pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

**Southcentral Regional Office**
**CLEAN WATER PROGRAM**

| | | | |
|---|---|---|---|
| Application Type | **Renewal** | Application No. | **PA0008541** |
| Facility Type | **Industrial** | APS ID | **688961** |
| Major / Minor | **Minor** | Authorization ID | **1294927** |

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

## Applicant and Facility Information

| | | | |
|---|---|---|---|
| Applicant Name | **Johnson Controls Inc.** | Facility Name | **Johnson Controls Manufacturing Grantley Plant** |
| Applicant Address | 631 S. Richland Avenue<br>York, PA 17403-3445 | Facility Address | 631 S. Richland Avenue<br>York, PA 17403-3445 |
| Applicant Contact | Garen MacDonald | Facility Contact | Garen MacDonald |
| Applicant Phone | (717) 430-5848 | Facility Phone | (717) 430-5848 |
| Client ID | 262758 | Site ID | 451002 |
| SIC Code | 3585 | Municipality | Spring Garden Township |
| SIC Description | Manufacturing - Refrigeration and Heating Equipment | County | York |
| Date Application Received | November 1, 2019 | EPA Waived? | Yes |
| Date Application Accepted | October 26, 2020 | If No, Reason | |
| Purpose of Application | NPDES permit renewal. | | |

## Summary of Review

On November 1, 2019, Environmental and Engineering Solutions, Inc. (EESI), on behalf of the Johnson Controls, Inc. (JCI) has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of its National Pollutant Discharge Elimination System (NPDES) permit. The renewal application was submitted on November 1, 2019. The permit was issued on March 26, 2015 and was effective on May 1, 2015. The permit expired on April 30, 2020 and has been administratively extended.

The facility is located in Spring Garden Township, York County. Outfalls # 003, 006, 008, & 011 are receiving Non-Contact Cooling Water (NCCW) and Storm Water (SW) which discharge within design flows of 0.003 MGD respectively. Outfalls # 007, 009, 010 are receiving SW. During the last permit term, the permit was amended on July 18, 2019 to remove permit requirements for outfalls that are no longer receiving treated wastewater from JCI such as outfall #'s 008 NCCW, 009 SW, 010 SW & 011 NCCW. Additionally, outfall # 007 is receiving NCCW and SW per Mr. Tucci, P.E., JCI's consultant on 6/14/2021 via email.

Changes to the proposed permit: The monitoring and reporting of Oil & Grease, Total Copper, Total Iron, & Total Zinc requirements is removed from the proposed permit.

Based on the review outline in this fact sheet, it is recommended that the permit be drafted and published in the Pennsylvania Bulletin for public comments for 30 days.

| Approve | Deny | Signatures | Date |
|---|---|---|---|
| X | | *Hilaryle*<br>Hilary H. Le / Environmental Engineering Specialist | June 17, 2021 |
| X | | *Maria D. Bebenek for Daniel W. Martin*<br>Daniel W. Martin, P.E. / Environmental Engineer Manager | June 22, 2021 |

**Discharge, Receiving Waters and Water Supply Information**

| | | | |
|---|---|---|---|
| Outfall No. | 003 | Design Flow (MGD) | 0.003 |
| Latitude | 39º 57' 7.00" | Longitude | -76º 44' 22.00" |
| Quad Name | York | Quad Code | |

Wastewater Description: Non-Contact Cooling Water (NCCW) and Stormwater (SW)

| | | | |
|---|---|---|---|
| Receiving Waters | Codorus Creek (WWF) | Stream Code | 08032 |
| NHD Com ID | 57468859 | RMI | 12.5 miles |
| Drainage Area | 223 mi.$^2$ | Yield (cfs/mi$^2$) | 0.11 |
| $Q_{7-10}$ Flow (cfs) | 24.4 | $Q_{7-10}$ Basis | USGS StreamStats |
| Elevation (ft) | 350.46 | Slope (ft/ft) | |
| Watershed No. | 7-H | Chapter 93 Class. | WWF |
| Existing Use | | Existing Use Qualifier | |
| Exceptions to Use | | Exceptions to Criteria | |
| Assessment Status | Impaired | | |
| Cause(s) of Impairment | Flow Regime Modification, Habitat Alterations, Siltation | | |
| Source(s) of Impairment | Channelization, Urban Runoff/Storm Sewers | | |
| TMDL Status | Name | | |

| | | | |
|---|---|---|---|
| Nearest Downstream Public Water Supply Intake | Wrightsville Water Supply, York County | | |
| PWS Waters | Susquehanna River | Flow at Intake (cfs) | |
| PWS RMI | | Distance from Outfall (mi) | Approximate 20.0 miles |

Changes Since Last Permit Issuance:

Other Comments:

