pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0096792**
Facility Type	**Industrial**	APS ID	**771656**
Major / Minor	**Minor**	Authorization ID	**912776**

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

Applicant and Facility Information

Applicant Name	**The Techs Industries, Inc.**	Facility Name	**MetalTech Plant**
Applicant Address	2400 2nd Avenue	Facility Address	300 Mifflin Road
	Pittsburgh, PA 15219-3116		Pittsburgh, PA 15207-1910
Applicant Contact	Darin Ball	Facility Contact	Same as Applicant
Applicant Phone	412-368-4800 ext. 4868	Facility Phone	Same as Applicant
Client ID	77634	Site ID	249568
SIC Code	3479	Municipality	Pittsburgh City
SIC Description	Manufacturing - Metal Coating and Allied Services	County	Allegheny
Date Application Received	January 30, 2012	EPA Waived?	Yes
Date Application Accepted	March 27, 2012	If No, Reason	
Purpose of Application	NPDES Permit coverage renewal		

Summary of Review

The Department received a renewal NPDES permit application from Civil and Environmental Consultants, Inc. on behalf of the Techs Industries, Inc on January 30, 2012 for their MetalTech Plant. The site has an SIC code of 3479, Metal Coating, Engraving, and Allied Services to Manufactures. The facility operates a continuous hot dip zinc galvanizing line. Raw steel coils are purchased from outside vendors, processed on the galvanizing line, and then stored onsite until they are sold. MetalTech obtains the site's water from the local municipal supply. The site has two outfalls, Outfall 001 and Outfall 002. Both Outfalls discharge to the Monongahela River, designated in 25 Pa Code Chapter 93 as a Warm Water Fishery. Outfall 001 discharges non-contact cooling water (NCCW) and stormwater. The NCCW discharges via Outfall 001 are regulated at an Internal Monitoring Point, IMP 101. Outfall 002 discharges stormwater.

The site was last inspected on May 27, 2021, no violations were noted.

The permittee has no open violations.

It is recommended that a Draft NPDES Permit be published for public comment in response to this application.

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 Olesnanik / Project Manager	September 7, 2021
X		Michael E. Fifth, P.E. / Environmental Engineer Manager	September 20, 2021

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001 (IMP 101)	Design Flow (MGD)	0.28
Latitude	40º 26' 01"	Longitude	-79º 58' 12"
Quad Name	Pittsburgh East	Quad Code	1506
Wastewater Description:	Noncontact Cooling Water (NCCW), Stormwater		

Receiving Waters	Monongahela River (WWF)	Stream Code	37185
NHD Com ID	134839847	RMI	2.68
Drainage Area	7370	Yield (cfs/mi^2)	0.167
Q_{7-10} Flow (cfs)	1,230	Q_{7-10} Basis	US Army Corp of Engineers
Elevation (ft)	704	Slope (ft/ft)	0.001
Watershed No.	19-A	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Pathogens, Polychlorinated Biphenyls (PCBS)		
Source(s) of Impairment	Source Unknown		
TMDL Status	Final	Name	Monongahela River TMDL

Nearest Downstream Public Water Supply Intake	West View Water Authority		
PWS Waters	Ohio River	Flow at Intake (cfs)	4,730
PWS RMI	976.23	Distance from Outfall (mi)	7.45

Discharge, Receiving Waters and Water Supply Information

Outfall No.	002	Design Flow (MGD)	0.0
Latitude	40º 26' 01"	Longitude	-79º 58' 16"
Quad Name	Pittsburgh	Quad Code	1506
Wastewater Description:	Stormwater		

Receiving Waters	Monongahela River (WWF)	Stream Code	37185
NHD Com ID	134839847	RMI	2.68
Drainage Area	7370	Yield (cfs/mi^2)	0.167
Q_{7-10} Flow (cfs)	1,230	Q_{7-10} Basis	US Army Corp of Engineers
Elevation (ft)	704	Slope (ft/ft)	0.001
Watershed No.	19-A	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Pathogens, Polychlorinated Biphenyls (PCBS)		
Source(s) of Impairment	Source Unknown		
TMDL Status	Final	Name	Monongahela River TMDL

Nearest Downstream Public Water Supply Intake	West View Water Authority		
PWS Waters	Ohio River	Flow at Intake (cfs)	4,730
PWS RMI	976.23	Distance from Outfall (mi)	7.45

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.28
Latitude 40º 26' 1" **Longitude** -79º 58' 12"
Wastewater Description: Noncontact Cooling Water (NCCW), Stormwater

The non-contact cooling water discharges will be regulated at the internal monitoring point IMP 101.

