pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0003832**
Facility Type	**Industrial**	APS ID	**1081178**
Major / Minor	**Minor**	Authorization ID	**1427374**

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

Applicant and Facility Information

Applicant Name	**INEOS Composites US, LLC**	Facility Name	**Neville Island Plant**
Applicant Address	5200 Blazer Parkway	Facility Address	2650 Neville Road
	Dublin, OH 43017		Pittsburgh, PA 15225-1404
Applicant Contact	Kara Long	Facility Contact	Deanna Shingleton
Applicant Phone	(614) 790-9295	Facility Phone	412-778-6221
Client ID	350412	Site ID	245074
SIC Code	2869	Municipality	Neville Township
SIC Description	Manufacturing - Industrial Organic Chemicals, Nec	County	Allegheny
Date Application Received	February 15, 2023	EPA Waived?	Yes
Date Application Accepted	March 3, 2023	If No, Reason	
Purpose of Application	Renewal NPDES Permit coverage		

Summary of Review

The Department received a renewal NPDES permit application from INEOS Composites US, LLC. on February 15, 2023 for their Neville Island Plant. The facility is a polyester resin manufacturer and bulk terminal for plasticizers and related chemicals. The site has a primary SIC code of 2821, plastics material and resin manufacturing.

During the polyester resin manufacturing process, glycols, dibasic acids, and monomers are cooked in a batch process and then cooled using tempered water. The resin is then thinned in a monomer and adjusted to meet exact customer specifications. The water vapor generated by the condensation reactions is condensed and burned in the PR thermal oxidizer. The site receives plasticizer via barge and tank car. Any product and water collected from loading sumps in the plasticizer terminal portion of the facility will enter the facility wastewater system, where the collected water is clarified and discharged to the ALCOSAN publicly owned treatment works. There are several tank farms that contain raw materials and finished products. There are no completely or partially buried tanks at the facility. Each tank farm is contained within its own dike. These dikes are typically of cement construction, sufficiently impervious to contain discharged oil or chemicals, and designed to contain the largest single tank volume plus freeboard for a 25-year, 24-hour storm within its confines. The facility's storage tank secondary containment dikes all are equipped with sumps and /or manual, open and closed designed valves. Theses valves are normally kept sealed and closed, stormwater that periodically collects in these dikes or curbed areas is inspected and, if necessary, tested by the facility prior to discharge into the facility's storm water drains. Spill release control equipment is spread throughout the plant to aid with any material releases.

SIC code 2821, plastics material and resin manufacturing, is subject to the Federal Effluent Limitation Guidelines (ELG) in 40 CFR 414 (Organic Chemicals, Plastics, and Synthetic Fibers). In this case, wastewater from resin manufacturing is discharged to the publicly owned treatment works and must comply with 40 CFR part 403 and achieve standards in accordance with 40 CFR 414.111. Outfall 001 does not discharge process wastewater from resin manufacturing and only discharges steam condensate, boiler blowdown, stormwater, and occasionally hydrostatic test water. The development

Approve	Deny	Signatures	Date
X		Adam Olesnanik, P.E. / Environmental Engineer	August 18, 2023
X		Michael E. Fifth, P.E. / Environmental Engineer Manager	August 29, 2023

Summary of Review

document for the Organic Chemicals, Plastics, and Synthetic Fibers ELG describes boiler blowdown as Contaminated "Non-process" Wastewater, (therefore designated as process wastewater), and therefore, subject to the ELG. However, based on the influent and effluent of the site's carbon treatment unit, which treats the boiler blowdown before it discharges, the boiler blowdown isn't contaminated by the resin manufacturing process and can be described as uncontaminated non-process wastewater. Based on this information, the discharges from the site are not subject to the ELGs for the resin manufacturing.

The site has one outfall, Outfall 001, which discharges into the back channel of the Ohio River, designated in 25 PA Code, Chapter 93 as a warm water fishery. The Ohio River is impaired for Dioxins, Pathogens, and PCBs, and a Final TMDL has been developed for the Ohio River to address PCBs and Chlordane. Because Outfall 001 also receives stormwater from off site, during the last permit renewal the Department included two internal monitoring points so that the permittee can isolated its contribution to Outfall 001. These internal monitoring points are IMP 101 and IMP 201. In the current permit, the hydrostatic tank test water is monitored via a part C condition and not actually reported via eDMRs. The Department has determined that this method of monitoring is not adequate for reporting purposes and is proposing an additional monitoring point for just the Hydrostatic test water discharges in part A of the permit, so that when there is a discharge, the results can be reported using eDMR to ensure that the effluent limits have been met. As part of this renewal the Department is proposing to add an additional internal monitoring point for Outfall 001 to monitor the discharges of hydrostatic tank test water, IMP 301. No monitoring requirements are imposed at Outfall 001.

IMP 101 discharges steam condensate and stormwater run-off. IMP 201 discharges steam condensate, stormwater run-off, and boiler blowdown. Boiler Blowdown is produced as the result of the boiler process. The wastewater consists of the additives used in the boiler chemistry to make the boilers run more efficiently. The boilers are "manually blown down 3 times a day, but the system allows for automatic blowdown for the purpose of efficiency. The steam condensate is also from the boiler process. It is the result of taking the heat out of the steam to be used in the manufacturing process. The condensate is released continuously at a temperature between 80-100 degrees Celsius. In the previous permit, the boiler blowdown was monitored at IMP 101 but due to some decommissioning of some older unused plant areas, the discharge of the boiler blowdown was re-routed and is now monitored at IMP 201. The boilers are used to heat all the plant buildings, steam tracing for lines and storage tanks as needed, and heating for the reactors. The boiler blowdown is treated in a carbon dioxide treatment system to treat for pH. The boiler blowdown along with the stormwater from some secondary containment areas is also run through carbon for COD and TSS treatment. IMP 301 will be the monitoring point for all hydrostatic test discharges from the site and not an exact location. IMP 301 will be used more as a reporting tool for when there is any discharge of hydrostatic tank test water.