**Discharge, Receiving Waters and Water Supply Information**

| | | | |
|---|---|---|---|
| Outfall No. | 006 | Design Flow (MGD) | 0.003 |
| Latitude | 39º 57' 4.00" | Longitude | -76º 44' 32.00" |
| Quad Name | York | Quad Code | |
| Wastewater Description: | Non-Contact Cooling Water (NCCW) and Stormwater (SW) | | |
| Receiving Waters | Codorus Creek (WWF) | Stream Code | 08032 |
| NHD Com ID | 57468859 | RMI | 12.7 |
| Drainage Area | 223 $mi.^2$ | Yield ($cfs/mi^2$) | 0.11 |
| $Q_{7-10}$ Flow (cfs) | 24.4 | $Q_{7-10}$ Basis | USGS StreamStats |
| Elevation (ft) | 350.46 | Slope (ft/ft) | |
| Watershed No. | 7-H | Chapter 93 Class. | WWF |
| Existing Use | | Existing Use Qualifier | |
| Exceptions to Use | | Exceptions to Criteria | |
| Assessment Status | Impaired | | |
| Cause(s) of Impairment | Flow Regime Modification, Habitat Alterations, Siltation | | |
| Source(s) of Impairment | Channelization, Urban Runoff/Storm Sewers | | |
| TMDL Status | Name | | |
| Nearest Downstream Public Water Supply Intake | Wrightsville Water Supply, York County | | |
| PWS Waters | Susquehanna River | Flow at Intake (cfs) | |
| PWS RMI | | Distance from Outfall (mi) | Approximate 20.0 miles |

Changes Since Last Permit Issuance:

Other Comments:

**Discharge, Receiving Waters and Water Supply Information**

| | | | |
|---|---|---|---|
| Outfall No. | 007 | Design Flow (MGD) | 0.003 |
| Latitude | 39º 57' 3.00" | Longitude | -76º 44' 40.00" |
| Quad Name | York | Quad Code | |
| Wastewater Description: | Non-Contact Cooling Water (NCCW) & Stormwater (SW) | | |
| Receiving Waters | Codorus Creek (WWF) | Stream Code | 08032 |
| NHD Com ID | 57468859 | RMI | 12.8 miles |
| Drainage Area | 223 $mi.^2$ | Yield ($cfs/mi^2$) | 0.11 |
| $Q_{7-10}$ Flow (cfs) | 24.4 | $Q_{7-10}$ Basis | USGS StreamStats |
| Elevation (ft) | 350.46 | Slope (ft/ft) | |
| Watershed No. | 7-H | Chapter 93 Class. | WWF |
| Existing Use | | Existing Use Qualifier | |
| Exceptions to Use | | Exceptions to Criteria | |
| Assessment Status | Impaired | | |
| Cause(s) of Impairment | Flow Regime Modification, Habitat Alterations, Siltation | | |
| Source(s) of Impairment | Channelization, Urban Runoff/Storm Sewers | | |
| TMDL Status | Name | | |
| Nearest Downstream Public Water Supply Intake | Wrightsville Water Supply, York County | | |
| PWS Waters | Susquehanna River | Flow at Intake (cfs) | |
| PWS RMI | | Distance from Outfall (mi) | Approximate 20.0 miles |

Changes Since Last Permit Issuance:

- Outfalls #'s 008 & 011 are no longer receiving Non-Contact Cooling Water (NCCW) and/or Storm Water (SW) generated from the JCI's property.
- Outfalls #'s 009 & 010 are no longer receiving SW generated from the JCI's property.
- Outfall # 007 is receiving NCCW and/or SW generated from the JCI's property.

Other Comments:

## Site Information

Description of the Industrial Activity

JCI fabricates, assembles, and tests air conditioning and industrial refrigeration machinery (SIC Code: 3585). The following table was directly taken from the current Preparedness, Prevention and Contingency Plan (updated in 2021):

**Table 1. Table 8-Facility Processes Summary (page 4-4 of the PPC plan)**

| Process | Description | Chemicals Used* |
|---|---|---|
| Grinding, Honing, and Machining | Machining of metal parts | Coolants (petroleum based and synthetics) |
| | | Honing oil |
| | | Hydraulic fluid |
| | | Lubricating oils |
| | | Abrasives |
| Solvent Parts Cleaning | Cleaning of metal parts (immersion) | Mineral spirits, acetone |
| Aqueous Parts Cleaning | Cleaning of metal parts | Various alkaline wash solutions |
| Paining | Paining of components and assemblies | Various solvent and solvent based coatings, acetone |
| Water Cooler HVAC testing | Testing of prototype and production water cooler HVAC systems | Propylene glycol |
| | | R-134A |
| Maintenance | Facility Maintenance and support operation | Lubricating and hydraulic oil |
| | | Various sealants and adhesives |
| | | Welding gasses |
| | | Various touch-up paints |
| | | Various cleaning solutions |
| | | Transformer dielectric oil |
| Assembly and Welding | Assembly | Solvent cleaning solutions |
| | | Rust preventives |
| | | Greases |
| | | Compressor oil |
| | | Vertrel Flushing Solvent |
| | No backup power or power generation, other than emergency generations, exist | |

*Chemical and Waste Summary (i.e., Storage/Quantity Information) is also available on page 4-5 of the PPC plan

Wastewater Covered by the NPDES Program

JCI currently discharges Non-Contact Cooling Water (NCCW) from heating, cooling and steam production with the facility. Specifically, HVAC condensate, cooling tower overflow, and chiller test water are determined to be NCCW generated from this facility as it does not come into contact with any materials or products. Sprinkler drain is also a part of NCCW. Storm Water (SW) drained from this property is covered by the permit.

Wastewater Not Covered by the NPDES Program

All wastewaters including process wastewater, contact cooing water, Non-Contact Cooling Water (treated by chemicals) and sanitary wastewater are currently discharged to the public sewer system (i.e., York City Sewer). Because it is not practical to separate stormwater from the existing Non-Contact Cooling Water conveyance system, JCI had previously decided to continue discharging NCCW commingled with stormwater to the stream.

