pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northeast Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0062197**
Facility Type	**Industrial**	APS ID	**613187**
Major / Minor	**Minor**	Authorization ID	**1205923**

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

Applicant and Facility Information

Applicant Name	**Schuylkill County Municipal Authority (SCMA)**	Facility Name	**Mt Laurel WTP**
Applicant Address	221 S Centre Street	Facility Address	54 Mall Road
	Pottsville, PA 17901-3506		Pottsville, PA 17901
Applicant Contact	Patrick Caulfield	Facility Contact	Amy Batdorf
Applicant Phone	(570) 622-8240	Facility Phone	(570) 622-8240
Client ID	5024	Site ID	809
SIC Code	4941	Municipality	New Castle Township
SIC Description	Trans. & Utilities - Water Supply	County	Schuylkill
Date Application Received	October 27, 2017	EPA Waived?	Yes
Date Application Accepted	March 29, 2018	If No, Reason	-

Purpose of Application: Application for NPDES permit.

Summary of Review

This is a 0.072 MGD IW (no ELG) NPDES Discharger (Water Treatment Plant) discharge to Mud Run (CWF; Stream Code# 2359).

Background: Existing Water Filtration Plant that treats up to 1.6 million gallons per day (MGD) for public water supply per the DRBC Docket No. D-2013-013 CP-2. **NOTE**: DRBC Docket coordinates are for a WTP building, not actual stream discharge point. NPDES permit coordinates were updated in the previous NPDES Permit Renewal.

Part C Special Conditions:

- Part C.I.A, B, **C and D**: Standard IW Conditions (Property Rights; Residuals Management; **Relation to WQM permits; BAT/ELG**)
- **Part C.I.E: New chlorine minimization condition due to usage of chlorine in process.**
- **Part C.I.F: New dry stream condition. During the 3-hour day batch discharges, the receiving stream would be 8:1 dominated during low flow conditions, which might lead to Acute Fish Criterion impacts.**
- **Part C.II: New WQBELs for Toxics conditions (Total Lead, Total Mercury, Total Zinc)**
- **Part C.III: New WQBELs below QL conditions (Total Lead, Total Mercury)**
- **Part C.IV: New Chemical Additive Condition (in event of future usage; none are currently proposed)**
- **Part C.V: New standard WTP Basin cleaning condition (modified to require basin dewatering plan be added to site contingency plan).**

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-

Approve	Deny	Signatures	Date
X		James D. Berger (signed) James D. Berger, P.E. / Environmental Engineer	October 14, 2021
X		Amy M. Bellanca (signed) Amy M. Bellanca, P.E. / Environmental Engineer Manager	11-23-21

Summary of Review
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.

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	.072
Latitude	40º 46' 15.25"	Longitude	-76º 13' 40.64"
Quad Name	Shenandoah	Quad Code	1236 (5.19.3)
Wastewater Description:	Water Treatment Effluent		
Receiving Waters	Mud Run (CWF, MF)	Stream Code	2359
NHD Com ID	25995004	RMI	0.52 (per DRBC Docket)
Drainage Area	0.73 square miles	Yield (cfs/mi^2)	0.1483 (calculated)
Q_{7-10} Flow (cfs)	0.10829 (70,000 GPD minimum dam release)	Q_{7-10} Basis	Minimum Dam release at outfall. Default 0.1 Statewide LFY assumed for downstream contributions.
Elevation (ft)	~1510 Feet	Slope (ft/ft)	-
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	DEWATERING, FLOW REGIME MODIFICATION		
Source(s) of Impairment	HIGHWAY/ROAD/BRIDGE RUNOFF (NON-CONSTRUCTION RELATED), URBAN RUNOFF/STORM SEWERS		
TMDL Status	Final	Name	3/24/2005 Mill Creek (Schuylkill) 4/7/2007 Upper Schuylkill River (AMD)
Background/Ambient Data		Data Source	
Hardness (mg/L)	20.0	2017 NPDES Permit application (8/18/2017 sample)	
Other:	-	-	
Nearest Downstream Public Water Supply Intake		Pottstown (per DRBC Docket)	
PWS Waters	Schuylkill River	Flow at Intake (cfs)	-
PWS RMI	-	Distance from Outfall (mi)	~76 miles

Changes Since Last Permit Issuance: None known.

Other Comments: 1:1 effluent/stream daily average flow, but 8:1 during 3-hour daily batch discharge at low flow conditions.

Batch WTP discharge is downstream of the Mud Run Water Supply Reservoir (surface water intake location). Reservoir is HQ-CWF stream segment (CWF downstream of reservoir). Area receive stormwater runoff from I-81/Route 61 interchange area. Mud Run flows to Stony Creek (CWF; Stream Code No. 2361; same impairments as Mud Run above) not far from headwaters. Stony Creek flows to Mill Creek (AMD impaired) that flows to Schuylkill River (AMD impaired). No WLAs for facility in the existing TMDLs (see above) which focused on mining discharges with WTP facility discharges (discharging since at least 1991) as part of existing background loadings. Permit limits will protect the receiving stream.

The SCMA MOUNT LAUREL (MUD RUN) Reservoir Dam ID# 54-027 is a C-1 High Hazard Dam. 2018 Dam Inspection Report indicated 70,000 GPD minimum dam release. Dam berm is 39 feet high (with E-maps showing 1540 Feet Contour at berm). 852 acre-feet storage capacity.

Treatment Facility Summary

Treatment Facility Name: SCMA Mt Laurel WTP

WQM Permit No.	Issuance Date	Scope
5490202	September 4, 1990	Two (2) "cast in place" covered concrete WTP Settling Basins, 7,900 CF volume (3400 CF for sludge storage and 4500 CF for Clean Water) each with 2-foot freeboard. Special condition requiring sludges be managed per DEP Waste Management regulations. To be used on an alternating basis to allow for sludge removal.

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Industrial	Primary	Settlement	None. Process water is chlorinated for water supply purposes	0.073

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.0154	NA	NA	No biosolids. WTP sludge dries and thickens in alternate basins	Land application

Changes Since Last Permit Issuance: None known.

Other Comments:

This is a Water Filtration Plant with WQM permitted-sedimentation basins.

- Effluent: filter backwashes, settling tube cleaning, flocculator draining, floor drains, sample sink and analyzer drains, roof and parking lot drains.
- Batch discharges: 3 discharges; 3 hours per day; 7 days per week; 1 hour length of discharge cycle
- Process wastewater originates in either of 2 wastewater holding (settling) basins. One basin is used at one time. When inactive, sludge settles and dries out/thicken. Sludge is then removed and disposed prior to basin being returned to service.
- No wastewater chemicals or chemical additives identified in application. Process treatment chemical includes:
    - Coagulant Aid: Superfloc N-1986 (**acrylamide containing**) which is added before filtration prior to coagulation. Estimated 100 ug/l average concentration suspected. Acrylamide was ND at 10 ug/l ND concentration.
    - Potassium Permanganate
    - Aluminum Sulfate
    - **Zinc Orthophosphate**
    - Chlorine Dioxide
    - Powered Carbon
    - Caustic Soda
    - Lime
    - Filter Aid (not further identified)
- 2/14/2018 DRBC Docket D-2013-013 CP-2 Description: The docket holder's WFP treats up to 1.6 MGD of water withdrawn from the Mt. Laurel and Kaufman Reservoir intakes, utilizing chemical treatment, clarification, and filtration. All water is treated with potassium permanganate, powdered carbon, alum, coagulant aid, filter aid, zinc orthophosphate, caustic soda, and chlorine. Filter backwash is directed to two sedimentation basins, typically operating in parallel for settling. Sedimentation supernatant is recirculated back to the WFP and the sedimentation basin overflow discharges to Mud Run at a flow up to 0.072 MGD. No additional or more stringent DRBC Limits were imposed.

Compliance History

DMR Data for Outfall 001 (from September 1, 2020 to August 31, 2021)

Parameter	AUG-21	JUL-21	JUN-21	MAY-21	APR-21	MAR-21	FEB-21	JAN-21	DEC-20	NOV-20	OCT-20	SEP-20
Flow (MGD) Average Monthly	0.051	0.054	0.052	0.053	0.054	0.061	0.054	0.053	0.053	0.053	0.054	0.051
Flow (MGD) Daily Maximum	0.055	0.059	0.056	**0.145**	0.062	0.067	0.065	0.058	0.059	0.057	0.060	0.058
pH (S.U.) Minimum	6.9	7.0	6.9	6.9	6.8	6.7	6.8	6.8	6.7	6.8	6.8	6.9
pH (S.U.) Maximum	7.5	7.2	7.2	7.5	7.1	7.4	6.9	7.3	7.0	7.5	7.1	7.1
TRC (mg/L) Average Monthly	**0.05**	**0.06**	**0.07**	**0.05**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.07**	**0.07**	**0.05**
TRC (mg/L) Instantaneous Maximum	**0.06**	**0.06**	**0.09**	**0.07**	**0.08**	**0.08**	**0.07**	**0.09**	**0.08**	**0.07**	**0.09**	**0.06**
TSS (mg/L) Average Monthly	7.00	4.0	3.0	3.00	3.0	3.00	8.0	3.0	2.7	2.0	2.00	2.00
TSS (mg/L) Daily Maximum	7.00	4.0	3.0	3.00	3.0	3.00	8.0	3.0	2.7	2.0	2.00	2.00
Total Aluminum (lbs/day) Average Monthly	0.110	0.046	0.041	0.081	0.174	0.095	0.234	0.113	0.047	0.164	0.050	0.048
Total Aluminum (lbs/day) Daily Maximum	0.110	0.046	0.041	0.081	0.174	0.095	0.234	0.113	0.047	0.164	0.050	0.048
Total Aluminum (mg/L) Average Monthly	**0.27**	**0.10**	**0.100**	**0.180**	**0.41**	**0.19**	**0.50**	**0.25**	**0.11**	**0.37**	**0.11**	**0.11**
Total Aluminum (mg/L) Daily Maximum	**0.27**	**0.10**	**0.100**	**0.180**	**0.41**	**0.19**	**0.50**	**0.25**	**0.11**	**0.37**	**0.11**	**0.11**
Total Iron (mg/L) Average Monthly	0.030	0.02	0.070	0.70	0.02	0.030	0.22	0.06	0.05	0.060	0.030	0.040
Total Iron (mg/L) Daily Maximum	0.030	0.02	0.070	0.070	0.02	0.030	0.22	0.06	0.05	0.060	0.030	0.040
Total Manganese (mg/L) Average Monthly	0.090	0.06	0.030	0.05	0.10	0.09	0.33	0.08	0.04	0.020	0.035	0.033

Total Manganese (mg/L) Daily Maximum	0.090	0.06	0.030	0.05	0.10	0.09	0.33	0.08	0.04	0.020	0.035	0.033

DMR Data for Outfall 001 (from February 1, 2019 to January 31, 2020)

Parameter	JAN-20	DEC-19	NOV-19	OCT-19	SEP-19	AUG-19	JUL-19	JUN-19	MAY-19	APR-19	MAR-19	FEB-19
Flow (MGD) Average Monthly	0.053	0.058	0.055	0.060	0.055	0.052	0.053	0.051	0.053	0.052	0.054	0.51
Flow (MGD) Daily Maximum	0.063	0.064	0.064	0.064	0.062	0.056	0.059	0.056	0.058	0.059	0.058	0.064
pH (S.U.) Minimum	6.7	6.9	6.9	7.0	7.0	7.1	6.8	6.8	6.8	6.8	6.7	6.9
pH (S.U.) Maximum	7.1	7.1	7.3	7.4	7.2	7.2	7.1	7.1	7.1	7.4	6.9	7.1
TRC (mg/L) Average Monthly	**0.09**	**0.07**	**0.09**	**0.03**	**0.05**	**0.05**	**0.05**	**0.04**	**0.05**	**0.05**	**0.05**	**0.09**
TRC (mg/L) Instantaneous Maximum	**0.10**	**0.08**	**0.14**	**0.05**	**0.10**	**0.09**	**0.07**	**0.06**	**0.09**	**0.05**	**0.08**	**0.10**
TSS (mg/L) Average Monthly	2.00	1.00	4.0	2.00	1.00	2.00	1.00	4.00	2.00	2.00	2.00	2.00
TSS (mg/L) Daily Maximum	2.00	1.00	4.0	2.00	1.00	2.00	1.00	4.00	2.00	2.00	2.00	2.00
Total Aluminum (lbs/day) Average Monthly	0.063	0.123	0.083	0.071	0.098	0.051	0.032	0.054	0.098	0.16	0.097	0.09
Total Aluminum (lbs/day) Daily Maximum	0.063	0.123	0.083	0.071	0.098	0.051	0.032	0.054	0.098	0.16	0.097	0.09
Total Aluminum (mg/L) Average Monthly	**0.160**	**0.23**	**0.20**	**0.14**	**0.210**	**0.110**	**0.070**	**0.12**	**0.23**	**0.33**	**0.22**	**0.22**
Total Aluminum (mg/L) Daily Maximum	**0.160**	**0.23**	**0.20**	**0.14**	**0.210**	**0.110**	**0.070**	**0.12**	**0.23**	**0.33**	**0.22**	**0.22**
Total Iron (mg/L) Average Monthly	0.030	0.040	0.040	0.070	0.15	0.060	0.050	0.040	0.050	0.11	0.070	0.040
Total Iron (mg/L) Daily Maximum	0.030	0.040	0.040	0.070	0.15	0.060	0.050	0.040	0.050	0.11	0.070	0.040
Total Manganese (mg/L) Average Monthly	0.045	0.049	0.052	0.023	0.035	0.026	0.036	0.043	0.042	0.052	0.053	0.052

Total Manganese (mg/L) Daily Maximum	0.045	0.049	0.052	0.023	0.035	0.026	0.036	0.043	0.042	0.052	0.053	0.052

Compliance History

Inspection History:

FACILITY NAME	INSP PROGRAM	PF TYPE	INSP ID	INSPECTED DATE	INSPECTION RESULT DESC	INSPECTOR ID	# OF VIOLATIONS
SCMA MT LAUREL WTP	WPCNP	Water Pollution Control Facility	2892347	04/24/2019	No Violations Noted	00531359	0
SCMA MT LAUREL WTP	WPCNP	Water Pollution Control Facility	2407124	07/29/2015	No Violations Noted	00531359	0

Compliance History: Three open violations per 10/8/2021 WMS Query (Open Violations by Client Number):

FACILITY	INSP PROGRAM	PROGRAM SPECIFIC ID	INSP ID	VIOLATION ID	VIOLATION DATE	VIOLATION CODE	VIOLATION
SCHUYLKILL CO MUN AUTH	Safe Drinking Water	3540038	3137597	905597	01/25/2021	B6A	OTHER VIOLATIONS DEEMED TO BE SIGNIFICANT DEFICIENCIES
SCMA DEER LAKE WWTP	WPC NPDES	PA0042170	3129896	903816	01/06/2021	92A.41(B)	NPDES - Failure to orally notify DEP within 4 hours of a pollution incident or submit written report within 5 days of incident
SCMA GORDON WWTP	WPC NPDES	PA0062201	3223250	924050	07/21/2021	92A.47(C)	NPDES - Illegal discharge to waters of the Commonwealth from a sanitary sewer overflow (SSO)

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .072
Latitude 40º 46' 15.00" **Longitude** -76º 13' 44.00"
Wastewater Description: Water Treatment Effluent

Permit Limits and Monitoring: Changes bolded

Constituent	Limit	SBC	Basis
pH	6.0 – 9.0 SU	**IMIN -** IMAX	Chapter 95.2 Application data: 6.31 – 8.77 SU (3 samples)
TRC	**0.20** **0.48**	Monthly Average IMAX	**New WQBEL supersedes existing TBEL (0.5/1.0 mg/l) per TRC Spreadsheet water quality modeling. As application and EDMR data indicates compliance with the new limits, the permit limits will be effective on PED.** Application data: 0.15 mg/l max and 0.06 mg/l avg. (3 samples) EDMR Data: See Compliance Section.
TSS	Report lb/d **Report lb/d** 30.**0** **60.0** **75.0**	Monthly Average **Daily Max** Monthly Average **Daily Max** **IMAX**	Existing TBEL. **IMAX limit based on standard IW multiplier.** Application data: 2.0 mg/l max and 1.5 mg/l max (3 samples).
Total Aluminum	**0.57 lb/d** **0.89 lb/d** **0.948** **1.479** **2.370**	Monthly Average **Daily Max** Monthly Average **Daily Max** **IMAX**	**Revised WQBEL per Reasonable Potential Analysis. As application and EDMR data indicates compliance with the new limits, the permit limits will be effective on PED.** Application data: 0.720 mg/l max and 0.23339 mg/l LTA (31 samples) EDMR Data: See Compliance Section.
Total Iron	**Report lb/d** **Report lb/d** 2.0**00** 4.0**00** **5.000**	Monthly Average **Daily Max** Monthly Average **Daily Max** **IMAX**	Existing TBEL (DEP Technology-based Control Requirements for Water Treatment Plants Guidance). **IMAX limit based on standard IW multiplier.** Application data: 0.180 ug/l max and 83.45 ug/l LTA. (31 samples)
Total Manganese	**Report lb/d** **Report lb/d** 1.0**00** 2.0**00** **2.500**	Monthly Average **Daily Max** Monthly Average Daily Max **IMAX**	Existing TBEL (DEP Technology-based Control Requirements for Water Treatment Plants Guidance). **IMAX limit based on standard IW multiplier.** Application data: 523 ug/l max and 112.94 ug/l LTA (31 samples)
Total Lead (effective in 3 years)	**0.0004** **0.0006** **0.60 ug/l** **0.94 ug/l** **1.51 ug/l**	**Monthly Average** **Daily Max** **Monthly Average** **Daily Max** **IMAX**	**New WQBEL per Reasonable Potential Analysis. Interim Monitoring.** Application data: 0.7 ug/l max and 0.533 avg. (3 samples). Target QL

			is 1.0 ug/l. **WQBEL below QL condition.**
Total Mercury (effective in 3 years)	**0.00006 lb/d** **0.00009 lb/d** **0.099 ug/l** **0.15 ug/l** **0.25 ug/l**	**Monthly Average** **Daily Max** **Monthly Average** **Daily Max** **IMAX**	**New WQBEL per Reasonable Potential Analysis. Interim Monitoring.** Application data: 0.09 mg/l max and 0.00009 avg. (3 samples). Target QL is 0.2 ug/l. **WQBELs below QL condition required.**
Total Zinc (effective in 3 years)	**0.019 lb/d** **0.030 lb/d** **31.9 ug/l** **49.7 ug/l** **79.7 ug/l**	**Monthly Average** **Daily Max** **Monthly Average** **Daily Max** **IMAX**	**New WQBEL per Reasonable Potential Analysis. Interim Monitoring.** Application data: 435 ug/l max and 94.78 ug/l LTA (14 samples)
Acrylamide	**Report lb/d** **Report lb/d** **Report ug/l** **Report ug/l**	**Monthly Average** **Daily Max** **Monthly Average** **Daily Max**	**New monitoring requirement per Reasonable Potential Analysis. Interim monitoring to gather information.** Application data: <10 ug/l (1 sample). No DEP Target QL **but Chapter 16.102 MDL is 0.032 ug/l (GC) as discussed below. Estimated 100 ug/l average concentration of the Superfloc coagulant suspected in process water.**
Total Copper	**Report lb/d** **Report lb/d** **Report ug/l** **Report ug/l**	**Monthly Average** **Daily Max** **Monthly Average** **Daily Max**	**New monitoring requirement per Reasonable Potential Analysis.** Application data: 1 ug/l max and 0.967 ug/l average (3 samples). DEP Target QL is 4.0 ug/l.
Dissolved Iron	**Report lb/d** **Report lb/d** **Report ug/l** **Report ug/l**	**Monthly Average** **Daily Max** **Monthly Average** **Daily Max**	**New monitoring requirement per Reasonable Potential Analysis.** Application data: 170 ug/l max and 80 ug/l average (3 samples)
Total Dissolved Solids	**Report lb/d** **Report lb/d** **Report ug/l** **Report ug/l**	**Annual Average** **Daily Max** **Annual Average** **Daily Max**	**New Annual monitoring requirement (Chapter 92a.61) as both DRBC parameter of interest and due to annual settling basin dewatering.** Application data: 35.0 mg/l max and 25.0 mg/l average (3 samples).

Comments:

- Updated Monitoring Requirements:
  - Updated per EDMR requirements (Instantaneous Minimums/IMAX grab values);
  - 24-hour composite sampling to eliminated biasing due to new limits.
  - Significant digits added.

Reasonable Potential Analysis: See Toxic Management Spreadsheet Output below. The Predraft Survey indicated that the permittee was not aware of the source of the toxics and was uncertain that it could comply with new limits. The site-specific water quality modeling inputs are identified below.

- Discharge hardness of 11.9 mg/l.
- In-stream hardness of 20.0 mg/l.

- Q7-10 governed by minimum dam release (70,000 GPD; 0.10829 CFS)
- Outfall No. 001: 40.770833; -76.228889 (elevation ~1510 Feet), Mud Run reach 0.52 miles: 0.74 Square miles (0.074 CFS Q7-10 flow at 0.1 LFY default).
- Mud Run Confluence Point 2: 40.772491/-76.219727 (elevation ~1460 Feet): 0.84 square miles.

☑ ***Recommended WQBELs & Monitoring Requirements***

No. Samples/Month: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Aluminum	0.57	0.89	948	1,479	2,370	µg/L	948	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Copper	Report	Report	Report	Report	Report	µg/L	3.13	AFC	Discharge Conc > 10% WQBEL (no RP)
Dissolved Iron	Report	Report	Report	Report	Report	µg/L	592	THH	Discharge Conc > 10% WQBEL (no RP)
Total Lead	0.0004	0.0006	0.6	0.94	1.51	µg/L	0.6	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Manganese	Report	Report	Report	Report	Report	µg/L	1,972	THH	Discharge Conc > 10% WQBEL (no RP)
Total Mercury	0.00006	0.00009	0.099	0.15	0.25	µg/L	0.099	THH	Discharge Conc ≥ 50% WQBEL (RP)
Total Zinc	0.019	0.03	31.9	49.7	79.7	µg/L	31.9	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Acrylamide	0.0004	0.0007	0.74	1.15	1.85	µg/L	0.74	CRL	Discharge Conc ≥ 50% WQBEL (RP)

Acrylamide MDL and EPA Sufficiently Sensitive Rule: The EPA Sufficiently Sensitive Rule requires the Department treat an insensitive ND concentration as the constituent being present at the insensitive ND level in the effluent. Information is being gathered in this permit term.

- Chapter 16.102(2) states (with bolding added):
  - "**If the EPA has an approved test method for analysis of a specific pollutant, the NPDES permittee shall use the approved test method** (or an approved alternate test method) for the specific pollutant under 40 CFR Part 136 (relating to guidelines establishing test procedures for the analysis of pollutants)".
  - "**EPA-approved analytical methods and guidelines in 40 CFR Parts 122, 136, 141, 143, 430, 455 and 465. EPA-approved analytical methods must be sufficiently sensitive and capable of detecting and measuring the pollutants at or below the applicable water quality criteria** or permit limits consistent with the EPA's regulations in 40 CFR Part 122 (relating to EPA administered permit programs: the National Pollutant Discharge Elimination System) and 40 CFR Part 136".
- Chapter 93.8c Water Quality Criteria (Acrylamide): **0.07 ug/l** CRL
- EPA SW-846 Test Method 8032A: Acrylamide by Gas Chromatography (aqueous matrices) **MDL: 0.032 µg/L.**
- The following additional acrylamide MDL information was found from a "Draft Toxicological Profile for Acrylamide": (https://www.atsdr.cdc.gov/toxprofiles/tp203-c7.pdf).

7.2 ENVIRONMENTAL SAMPLES
Methods for the detection of acrylamide in environmental samples are summarized in Table 7-2. Acrylamide detection in water samples can be achieved using direct injection and a reversed-phase high performance liquid chromatography (HPLC)-ultraviolet (UV) absorption procedure, which has a limit of detection of 5 µg/L (Cavalli et al. 2004). An HPLC method can be used to determine the amount of acrylamide monomer in natural and polluted aqueous environments. Acrylamide undergoes bromination and the resulting dibromopropionamide is assayed. The detection limit for the method was found to be 0.2 µg/L in river, sea, and estuarine waters as well as potable waters, sewage, and china clay works effluents (HSDB 2009).