Technology-Based Effluent limitations:

Outfall 001 will be subject to PAG-03 General Stormwater Permit conditions as a minimum requirement because each outfall discharges stormwater. Based on the site's SIC code, the corresponding appendix that would apply to the facility is Appendix U of the PAG-03. The proposed monitoring requirements are shown in Table 1 below. The benchmark values list below are not effluent limitation, and exceedances so not constitutes permit violations. However, if the permittee's sampling demonstrates exceedances of benchmark values for two consecutive monitoring periods, the permit shall submit a corrective action plan. This requirement will be included in Part C of the permit.

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

Parameters	Monitoring Requirements		Benchmark Values
	Minimum Measurement Frequency	Sample Type	
pH (S.U))	1 / 6 Months	Grab	XXX
Total Suspended Solids (TSS) (mg/L)	1 / 6 Months	Grab	100
Nitrate + Nitrite-Nitrogen (mg/L)	1 / 6 Months	Grab	XXX
Total Aluminum (mg/L)	1 / 6 Months	Grab	XXX
Total Iron (mg/L)	1 / 6 Months	Grab	XXX
Total Zinc (mg/L)	1 / 6 Months	Grab	XXX

Water Quality-Based Effluent limitations:

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 Outfalls 001 are composed 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-Backsliding

Previous limits can be used pursuant to EPA's anti-backsliding regulation, 40 CFR 122.44(l) and are displayed below in Table 2. These limitations are currently imposed on Outfall 001. Effluent goals were included in a Part C conditions for these parameters at these outfalls.

Table 2. Current Limitations at Outfall 001

Parameter	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow (mgd)	Monitor	Monitor	1/Quarter	Estimate
Total Suspended Solids	Monitor	Monitor	1/Quarter	Grab
Zinc	Monitor	Monitor	1/Quarter	Grab

Proposed Final Effluent Limitations

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 monitoring frequency for the existing monitoring requirements has been changed from 1/quarter to semi-annually to reflect that monitoring frequency in the PAG-03 general permit. The flow monitoring requirement has been removed from the permit because flow monitoring on stormwater discharges is generally not practical. The Draft Permit requires a Corrective Action Plan when there are two consecutive exceedances of the benchmark values, which are also included in the Part C condition. The benchmark values are displayed below in Table 10. These values are not effluent limitations, an exceedance of the benchmark value is not a violation. As described above, if there are two consecutive exceedances of the benchmark value, 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.

Table 3: Proposed Effluent Monitoring Requirements for Outfall 001

Parameter	Max Daily Concentration	Benchmark Values (mg/L)	Measurement Frequency	Sample Type
pH (S.U))	Report	XXX	1/6 Months	Grab
Total Suspended Solids (TSS) (mg/L)	Report	100.0	1/6 Months	Grab
Nitrate + Nitrite-Nitrogen (mg/L)	Report	XXX	1/6 Months	Grab
Total Aluminum (mg/L)	Report	XXX	1/6 Months	Grab
Total Iron (mg/L)	Report	XXX	1/6 Months	Grab
Total Zinc (mg/L)	Report	XXX	1/6 Months	Grab

Development of Effluent Limitations

IMP No.	101	**Design Flow (MGD)**	0.28
Latitude	40º 26' 1"	**Longitude**	-79º 58' 12"

Wastewater Description: Noncontact Cooling Water (NCCW)

Technology Based Limitations

Regulatory Effluent Standards and Monitoring Requirements

Flow monitoring is required pursuant to 25 Pa. Code § 92a.61(d)(1).