Chemical Additives

Based on the application and the onsite environmental coordinator (Mr. Garen MacDonald), there is no chemical additive currently being used for NCCW. However, due to the amount of chemicals being frequently used for other purposes as shown above, the Part C condition for chemical additives in case if JCI decides to use chemical additive(s) for NCCW will remain in the proposed permit.

| Compliance History | |
|---|---|
| **Summary of DMRs:** | The eDMRs reported from May 1, 2020 to April 30, 2021 is summarized in the Table below (Pages # 7, & 8) |
| **Summary of Inspections:** | 09/25/2018: Heather Dock, DEP WQS, conducted a compliance evaluation inspection. There were no violations noted during inspection. The recommendations were to calibrate pH meter prior to each using a minimum 2-point calibration, monitor outfalls regularly (weekly) between sampling events, develop improved method to calibrate flows or consider installing a flowmeter, and include the Department's most recent 24-hour Emergency Response phone number in the PPC plan. |
| **Other Comments:** | There are no open violations associated to the facility or the permittee. |

Other Comments:

## Compliance History

**DMR Data for Outfall 003 (from May 1, 2020 to April 30, 2021)**

| Parameter | APR-21 | MAR-21 | FEB-21 | JAN-21 | DEC-20 | NOV-20 | OCT-20 | SEP-20 | AUG-20 | JUL-20 | JUN-20 | MAY-20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow (MGD) Average Monthly | 0.0022 | 0.0029 | 0.00072 | 0.00072 | 0.00072 | 0.00072 | 0.00432 | 0.00072 | 0.00072 | 0.00072 | 0.00288 | 0.0072 |
| Flow (MGD) Daily Maximum | 0.0029 | 0.0029 | 0.00072 | 0.00072 | 0.00072 | 0.00072 | 0.0144 | 0.00216 | 0.00070 | 0.00072 | 0.00288 | 0.0072 |
| pH (S.U.) Instantaneous Minimum | 7.1 | 7.6 | 7.8 | 7.5 | 7.5 | 7.9 | 7.5 | 7.0 | 7.8 | 7.7 | 7.8 | 7.0 |
| pH (S.U.) Instantaneous Maximum | 7.7 | 7.6 | 7.8 | 7.7 | 7.7 | 7.5 | 7.5 | 7.7 | 7.7 | 7.7 | 8.2 | 7.0 |
| Temperature (ºF) Daily Maximum | 50.1 | 47.3 | 46.7 | 49.3 | 49.5 | 54.2 | 64.2 | 70.6 | 72.7 | 70.8 | 58.2 | 55.4 |
| TSS (mg/L) Daily Maximum | | 18 | | | 8.0 | | | 6.0 | | | 416 | |
| Oil and Grease (mg/L) Daily Maximum | | < 3.7 | | | < 0.01 | | | 0.33 | | | < 0.1 | |
| TKN (mg/L) Daily Maximum | | 1.1 | | | 1.1 | | | 1.0 | | | < 0.01 | |
| Total Copper (mg/L) Daily Maximum | | 0.023 | | | 0.015 | | | 0.0093 | | | 0.0075 | |
| Total Iron (mg/L) Daily Maximum | | 1.1 | | | 0.032 | | | 0.045 | | | 0.45 | |
| Total Zinc (mg/L) Daily Maximum | | 0.044 | | | 0.12 | | | 0.037 | | | 0.031 | |

**DMR Data for Outfall 006 (from May 1, 2020 to April 30, 2021)**

| Parameter | APR-21 | MAR-21 | FEB-21 | JAN-21 | DEC-20 | NOV-20 | OCT-20 | SEP-20 | AUG-20 | JUL-20 | JUN-20 | MAY-20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow (MGD) Average Monthly | 0.0065 | 0.0072 | 0.00072 | 0.00072 | 0.00432 | 0.00144 | 0.01444 | 0.00144 | 0.00216 | 0.00072 | 0.00072 | 0.01444 |
| Flow (MGD) Daily Maximum | 0.0072 | 0.0072 | 0.00072 | 0.00072 | 0.00432 | 0.00144 | 0.01444 | 0.0072 | 0.00215 | 0.0009 | 0.00072 | 0.01444 |
| pH (S.U.) Instantaneous Minimum | 7.7 | 7.7 | 7.7 | 7.2 | 7.4 | 8.1 | 7.4 | 7.1 | 8.0 | 7.5 | 7.4 | 7.1 |
| pH (S.U.) Instantaneous Maximum | 7.9 | 7.7 | 7.7 | 7.6 | 7.9 | 7.4 | 7.4 | 7.5 | 7.5 | 7.5 | 8.0 | 7.1 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Temperature (ºF)<br>Daily Maximum | 57.7 | 48.2 | 47.8 | 48.0 | 51.2 | 55.4 | 63.1 | 70.2 | 71.9 | 65.8 | 56.6 | 56.1 |
| TSS (mg/L)<br>Daily Maximum | | 5.0 | | | < 0.01 | | | 0.0001 | | | 566 | |
| Oil and Grease (mg/L)<br>Daily Maximum | | < 3.7 | | | < 0.01 | | | 0.0001 | | | < 0.01 | |
| TKN (mg/L)<br>Daily Maximum | | < 1.0 | | | 1.5 | | | 1.0 | | | < 0.01 | |
| Total Copper (mg/L)<br>Daily Maximum | | 0.005 | | | 0.018 | | | 0.0056 | | | < 0.01 | |
| Total Iron (mg/L)<br>Daily Maximum | | 0.03 | | | 0.16 | | | 0.073 | | | 0.76 | |
| Total Zinc (mg/L)<br>Daily Maximum | | 0.01 | | | 0.14 | | | 0.14 | | | 0.090 | |

**DMR Data for Outfall 007 (from May 1, 2020 to April 30, 2021)**

| Parameter | APR-21 | MAR-21 | FEB-21 | JAN-21 | DEC-20 | NOV-20 | OCT-20 | SEP-20 | AUG-20 | JUL-20 | JUN-20 | MAY-20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| pH (S.U.)<br>Daily Maximum | | 7.5 | | | 7.0 | | | 7.7 | | | 6.49 | |
| TSS (mg/L)<br>Daily Maximum | | 23 | | | < 0.01 | | | 0.0001 | | | 34 | |
| Oil and Grease (mg/L)<br>Daily Maximum | | < 3.7 | | | < 0.01 | | | 0.26 | | | < 0.01 | |
| TKN (mg/L)<br>Daily Maximum | | < 1.0 | | | < 0.01 | | | 0.0001 | | | < 0.01 | |
| Total Iron (mg/L)<br>Daily Maximum | | 1.0 | | | < 0.01 | | | 0.036 | | | 0.10 | |

## Development of Effluent Limitations

**Wastewater Description**: Non-Contact Cooling Water (NCCW) & Storm Water (SW)

| | | | |
|---|---|---|---|
| **Outfall No.** | 003 | **Design Flow (MGD)** | 0.003 |
| **Latitude** | 39º 57' 7.00" | **Longitude** | -76º 44' 22.00" |
| **Outfall No.** | 006 | **Design Flow (MGD)** | 0.003 |
| **Latitude** | 39º 57' 4.00" | **Longitude** | -76º 44' 32.00" |
| **Outfall No.** | 007 | **Design Flow (MGD)** | 0.003 |
| **Latitude** | 39º 57' 3.00" | **Longitude** | -76º 44' 40.00" |

There is no applicable federal Effluent Limitation Guideline (ELG) and standard for NCCW generated from JCI. In general, NCCW has no significant pollutants of concern as the water does not come into contact with any raw materials and/or finished products unless there is any chemical additive being used for the system maintenance (i.e., pipe corrosion inhibitor, biocide, etc). Currently, several chemical substances are expected to be present in wastewater, except NCCW, associated with major industrial activities performed at the site. This was confirmed by the onsite environmental coordinator and also by information from the permit renewal application.

*pH*
25. Pa. Code § 95.2(1) requires industrial wastes to maintain an effluent pH of 6.0 to 9.0 standard units (S.U.) at all times. The proposed permit will continue to require pH limit of 6.0 to 9.0 S.U.

*Temperature*
Since temperature is still a major parameter of concern for any NCCW discharges, therefore, the existing monthly temperature monitoring and reporting requirements of Outfall #'s 003, 006, and 007 will remain in the proposed permit.

*Oil and Grease*
DEP's SOP No. BPNPSM-PMT-032, revised version 1.6 on October 1, 2020, states that if the maximum concentration of oil and grease in the discharge is 4 mg/l or greater, a monitoring requirement should be established. If the maximum concentration of oil and grease is 8 mg/l or greater, the oil and grease treatment requirements at 25 Pa. Code § 95.2(2)(ii) of 15 mg/l average monthly and 30 mg/l Instantaneous Maximum (IMAX) should be established. The application reported a maximum Oil and Grease value of 2.5 mg/l for Outfall # 003, 3.7 mg/l for Outfall # 006, & 2.5 mg/l for Outfall # 007 which were well below 4.0 mg/l. Therefore, the Oil and Grease monitoring and reporting requirements will be removed in the proposed permit.

*Total Suspended Solids (TSS)*
DEP's SOP No. BPNPSM-PMT-032 states that where concentrations of TSS below 100 mg/l in the permit application or DMRs, except June 2020 (outfall #'s 003 & 006), and where there is no applicable ELG, then Best Professional Judgement (BPJ) TBELs should be developed based on 40 CFR § 125.3. The application reported a maximum TSS concentration of 37.0 mg/l for Outfall # 003, 5.0 mg/l for Outfall # 006, & 5.0 mg/l for Outfall # 007; therefore, a BPJ TBEL will not be developed. The existing permit monitoring and reporting requirements for TSS will remain in the proposed permit.

*Total Dissolved Solids (TDS)*
Total Dissolved Solids and its major constituents including Bromide, Chloride, and Sulfate have become statewide pollutants of concern and threats to DEP's mission to prevent violations of water quality standards. The requirement to monitor these pollutants must be considered under the criteria specified in 25 Pa. Code § 95.10 and the following January 23, 2014 DEP Central Office Directive:

For point source discharges and upon issuance or reissuance of an individual NPDES permit:

- Where the concentration of TDS in the discharge exceeds 1,000 mg/L, or the net TDS load from a discharge exceeds 20,000 lbs/day, and the discharge flow exceeds 0.1 MGD, Part A of the permit should include monitor and

report for TDS, sulfate, chloride, and bromide. Discharges of 0.1 MGD or less should monitor and report for TDS, sulfate, chloride, and bromide if the concentration of TDS in the discharge exceeds 5,000 mg/L.

- Where the concentration of bromide in a discharge exceeds 1 mg/L and the discharge flow exceeds 0.1 MGD, Part A of the permit should include monitor and report for bromide. Discharges of 0.1 MGD or less should monitor and report for bromide if the concentration of bromide in the discharge exceeds 10 mg/L.

- Where the concentration of 1,4-dioxane (CAS 123-91-1) in a discharge exceeds 10 µg/l and the discharge flow exceeds 0.1 MGD, Part A of the permit should include monitor and report for 1,4-dioxane. Discharges of 0.1 MGD or less should monitor and report for 1,4-dioxane if the concentration of 1,4-dioxane in the discharge exceeds 100 µg/l.

JCI reported a maximum effluent concentration of 200 mg/l for TDS for Outfall # 003, 232 mg/l for TDS for Outfall # 006, & 358 mg/l for TDS for Outfall # 007. Based upon the data provided in the application, monitoring of TDS, Bromide, Chloride, and Sulfate will not be required.

*Chesapeake Bay Total Maximum Daily Load (TMDL)*
DEP developed a strategy to comply with the EPA and Chesapeake Bay Foundation requirements by reducing point source loadings of Total Nitrogen (TN) and Total Phosphorus (TP). This strategy can be located in the Pennsylvania Chesapeake Watershed Implementation Plan (WIP), dated January 11, 2011. Subsequently, an update to the WIP was published as the Phase 2 WIP. As part of the Phase 2 WIP, a Phase 2 Watershed Implementation Plan Wastewater Supplement (Phase 2 Supplement) was developed, providing an update on TMDL implementation for point sources and DEP's current implementation strategy for wastewater. The Phase 2 Supplement was most recently revised on September 6, 2017. A new update to the WIP was published as the Phase 3 WIP in August 2019. As part of the Phase 3 WIP, a *Phase 3 Watershed Implementation Plan Wastewater Supplement* (Phase 3 Supplement) was developed, and was most recently revised on December 17, 2019, and is the basis for the development of any Chesapeake Bay related permit parameters. Industrial discharges have been prioritized by Central Office based on their delivered TN and TP loadings to the Bay. Significant industrial wastewater dischargers are facilities that discharge more than 75 lbs/day of TN or 25 lbs/day of TP on an average annual basis and the rest are classified as non-significant dischargers. This facility is classified as a non-significant discharger, from the Phase 3 Supplement, for non-significant IW facilities, monitoring and reporting of TN and TP will be required throughout the permit term in renewed or amended permits 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. Due to this facility being categorized as a non-significant discharger, TN and TP monitoring will not be required.

*Total Kjeldahl Nitrogen*
The application reported the following concentrations for Outfall # 003: TKN of 8.5 mg/l, Outfall # 006: TKN of 1.5 mg/l, and Outfall # 007: TKN of 8.5 mg/l, so due to the Chesapeake Bay Implementation Plan, the facility is required to monitor a frequency at least 1/quarter and will remain in the proposed permit.

*Toxics*
Effluent sample results for toxic pollutants reported on the renewal application were entered into DEP's Toxics Management Spreadsheet Version 1.0 to develop appropriate permit requirements for toxic pollutants of concern. The Toxics Management Spreadsheet combines the functions of PENTOXSD and DEP's Toxics Screening Analysis. Based on effluent sample results reported on the application, the Toxics Management Spreadsheet did not recommend any limits or monitoring requirements.

This data was analyzed based on the guidelines found in DEP's Water Quality Toxics Management Strategy (Document No. 361-0100-003) and DEP's SOP No. BPNPSM-PMT-033. Spreadsheet results are attached to this fact sheet. The Toxics Management Spreadsheet uses the following logic:

a. Establish average monthly and IMAX limits in the draft permit where the maximum reported concentration exceeds 50% of the WQBEL.
b. For non-conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 25% - 50% of the WQBEL.
c. For conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 10%-50% of the WQBEL.

Since the facility reported Total Copper, Total Iron, and Total Zinc maximum concentrations of outfall #'s 003, & 006 were less than 10% of their respective WQBEL, per DEP's SOP No. BPNPSM-PMT-033, therefore, the monitoring and reporting requirements of these pollutants are not necessary and will remove from the proposed permit.

TMS PA0008541-Johnson

TMS PA0008541-Johnson

*Sampling Frequency & Sample Type*
The monitoring requirements were established based on BPJ and/or Table 6-3 and Table 6-4 of DEP's Technical Guidance No. 362-0400-001.

*Anti-Degradation*
The effluent limits for this discharge have been developed to ensure that existing instream water 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.

*303(d) Listed Streams*
The discharge is located on a stream segment that is designated on the 303(d) list as impaired. There is a fish consumption impairment from a Channelization, Urban Runoff/Storm Sewers sources due to PCBs.

*Class A Wild Trout Fisheries*
No Class A Wild Trout Fisheries are impacted by this discharge.

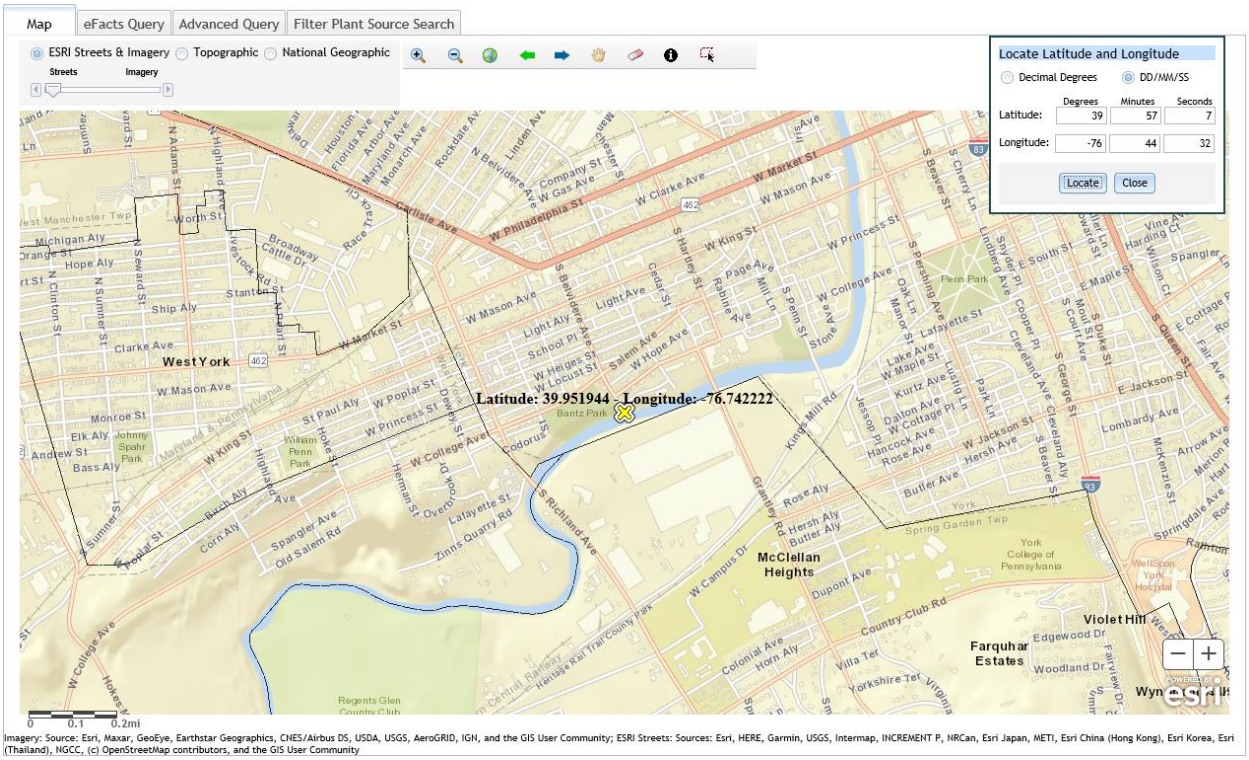
*Anti-Backsliding*
Pursuant to 40 CFR § 122.44(l)(1), all proposed permit requirements addressed in this fact sheet are at least as stringent as the requirements implemented in the existing NPDES permit unless any exceptions are addressed by DEP in this fact sheet.

