pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0084395**
Facility Type	**Industrial**	APS ID	**275998**
Major / Minor	**Minor**	Authorization ID	**1278089**

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

Applicant and Facility Information

Applicant Name	**PA Department of Corrections**	Facility Name	**State Correctional Institution at Camp Hill**
Applicant Address	2500 Lisburn Road PO Box 8837	Facility Address	2500 Lisburn Road
	Camp Hill, PA 17011-8005		Camp Hill, PA 17011-8005
Applicant Contact	Laurel Harry	Facility Contact	Howard Gouse
Applicant Phone	(717) 737-4531	Facility Phone	717-737-4531
Client ID	43607	Site ID	453669
SIC Code	9223	Municipality	Lower Allen Township
SIC Description	Public Admin. - Correctional Institutions	County	Cumberland
Date Application Received	June 5, 2019	EPA Waived?	Yes
Date Application Accepted	June 26, 2019	If No, Reason	
Purpose of Application	NPDES Renewal.		

Summary of Review

PA Department of Corrections (DOC) has applied to the PA Department of Environmental Protection (DEP) for reissuance of its NPDES permit. The permit was last reissued on December 16, 2014 and became effective on January 1, 2015. The permit will expire on December 31, 2019.

Based on the review, it is recommended that the permit be drafted.

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
		Jinsu Kim / Environmental Engineering Specialist	January 17, 2020
		Daniel W. Martin, P.E. / Environmental Engineer Manager	
		Maria D. Bebenek, P.E. / Program Manager	

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.05
Latitude	40º 13' 15.00"	Longitude	-76º 55' 39.00"
Quad Name	Lemoyne	Quad Code	1730
Wastewater Description:	Water Treatment Effluent		
Receiving Waters	Cedar Run (CWF, MF)	Stream Code	63604
NHD Com ID	133783548	RMI	1.92
Drainage Area	6.25 sq.mi.	Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)	2.58	Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	7-E	Chapter 93 Class.	CWF, MF
Existing Use	None	Existing Use Qualifier	None
Exceptions to Use	None	Exceptions to Criteria	None
Assessment Status	Impaired		
Cause(s) of Impairment	Siltation, Nutrients, Pathogens		
Source(s) of Impairment	Natural Sources, Source Unknown, Urban Runoff/Storm Sewers		
TMDL Status	Pending	Name	N/A
Nearest Downstream Public Water Supply Intake	PA American – West Short Regional		
PWS Waters	Yellow Breeches Creek	Flow at Intake (cfs)	68.3
PWS RMI	0.35	Distance from Outfall (mi)	5.5

Drainage Area
The discharge is to Cedar Run at RM 1.92. A drainage area upstream of the point of discharge is estimated to be 6.25 sq.mi. using USGS StreamStats available at https://streamstats.usgs.gov/ss/.

Streamflow
USGS StreamStats produced a Q7-10 flow of 2.58 cfs at the point of discharge.

Cedar Run
Under 25 Pa Code §93.9o, Cedar Run is a tributary of Yellow Breeches Creek and is designated as cold water and migratory fishes. Yellow Breeches Creek at the confluence with Cedar Run is also designated as cold water and migratory fishes. No special protection water is therefore impacted by this discharge. DEP's latest integrated water quality report prepared in 2018 indicates that Cedar Run is impaired for nutrients as a result of stormwater runoff from urbanized areas and unknown source. The report also indicates that the stream is impaired for siltation as a result of natural sources. A development of a Total Maximum Daily Load (TMDL) is pending at this time as the TMDL is in fact required to be developed to address this impairment.

Public Water Supply Intake
The fact sheet developed for the last permit renewal indicates that the nearest downstream public water supply intake is PA American Water Co. located on Yellow Breeches Creek, approximately 5.5 miles from the discharge. Given the nature and quantity, the discharge is not expected to significantly impact the water supply.

Treatment Facility Summary				
Treatment Facility Name: State Correctional Institution at Camp Hill				
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Industrial	Primary Treatment	Sedimentation	No Disinfection	0.031
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.05	N/A	Not Overloaded	N/A	N/A

DOC currently utilizes a water treatment system for the correctional facility located in Lower Allen Township Cumberland County. The raw water source is Cedar Run which is withdrawn via two (2) pumps at a maximum rate of 530 GPM. A typical water production is between 0.5 to 0.6 MGD with the maximum design capacity of 0.764 MGD, according to the application. The discharge of filter backwash as well as settled solids from the water treatment system is to one of two (2) existing settling lagoons. The discharge occurs continuously for 2 hours per day at an average rate of 0.031 MGD with the maximum of 0.04 MGD. The design flow DEP has been consistently considered is 0.05 MGD.