The site was last inspected on March 11, 2021 with two violation noted; both were violations of effluent limits in Part A of Permit. These violations have since been resolved.

The site currently has no open violations

<u>Public Participation</u>

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.

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001 (IMPs 101, 201, and 301)	Design Flow (MGD)	0.656
Latitude	40º 29' 39.44"	Longitude	-80º 4' 42.42"
Quad Name	Pittsburgh West	Quad Code	1505
Wastewater Description:	Steam Condensate, Boiler Blowdown, Stormwater, and Hydrostatic Tank Test Water		
Receiving Waters	Ohio River	Stream Code	32317
NHD Com ID	134396130	RMI	975.11
Drainage Area	19,400	Yield (cfs/mi^2)	0.122
Q_{7-10} Flow (cfs)	2,365	Q_{7-10} Basis	US Army Corp of Engineers
Elevation (ft)	710	Slope (ft/ft)	0.001
Watershed No.	20-G	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Dioxins, PCB, and Pathogens		
Source(s) of Impairment	Source Unknown		
TMDL Status	Final	Name	Ohio River
Nearest Downstream Public Water Supply Intake	Robinson Township Municipal Authority (Intake 6.0 MGD)		
PWS Waters	Ohio River	Flow at Intake (cfs)	2,365
PWS RMI	971.89	Distance from Outfall (mi)	3.22

Development of Effluent Limitations

IMP No.	101	**Design Flow (MGD)**	0.320
Latitude	40º 29' 39.44"	**Longitude**	-80º 04' 42.42"

Wastewater Description: Steam Condensate and Stormwater

Technology-Based Limitations

25 PA Code Chapter 92 requires pH requirements to be a minimum of 6.0 and a maximum of 9.0 S.U. for all industrial waste process and non-process discharges.

Flow Reporting requirements is in accordance with the 25 PA Code Chapter 92 regulations.

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.

Table 1: Regulatory Effluent Standards and Monitoring Requirements for Outfall 002

Parameter	Monthly Average	Daily Maximum	IMAX	Units
Flow	Monitor and Report		XXX	MGD
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 consist of steam condensate and stormwater, and are non-process discharges; therefore a toxic pollutant water quality analysis was not conducted for the discharge.

Total Maximum Daily Loads

The Ohio River has a TMDL for PCBs and Chlordane. The TMDL outlines a plan to achieve water quality standards in the water body. The TMDL applies only to discharges of PCBs and chlordane to the Ohio River and does not provide wasteload allocations for either. The TMDL goal is for levels of PCB and chlordane in the water column to be equal to or less than the Commonwealth's water quality criteria. The production and use of PCBs in the United States was banned in July of 1979. In addition, the TMDL acknowledges that there are no longer any known point sources of either pollutant in the watershed and the waterbody is expected to achieve TMDL standards through "natural attenuation". While it is now illegal to manufacture, distribute, or use PCBs in the United states, these synthetic oils were used in the past. However, this site has not been shown to have PCBs in its discharges and has not been known to use PCBs in its processes. Neither chlordane nor PCB's are used, generated, or stored at the site; nor is there any evidence to suggest that PCBs and chlordane were ever used, generated, or stored onsite in the past. Based upon these considerations, the Ohio TMDL is not applicable to site's discharges.

Thermal WQBELs for Heated Discharges

Thermal WQBELs are evaluated using a DEP program called the "Thermal Discharge Limit Calculation Spreadsheet" created with Microsoft Excel for Windows. The program calculates temperature Waste Load Allocations's 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.

DEP's *Implementation Guidance for Temperature Criteria* directs permit writers to assume instantaneous complete mixing of the discharge with the receiving stream when calculating thermal effluent limits unless adverse factors exist. One such factor listed in the guidance is that the "discharge is to a receiving water that is very wide, resulting in restricted dispersion of the plume, and horizontal stratification of the plume." Since wastewaters from the site discharge to the Ohio River, the dispersion of the discharge plume is likely to be limited and instantaneous complete mixing will not occur. Therefore, the acute partial mix factor calculated by the Toxics Management Spreadsheet (0.120 × 2365 cfs = 283.8 cfs) will be applied to the modeled flow rate for the thermal WQBEL analysis. The Toxics Management Spreadsheet that was used to determine the acute partial mix factor is in Attachment B.

Due to the nature of the discharge and the location on the receiving stream, all heated discharges will be evaluated as one discharge to ensure the temperature criteria is met instream from all of the heated discharges and a combined flow of 0.656 MGD was used in the model. Discharges from IMP 101 and 201 are classified under Case 2 because water is obtained from municipal water supply. The results of the thermal analysis, included in Attachment C, indicate that no WQBELs for temperature are required at IMP 101. Therefore, the 110°F instantaneous maximum temperature limit will be imposed 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 D, indicate that no WQBELs are required for TRC.

Anti-Backsliding

The following limits in table 2 below were imposed on the previous permit and due to the federal regulation specified in 40 CFR 122.44 (1) are applied to the permit.

Table 2. Current Limitations at IMP 101

Parameter	Loading		Concentration (mg/L)				Reporting Requirements	
	Monthly Avg.	Daily Max.	Instant. Min.	Monthly Avg.	Daily Max.	Inst. Max.	Measure Frequency	Sample Type
Flow (mgd)	Report	Report					1/week	Calculation
pH (s.u.)			6.0			9.0	1/week	Grab
Total Residual Chlorine (TRC)				0.5	1.0		1/week	Grab
Temperature (°F)					110		1/week	i-s
Chemical Oxygen Demand (COD)				30	60		1/week	24- hour composite
Total Suspended Solids				30	60		1/week	24- hour composite
Oil & Grease				15	20		1/week	Grab

Proposed Final Effluent Limitations

The final effluent limitation and reporting requirements for IMP 101 are in table 3 below. The limits are the most stringent values from the above limitation analysis. The temperature limitation was incorrectly listed as a Daily Maximum Limitations in the last permit when it should have been listed as an Instantaneous Maximum limitation. The temperature limitation has been changed to reflect this.

Table 3. Proposed Limitations at IMP 101

Parameter	Loading		Concentration (mg/L)				Reporting Requirements	
	Monthly Avg.	Daily Max.	Instant. Min.	Monthly Avg.	Daily Max.	Inst. Max.	Measure Frequency	Sample Type
Flow (mgd)	Report	Report					1/week	Calculation
pH (s.u.)			6.0			9.0	1/week	Grab
Total Residual Chlorine (TRC)				0.5	1.0		1/week	Grab
Temperature (°F)						110	1/week	i-s
Chemical Oxygen Demand (COD)				30	60		1/week	24- hour composite
Total Suspended Solids				30	60		1/week	24- hour composite
Oil & Grease				15	20		1/week	Grab

Development of Effluent Limitations

IMP No.	201	**Design Flow (MGD)**	0.336
Latitude	40º 29' 35.23"	**Longitude**	-80º 04' 43.42"

Wastewater Description: Steam Condensate, Stormwater, and Boiler Blowdown

Technology-Based Limitations

25 PA Code Chapter 92 requires pH requirements to be a minimum of 6.0 and a maximum of 9.0 S.U. for all industrial waste process and non-process discharges.

Flow Reporting requirements is in accordance with the 25 PA Code Chapter 92 regulations.

Boiler blowdown is considered a low volume waste source in 40 CFR 423.12 and will have effluent limitation for TSS and Oil and grease.

The boiler system uses municipal water supply, indicating that TRC will be present in the water supply. 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.

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.

Table 4. Technology Based Limitations

Parameter	BPT effluent Limitations (mg/l)	
	Daily Maximum	Monthly Average
pH (S.U)	Between 6.0 and 9.0	
Flow	Report	Report
Total Suspended Solids	100.0	30.0
Oil and Grease	20.0	15.0
Total Residual Chlorine	1.0	0.5
Temperature		

Water Quality-Based Limitations

Toxic Pollutants Water Quality Analysis

The discharges from IMP 101 consist of Steam Condensate, Boiler Blowdown, and stormwater; and are non-process discharges. Therefore, a toxic pollutant water quality analysis was not conducted for the discharge from IMP 201.

Total Maximum Daily Loads

The Ohio River has a TMDL for PCBs and Chlordane. The TMDL outlines a plan to achieve water quality standards in the water body. The TMDL applies only to discharges of PCBs and chlordane to the Ohio River and does not provide wasteload allocations for either. The TMDL goal is for levels of PCB and chlordane in the water column to be equal to or less than the Commonwealth's water quality criteria. The production and use of PCBs in the United States was banned in July of 1979. In addition, the TMDL acknowledges that there are no longer any known point sources of either pollutant in the watershed and the watershed is expected to achieve TMDL standards through "natural attenuation". While it is now illegal to manufacture, distribute, or use PCBs in the United states, these synthetic oils were used in the past. However, this site has not been shown to have PCBs in its discharge and has not been known to use PCBs. Neither chlordane nor PCB's are used, generated, or stored at the site; nor is there any evidence to suggest that PCBs and chlordane were ever used, generated, or stored onsite in the past. Based upon these considerations, the Ohio TMDL is not applicable to site's discharges.

Thermal WQBELs for Heated Discharges

Thermal WQBELs are evaluated using a DEP program called the "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.

DEP's *Implementation Guidance for Temperature Criteria* directs permit writers to assume instantaneous complete mixing of the discharge with the receiving stream when calculating thermal effluent limits unless adverse factors exist. One such factor listed in the guidance is that the "discharge is to a receiving water that is very wide, resulting in restricted dispersion of the plume, and horizontal stratification of the plume." Since wastewaters from the site discharge to the Ohio River, the dispersion of the discharge plume is likely to be limited and instantaneous complete mixing will not occur. Therefore, the acute partial mix factor calculated by the Toxics Management Spreadsheet (0.120 × 2365 cfs = 283.8 cfs) will be applied to the modeled flow rate for the thermal WQBEL analysis. The Toxics Management Spreadsheet that was used to determine the acute partial mix factor is in Attachment B.

Due to the nature of the discharge and the location on the receiving stream, all heated discharges will be evaluated as one discharge to ensure the temperature criteria is met instream from all of the heated discharges and a combined flow of 0.656 MGD was used in the model. Discharges from IMP 101 and 201 are classified under Case 2 because water is obtained from municipal water supply. The results of the thermal analysis, included in Attachment C, indicate that no WQBELs for temperature are required at IMP 201. Therefore, the 110°F instantaneous maximum temperature limit will be imposed at IMP 201.

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 E, indicate that no WQBELs are required for TRC.

Anti-Backsliding

The following limits in table 5 below were imposed on the previous permit and due to the federal regulation specified in 40 CFR 122.44 (1) are applied to the permit.

Table 5. Current Limitations at IMP 201

Parameter	Loading		Concentration (mg/L)				Reporting Requirements	
	Monthly Avg.	Daily Max.	Instant. Min.	Monthly Avg.	Daily Max.	Inst. Max.	Measure Frequency	Sample Type
Flow (mgd)	Report	Report					1/week	Calculation
pH (s.u.)			6.0			9.0	1/week	Grab
Temperature (°F)					110		1/week	i-s
Chemical Oxygen Demand (COD)				30	60		1/week	24- hour composite
Total Suspended Solids				30	60		1/week	24- hour composite

Proposed Final Effluent Limits

The final effluent limitation and Reporting requirements for IMP 201 are in table 6 below. The limits are the most stringent values from the above limitation analysis. The temperature limitation was incorrectly listed as a Daily Maximum Limitations in the last permit when it should have been listed as an Instantaneous Maximum limitation. The temperature limitation has been changed to reflect this

Table 6. Proposed Limitations at IMP 101

Parameter	Loading		Concentration (mg/L)				Reporting Requirements	
	Monthly Avg.	Daily Max.	Instant. Min.	Monthly Avg.	Daily Max.	Inst. Max.	Measure Frequency	Sample Type
Flow (mgd)	Report	Report					1/week	Calculation
pH (s.u.)			6.0			9.0	1/week	Grab
Total Residual Chlorine (TRC)				0.5	1.0		1/week	Grab
Temperature (°F)						110	1/week	i-s
Chemical Oxygen Demand (COD)				30	60		1/week	24- hour composite
Total Suspended Solids				30	60		1/week	24- hour composite
Oil & Grease				15	20		1/week	Grab

Development of Effluent Limitations

IMP No. 301 **Design Flow (MGD)** Varies

Latitude 40º 29' 39.44" **Longitude** -80º 04' 42.42"

Wastewater Description: Hydrostatic Tank Test Water

Technology-Based Limitations

Hydrostatic test water discharge from petroleum storage tanks is also addressed in PAG-10 General Permit. The concentration limits for hydrostatic test water from the general permit are shown in Table 7.

Table 7. Technology based effluent limits for hydrostatic test water

Parameter	Minimum	Average Monthly	Instantaneous Maximum
Flow (GPM)		Report	
Duration (hours)		Report	
Total Volume Discharged (Gallons)		Report Total Monthly	
Dissolved Oxygen (mg/L)	5.0		
pH (standard units)	6.0		9.0
Total Residual Chlorine (TRC) (mg/L)		Report	0.05
Total Suspended Solids (TSS) (mg/L)		30.0	60.0
Oil and Grease (mg/L)		15.0	30.0
Dissolved Iron (mg/L)			7.0
Benzene (mg/L)			0.0025
BTEX (mg/L)			0.25

Water Quality-Based Limitations

A water quality analysis was not performed to calculate water quality-based effluent limitations as the discharge water is hydrostatic test water.

Anti-Backsliding

IMP 301 is new to the permit, but the discharge of hydrostatic test water is not. The discharges were previously monitored via a part C condition. The part C condition include limitations that the wastewater must meet before discharging. The limitations can be used pursuant to EPA's anti-backsliding regulation, 40 CFR 122.44(l) and are displayed in Table 8 below.

Table 8: Current Hydrostatic Tank Test Water Limitations

Parameter	Effluent Limitations		
	Instant. Minimum	Average Monthly	Instantaneous Maximum
pH (S.U.)	6.0	XXX	9.0
Total Residual Chlorine (TRC) (mg/L)	XXX	XXX	0.05
Total Suspended Solids (TSS) (mg/L)	XXX	XXX	60
Oil and Grease (mg/L)	XXX	XXX	30
Dissolved Iron (mg/L)	XXX	XXX	7.0
Benzene (mg/L)	XXX	XXX	0.0025
BTEX (mg/L)	XXX	XXX	0.25

Proposed Effluent Limitations and Monitoring Requirements

The proposed effluent monitoring requirements for IMP 301 are displayed in Table 9 below, they are the most stringent values from the above effluent limitation development.

Table 9: Current Limitations at IMP 301

Parameter	Effluent Limitations			Monitoring Requirements	
	Instant. Minimum	Average Monthly	Instantaneous Maximum	Minimum Measurement Frequency (1),(2)	Sample Type
Flow (GPM) (3)	XXX	Report	XXX	1/discharge	Measured
Duration of Discharge (Hours) (3)	XXX	Report	XXX	1/discharge	Measured
Total Volume Discharged (Gallons) (3)	XXX	Report Total Monthly	XXX	1/month	Calculated
Dissolved Oxygen (mg/L)	5.0	XXX	XXX	2/discharge	Grab
pH (S.U.)	6.0	XXX	9.0	2/discharge	Grab
Total Residual Chlorine (TRC) (mg/L) (4)	XXX	Report	0.05	2/discharge	Grab
Total Suspended Solids (TSS) (mg/L)	XXX	30	60	1/discharge	Grab
Oil and Grease (mg/L)	XXX	15	30	1/discharge	Grab
Dissolved Iron (mg/L)	XXX	XXX	7.0	1/discharge	Grab
Benzene (mg/L) (5)	XXX	XXX	0.0025	1/discharge	Grab
BTEX (mg/L) (5), (6)	XXX	XXX	0.25	1/discharge	Grab

Footnotes

(1) This is the minimum number of sampling events required. Permittees are encouraged, and it may be advantageous in demonstrating compliance, to perform more than the minimum number of sampling events.

(2) The permittee shall collect samples at the point of discharge (outfall) prior to the discharge entering the receiving waters. For measurement frequencies of 1/discharge, the permittee shall collect samples within the first 30 minutes of commencing a discharge. For measurement frequencies of 2/discharge, the permittee shall collect one sample at the start of a discharge and one sample at the end of a discharge.

(3) The permittee shall report the average monthly flow, in gallons per minute (GPM), for all discharges occurring during the month. The permittee shall measure the flow and the duration of the discharge (in hours) for each discharge and shall report this information to DEP in the Annual Report as specified in Part A III of this permit. The permittee shall report the total volume discharged each month, in gallons.

(4) The permittee shall comply with effluent limitations and monitoring requirements for Total Residual Chlorine (TRC) when a public water supply or other source of chlorinated water is used in hydrostatic testing.

(5) The permittee shall comply with effluent limitations and monitoring requirements for Benzene and BTEX for existing natural gas transmission lines (NGTLs), existing petroleum storage tanks (PSTs) and existing petroleum transmission lines (PTLs).

(6) The permittee shall calculate Total BTEX as the sum of concentrations for Benzene, Toluene, Ethylbenzene, and Total Xylenes determined through analysis of the same sample.

Tools and References Used to Develop Permit	
☐	WQM for Windows Model (see Attachment)
☐	Toxics Management Spreadsheet (see Attachment)
☒	TRC Model Spreadsheet (see Attachment **D and E**)
☒	Temperature Model Spreadsheet (see Attachment **C**)
☐	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: StreamStats Report

Attachment B: Toxics Management Spreadsheet Partial Mix Factors

Attachment C: Site Thermal Discharge Analysis

Attachment D: TRC Evaluation at IMP 101

Attachment E: TRC Evaluation at IMP 201

Attachment F: Site Plan

Attachment G: Site Flow Diagram

Attachment A:

StreamStats Report

StreamStats Report

Region ID: PA
Workspace ID: PA20230508171806924000
Clicked Point (Latitude, Longitude): 40.49983, -80.07716
Time: 2023-05-08 13:18:42 -0400

Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	19400	square miles
ELEV	Mean Basin Elevation	1675	feet
FOREST	Percentage of area covered by forest	72.4836	percent
PRECIP	Mean Annual Precipitation	45	inches
URBAN	Percentage of basin with urban development	4.1478	percent

Low-Flow Statistics

Low-Flow Statistics Parameters [57.7 Percent (11200 square miles) Low Flow Region 3]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	19400	square miles	2.33	1720
ELEV	Mean Basin Elevation	1675	feet	898	2700
PRECIP	Mean Annual Precipitation	45	inches	38.7	47.9

Low-Flow Statistics Parameters [42.0 Percent (8160 square miles) Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	19400	square miles	2.26	1400
ELEV	Mean Basin Elevation	1675	feet	1050	2580

Low-Flow Statistics Disclaimers [57.7 Percent (11200 square miles) Low Flow Region 3]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [57.7 Percent (11200 square miles) Low Flow Region 3]

Statistic	Value	Unit
7 Day 2 Year Low Flow	2810	ft^3/s
30 Day 2 Year Low Flow	3530	ft^3/s
7 Day 10 Year Low Flow	1990	ft^3/s
30 Day 10 Year Low Flow	2310	ft^3/s
90 Day 10 Year Low Flow	3080	ft^3/s

Low-Flow Statistics Disclaimers [42.0 Percent (8160 square miles) Low Flow Region 4]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [42.0 Percent (8160 square miles) Low Flow Region 4]

Statistic	Value	Unit
7 Day 2 Year Low Flow	2850	ft^3/s
30 Day 2 Year Low Flow	3530	ft^3/s
7 Day 10 Year Low Flow	1920	ft^3/s
30 Day 10 Year Low Flow	2020	ft^3/s
90 Day 10 Year Low Flow	2760	ft^3/s

Low-Flow Statistics Flow Report [Area-Averaged]

Statistic	Value	Unit
7 Day 2 Year Low Flow	2820	ft^3/s
30 Day 2 Year Low Flow	3520	ft^3/s
7 Day 10 Year Low Flow	1950	ft^3/s
30 Day 10 Year Low Flow	2180	ft^3/s
90 Day 10 Year Low Flow	2940	ft^3/s

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)

Application Version: 4.14.0
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

Attachment B:

Toxics Management Spreadsheet Partial Mix Factors

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Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: **INEOS Composites** NPDES Permit No.: **PA0003832** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **Steam Condesnsate and Stormwater**

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
0.656	100	7						

	Discharge Pollutant	Units	Max Discharge Conc	0 if left blank: Trib Conc	0 if left blank: Stream Conc	0.5 if left blank: Daily CV	0.5 if left blank: Hourly CV	0 if left blank: Strea m CV	0 if left blank: Fate Coeff	0 if left blank: FOS	1 if left blank: Criteri a Mod	1 if left blank: Chem Transl
	Total Dissolved Solids (PWS)	mg/L	1030									

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Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

INEOS Composites , NPDES Permit No. PA0003832, Outfall 001

Instructions | Discharge | Stream

Receiving Surface Water Name: **Ohio River** No. Reaches to Model: **1**

- ○ Statewide Criteria
- ○ Great Lakes Criteria
- ◉ ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi^2)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	032317	975.11	710	19400			Yes
End of Reach 1	032317	971.89	709	19401		6	Yes

Q_{7-10}

Location	RMI	LFY (cfs/mi^2)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	975.11	0.1	2365			580	15					100	7		
End of Reach 1	971.89	0.1	2365			600	15								

Q_h

Location	RMI	LFY (cfs/mi^2)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	975.11														
End of Reach 1	971.89														

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Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

INEOS Composites , NPDES Permit No. PA0003832, Outfall 001

Instructions | Results | RETURN TO INPUTS | SAVE AS PDF | PRINT | (●) All ( ) Inputs ( ) Results ( ) Limits

☑ ***Hydrodynamics***

$Q_{7\text{-}10}$

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Travel Time (days)	Complete Mix Time (min)
975.11	2,365		2,365	1.015	0.00006	15.	580.	38.667	0.272	0.724	1033.996
971.89	2,365	9.282	2355.718								

Q_h

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Travel Time (days)	Complete Mix Time (min)
975.11	6602.63		6602.63	1.015	0.00006	23.563	580.	24.615	0.483	0.407	525.475
971.89	6602.634	9.282	6593.35								

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 0.120 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	

☑ ***CFC*** CCT (min): 720 PMF: 0.834 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	

☑ ***THH*** CCT (min): 720 THH PMF: 0.834 Analysis Hardness (mg/l): N/A Analysis pH: N/A PWS PMF: 1

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	#########	WQC applied at RMI 971.89 with a design stream flow of 2365 cfs

☑ ***CRL*** CCT (min): ###### PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	

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

No. Samples/Month: 4

Pollutants	*Mass Limits* AML (lbs/day)	*Mass Limits* MDL (lbs/day)	*Concentration Limits* AML	*Concentration Limits* MDL	*Concentration Limits* IMAX	*Concentration Limits* Units	Governing WQBEL	WQBEL Basis	Comments

☑ ***Other Pollutants without Limits or Monitoring***

The following pollutants do not require effluent limits or monitoring based on water quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficiently sensitive analytical method was used (e.g., <= Target QL).