Temperature limits will be imposed per the Department's "*Implementation Guidance for Temperature Criteria*." As a policy, DEP normally imposes a maximum temperature limit of 110°F on discharges that contain residual heat. The limit is intended as a safety measure to protect sampling personnel or anyone who may come into contact with the heated discharge where it enters the receiving water.

Pennsylvania regulations at 25 Pa. Code § 92a.48(b) require the imposition of technology-based TRC limits for facilities that use chlorination and that are not already subject to TRC limits based on applicable federal ELGs or a facility-specific BPJ evaluation.

Effluent standards for pH are also imposed on industrial wastes by 25 Pa. Code § 95.2(1) as indicated in Table 4.

Table 4: Regulatory Effluent Standards and Monitoring Requirements for IMP 101

Parameter	Monthly Average	Daily Maximum	IMAX	Units
Flow	Monitor and Report		XXX	MGD
Total Residual Chlorine	0.5	1.0	-	mg/L
Temperature	XXX	XXX	110	°F
pH	Not less than 6.0 nor greater than 9.0			S.U.

Water Quality-Based Limitations

Toxic Pollutants Water Quality Analysis

The discharges from IMP 101 are non-contact cooling water and are non-process discharges, therefore a toxic pollutant water quality analysis was not conducted for the discharge from IMP 101.

Thermal WQBELs for Heated Discharges

Thermal WQBELs are evaluated using a DEP program called "Thermal Discharge Limit Calculation Spreadsheet" created with Microsoft Excel for Windows. The program calculates temperature WLAs through the application of a heat transfer equation, which takes two forms in the program depending on the source of the facility's cooling water. In Case 1, intake water to a facility is from the receiving stream. In Case 2, intake water is from a source other than the receiving stream (e.g., municipal water supply). The determination of which case applies to a given discharge is determined by the input data which include the receiving stream flow rate ($Q_{7\text{-}10}$ or the minimum regulated flow for large rivers), the stream intake flow rate, external source intake flow rates, consumptive flow rates and site-specific ambient stream temperatures. Case 1 limits are generally expressed as heat rejection rates while Case 2 limits are usually expressed as temperatures.

Since the temperature criteria from 25 Pa. Code Chapter 93.7(a) are expressed on monthly and semi-monthly bases for three different aquatic life-uses—cold water fishes, warm water fishes and trout stocking—the program generates monthly and semi-monthly limits for each use. DEP selects the output that corresponds to the aquatic life-use of the receiving stream and consequently which limits apply to the discharge. Temperature WLAs are bounded by an upper limit of 110°F for the safety of sampling personnel and anyone who may come into contact with the heated discharge where it enters the receiving water. If no WLAs below 110°F are calculated, an instantaneous maximum limit of 110°F is recommended by the program.

Discharges from IMP are classified under Case 2 because water is obtained from water supply. The flow rate used for modeling is the maximum discharge flow reported from IMP 101, 0.93 MGD. The results of the thermal analysis, included in Attachment B, indicate that no WQBELs for temperature are required at IMP 101.

Total Residual Chlorine

To determine if WQBELs are required for discharges containing total residual chlorine (TRC), a discharge evaluation is performed using a DEP program called TRC_CALC created with Microsoft Excel for Windows. TRC_CALC calculates TRC Waste Load Allocations (WLAs) through the application of a mass balance model which considers TRC losses due to stream and discharge chlorine demands and first-order chlorine decay. Input values for the program include flow rates and chlorine demands for the receiving stream and the discharge, the number of samples taken per month, coefficients of TRC variability, partial mix factors, and an optional factor of safety. The mass balance model calculates WLAs for acute and chronic criteria that are then converted to long term averages using calculated multipliers. The multipliers are functions of the number of samples taken per month and the TRC variability coefficients (normally kept at default values unless site specific information is available). The most stringent limitation between the acute and chronic long-term averages is converted to an average monthly limit for comparison to the BAT average monthly limit of 0.5 mg/l from 25 Pa. Code § 92a.48(b)(2). The more stringent of these average monthly TRC limitations is imposed in the permit. The results of the modeling, included in Attachment C, indicate that no WQBELs are required for TRC

Anti-backsliding

Previous limits can be used pursuant to EPA's anti-backsliding regulation, 40 CFR 122.44(l) and are displayed below in Table 5.

