State Pollutant Discharge Elimination System (SPDES) DISCHARGE PERMIT

SIC Code:	**4581**	NAICS Code:	**488119**	SPDES Number:	**NY0257061**
Discharge Class (CL):	**01**			DEC Number:	**6-3099-00085/00001**
Toxic Class (TX):	**N**			Effective Date (EDP):	
Major-Sub Drainage Basin:	**12 - 01**			Expiration Date (ExDP):	
Water Index Number:	**H-240**	Item No.:	**876 - 19**	Modification Dates (EDPM):	
Compact Area:					

This SPDES permit is issued in compliance with Title 8 of Article 17 of the Environmental Conservation Law of New York State and in compliance with the Clean Water Act, as amended, (33 U.S.C. '1251 et.seq.)

PERMITTEE NAME AND ADDRESS					
Name:	**Oneida County Department of Aviation**	Attention:	**Ed Arcuri, Commissioner of Aviation**		
Street:	**660 Hangar Road, Suite 223**				
City:	**Rome**	State:	**NY**	Zip Code:	**13441**
Email:	**earcuri@oneidacountyny.gov**	Phone:	**(315) 736-4171**		

is authorized to discharge from the facility described below:

FACILITY NAME, ADDRESS, AND PRIMARY OUTFALL																	
Name:	**Griffiss International Airport**																
Address / Location:	**660 Hangar Road**												County:	**Oneida**			
City:	**Rome**							State:	**NY**				Zip Code:	**13441**			
Facility Location:		Latitude:	**43**	°	**13**	’	**36.3**	” N	& Longitude:	**75**	°	**24**	’	**26.2**	” W		
Primary Outfall No.:	**003**	Latitude:	**43**	°	**13**	’	**46.6**	” N	& Longitude:	**75**	°	**25**	’	**58.6**	” W		
Wastewater Description:	**Stormwater, Aircraft Deicing**	Receiving Water:	**Mohawk River**					NAICS:	**488119**	Class:	**C**		Standard:	**C(T)**			

in accordance with: effluent limitations; monitoring and reporting requirements; other provisions and conditions set forth in this permit; and 6 NYCRR Part 750-1 and 750-2.

This permit and the authorization to discharge shall expire on midnight of the expiration date shown above and the permittee shall not discharge after the expiration date unless this permit has been renewed or extended pursuant to law. To be authorized to discharge beyond the expiration date, the permittee shall apply for permit renewal not less than 180 days prior to the expiration date shown above.

DISTRIBUTION:
BWP Permit Coordinator (permit.coordinator@dec.ny.gov)
Regional Water Engineer
Oneida County Department of Health
EPA Region II (Region2_NPDES@epa.gov)

Permit Administrator:	Todd Phillips
Address:	State Office Building 207 Genesee Street Utica, NY 13501-2885
Signature	Date

DEFINITIONS

TERM	DEFINITION
7-Day Geo Mean	The highest allowable geometric mean of daily discharges over a calendar week.
7-Day Average	The average of all daily discharges for each 7-days in the monitoring period. The sample measurement is the highest of the 7-day averages calculated for the monitoring period.
12-Month Rolling Average (12 MRA)	The current monthly value of a parameter, plus the sum of the monthly values over the previous 11 months for that parameter, divided by the number of months for which samples were collected in the 12-month period.
30-Day Geometric Mean	The highest allowable geometric mean of daily discharges over a calendar month, calculated as the antilog of: the sum of the log of each of the daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.
Action Level	Action level means a monitoring requirement characterized by a numerical value that, when exceeded, triggers additional permittee actions and department review to determine if numerical effluent limitations should be imposed.
Compliance Level / Minimum Level	A compliance level is an effluent limitation. A compliance level is given when the water quality evaluation specifies a Water Quality Based Effluent Limit (WQBEL) below the Minimum Level. The compliance level shall be set at the Minimum Level (ML) for the most sensitive analytical method as given in 40 CFR Part 136, or otherwise accepted by the DEC.
Daily Discharge	The discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for the purposes of sampling. For pollutants expressed in units of mass, the 'daily discharge' is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the 'daily discharge' is calculated as the average measurement of the pollutant over the day.
Daily Maximum	The highest allowable Daily Discharge.
Daily Minimum	The lowest allowable Daily Discharge.
Effective Date of Permit (EDP or EDPM)	The date this permit is in effect.
Effluent Limitations	Effluent limitation means any restriction on quantities, quality, rates and concentrations of chemical, physical, biological, and other constituents of effluents that are discharged into waters of the state.
Expiration Date of Permit (ExDP)	The date this permit is no longer in effect.
Instantaneous Maximum	The maximum level that may not be exceeded at any instant in time.
Instantaneous Minimum	The minimum level that must be maintained at all instants in time.
Monthly Average	The highest allowable average of daily discharges over a calendar month, calculated as the sum of each of the daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.
Outfall	The terminus of a sewer system, or the point of emergence of any waterborne sewage, industrial waste or other wastes or the effluent therefrom, into the waters of the State.
Range	The minimum and maximum instantaneous measurements for the reporting period must remain between the two values shown.
Receiving Water	The classified waters of the state to which the listed outfall discharges.
Sample Frequency / Sample Type / Units	See DEC's "DMR Manual for Completing the Discharge Monitoring Report for the SPDES" for information on sample frequency, type and units.

PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL	DESCRIPTION	RECEIVING WATER	EFFECTIVE	EXPIRING
003	Stormwater and Aircraft Deicing	Mohawk River	EDP	ExDP

PARAMETER	EFFLUENT LIMITATION					MONITORING REQUIREMENTS				FN
								Location		
	Type	Limit	Units	Limit	Units	Sample Frequency	Sample Type	Inf.	Eff.	
Flow	Monthly Average	Monitor	MGD			Monthly	Calculated		X	
Flow	Daily Maximum	Monitor	MGD			Daily	Calculated		X	
pH	Daily Minimum	6.0	SU			Quarterly	Grab		X	1,2
	Daily Maximum	9.0	SU							1,2
BOD_5 (November 1 - April 30)	Daily Maximum	45	mg/L			Monthly	Grab		X	3,4
Total Suspended Solids (TSS)	Daily Maximum	45	mg/L			Quarterly	Grab		X	1,2
Oil & Grease	Daily Maximum	15	mg/L			Quarterly	Grab		X	1,2
Propylene Glycol (November 1 - April 30)	Daily Maximum	Monitor	mg/L			Monthly	Grab		X	3,4

FOOTNOTES:

1. Quarterly samples shall be collected in calendar quarters (Q1 - January 1st to March 31st; Q2 - April 1st to June 30th; Q3 - July 1st to September 30th; Q4 - October 1st to December 31st).

2. Sampling for these parameters shall be collected as follows:

   a. within 24 hours from the application of deicing substances to aircraft or pavement surfaces; or
   b. within 24 hours from a storm event with at least 0.1 inch of precipitation; or
   c. during periods of snowmelt.

3. Effluent limitations and monitoring requirements for BOD_5 and Propylene Glycol are in effect during aircraft deicing season (November 1 through April 30). If no deicing substances are applied to aircraft or pavement surfaces during a monthly monitoring period, the permittee shall report the results on the Discharge Monitoring Report (DMR) using a No Data Indicator Code of “9” (NODI-9) to indicate “Conditional Monitoring - Not Required This Period”.

4. Samples for BOD_5 and Propylene Glycol shall be representative and collected within 24 hours after the application of deicing substances to aircraft.

SPECIAL CONDITIONS

1. The permittee shall develop and maintain a Deicing Summary Report each year for the previous deicing season by June 30th each year. The report shall include the monthly quantities of deicing chemicals used, either as measured amounts, or in the absence of metering, as estimated amounts. The Deicing Summary Report must be maintained onsite and made available for review by Department representatives. Copies must be provided upon request in accordance with 6 NYCRR 750-2.1(i) and 750-2.5(c)(4). Deicing Summary Reports shall be retained for a period of at least five (5) years.

2. Only propylene glycol-based agents used for aircraft deicing are authorized for discharge under this permit. The permittee shall notify the Regional Water Engineer if any new aircraft deicing agents are proposed for use other than propylene glycol. The Department may require a permit modification for any new aircraft deicing agents.

3. For the purposes of this permit, “aircraft deicing” shall mean procedures and practices to remove or prevent frost, snow, or ice from an aircraft.

BEST MANAGEMENT PRACTICES (BMPs) FOR INDUSTRIAL FACILITIES

Note that for some facilities, especially those with few employees or limited industrial activities, some of the below BMPs may not be applicable. It is acceptable in these cases to indicate "Not Applicable" for the portion(s) of the BMP Plan that do not apply to your facility, along with an explanation.

1. **General** - The permittee shall develop, maintain, and implement a Best Management Practices (BMP) plan to prevent releases of significant amounts of pollutants to the waters of the State through plant site runoff; spillage and leaks; sludge or waste disposal; and stormwater discharges including, but not limited to, drainage from raw material storage. The BMP plan shall be documented in narrative form and shall include the 13 minimum BMPs and any necessary plot plans, drawings, or maps. Other documents already prepared for the facility such as a Safety Manual or a Spill Prevention, Control and Countermeasure (SPCC) plan may be used as part of the plan and may be incorporated by reference. A copy of the current BMP plan shall be submitted to the DEC as required in item (2.) below and a copy must be maintained at the facility and shall be available to authorized DEC representatives upon request.