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	1,165,717	mg/L	Discharge Conc ≤ 10% WQBEL

Attachment C:

Site Thermal Discharge Analysis

Facility: INEOS Composites
Permit Number: PA0003832
Stream Name: Ohio River
Analyst/Engineer: Adam Olesnanik
Stream Q7-10 (cfs): 283.8

	Facility Flows[1]				Stream Flows	
	Stream (Intake) (MGD)	External (Intake) (MGD)	Consumptive (Loss) (MGD)	Discharge (MGD)	Adj. Q7-10 Stream Flow (cfs)	Downstream[2] Stream Flow (cfs)
Jan 1-31	0	0.656	0	0.656	908.2	909.2
Feb 1-29	0	0.656	0	0.656	993.3	994.3
Mar 1-31	0	0.656	0	0.656	1986.6	1987.6
Apr 1-15	0	0.656	0	0.656	2639.3	2640.4
Apr 16-30	0	0.656	0	0.656	2639.3	2640.4
May 1-15	0	0.656	0	0.656	1447.4	1448.4
May 16-31	0	0.656	0	0.656	1447.4	1448.4
Jun 1-15	0	0.656	0	0.656	851.4	852.4
Jun 16-30	0	0.656	0	0.656	851.4	852.4
Jul 1-31	0	0.656	0	0.656	482.5	483.5
Aug 1-15	0	0.656	0	0.656	397.3	398.3
Aug 16-31	0	0.656	0	0.656	397.3	398.3
Sep 1-15	0	0.656	0	0.656	312.2	313.2
Sep 16-30	0	0.656	0	0.656	312.2	313.2
Oct 1-15	0	0.656	0	0.656	340.6	341.6
Oct 16-31	0	0.656	0	0.656	340.6	341.6
Nov 1-15	0	0.656	0	0.656	454.1	455.1
Nov 16-30	0	0.656	0	0.656	454.1	455.1
Dec 1-31	0	0.656	0	0.656	681.1	682.1

[1] Facility flows are not required (and will not affect the permit limits) if all intake flow is from the receiving stream (Case 1), consumptive losses are small, and permit limits will be expressed as Million BTUs/day.
[2] Downstream Stream Flow includes the discharge flow.

Facility:	**INEOS Composites**						
Permit Number:	PA0003832						
Stream:	Ohio River						
	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: **INEOS Composites**
Permit Number: PA0003832
Stream: Ohio River

	WWF Ambient Stream Temperature (ºF) (Default)	Ambient Stream Temperature (ºF) (Site-specific data)	Target Maximum Stream Temp.[1] (ºF)	WWF Daily WLA[2] (Million BTUs/day)	WWF Daily WLA[3] (ºF)	at Discharge Flow (MGD)
Jan 1-31	35	0	40	N/A -- Case 2	110.0	0.656
Feb 1-29	35	0	40	N/A -- Case 2	110.0	0.656
Mar 1-31	40	0	46	N/A -- Case 2	110.0	0.656
Apr 1-15	47	0	52	N/A -- Case 2	110.0	0.656
Apr 16-30	53	0	58	N/A -- Case 2	110.0	0.656
May 1-15	58	0	64	N/A -- Case 2	110.0	0.656
May 16-30	62	0	72	N/A -- Case 2	110.0	0.656
Jun 1-15	67	0	80	N/A -- Case 2	110.0	0.656
Jun 16-30	71	0	84	N/A -- Case 2	110.0	0.656
Jul 1-31	75	0	87	N/A -- Case 2	110.0	0.656
Aug 1-15	74	0	87	N/A -- Case 2	110.0	0.656
Aug 16-31	74	0	87	N/A -- Case 2	110.0	0.656
Sep 1-15	71	0	84	N/A -- Case 2	110.0	0.656
Sep 16-30	65	0	78	N/A -- Case 2	110.0	0.656
Oct 1-15	60	0	72	N/A -- Case 2	110.0	0.656
Oct 16-31	54	0	66	N/A -- Case 2	110.0	0.656
Nov 1-15	48	0	58	N/A -- Case 2	110.0	0.656
Nov 16-30	42	0	50	N/A -- Case 2	110.0	0.656
Dec 1-31	37	0	42	N/A -- Case 2	110.0	0.656

[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 D:

TRC Evaluation at IMP 101

TRC EVALUATION

2365	= Q stream (cfs)	0.5	= CV Daily
0.32	= Q discharge (MGD)	0.5	= CV Hourly
4	= no. samples	0.12	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream	0.834	= 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 =	182.898	**1.3.2.iii**	WLA cfc =	1239.142
PENTOXSD TRG	**5.1a**	LTAMULT afc =	0.373	**5.1c**	LTAMULT cfc =	0.581
PENTOXSD TRG	**5.1b**	LTA_afc=	68.152	**5.1d**	LTA_cfc =	720.379

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)**

Attachment E:

TRC Evaluation at IMP 201

TRC EVALUATION

2365	= Q stream (cfs)	0.5	= CV Daily
0.336	= Q discharge (MGD)	0.5	= CV Hourly
4	= no. samples	0.12	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream	0.834	= 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)

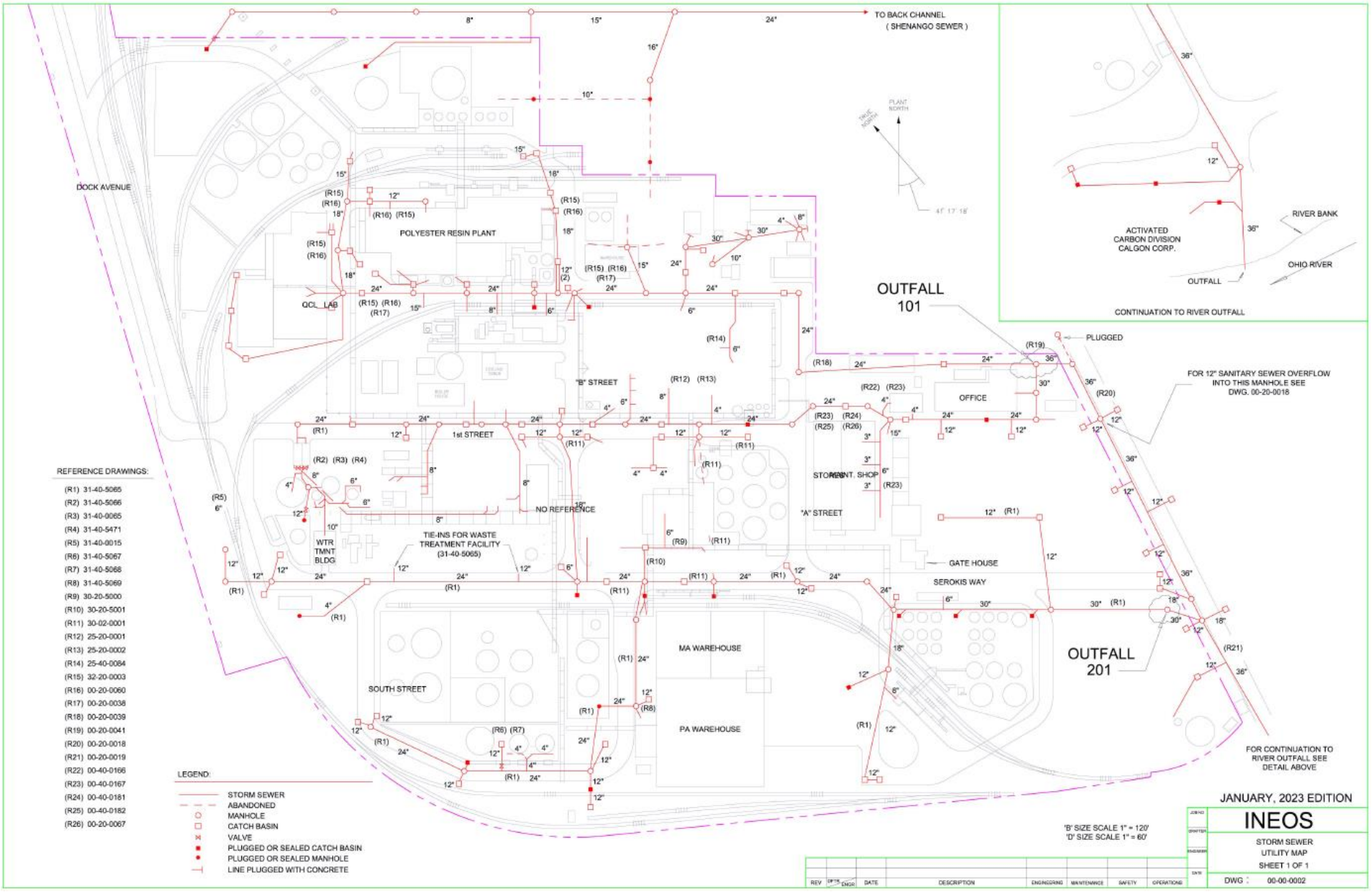
Source	Reference	AFC Calculations		Reference	CFC Calculations	
TRC	**1.3.2.iii**	WLA afc =	174.189	**1.3.2.iii**	WLA cfc =	1180.136
PENTOXSD TRG	**5.1a**	LTAMULT afc =	0.373	**5.1c**	LTAMULT cfc =	0.581
PENTOXSD TRG	**5.1b**	LTA_afc=	64.907	**5.1d**	LTA_cfc =	686.076

