pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

**Northcentral Regional Office**
**CLEAN WATER PROGRAM**

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|---|---|---|---|
| Application Type | **Renewal** | Application No. | **PA0233421** |
| Facility Type | **Storm Water** | APS ID | **1090155** |
| Major / Minor | **Minor** | Authorization ID | **1442804** |

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

## Applicant and Facility Information

| | | | |
|---|---|---|---|
| Applicant Name | **PA State University** | Facility Name | **University Park Airport** |
| Applicant Address | 139j Physical Plant Bldg | Facility Address | 2535 Fox Hill Road |
| | University Park, PA 16802 | | State College, PA 16803-1727 |
| Applicant Contact | Andrew Gutberlet | Facility Contact | Bryan Rodgers |
| Applicant Phone | (814) 865-0545 | Facility Phone | 814-865-5827 |
| Client ID | 81628 | Site ID | 443175 |
| SIC Code | 4512,4513,4522,4581 | Municipality | Benner Township |
| SIC Description | Trans. & Utilities - Air Courier Services,Trans. & Utilities - Air Transportation, Nonscheduled,Trans. & Utilities - Air Transportation, Scheduled,Trans. & Utilities - Airports, Flying Fields, And Services | County | Centre |
| Date Application Received | November 3, 2017 | EPA Waived? | Yes |
| Date Application Accepted | November 17, 2017 | If No, Reason | |

Purpose of Application: Renewal of existing NPDES permit

## Summary of Review

The above permittee has applied for a renewal of their existing NPDES permit for 12 existing stormwater discharges. The facility is an airport that operates commuter airlines, cargo transport and general aviation services. Industrial activities include aircraft fueling, washing, maintenances and deicing operations. A copy of the PPC Plan that was last updated on May 31, 2023 was submitted.

All applicable Department Standard Operating Procedures (SOPs) were followed during the review of this application, unless otherwise noted. It is recommended a draft permit be developed based on the following review.

Public Participation

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

| Approve | Deny | Signatures | Date |
|---|---|---|---|
| X | | *Chad A. Fabian*<br>Chad A. Fabian / Project Manager | March 24, 2025 |
| X | | *Nicholas W. Hartranft, P.E.*<br>Nicholas W. Hartranft, P.E. / Environmental Engineer Manager | March 25, 2025 |

## DISCHARGE DESCRIPTION

The following are the existing stormwater discharges at the facility:

| No. | Total Area Drained | Source | Location | Design Flow (MGD) | Receiving Stream | Stream Class/Code |
|---|---|---|---|---|---|---|
| 001 | 304 acres | Stormwater (airport runways, de-icing area, facilities) | Southeast | N/A | UNT to Spring Creek | CWF / 23014 |
| 002 | 110 acres | Stormwater (airport runways, de-icing area, facilities) | South | N/A | Big Hollow | CWF / 23016 |
| 003 | 11.6 acres | Stormwater (undeveloped area) | Southwest | N/A | Big Hollow | CWF / 23016 |
| 004 | 37.4 acres | Stormwater (undeveloped area) | Southwest | N/A | Big Hollow | CWF / 23016 |
| 005 | 15.8 acres | Stormwater (undeveloped area) | Southwest | N/A | Big Hollow | CWF / 23016 |
| 006 | 3.3 acres | Stormwater (undeveloped area) | West | N/A | Big Hollow | CWF / 23016 |
| 007 | 43.3 acres | Stormwater (undeveloped area) | West | N/A | Big Hollow | CWF / 23016 |
| 008 | 19.5 acres | Stormwater (undeveloped area) | North | N/A | UNT to Buffalo Run | HQ-CWF / 22982 |
| 009 | 5.1 acres | Stormwater (undeveloped area) | North | N/A | UNT to Buffalo Run | HQ-CWF / 22982 |
| 010 | 3.3 acres | Stormwater (undeveloped area) | North | N/A | UNT to Buffalo Run | HQ-CWF / 22982 |
| 011 | 15.9 acres | Stormwater (undeveloped area) | North | N/A | UNT to Buffalo Run | HQ-CWF / 22982 |
| 012 | 12.3 acres | Stormwater (undeveloped area) | Northwest | N/A | UNT to Buffalo Run | HQ-CWF / 22982 |

Buffalo Run is impaired for urban runoff adjacent and upstream of the airport. TSS results show that the facility is not contributing to the existing siltation impairment from urban runoff. Spring Creek is also considered impaired from urban runoff. TSS results from sampling at the facility show that the facility is not contributing to the siltation impairment from urban runoff.