Table 5. Existing Effluent Limitations at IMP 101

Parameter	Monthly Average	Daily Maximum	Instantaneous Maximum	Measurement Frequency	Sample Type
Flow (MGD)	Monitor	Monitor		2/Month	Measure
Temperature (°F)			110	2/Month	I-S
pH (S.U.)	Not less than 6.0 nor greater than 9.0			2/Month	Grab

Proposed Effluent Limitations for IMP 101

The proposed effluent limitations and monitoring requirements for IMP 101 are shown below in Table 6. The limits are the most stringent values from the above limitation analysis.

Table 6. Proposed Effluent Limitations at IMP 101

Parameter	Instant. Minimum	Monthly Average	Daily Maximum	Instant. Maximum	Measurement Frequency	Sample Type
Flow (MGD)		Monitor	Monitor		2/Month	Measure
Total Residual Chlorine (mg/L)		0.5	1.0		2/Month	Grab
Temperature (°F)				110	2/Month	I-S
pH (S.U.)	6.0			9.0	2/Month	Grab

Development of Effluent Limitations

Outfall No. 002 **Design Flow (MGD)** 0.0
Latitude 40º 26' 1" **Longitude** -79º 58' 16"
Wastewater Description: Stormwater

Technology-Based Effluent limitations:

Outfall 002 will be subject to PAG-03 General Stormwater Permit conditions as a minimum requirement because each outfall discharges stormwater. Based on the site's SIC code, the corresponding appendix that would apply to the facility is Appendix U of the PAG-03. The proposed monitoring requirements are shown in Table 7 below. The benchmark values list below are not effluent limitation, and exceedances so not constitutes permit violations. However, if the permittee's sampling demonstrates exceedances of benchmark values for two consecutive monitoring periods, the permit shall submit a corrective action plan. This requirement will be included in Part C of the permit.

Table 7: PAG-03 Appendix (U) Monitoring Requirements

Parameters	Monitoring Requirements		Benchmark Values
	Minimum Measurement Frequency	Sample Type	
pH (S.U))	1 / 6 Months	Grab	XXX
Total Suspended Solids (TSS) (mg/L)	1 / 6 Months	Grab	100
Nitrate + Nitrite-Nitrogen (mg/L)	1 / 6 Months	Grab	XXX
Total Aluminum (mg/L)	1 / 6 Months	Grab	XXX
Total Iron (mg/L)	1 / 6 Months	Grab	XXX
Total Zinc (mg/L)	1 / 6 Months	Grab	XXX

Water Quality-Based Effluent limitations:

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 Outfalls 002 are composed 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-Backsliding

Previous limits can be used pursuant to EPA's anti-backsliding regulation, 40 CFR 122.44(l) and are displayed below in Table 8. These limitations are currently imposed on Outfall 002. Effluent goals were included in a Part C conditions for these parameters at these outfalls.

Table 8. Current Limitations at Outfall 002

Parameter	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow (mgd)	Monitor	Monitor	1/Quarter	Estimate
Total Suspended Solids	Monitor	Monitor	1/Quarter	Grab
Zinc	Monitor	Monitor	1/Quarter	Grab

Proposed Final Effluent Limitations

The proposed effluent monitoring requirements for Outfall 002 are displayed in Table 9 below, they are the most stringent values from the above effluent limitation development. The monitoring frequency for the existing monitoring requirements has been changed from 1/quarter to semi-annually to reflect that monitoring frequency in the PAG-03 general permit. The flow monitoring requirement has been removed from the permit because flow monitoring on stormwater discharges is generally not practical. The Draft Permit requires a Corrective Action Plan when there are two consecutive exceedances of the benchmark values, which are also included in the Part C condition. The benchmark values are displayed below in Table 9. These values are not effluent limitations, an exceedance of the benchmark value is not a violation. As described above, if there are two consecutive exceedances of the benchmark value, 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

Table 9: Proposed Effluent Monitoring Requirements Outfall 002

Parameter	Max Daily Concentration	Benchmark Values (mg/L)	Measurement Frequency	Sample Type
pH (S.U))	Report	XXX	1/6 Months	Grab
Total Suspended Solids (TSS) (mg/L)	Report	100.0	1/6 Months	Grab
Nitrate + Nitrite-Nitrogen (mg/L)	Report	XXX	1/6 Months	Grab
Total Aluminum (mg/L)	Report	XXX	1/6 Months	Grab
Total Iron (mg/L)	Report	XXX	1/6 Months	Grab
Total Zinc (mg/L)	Report	XXX	1/6 Months	Grab

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.
☐	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.
☐	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:

Attachments

Attachment A: USGS Streams Stats Report

Attachment B: IMP 101 Temperature Model Spreadsheet Evaluation

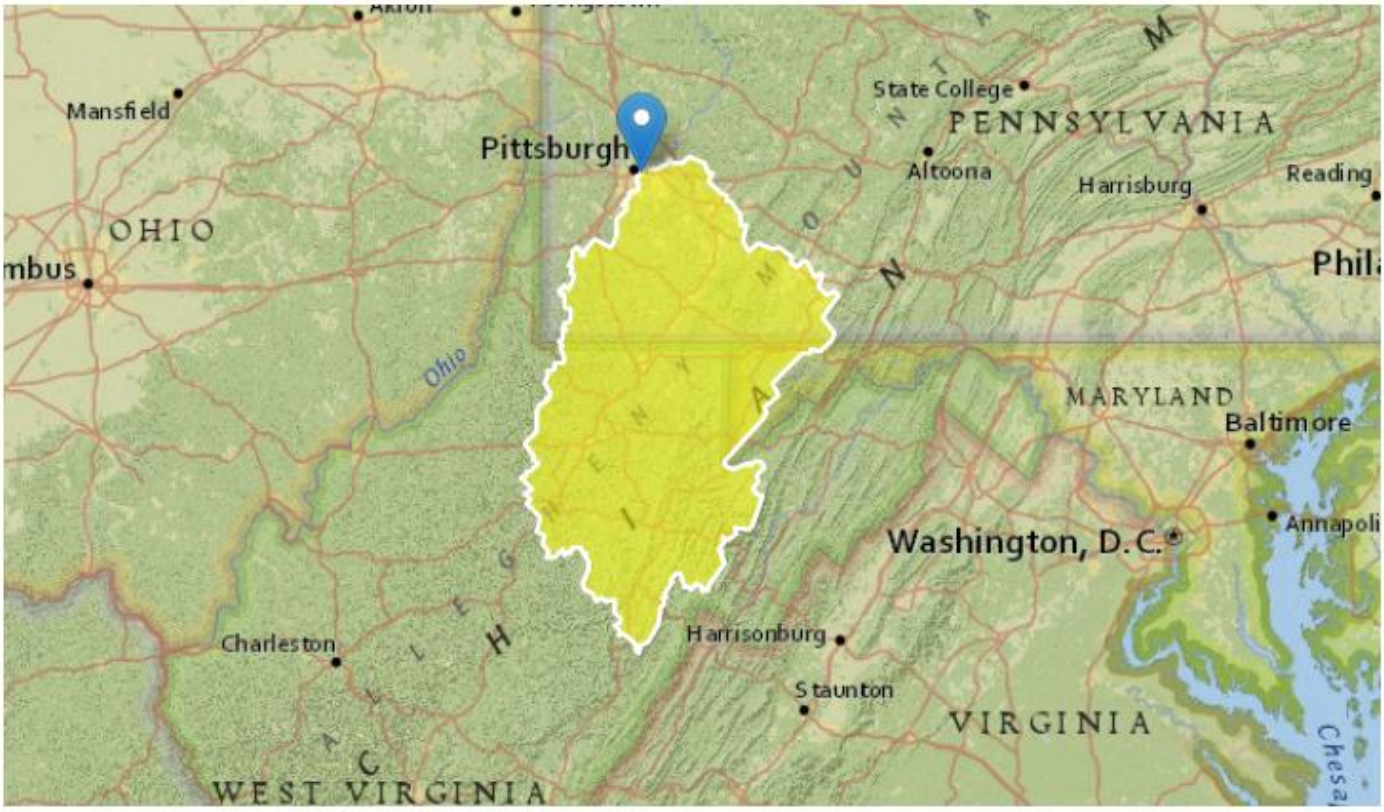
Attachment C: IMP 101 TRC Spreadsheet Evaluation