Compliance History	
Summary of DMRs:	A summary of past 12-month DMR data is presented on the next page.
Summary of Inspections:	05/14/2018: Patrick Bowen, former DEP Water Quality Specialist, conducted a routine inspection and indicated that gravel accumulation noted at Outfall 001. No significant issues were identified at the time of inspection. 07/06/2017: Patrick Bowen conducted a routine inspection and noted that effluent appeared. No issues were identified at the time of inspection.
Other Comments:	DEP's database revealed that there are several open violations associated with this facility identified by DEP Storage Tanks Program in November 2018. A draft permit letter will explain that DEP may not finalize the permit until all open violations are resolved. Since the last permit reissuance, the facility has had a number of effluent violations. Based on the review of these DMRs and relevant Daily Effluent Monitoring Reports, it appears that these violations were created as a result of incorrect values reported as sample results.

Effluent Data

DMR Data for Outfall 001 (from August 1, 2018 to July 31, 2019)

Parameter	JUL-19	JUN-19	MAY-19	APR-19	MAR-19	FEB-19	JAN-19	DEC-18	NOV-18	OCT-18	SEP-18	AUG-18
Flow (MGD) Average Monthly	0.036	0.034	0.036	0.031		0.001	0.361	0.0349	0.036	0.035	0.01	< 0.038
Flow (MGD) Daily Maximum	0.044	0.043	0.039	0.037		0.036	0.421	0.0364	0.041	0.039	0.034	< 0.045
pH (S.U.) Minimum	7.3	7.2	7.2	7.3		7.7	7.3	7.3	7.3	6.9	7.4	< 7.2
pH (S.U.) Instantaneous Maximum	7.8	7.7	7.7	7.9		7.7	7.8	7.8	7.8	7.7	7.8	< 7.5
TSS (mg/L) Average Monthly	< 6.0	< 5.0	< 5	< 5		< 6	< 0.05	< 5	< 5.0	< 6	< 0.05	< 8
TSS (mg/L) Daily Maximum	< 7.0	< 5.0	< 5	< 5		< 6	0.05	< 5	< 5.0	< 7	< 0.05	< 8
Total Aluminum (mg/L) Average Monthly	< 0.05	0.05	< 0.05	< 0.05		< 0.05	< 5.0	< 0.05	< 0.05	< 0.05	< 0.059	< 0.050
Total Aluminum (mg/L) Daily Maximum	< 0.05	0.05	< 0.05	< 0.05		< 0.05	< 5.0	< 0.05	< 0.05	< 0.05	< 0.059	< 0.050
Total Iron (mg/L) Average Monthly	< 0.11	0.39	< 0.21	< 0.27		< 0.3	0.52	< 0.29	< 0.53	< 0.24	< 0.36	< 0.29
Total Iron (mg/L) Daily Maximum	< 0.18	0.39	< 0.24	< 0.33		< 0.3	0.77	< 0.34	< 0.64	< 0.28	< 0.36	< 0.29
Total Manganese (mg/L) Average Monthly	< 0.0064	0.39	< 0.027	< 0.0116		< 0.018	0.013	< 0.0122	< 0.023	< 0.0068	< 0.0064	< 0.016
Total Manganese (mg/L) Daily Maximum	< 0.008	0.39	< 0.035	< 0.02		< 0.018	0.014	< 0.015	< 0.032	< 0.007	< 0.0064	< 0.016

Existing Effluent Limits and Monitoring Requirements

A table below summarizes effluent limits and monitoring requirements specified in the current permit:

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	1/day	Calculation
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/week	Grab
TSS	XXX	XXX	XXX	30	60	75	2/month	24-Hr Composite
Total Aluminum	XXX	XXX	XXX	4.0	8.0	10	2/month	24-Hr Composite
Total Iron	XXX	XXX	XXX	2.0	4.0	5	2/month	24-Hr Composite
Total Manganese	XXX	XXX	XXX	1.0	2.0	2.5	2/month	24-Hr Composite

Development of Effluent Limitations and Monitoring Requirements

Outfall No. 001 **Design Flow (MGD)** .05
Latitude 40º 13' 15.00" **Longitude** -76º 55' 38.00"
Wastewater Description: Water Treatment Effluent

Technology-Based Limitations

The facility given the type of discharge generated is not subject to federal effluent limits and guidelines (ELGs). The facility is subject to the state effluent standards for industrial waste found in 25 Pa Code §§92a.48 and 95.2. Further, DEP generally uses recommended BPT effluent requirements expressed in DEP's technical guidance no. 362-2183-003 to develop effluent limits for water treatment plant wastes. These requirements are shown below:

Parameter	Monthly Average (mg/L)	Daily Maximum (mg/L)
TSS	30	60
Total Iron	2	4
Total Aluminum	4	8
Total Manganese	1	2
Flow	Monitor	
pH	6-9 at all times	
TRC	0.5	1.0

During the application review, the permittee questioned the need of permit requirements for Total Aluminum that are included in the current permit as the facility has recently replaced Alum with ferric chloride for coagulation. Since the time Alum was replaced with ferric chloride which occurred in late 2018, the permittee recognized that aluminum was not detected in all of DMR sample results, except for two samples collected in July 2019 in which the results were 0.055 mg/L and 0.052 mg/L. DEP requested sampling of raw water (intake) samples were collected and showed that aluminum was not detected at 0.05 mg/L.