Currently, stormwater drained from airport runways, de-icing area, and operational facilities discharges to two (2) existing ponds (Pond 001A, Pond 004A). Stormwater from Pond 001A travels approximately 900 ft. prior to discharge into Outfall 001. Stormwater from Pond 004A travels approximately 700 ft. prior to discharge into Outfall 002. All other stormwater outfalls are from undeveloped and vegetative areas. The discharges are intermittent and dependent by precipitation. The nearest downstream public water supply intake is PA American White Deer in Milton, located approximately 100 river miles downstream on the West Branch Susquehanna River. This facility is not expected to have any impact on the public water supply.

The facility uses propylene glycol to deice the planes and potassium acetate for deicing pavement. Runoff is collected in a 100,000-gallon tank during deicing operations and is hauled off as needed to be treated at a WWTP. Urea has not been used at the facility in years, therefore the ELGs in 40 CFR Part 449 for stormwater deicing is not applicable.

## Compliance History

**DMR Data for Outfall 001 (from February 1, 2024 to January 31, 2025)**

| Parameter | JAN-25 | DEC-24 | NOV-24 | OCT-24 | SEP-24 | AUG-24 | JUL-24 | JUN-24 | MAY-24 | APR-24 | MAR-24 | FEB-24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| pH (S.U.) Daily Minimum | | 7.75 | | | | | | 8.02 | | | | |
| pH (S.U.) Daily Maximum | | 7.75 | | | | | | 8.02 | | | | |
| CBOD5 (mg/L) Daily Maximum | | 40.1 | | | | | | < 3.00 | | | | |
| COD (mg/L) Daily Maximum | | 277 | | | | | | 31.5 | | | | |
| TSS (mg/L) Daily Maximum | | 18.0 | | | | | | 9.33 | | | | |
| Total Dissolved Solids (mg/L) Daily Maximum | | 440 | | | | | | 122 | | | | |
| Oil and Grease (mg/L) Daily Maximum | | < 20.8 | | | | | | < 8.20 | | | | |
| Total Iron (mg/L) Daily Maximum | | 0.316 | | | | | | 0.395 | | | | |
| Total Potassium (mg/L) Daily Maximum | | 11.8 | | | | | | 4.55 | | | | |
| Total Sodium (mg/L) Daily Maximum | | 99.4 | | | | | | 11.7 | | | | |
| Propylene Glycol (mg/L) Daily Maximum | | 19.0 | | | | | | < 2.24 | | | | |

**DMR Data for Outfall 002 (from February 1, 2024 to January 31, 2025)**

| Parameter | JAN-25 | DEC-24 | NOV-24 | OCT-24 | SEP-24 | AUG-24 | JUL-24 | JUN-24 | MAY-24 | APR-24 | MAR-24 | FEB-24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| pH (S.U.) Daily Minimum | | | | | | | | 7.96 | | | | |
| pH (S.U.) Daily Maximum | | | | | | | | 7.96 | | | | |
| CBOD5 (mg/L) Daily Maximum | | | | | | | | < 3.00 | | | | |
| COD (mg/L) Daily Maximum | | | | | | | | 31.5 | | | | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TSS (mg/L)<br>Daily Maximum | | | | | | | | < 4.00 | | | | |
| Total Dissolved Solids (mg/L)<br>Daily Maximum | | | | | | | | 64 | | | | |
| Oil and Grease (mg/L)<br>Daily Maximum | | | | | | | | < 7.95 | | | | |
| Total Iron (mg/L)<br>Daily Maximum | | | | | | | | 0.538 | | | | |
| Total Potassium (mg/L)<br>Daily Maximum | | | | | | | | 6.35 | | | | |
| Total Sodium (mg/L)<br>Daily Maximum | | | | | | | | < 1.00 | | | | |
| Propylene Glycol (mg/L)<br>Daily Maximum | | | | | | | | < 2.24 | | | | |