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)**

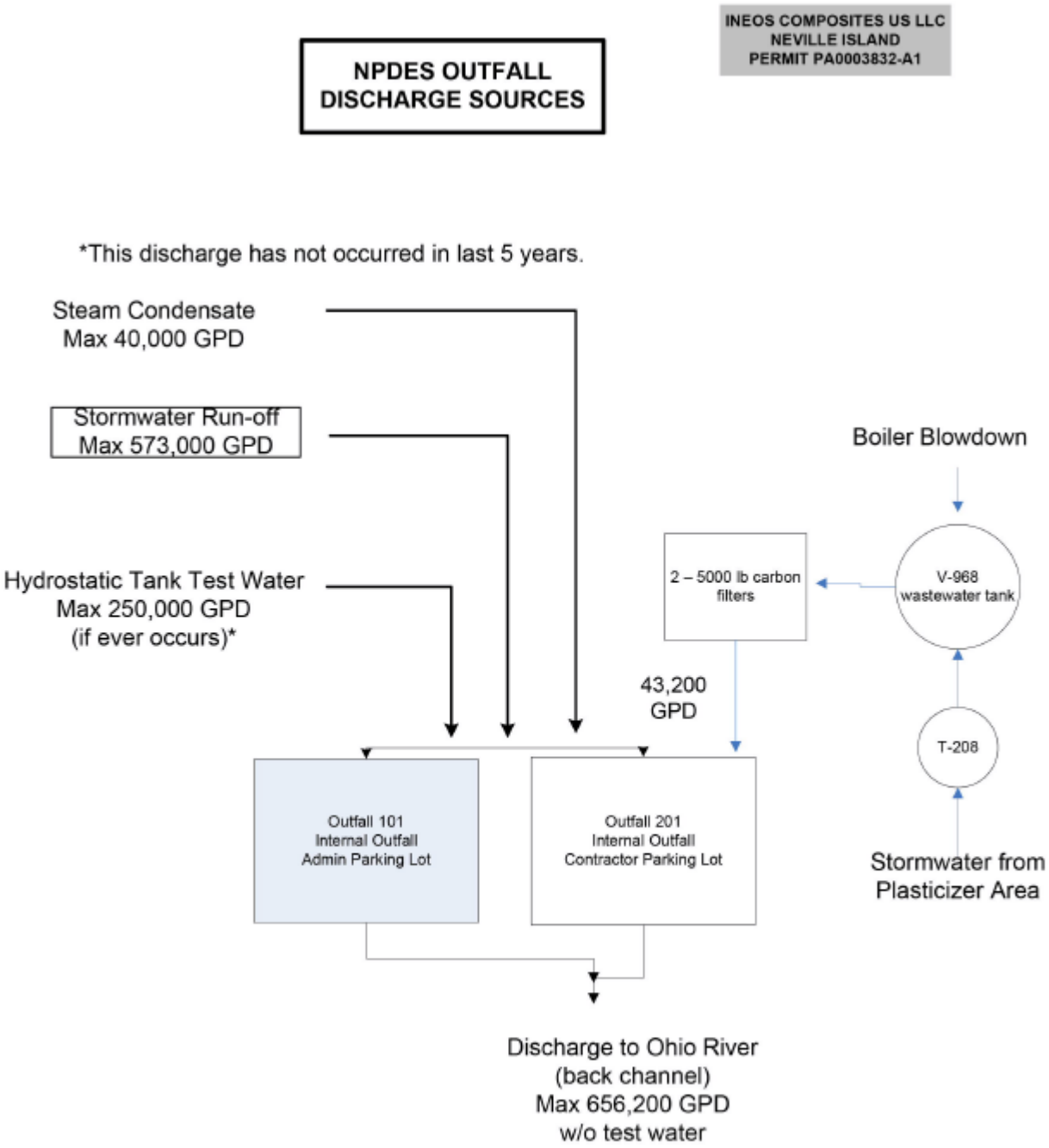
Attachment F:

Site Plan


TO BACK CHANNEL
(SHENANGO SEWER)
DOCK AVENUE
POLYESTER RESIN PLANT
QCL LAB
"B" STREET
1st STREET
NO REFERENCE
TIE-INS FOR WASTE TREATMENT FACILITY (31-40-5065)
WTR TMNT BLDG
SOUTH STREET
MA WAREHOUSE
PA WAREHOUSE
"A" STREET
STORES
MAINT. SHOP
OFFICE
GATE HOUSE
SEROKIS WAY
OUTFALL 101
OUTFALL 201
PLUGGED
FOR 12" SANITARY SEWER OVERFLOW INTO THIS MANHOLE SEE DWG. 00-20-0018
FOR CONTINUATION TO RIVER OUTFALL SEE DETAIL ABOVE
ACTIVATED CARBON DIVISION CALGON CORP.
RIVER BANK
OHIO RIVER
OUTFALL
CONTINUATION TO RIVER OUTFALL
REFERENCE DRAWINGS:
(R1) 31-40-5065
(R2) 31-40-5066
(R3) 31-40-0065
(R4) 31-40-5471
(R5) 31-40-0015
(R6) 31-40-5067
(R7) 31-40-5068
(R8) 31-40-5069
(R9) 30-20-5000
(R10) 30-20-5001
(R11) 30-02-0001
(R12) 25-20-0001
(R13) 25-20-0002
(R14) 25-40-0084
(R15) 32-20-0003
(R16) 00-20-0060
(R17) 00-20-0038
(R18) 00-20-0039
(R19) 00-20-0041
(R20) 00-20-0018
(R21) 00-20-0019
(R22) 00-40-0166
(R23) 00-40-0167
(R24) 00-40-0181
(R25) 00-40-0182
(R26) 00-20-0067
LEGEND:
STORM SEWER
ABANDONED
MANHOLE
CATCH BASIN
VALVE
PLUGGED OR SEALED CATCH BASIN
PLUGGED OR SEALED MANHOLE
LINE PLUGGED WITH CONCRETE
'B' SIZE SCALE 1" = 120'
'D' SIZE SCALE 1" = 60'
JANUARY, 2023 EDITION
INEOS
STORM SEWER UTILITY MAP
SHEET 1 OF 1
DWG : 00-00-0002

Attachment G:

Site Flow Diagram


INEOS COMPOSITES US LLC
NEVILLE ISLAND
PERMIT PA0003832-A1
NPDES OUTFALL
DISCHARGE SOURCES
*This discharge has not occurred in last 5 years.
Steam Condensate
Max 40,000 GPD
Stormwater Run-off
Max 573,000 GPD
Hydrostatic Tank Test Water
Max 250,000 GPD
(if ever occurs)*
Boiler Blowdown
2 – 5000 lb carbon filters
V-968 wastewater tank
43,200 GPD
T-208
Outfall 101
Internal Outfall
Admin Parking Lot
Outfall 201
Internal Outfall
Contractor Parking Lot
Stormwater from Plasticizer Area
Discharge to Ohio River
(back channel)
Max 656,200 GPD
w/o test water