It appears the BPT effluent requirements in this technical guidance for aluminum were developed likely because many water treatment facilities have used Alum or aluminum hydroxide as a chemical coagulant and therefore discharges from these facilities are typically expected to contain a detectable level of aluminum. The fact that this facility no longer utilizes Alum and raw intake water contains non-detectable levels of aluminum, removal of the existing permit requirements for aluminum is warranted under 40 CFR 122.44(l)(A). Accordingly, it is recommended that the existing effluent limits be removed from the permit.

The current permit does not contain effluent limits or monitoring requirements for Total Residual Chlorine (TRC). It is unclear as to why such requirement was not assigned since the facility in fact uses chlorine prior to filtration according to the Filter Plant Performance Evaluation included in the application package. Under 25 Pa Code §92a.48, facilities or activities using chlorination are subject to the BAT average monthly effluent limit of 0.5 mg/L. The TRC sample result provided in the application shows the maximum level of 0.21 mg/L in effluent. The facility would be capable of meeting this new effluent limit without the compliance schedule; therefore, this new effluent limit will become effective upon the permit effective date.

Water Quality-Based Limitations

WQM 7.0
CBOD5 and NH3-N are not pollutants of concern for the water treatment waste as the discharge of these pollutants is not resulting from the water treatment process. Therefore, WQM 7.0 modeling is not necessary and permit requirements for these pollutants are not recommended.

Total Residual Chlorine
DEP's TRC_CALC worksheet was utilized and indicated that the effluent limits of 0.5 mg/L (average monthly) and 1.6 mg/L (instantaneous maximum) will be appropriate for water quality protection.

Toxics
Maximum concentrations of toxic pollutants reported on the application were entered into DEP's Toxics Screening Analysis worksheet to evaluate toxics pollutants of concern. The worksheet indicates that heavy metals including Total Cadmium, Total Copper, Total Lead, Total Nickel and Total Zinc are candidates for PENTOXSD modeling as effluent concentrations

of these pollutants exceed the water quality criteria. Based on the raw water intake sampling results, intake water concentrations are significantly lower than effluent concentrations. While the intake water may contain detectable levels of these pollutants, an accumulated amount of these pollutants can be discharged when the filter backwash occurs; therefore, the water quality analysis should be performed to ensure protection of the receiving water. The analysis however indicates that no monitoring requirement or effluent limit is needed for all of these pollutants, except for Total Copper in which PENTOXSD and worksheet recommended a routine monitoring requirement for Total Copper. PENTOXSD also was utilized for the existing pollutants, Total Iron and Total Manganese and indicated that existing effluent limits for these pollutants are still adequate.

Additional Considerations

Flow Monitoring
Flow monitoring will remain in the permit and is required by 40 CFR § 122.44(i)(1)(ii).

Chesapeake Bay TMDL
DEP's Supplement to Phase II Watershed Implementation Plan (WIP) indicates that monitoring and reporting of TN and TP are necessary for non-significant IW facilities throughout the permit term anytime the facility has the potential to introduce a net TN or TP increase to the load contained within the intake water used in processing. The facility does not use any chemical products prior to filtration that contain nitrogen or phosphorus and no nutrients are expected to be generated from the water treatment process. The requirement to monitor for TN and TP is therefore not needed.

Instantaneous Maximum Effluent Limitations
In general, instantaneous maximum effluent limitations (IMAX) are not necessary for any parameters that are required to be measured through the collection of composite samples. NPDES permits include IMAX limits for compliance purpose(s) only, allowing DEP to collect a grab sample at the time of inspection to determine compliance. Accordingly, these limits will remain unchanged in the draft permit.

Monitoring Frequency and Sample Type
All existing monitoring frequency and sample type will remain unchanged. A daily grab sampling requirement for TRC is recommended by DEP's technical guidance no. 362-0400-001. A semi-monthly 24-hour composite sampling requirement for Total Copper is recommended to correspond with the sample type and monitoring frequency assigned to other toxic pollutants.

Anti-Degradation Requirements
The effluent limits for this discharge have been developed to ensure the existing in-stream uses and the level of water quality necessary to protect the existing uses are maintained and protected. No High Quality Waters are impacted by this discharge. No Exceptional Value Waters are impacted by this discharge.

Anti-Backsliding Requirements
Unless stated otherwise in this fact sheet, permit requirements proposed in this fact sheet are at least as stringent as existing permit requirements.

Proposed Effluent Limitations and Monitoring Requirements

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

Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	1/day	Calculation
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/week	Grab
Total Residual Chlorine	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
TSS	XXX	XXX	XXX	30	60	75	2/month	24-Hr Composite
Total Copper	XXX	XXX	XXX	Monitor	Monitor	XXX	2/month	24-Hr Composite
Total Iron	XXX	XXX	XXX	2.0	4.0	5	2/month	24-Hr Composite
Total Manganese	XXX	XXX	XXX	1.0	2.0	2.5	2/month	24-Hr Composite

Tools and References Used to Develop Permit	
☐	WQM for Windows Model (see Attachment)
☐	PENTOXSD for Windows Model (see Attachment)
☐	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☐	Toxics Screening Analysis 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: