wastes to waters of the Commonwealth	BELL, SHAWN	SWRO
PAS806108	2979689	872902	PF	01/08/2020	92A.41(C)	NPDES - Discharge contained floating materials, scum, sheet, foam, oil, grease or substances that produced an observable change or resulted in deposits in receiving waters	BELL, SHAWN	SWRO

TOXICS SCREENING ANALYSIS
WATER QUALITY POLLUTANTS OF CONCERN
VERSION 2.7

Facility: **Norfolk Southern Meadville Yard** NPDES Permit No.: **PA0221481** Outfall: **001**
Analysis Hardness (mg/L): **100** Discharge Flow (MGD): **0.04032** Analysis pH (SU): **7.4**
Stream Flow, Q_{7-10} (cfs): **58.04**

	Parameter	Maximum Concentration in Application or DMRs (µg/L)		Most Stringent Criterion (µg/L)	Candidate for PENTOXSD Modeling?	Most Stringent WQBEL (µg/L)	Screening Recommendation
Group 1	Total Dissolved Solids			500000			
	Chloride			250000			
	Bromide			N/A			
	Sulfate			250000			
	Fluoride			2000			
Group 2	Total Aluminum			750			
	Total Antimony			5.6			
	Total Arsenic			10			
	Total Barium			2400			
	Total Beryllium			N/A			
	Total Boron			1600			
	Total Cadmium			0.271			
	Total Chromium			N/A			
	Hexavalent Chromium			10.4			
	Total Cobalt			19			
	Total Copper			9.3			
	Total Cyanide			N/A			
	Total Iron			1500			
	Dissolved Iron		0.0016	300	No		
	Total Lead			3.2			
	Total Manganese			1000			
	Total Mercury			0.05			
	Total Molybdenum			N/A			
	Total Nickel			52.2			
	Total Phenols (Phenolics)			5			
	Total Selenium			5.0			
	Total Silver			3.8			
	Total Thallium			0.24			
	Total Zinc			119.8			
Group 3	Acrolein			3			
	Acrylamide			0.07			
	Acrylonitrile			0.051			
	Benzene		0.00001	1.2	No		
	Bromoform			4.3			
	Carbon Tetrachloride			0.23			
	Chlorobenzene			130			
	Chlorodibromomethane			0.4			
	Chloroethane			N/A			
	2-Chloroethyl Vinyl Ether			3500			
	Chloroform			5.7			
	Dichlorobromomethane			0.55			
	1,1-Dichloroethane			N/A			
	1,2-Dichloroethane			0.38			
	1,1-Dichloroethylene			33			
	1,2-Dichloropropane			2200			
	1,3-Dichloropropylene			0.34			
	Ethylbenzene		0.000001	530	No		
	Methyl Bromide			47			
	Methyl Chloride			5500			
	Methylene Chloride			4.6			
	1,1,2,2-Tetrachloroethane			0.17			
	Tetrachloroethylene		0.000001	0.69	No		
	Toluene		0.000001	330	No		
	1,2-trans-Dichloroethylene			140			
	1,1,1-Trichloroethane			610			
	1,1,2-Trichloroethane			0.59			
	Trichloroethylene		0.0000017	2.5	No		
	Vinyl Chloride		0.000001	0.025	No		
Group 4	2-Chlorophenol			81			
	2,4-Dichlorophenol			77			
	2,4-Dimethylphenol			130			
	4,6-Dinitro-o-Cresol			13			
	2,4-Dinitrophenol			69			
	2-Nitrophenol			1600			
	4-Nitrophenol			470			
	p-Chloro-m-Cresol			30			
	Pentachlorophenol			0.27			

	Phenol			10400			
	2,4,6-Trichlorophenol			1.4			
Group 5	Acenaphthene			17			
	Acenaphthylene			N/A			
	Anthracene			8300			
	Benzidine			0.000086			
	Benzo(a)Anthracene		0.00001	0.0038	No		
	Benzo(a)Pyrene		0.00001	0.0038	No		
	3,4-Benzofluoranthene			0.0038			
	Benzo(ghi)Perylene		0.00001	N/A	No		
	Benzo(k)Fluoranthene			0.0038			
	Bis(2-Chloroethoxy)Methane			N/A			
	Bis(2-Chloroethyl)Ether			0.03			
	Bis(2-Chloroisopropyl)Ether			1400			
	Bis(2-Ethylhexyl)Phthalate			1.2			
	4-Bromophenyl Phenyl Ether			54			
	Butyl Benzyl Phthalate			35			
	2-Chloronaphthalene			1000			
	4-Chlorophenyl Phenyl Ether			N/A			
	Chrysene		0.00001	0.0038	No		
	Dibenzo(a,h)Anthrancene			0.0038			
	1,2-Dichlorobenzene			160			
	1,3-Dichlorobenzene			69			
	1,4-Dichlorobenzene			150			
	3,3-Dichlorobenzidine			0.021			
	Diethyl Phthalate			800			
	Dimethyl Phthalate			500			
	Di-n-Butyl Phthalate			21			
	2,4-Dinitrotoluene			0.05			
	2,6-Dinitrotoluene			0.05			
	1,4-Dioxane			N/A			
	Di-n-Octyl Phthalate			N/A			
	1,2-Diphenylhydrazine			0.036			
	Fluoranthene			40			
	Fluorene			1100			
	Hexachlorobenzene			0.00028			
	Hexachlorobutadiene			0.44			
	Hexachlorocyclopentadiene			1			
	Hexachloroethane			1.4			
	Indeno(1,2,3-cd)Pyrene		0.00001	0.0038	No		
	Isophorone			35			
	Naphthalene		0.00001	43	No		
	Nitrobenzene			17			
	n-Nitrosodimethylamine			0.00069			
	n-Nitrosodi-n-Propylamine			0.005			
	n-Nitrosodiphenylamine			3.3			
	Phenanthrene		0.00001	1	No		
	Pyrene		0.00001	830	No		
	1,2,4-Trichlorobenzene			26			
Group 6	Aldrin			0.000049			
	alpha-BHC			0.0026			
	beta-BHC			0.0091			
	gamma-BHC			0.098			
	delta BHC			N/A			
	Chlordane			0.0008			
	4,4-DDT			0.00022			
	4,4-DDE			0.00022			
	4,4-DDD			0.00031			
	Dieldrin			0.000052			
	alpha-Endosulfan			0.056			
	beta-Endosulfan			0.056			
	Endosulfan Sulfate			N/A			
	Endrin			0.036			
	Endrin Aldehyde			0.29			
	Heptachlor			0.000079			
	Heptachlor Epoxide			0.000039			
	PCB-1242			N/A			
	PCB-1254			N/A			
	PCB-1221			N/A			
	PCB-1232			N/A			
	PCB-1248			N/A			
	PCB-1260			N/A			
	PCB-1016			N/A			
	Toxaphene			0.0002			
	2,3,7,8-TCDD			0.000000005			
Group 7	Gross Alpha (pCi/L)			N/A			
	Total Beta (pCi/L)			N/A			
	Radium 226/228 (pCi/L)			N/A			
	Total Strontium			4000			
	Total Uranium			N/A			