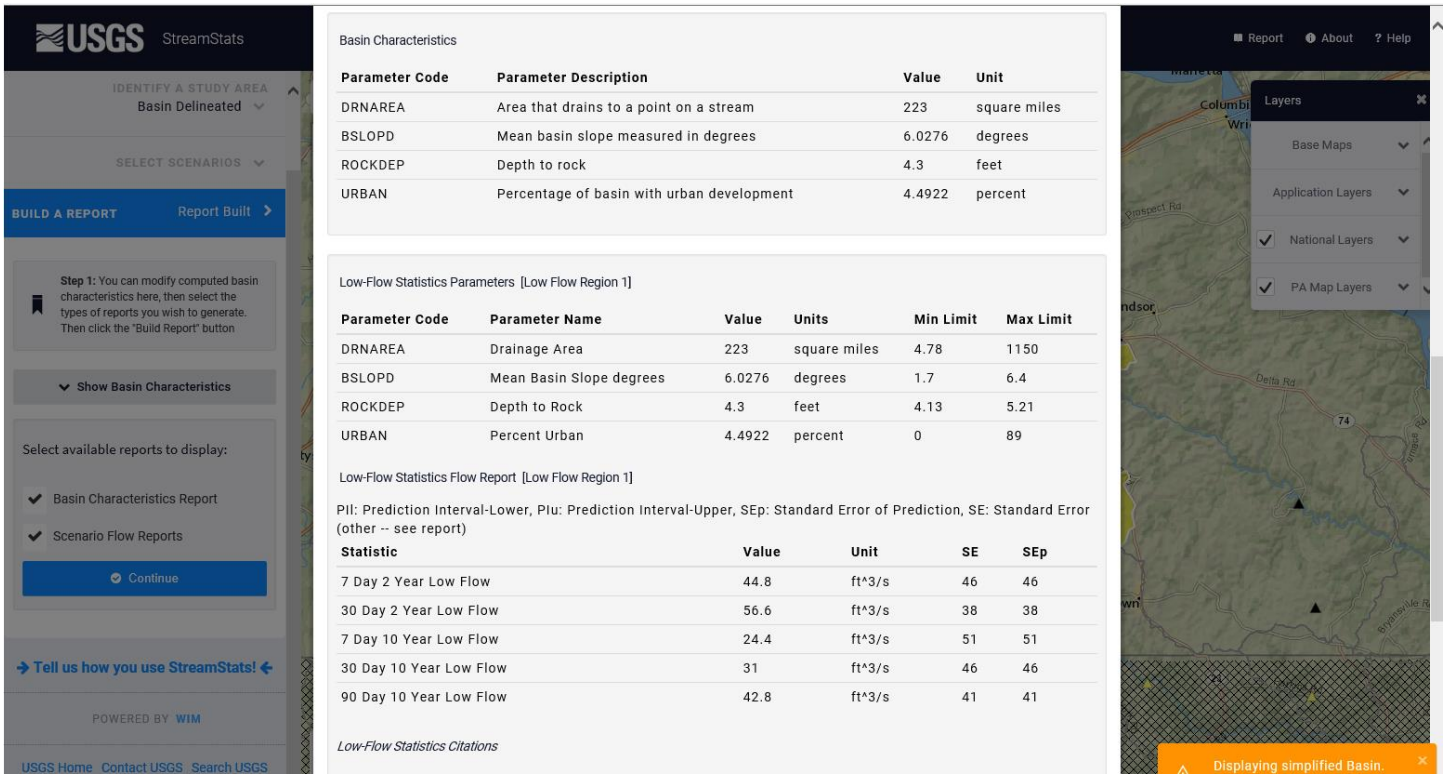
**Stormwater Outfalls**

| Outfall No. | Area Drained (acre) | Flow (MGD) | Latitude | Longitude | Description |
|---|---|---|---|---|---|
| 003 | 12 | various | 39° 57' 7.00" | 76° 44' 22.00" | Parking lots, roof drains, grassy areas |
| 006 | 16 | various | 39° 57' 4.00" | 76° 44' 32.00" | Parking lots, roof drains, grassy areas |
| 007 | 4.0 | various | 39° 57' 3.00" | 76° 44' 40.00" | Parking lots, material storage areas, grassy areas |

The NPDES PAG-03 General Stormwater permit requirement has been generally used in industrial stormwater discharges. Since the JCI does not discharge any SARA Title III Water Quality Chemicals to Corodus Creek, Appendix J requirement of an NPDES PAG-03 Stormwater permit is applicable. However, the outfalls # 003, 006, & 007 are received NCCW and also received SW, therefore the parameter of all pollutants monitoring and reporting requirements of NCCW will applied same for SW, except flow.

schematic of water flow update outfall




Basin Characteristics

| Parameter Code | Parameter Description | Value | Unit |
|---|---|---|---|
| DRNAREA | Area that drains to a point on a stream | 223 | square miles |
| BSLOPD | Mean basin slope measured in degrees | 6.0276 | degrees |
| ROCKDEP | Depth to rock | 4.3 | feet |
| URBAN | Percentage of basin with urban development | 4.4922 | percent |

Low-Flow Statistics Parameters [Low Flow Region 1]

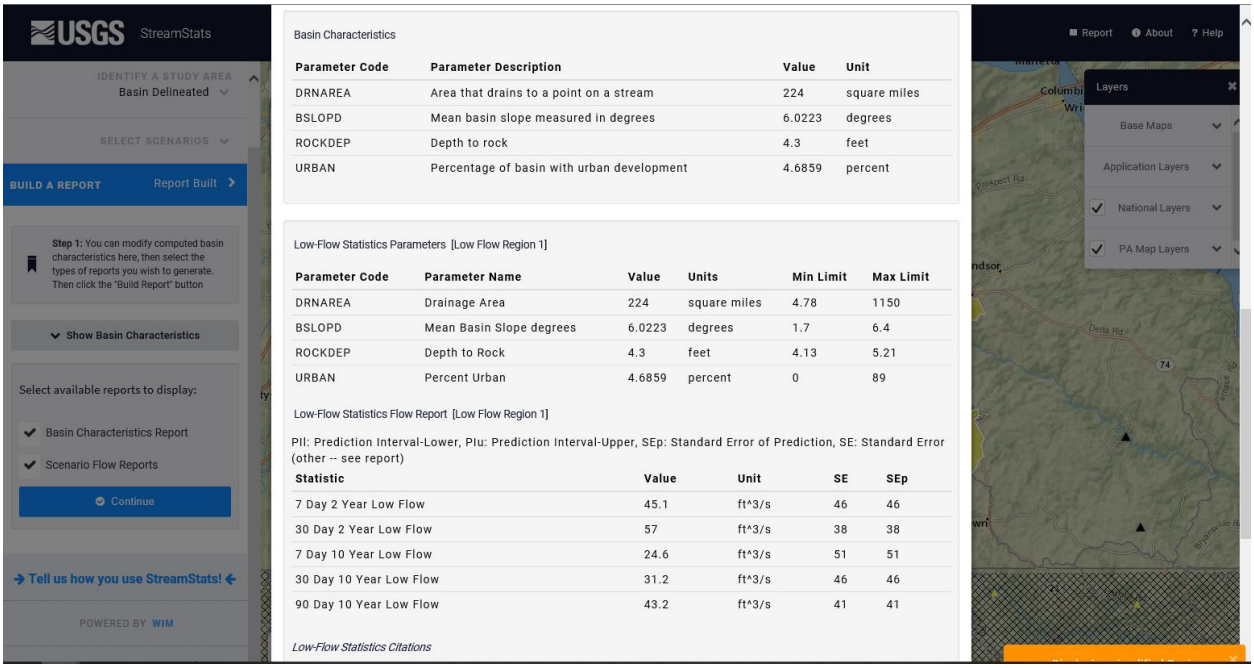
| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 223 | square miles | 4.78 | 1150 |
| BSLOPD | Mean Basin Slope degrees | 6.0276 | degrees | 1.7 | 6.4 |
| ROCKDEP | Depth to Rock | 4.3 | feet | 4.13 | 5.21 |
| URBAN | Percent Urban | 4.4922 | percent | 0 | 89 |

Low-Flow Statistics Flow Report [Low Flow Region 1]

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

| Statistic | Value | Unit | SE | SEp |
|---|---|---|---|---|
| 7 Day 2 Year Low Flow | 44.8 | ft^3/s | 46 | 46 |
| 30 Day 2 Year Low Flow | 56.6 | ft^3/s | 38 | 38 |
| 7 Day 10 Year Low Flow | 24.4 | ft^3/s | 51 | 51 |
| 30 Day 10 Year Low Flow | 31 | ft^3/s | 46 | 46 |
| 90 Day 10 Year Low Flow | 42.8 | ft^3/s | 41 | 41 |

*Low-Flow Statistics Citations*




Basin Characteristics

| Parameter Code | Parameter Description | Value | Unit |
|---|---|---|---|
| DRNAREA | Area that drains to a point on a stream | 224 | square miles |
| BSLOPD | Mean basin slope measured in degrees | 6.0223 | degrees |
| ROCKDEP | Depth to rock | 4.3 | feet |
| URBAN | Percentage of basin with urban development | 4.6859 | percent |

Low-Flow Statistics Parameters [Low Flow Region 1]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 224 | square miles | 4.78 | 1150 |
| BSLOPD | Mean Basin Slope degrees | 6.0223 | degrees | 1.7 | 6.4 |
| ROCKDEP | Depth to Rock | 4.3 | feet | 4.13 | 5.21 |
| URBAN | Percent Urban | 4.6859 | percent | 0 | 89 |

Low-Flow Statistics Flow Report [Low Flow Region 1]

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

| Statistic | Value | Unit | SE | SEp |
|---|---|---|---|---|
| 7 Day 2 Year Low Flow | 45.1 | ft^3/s | 46 | 46 |
| 30 Day 2 Year Low Flow | 57 | ft^3/s | 38 | 38 |
| 7 Day 10 Year Low Flow | 24.6 | ft^3/s | 51 | 51 |
| 30 Day 10 Year Low Flow | 31.2 | ft^3/s | 46 | 46 |
| 90 Day 10 Year Low Flow | 43.2 | ft^3/s | 41 | 41 |

*Low-Flow Statistics Citations*

## Existing Effluent Limitations and Monitoring Requirements

**Outfalls # 003, 006, 008, & 011 Non-Contact Cooling Water (NCCW) & Stormwater (SW)**

| Parameter | Effluent Limitations | | | | | | Monitoring Requirements | |
|---|---|---|---|---|---|---|---|---|
| | Mass Units (lbs/day) (1) | | Concentrations (mg/L) | | | | Minimum (2) Measurement Frequency | Required Sample Type |
| | Average Monthly | Daily Maximum | Minimum | Average Monthly | Daily Maximum | Instant. Maximum | | |
| Flow (MGD) | Report | Report | XXX | XXX | XXX | XXX | 1/month | Estimate |
| pH (S.U.) | XXX | XXX | 6.0 | XXX | XXX | 9.0 | 1/month | Grab |
| Temperature (ºF) | XXX | XXX | XXX | XXX | Report | XXX | 1/month | I-S |
| Oil & Grease | XXX | XXX | XXX | XXX | Report | XXX | 1/quarter | Grab |
| TSS | XXX | XXX | XXX | XXX | Report | XXX | 1/quarter | Grab |
| TKN | XXX | XXX | XXX | XXX | Report | XXX | 1/quarter | Grab |
| Total Copper | XXX | XXX | XXX | XXX | Report | XXX | 1/quarter | Grab |
| Total Iron | XXX | XXX | XXX | XXX | Report | XXX | 1/quarter | Grab |
| Total Zinc | XXX | XXX | XXX | XXX | Report | XXX | 1/quarter | Grab |

**Outfalls # 007: Stormwater**

| 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 | | |
| pH (S.U.) | XXX | XXX | 6.0 | XXX | XXX | 9.0 | 1/month | Grab |
| Oil and Grease | XXX | XXX | XXX | XXX | Report | XXX | 1/quarter | Grab |
| TSS | XXX | XXX | XXX | XXX | Report | XXX | 1/quarter | Grab |
| TKN | XXX | XXX | XXX | XXX | Report | XXX | 1/quarter | Grab |
| Total Iron | XXX | XXX | XXX | XXX | Report | XXX | 1/quarter | Grab |

## 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.

**Outfalls # 003, 006, & 007, 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 | Daily Maximum | Minimum | Average Monthly | Daily Maximum | Instant. Maximum | | |
| Flow (MGD) | Report | Report | XXX | XXX | XXX | XXX | 1/month | Estimate |
| pH (S.U.) | XXX | XXX | 6.0 | XXX | XXX | 9.0 | 1/month | Grab |
| Temperature (ºF) | XXX | XXX | XXX | XXX | Report | XXX | 1/month | I-S |
| TSS | XXX | XXX | XXX | XXX | Report | XXX | 1/quarter | Grab |
| TKN | XXX | XXX | XXX | XXX | Report | XXX | 1/quarter | Grab |

Compliance Sampling Location:

Other Comments:

| 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: BCW-PMT-032 |
| ☐ | Other: |