Attachment A:

USGS Streams Stats Report

StreamStats Report

Region ID: PA
Workspace ID: PA20210903175229121000
Clicked Point (Latitude, Longitude): 40.43285, -79.97049
Time: 2021-09-03 13:52:54 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	7370	square miles
ELEV	Mean Basin Elevation	1837	feet

Attachment B:

IMP 101 Temperature Model Spreadsheet Evaluation

Facility:	**MetalTech**						
Permit Number:	PA0096792						**PMF**
Stream Name:	Monagehela						0.25
Analyst/Engineer:	Adam Olesnanik						
Stream Q7-10 (cfs):	1230						
	Facility Flows				**Stream Flows**		
	Intake (Stream) (MGD)	Intake (External) (MGD)	Consumptive Loss (MGD)	Discharge Flow (MGD)	Upstream Stream Flow (cfs)	Adjusted Stream Flow (cfs)	Downstream Stream Flow (cfs)
Jan 1-31	0	0.93	0	0.93	3936.00	984.00	985.44
Feb 1-29	0	0.93	0	0.93	4305.00	1076.25	1077.69
Mar 1-31	0	0.93	0	0.93	8610.00	2152.50	2153.94
Apr 1-15	0	0.93	0	0.93	11439.00	2859.75	2861.19
Apr 16-30	0	0.93	0	0.93	11439.00	2859.75	2861.19
May 1-15	0	0.93	0	0.93	6273.00	1568.25	1569.69
May 16-30	0	0.93	0	0.93	6273.00	1568.25	1569.69
Jun 1-15	0	0.93	0	0.93	3690.00	922.50	923.94
Jun 16-30	0	0.93	0	0.93	3690.00	922.50	923.94
Jul 1-31	0	0.93	0	0.93	2091.00	522.75	524.19
Aug 1-15	0	0.93	0	0.93	1722.00	430.50	431.94
Aug 16-31	0	0.93	0	0.93	1722.00	430.50	431.94
Sep 1-15	0	0.93	0	0.93	1353.00	338.25	339.69
Sep 16-30	0	0.93	0	0.93	1353.00	338.25	339.69
Oct 1-15	0	0.93	0	0.93	1476.00	369.00	370.44
Oct 16-31	0	0.93	0	0.93	1476.00	369.00	370.44
Nov 1-15	0	0.93	0	0.93	1968.00	492.00	493.44
Nov 16-30	0	0.93	0	0.93	1968.00	492.00	493.44
Dec 1-31	0	0.93	0	0.93	2952.00	738.00	739.44

Please forward all comments to Tom Starosta at 717-787-4317, tstarosta@state.pa.us.

Version 2.0 -- 07/01/2005 Reference: Implementation Guidance for Temperature Criteria, DEP-ID: 391-2000-017

NOTE: The user can only edit fields that are blue.

NOTE: MGD x 1.547 = cfs.

Facility:	**MetalTech**						
Permit Number:	PA0096792						
Stream:	Monagehela						
	WWF Criteria	**CWF Criteria**	**TSF Criteria**	**316 Criteria**		**Q7-10 Multipliers**	**Q7-10 Multipliers**
	(ºF)	(ºF)	(ºF)	(ºF)		(Used in Analysis)	(Default - Info Only)
Jan 1-31	40	38	40	0		3.2	3.2
Feb 1-29	40	38	40	0		3.5	3.5
Mar 1-31	46	42	46	0		7	7
Apr 1-15	52	48	52	0		9.3	9.3
Apr 16-30	58	52	58	0		9.3	9.3
May 1-15	64	54	64	0		5.1	5.1
May 16-30	72	58	68	0		5.1	5.1
Jun 1-15	80	60	70	0		3	3
Jun 16-30	84	64	72	0		3	3
Jul 1-31	87	66	74	0		1.7	1.7
Aug 1-15	87	66	80	0		1.4	1.4
Aug 16-31	87	66	87	0		1.4	1.4
Sep 1-15	84	64	84	0		1.1	1.1
Sep 16-30	78	60	78	0		1.1	1.1
Oct 1-15	72	54	72	0		1.2	1.2
Oct 16-31	66	50	66	0		1.2	1.2
Nov 1-15	58	46	58	0		1.6	1.6
Nov 16-30	50	42	50	0		1.6	1.6
Dec 1-31	42	40	42	0		2.4	2.4
NOTES:							
WWF= Warm water fishes							
CWF= Cold water fishes							
TSF= Trout stocking							