Table 7-2. Analytical Methods for Determining Acrylamide in Environmental Samples

Sample matrix	Preparation method	Analytical method	Sample detection limit	Percent recovery	Reference
Water	Direct injection	Reversed-phase HPLC-UV absorption	5 µg/L		Cavalli et al. 2004
Natural and polluted water	Bromination of acrylamide in sample	HPLC	0.20 µg/L		HSDB 2009
Organic-free reagent water		HPLC	10 µg/L		HSDB 2009
Aqueous matrices		GC	0.032 µg/L		HSDB 2009
Drinking water	Direct injection of 500 µL	Ion-exclusion chromatographic separation/MS	0.20 ppb		Cavalli et al. 2004

GC = gas chromatography; HPLC = high performance liquid chromatography; LC = liquid chromatography; MS = mass spectrometry; SIM = selected ion monitoring; UV = ultraviolet

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9 — SCMA Mt Laurel WTP

0.10829	= Q stream (cfs)	0.5	= CV Daily
0.073	= 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 = 0.325	1.3.2.iii	WLA cfc = 0.309
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 0.121	5.1d	LTA_cfc = 0.180

Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.720	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.208	AFC
		INST MAX LIMIT (mg/l) = 0.487	

Development of Effluent Limitations

Outfall No. 101 **Design Flow (MGD)** NA
Latitude 40º 46' 15.00" **Longitude** -76º 13' 44.00"
Wastewater Description: Intake from Water Supply Reservoir

Permit Limits and Monitoring:

Constituent	Limit	SBC	Basis
Total Aluminum	**Report lb/d** **Report lb/d** **Report** **Report**	**Monthly Average** **Daily Max** **Monthly Average** **Daily Max**	**Monitoring upon request to allow determination if Chapter 95.2(5) applies.**
Total Lead	**Report lb/d** **Report lb/d** **Report** **Report**	**Monthly Average** **Daily Max** **Monthly Average** **Daily Max**	**Monitoring upon request to allow determination if Chapter 95.2(5) applies.**
Total Mercury	**Report lb/d** **Report lb/d** **Report** **Report**	**Monthly Average** **Daily Max** **Monthly Average** **Daily Max**	**Monitoring upon request to allow determination if Chapter 95.2(5) applies.**
Total Zinc	**Report lb/d** **Report lb/d** **Report** **Report**	**Monthly Average** **Daily Max** **Monthly Average** **Daily Max**	**Monitoring upon request to allow determination if Chapter 95.2(5) applies.**
Total Copper	**Report lb/d** **Report lb/d** **Report** **Report**	**Monthly Average** **Daily Max** **Monthly Average** **Daily Max**	**Monitoring upon request to allow determination if Chapter 95.2(5) applies.**
Dissolved Iron	**Report lb/d** **Report lb/d** **Report** **Report**	**Monthly Average** **Daily Max** **Monthly Average** **Daily Max**	**Monitoring upon request to allow determination if Chapter 95.2(5) applies.**

Comments:

- This is an internal monitoring point (coordinates based on Outfall No. 001) for the Water Supply Reservoir intake to the WTP.
- Chapter 95.2(5) might apply: “When surface waters are used in the industrial plant, the quality of the effluent need not exceed the quality of the raw water supply if the source or supply would normally drain to the point of effluent discharge, unless otherwise required under the act or Federal Act or regulations promulgated thereunder”. Monitoring upon request. If the facility conducts voluntary monitoring, reporting would be required by standard NPDES Permit Part A.III.B.7.

Communications Log:

3/28/2018: Revised figures received.
5/12/2020: Technical Deficiency Letter Issued.
6/26/2020: Permittee response that they had received the Technical Deficiency Letter
7/14/2020: Troy Miller e-mail asking for clarification on Acrylamide analytical requirements.
7/16/2020: DEP (Berger) e-mail noting:

- PA Chapter 16 Appendix Table 2B identifies the following methods for acrylamide (in ug/l):

ACRYLAMIDE (00079061)	8032A (GC)	.032
	8316 (HPLC)	10

- Please note the EPA Sufficiently Sensitive Rule requires the Department to treat any insensitive non-detect concentration level as the constituent being present at the insensitive non-detect level (which can lead to unnecessary permit limits and/or monitoring requirements). The more sensitive method is therefore recommended.

8/24/2020: DEP (Berger) reminder e-mail regarding response to Tech Def Letter
8/26/2020: Requested extension for response.
8/26/2020: Extension granted.
7/28/2020: Pre-Draft Survey received.
10/20/2020: Revised NPDES Permit Application