**DMR Data for Outfall 007 (from February 1, 2024 to January 31, 2025)**

| Parameter | JAN-25 | DEC-24 | NOV-24 | OCT-24 | SEP-24 | AUG-24 | JUL-24 | JUN-24 | MAY-24 | APR-24 | MAR-24 | FEB-24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| pH (S.U.)<br>Daily Minimum | | 8.18 | | | | | | | | | | |
| pH (S.U.)<br>Daily Maximum | | 8.18 | | | | | | | | | | |
| CBOD5 (mg/L)<br>Daily Maximum | | < 3.00 | | | | | | | | | | |
| COD (mg/L)<br>Daily Maximum | | 31.5 | | | | | | | | | | |
| TSS (mg/L)<br>Daily Maximum | | 4.00 | | | | | | | | | | |
| Oil and Grease (mg/L)<br>Daily Maximum | | < 9.10 | | | | | | | | | | |
| Total Iron (mg/L)<br>Daily Maximum | | 2.29 | | | | | | | | | | |

**DMR Data for Outfall 008 (from February 1, 2024 to January 31, 2025)**

| Parameter | JAN-25 | DEC-24 | NOV-24 | OCT-24 | SEP-24 | AUG-24 | JUL-24 | JUN-24 | MAY-24 | APR-24 | MAR-24 | FEB-24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| pH (S.U.)<br>Daily Minimum | | 7.74 | | | | | | | | | | |
| pH (S.U.)<br>Daily Maximum | | 7.74 | | | | | | | | | | |
| CBOD5 (mg/L)<br>Daily Maximum | | 3.41 | | | | | | | | | | |
| COD (mg/L)<br>Daily Maximum | | 29.3 | | | | | | | | | | |
| TSS (mg/L)<br>Daily Maximum | | 9.00 | | | | | | | | | | |
| Oil and Grease (mg/L)<br>Daily Maximum | | < 9.60 | | | | | | | | | | |
| Total Iron (mg/L)<br>Daily Maximum | | 0.674 | | | | | | | | | | |

| Compliance History | |
|---|---|
| | |
| **Summary of DMRs:** | Review of DMRs show that sampling from Outfalls 001, 002, 007 and 008 occur. Outfalls 007 and 008 are considered representative for Outfalls 003-0012. I compared the results in the DMRs to the benchmarks associated with the Department's General Permit for Stormwater Associated with Industrial Activities Appendix G (Air Transportation Facilities). The effluent results typically are less than the benchmark values and none currently have exceeded twice in a row which would require a corrective action plan. All annual inspection report forms have been completed and submitted in a timely fashion. |
| **Summary of Inspections:** | The most recent inspection performed by the Department occurred on August 8, 2024. No violations were found during the inspection. It was noted that the 50,000-gallon storage tank for deicing runoff was being replaced with a 100,000-gallon tank. The connection to Bellefonte WWTP has been terminated. All runoff collected in the tank during deicing operations will be hauled off to a treatment plant able to accept it. |

**Development of Effluent Limitations**

The Department's SOP for establishing effluent limitations in industrial waste NPDES permits was used to determine effluent limitations. Per the SOP, Appendix G of the Department's general permit for stormwater from industrial activities is considered the minimum standards for discharges associated with air transportation facilities. In addition to the Appendix G monitoring parameters, the facility currently is required to sample outfalls 001 and 002 for propylene glycol, potassium, sodium, and TDS due to deicing operations within those drainage areas. This permit will add monitoring for PFAS constituents (PFOS, PFOA, PFBS, HFPO-DA) at all outfalls at the existing monitoring frequencies based on the projected use of aqueous film-forming foam (AFFF) used during firefighting procedures.

The proposed effluent limits and benchmark stormwater values can be found below.

**Anti-Backsliding**

There is no relaxation of any limitations or monitoring associated with the proposed draft permit.

## Proposed Effluent Limitations and Monitoring Requirements

The individual permit issued for this facility shall include, at a minimum, the BMPs and monitoring requirements outlined in the General Permit (v. 3/3/2018) Appendix G (Air Transportation Facilities). In addition, monitoring and reporting of propylene glycol for Outfalls 001 and 002 shall be required based on the past spills at the facility. The parameters and monitoring frequencies, subject to further analysis, shall include:

