Pennsylvania Department of Environmental Protection

Northwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0001775**
Wastewater Type	**Sewage**	APS ID	**1114736**
Facility Type	**SFTF**	Authorization ID	**1486853**

NPDES PERMIT FACT SHEET
INDIVIDUAL SFTF/SRSTP

Applicant, Facility and Project Information

Applicant Name	**McFadden Machine Company, Inc.**	Facility Name	**McFadden Machine Company Inc.**
Applicant Address	160 Hill Road Blairsville, PA 15717-5917	Facility Address	160 Hill Road Blairsville, PA 15717-5917
Applicant Contact	Robert Hlusko	Facility Contact	
Applicant Phone	(427) 459-9276	Facility Phone	
Client ID	25242	Site ID	453423
SIC Code	1221	Municipality	Black Lick Township
SIC Description	Mining - Bituminous Coal and Lignite - Surface	County	Indiana
Date Application Received	May 1, 2024	WQM Required	No - Existing
Date Application Accepted	June 11, 2024	WQM App. No.	

Project Description: Renewal of a NPDES Permit for an existing discharge of domestic sewage

Summary of Review

This permit is for domestic sewage discharge from a manufacturing plant. The treatment plant is rated for 0.0015 MGD but current flows are estimated at around 0.0004 MGD or less for around ten employees.

No changes to discharge quality or quantity were proposed as part of this permit renewal.

The permittee is currently enrolled and using eDMR for reporting.

There are currently no open violations listed in EFACTS for this client (4/16/2025).

Sludge use and disposal description and location(s): Sludge is hauled offsite to Rural Valley

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.

Approve	Deny	Signatures	Date
X		Adam J. Pesek Adam J. Pesek, E.I.T. / Project Manager	April 16, 2025
X		Adam Olesnanik Adam Olesnanik, P.E. / Environmental Engineer Manager	April 21, 2025

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.0015
Latitude	40º 30' 40"	Longitude	-79º 14' 25"
Quad Name	Indiana	Quad Code	1412
Wastewater Description:	Treated sewage		
Receiving Waters	Unnamed Tributary to Muddy Run	Stream Code	44010
NHD Com ID	123719973	RMI	0.15
Drainage Area	0.156	Yield (cfs/mi^2)	0.027
Q_{7-10} Flow (cfs)	0.0042	Q_{7-10} Basis	Bulletin 12 Sta. 03042200
Elevation (ft)		Slope (ft/ft)	0.02
Watershed No.	18-D	Chapter 93 Class.	CWF
Existing Use		Existing Use Qualifier	
Exceptions to Use	None	Exceptions to Criteria	None
Assessment Status	Impaired		
Cause(s) of Impairment	SILTATION		
Source(s) of Impairment	CROP PRODUCTION (CROP LAND OR DRY LAND)		
TMDL Status	Final 1/29/2010	Name	Kiskiminetas-Conemaugh River Watersheds TMDL

Background/Ambient Data		Data Source
pH (SU)	7.0	Default
Temperature (°F)	20	Default (CWF)
Hardness (mg/L)		
Other: NH_3	0.1	Default

Nearest Downstream Public Water Supply Intake		Buffalo Township Municipal Authority – Freeport intake	
PWS Waters	Allegheny River	Flow at Intake (cfs)	2070
PWS RMI	29.4	Distance from Outfall (mi)	

Changes Since Last Permit Issuance: None

Other Comments: Average annual flow of discharge flow has been greatly reduced as the produced water has been declining exponentially since the system was first designed.

This discharge is not expected to contribute to the stream impairment.

Treatment Facility Summary				
Treatment Facility Name: McFadden Machine Company Inc.				
WQM Permit No.	**Issuance Date**			
3279413				
3271407				
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage	Tertiary	Extended Aeration	Chlorination	0.0004
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.0015	2.5	Not Overloaded	Aerated SHT	Other WWTP

Comments: The treatment plant consists of (2) trains with only (1) online. Components include a comminutor, EQ/surge tank (3,333 gal), aeration basin (10,000 gal), clarifier (1,160 gal), dosing tank (750 gal), sludge holding tank, (2) sand filters, and chlorine contact tank/dechlorination.

Compliance History	
Summary of DMRs:	15 effluent violations were reported since the beginning of 2020.
Summary of Inspections:	The last site inspection was conducted on 5/08/2024. No violations were reported. The inspection report did indicate that the sand filters needed weeded/raked.