Facility:	**MetalTech**						
Permit Number:	PA0096792						**PMF**
Stream:	Monagehela						0.25
	WWF			**WWF**		**WWF**	
	Ambient Stream	Ambient Stream	Target Maximum	Daily		Daily	
	Temperature (ºF)	Temperature (ºF)	Stream Temp.[1]	WLA[2]		WLA[3]	at Discharge
	(Default)	(Site-specific data)	(ºF)	(Million BTUs/day)		(ºF)	Flow (MGD)
Jan 1-31	35	0	40	N/A -- Case 2		110.0	0.93
Feb 1-29	35	0	40	N/A -- Case 2		110.0	0.93
Mar 1-31	40	0	46	N/A -- Case 2		110.0	0.93
Apr 1-15	47	0	52	N/A -- Case 2		110.0	0.93
Apr 16-30	53	0	58	N/A -- Case 2		110.0	0.93
May 1-15	58	0	64	N/A -- Case 2		110.0	0.93
May 16-30	62	0	72	N/A -- Case 2		110.0	0.93
Jun 1-15	67	0	80	N/A -- Case 2		110.0	0.93
Jun 16-30	71	0	84	N/A -- Case 2		110.0	0.93
Jul 1-31	75	0	87	N/A -- Case 2		110.0	0.93
Aug 1-15	74	0	87	N/A -- Case 2		110.0	0.93
Aug 16-31	74	0	87	N/A -- Case 2		110.0	0.93
Sep 1-15	71	0	84	N/A -- Case 2		110.0	0.93
Sep 16-30	65	0	78	N/A -- Case 2		110.0	0.93
Oct 1-15	60	0	72	N/A -- Case 2		110.0	0.93
Oct 16-31	54	0	66	N/A -- Case 2		110.0	0.93
Nov 1-15	48	0	58	N/A -- Case 2		110.0	0.93
Nov 16-30	42	0	50	N/A -- Case 2		110.0	0.93
Dec 1-31	37	0	42	N/A -- Case 2		110.0	0.93

[1] This is the maximum of the WWF WQ criterion or the ambient temperature. The ambient temperature may be either the design (median) temperature for WWF, or the ambient stream temperature based on site-specific data entered by the user. A minimum of 1ºF above ambient stream temperature is allocated.

[2] The WLA expressed in Million BTUs/day is valid for Case 1 scenarios, and disabled for Case 2 scenarios.

[3] The WLA expressed in ºF is valid only if the limit is tied to a daily discharge flow limit (may be used for Case 1 or Case 2). WLAs greater than 110ºF are displayed as 110ºF.

Attachment C:

IMP 101 TRC Spreadsheet Evaluation

TRC EVALUATION

1230	= Q stream (cfs)	0.5	= CV Daily
0.93	= Q discharge (MGD)	0.5	= CV Hourly
4	= no. samples	0.25	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream	0.25	= 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)
	= %Factor of Safety (FOS)		=Decay Coefficient (K)

Source	Reference	AFC Calculations	Reference	CFC Calculations
TRC	**1.3.2.iii**	WLA afc = 68.200	**1.3.2.iii**	WLA cfc = 66.482
PENTOXSD TRG	**5.1a**	LTAMULT afc = 0.373	**5.1c**	LTAMULT cfc = 0.581
PENTOXSD TRG	**5.1b**	LTA_afc= 25.413	**5.1d**	LTA_cfc = 38.650

Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.720	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.500	BAT/BPJ
		INST MAX LIMIT (mg/l) = 1.170	

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)**