**Outfall 001 and Outfall 002, 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 | | |
| pH (S.U.) | XXX | XXX | 6.0 | XXX | 9.0 | XXX | 1/6 months | Grab |
| BOD5 | XXX | XXX | XXX | XXX | Report | XXX | 1/6 months | Grab |
| COD | XXX | XXX | XXX | XXX | Report | XXX | 1/6 months | Grab |
| TSS | XXX | XXX | XXX | XXX | Report | XXX | 1/6 months | Grab |
| Total Dissolved Solids | XXX | XXX | XXX | XXX | Report | XXX | 1/6 months | Grab |
| Oil and Grease | XXX | XXX | XXX | XXX | Report | XXX | 1/6 months | Grab |
| Total Iron | XXX | XXX | XXX | XXX | Report | XXX | 1/6 months | Grab |
| Total Potassium | XXX | XXX | XXX | XXX | Report | XXX | 1/6 months | Grab |
| Total Sodium | XXX | XXX | XXX | XXX | Report | XXX | 1/6 months | Grab |
| Propylene Glycol | XXX | XXX | XXX | XXX | Report | XXX | 1/6 months | Grab |
| Ammonia Nitrogen | XXX | XXX | XXX | XXX | Report | XXX | 1/6 months | Grab |
| PFAS (PFOS, PFOA, PFBS, HFPO-DA) | XXX | XXX | XXX | XXX | Report | XXX | 1/6 months | Grab |
| Total Nitrogen | XXX | XXX | XXX | XXX | Report | XXX | 1/6 months | Grab |
| Total Phosphorus | XXX | XXX | XXX | XXX | Report | XXX | 1/6 months | Grab |

Compliance Sampling Location: 001 and 002

## 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 007 and 008 as representative sampling points of 003-012, Effective Period: Permit Effective Date through Permit Expiration Date**.

| Parameter | Effluent Limitations | | | | | | Monitoring Requirements | |
|---|---|---|---|---|---|---|---|---|
| | Mass Units (lbs/day) | | Concentrations (mg/L) | | | | Minimum Measurement Frequency | Required Sample Type |
| | Average Monthly | Average Weekly | Minimum | Average Monthly | Daily Maximum | Instant. Maximum | | |
| pH (S.U.) | XXX | XXX | Report | XXX | Report | XXX | 1/year | Grab |
| $BOD_5$ | XXX | XXX | XXX | XXX | Report | XXX | 1/year | Grab |
| COD | XXX | XXX | XXX | XXX | Report | XXX | 1/year | Grab |
| TSS | XXX | XXX | XXX | XXX | Report | XXX | 1/year | Grab |
| Oil and Grease | XXX | XXX | XXX | XXX | Report | XXX | 1/year | Grab |
| Total Iron | XXX | XXX | XXX | XXX | Report | XXX | 1/year | Grab |
| PFAS (PFOS, PFOA, PFBS, HFPO-DA) | XXX | XXX | XXX | XXX | Report | XXX | 1/quarter | Grab |
| Total Dissolved Solids (TDS) | XXX | XXX | XXX | XXX | Report | XXX | 1/6 months | Grab |
| Total Nitrogen | XXX | XXX | XXX | XXX | Report | XXX | 1/6 months | Grab |
| Total Phosphorus | XXX | XXX | XXX | XXX | Report | XXX | 1/6 months | Grab |

Compliance Sampling Location: Outfalls 007 and 008 were previously chosen as representative outfalls for sampling. Therefore, sampling will remain only at Outfall 007 and 008 in accordance with the above.

**Other Comments**:

-All of the above sampling requirements and monitoring frequencies are the same as the existing permit except the PFAS parameters have been added per the Department's SOPs for reissuance of industrial waste NPDES applications.
-The draft permit will have the following benchmarks in Part C of the permit that mirror Appendix G of the General Permit:

| Pollutant | Monitoring Requirements (1),(2),(3),(4) | | Benchmark Values |
|---|---|---|---|
| | Minimum Measurement Frequency | Sample Type | |
| Total Nitrogen (mg/L) (5) | 1 / 6 months | Calculation | XXX |
| Total Phosphorus (mg/L) | 1 / 6 months | Grab | XXX |
| pH (S.U.) | 1 / 6 months | Grab | 9.0 |
| 5-Day Biochemical Oxygen Demand (BOD5) (mg/L) | 1 / 6 months | Grab | 30 |
| Chemical Oxygen Demand (COD) (mg/L) | 1 / 6 months | Grab | 120 |
| Total Suspended Solids (TSS) (mg/L) | 1 / 6 months | Grab | 100 |
| Ammonia-Nitrogen (mg/L) | 1 / 6 months | Grab | XXX |
| Total Dissolved Solids (mg/L) | 1 / 6 months | Grab | XXX |

-Part C of the permit will also include BMPs outlined in Appendix G of the general permit.
-A Part C condition prohibiting the use of urea for deicing will be included in the draft permit.

It is recommended the permit be drafted for public comment.