Development of Effluent Limitations (Interim Limits)

Outfall No. 001 **Design Flow (MGD)** 0.0015
Latitude 40° 30' 40" **Longitude** 79° 14' 25.00"
Wastewater Description: Treated domestic sewage

Technology-Based Limitations

The following technology-based limitations apply, subject to water quality analysis and BPJ where applicable:

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Fecal Coliform (5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)
Fecal Coliform (5/1 – 9/30)	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform (10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)
Fecal Coliform (10/1 – 4/30)	10,000 / 100 ml	IMAX	-	92a.47(a)(5)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)

Comments: None

Water Quality-Based Limitations

The following limitations were determined through water quality modeling (output files attached):

Parameter	Limit (mg/l)	SBC	Model
Ammonia Nitrogen (5/01 – 10/31)	6.4	Average Monthly	Previous WQAM modeling
Ammonia Nitrogen (11/01 – 4/30)	19.2	Average Monthly	Previous WQAM modeling
Total Residual Chlorine	0.4	Average Monthly	TRC Spreadsheet
Total Residual Chlorine.	0.9	IMAX	TRC Spreadsheet

Comments: A seasonal multiplier of "3" was applied for ammonia nitrogen. Consistent with current Department SOPs, WQM modeling was not conducted for this SFTF, only TRC modeling, for this permit renewal. The existing limits for ammonia nitrogen will be retained in the proposed renewed permit.

Best Professional Judgment (BPJ) Limitations

Comments: A dissolved oxygen limit of a minimum of 4.0 mg/l was previously placed in the permit in accordance with the Department's SOP entitled "Establishing Effluent Limitations for Individual Sewage Permits." The existing limit will be retained in the proposed renewed permit.

Anti-Backsliding

No backsliding of limits is proposed as part of this permit renewal.

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	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/month	Grab
DO	XXX	XXX	4.0 Inst Min	XXX	XXX	XXX	1/month	Grab
TRC	XXX	XXX	XXX	0.4	XXX	0.9	1/week	Grab
CBOD5	XXX	XXX	XXX	25.0	XXX	50.0	1/month	Grab
TSS	XXX	XXX	XXX	30.0	XXX	60.0	1/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/month	Grab
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	19.2	XXX	38.4	1/month	Grab
Ammonia May 1 - Oct 31	XXX	XXX	XXX	6.4	XXX	12.8	1/month	Grab

Compliance Sampling Location: Outfall 001 (after disinfection)

Other Comments: Existing monitoring frequencies were retained for this proposed permit renewal.

McFadden-TRC_CALC

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

0.0042	= Q stream (cfs)	0.5	= CV Daily
0.0015	= Q discharge (MGD)	0.5	= CV Hourly
4	= no. samples	1	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream	1	= CFC_Partial Mix Factor
0	= Chlorine Demand of Discharge	15	= AFC_Criteria Compliance Time (min)
0.5	= BAT/BPJ Value	720	= CFC_Criteria Compliance Time (min)
0	= % Factor of Safety (FOS)		=Decay Coefficient (K)

Source	Reference	AFC Calculations		Reference	CFC Calculations	
TRC	1.3.2.iii	WLA afc =	0.596	1.3.2.iii	WLA cfc =	0.574
PENTOXSD TRG	5.1a	LTAMULT afc =	0.373	5.1c	LTAMULT cfc =	0.581
PENTOXSD TRG	5.1b	LTA_afc=	0.222	5.1d	LTA_cfc =	0.334

Source		Effluent Limit Calculations		
PENTOXSD TRG	5.1f	AML MULT =	1.720	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) =	0.382	AFC
		INST MAX LIMIT (mg/l) =	0.895	

WLA afc	**(.019/e(-k*AFC_tc)) + [(AFC_Yc*Qs*.019/Qd*e(-k*AFC_tc))...** **...+ Xd + (AFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)**
LTAMULT afc	EXP((0.5*LN(cvh^2+1))-2.326*LN(cvh^2+1)^0.5)
LTA_afc	wla_afc*LTAMULT_afc
WLA_cfc	**(.011/e(-k*CFC_tc) + [(CFC_Yc*Qs*.011/Qd*e(-k*CFC_tc))...** **...+ Xd + (CFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)**
LTAMULT_cfc	EXP((0.5*LN(cvd^2/no_samples+1))-2.326*LN(cvd^2/no_samples+1)^0.5)
LTA_cfc	wla_cfc*LTAMULT_cfc
AML MULT	EXP(2.326*LN((cvd^2/no_samples+1)^0.5)-0.5*LN(cvd^2/no_samples+1))
AVG MON LIMIT	MIN(BAT_BPJ,MIN(LTA_afc,LTA_cfc)*AML_MULT)
INST MAX LIMIT	**1.5*((av_mon_limit/AML_MULT)/LTAMULT_afc)**