2. **Compliance Deadlines** - The initial BMP plan was received by the Department dated September 2009. The BMP plan **shall be reviewed annually** and shall be modified whenever (a) changes at the facility materially increase the potential for releases of pollutants; (b) actual releases indicate the plan is inadequate, or (c) a letter from the DEC identifies inadequacies in the plan. The permittee shall certify in writing, as an attachment to the December Discharge Monitoring Report (DMR), that the annual review has been completed. Subsequent modifications to or renewal of this permit does not reset or revise these deadlines unless a new deadline is set explicitly by such permit modification or renewal.

3. **Facility Review** - The permittee shall review all facility components or systems (including but not limited to material storage areas; in-plant transfer, process, and material handling areas; loading and unloading operations; storm water, erosion, and sediment control measures; process emergency control systems; and sludge and waste disposal areas) where materials or pollutants are used, manufactured, stored or handled to evaluate the potential for the release of pollutants to the waters of the State. In performing such an evaluation, the permittee shall consider such factors as the probability of equipment failure or improper operation, cross-contamination of storm water by process materials, settlement of facility air emissions, the effects of natural phenomena such as freezing temperatures and precipitation, fires, and the facility's history of spills and leaks. The relative toxicity of the pollutant shall be considered in determining the significance of potential releases. The review shall address all substances present at the facility that are identified in the SPDES application Form NY-2C (available at https://dec.ny.gov/regulatory/permits-licenses/wastewater-stormwater-water-withdrawal/spdes-permit-program/application-procedures-forms) or that are required to be monitored for by the SPDES permit.

4. **13 Minimum BMPs:** Whenever the potential for a release of pollutants to State waters is determined to be present, the permittee shall identify BMPs that have been established to prevent or minimize such potential releases. Where BMPs are inadequate or absent, appropriate BMPs shall be established. In selecting appropriate BMPs, the permittee shall consider good industry practices and, where appropriate, structural measures such as secondary containment and erosion/sediment control devices and practices. USEPA guidance for development of stormwater elements of the BMP is available in *Developing Your Stormwater Pollution Prevention Plan A Guide for Industrial Operators*, February 2009, EPA 833-B-09-002. As a minimum, the plan shall include the following BMPs:

   1. BMP Pollution Prevention Team
   2. Reporting of BMP Incidents
   3. Risk Identification & Assessment
   4. Employee Training
   5. Inspections and Records
   6. Security
   7. Preventive Maintenance
   8. Good Housekeeping
   9. Materials/Waste Handling, Storage, & Compatibility
   10. Spill Prevention & Response
   11. Erosion & Sediment Control
   12. Management of Runoff
   13. Street Sweeping

BMPs FOR INDUSTRIAL FACILITIES (continued)

5. **Stormwater Pollution Prevention Plans (SWPPPs) Required for Discharges of Stormwater from Construction Activity to Surface Waters -** A SWPPP shall be developed prior to commencing any construction activity that will result in soil disturbance of one or more acres of uncontaminated area[1]. (Note: the disturbance threshold is 5000 SF in the New York City East of Hudson Watershed). The SWPPP shall conform to the current version of the SPDES General Permit for Stormwater Discharges from Construction Activity (CGP), including the *New York Standards and Specifications for Erosion and Sediment Control* and *New York State Stormwater Management Design Manual.* The permittee shall submit a copy of the SWPPP and any amendments thereto to the local governing body and any other authorized agency having jurisdiction or regulatory control over the construction activity **at least 30 days prior to soil disturbance**. The SWPPP shall be maintained on-site and submitted to the Department only upon request. When a SWPPP is required, a properly completed *Notice of Intent* (NOI) form shall be submitted (available at https://dec.ny.gov/environmental-protection/water/water-quality/stormwater/construction-activity-permit) prior to soil disturbance. Note that submission of the NOI is required for informational purposes; the permittee is not eligible for and will not obtain coverage under any SPDES general permit for stormwater discharges. SWPPPs must be developed for subsequent site disturbances in accordance with the above requirements. The permittee is responsible for ensuring that the provisions of each SWPPP are properly implemented.

6. **Required Sampling For "Hot Spot" Identification** - Development of the BMP plan shall include sampling of waste stream segments for the purpose of pollutant "hot spot" identification. The economic achievability of effluent limits will not be considered until plant site "hot spot" sources have been identified, contained, removed or minimized through the imposition of site specific BMPs or application of internal facility treatment technology. For the purposes of this permit condition a "hot spot" is a segment of an industrial facility (including but not limited to soil, equipment, material storage areas, sewer lines etc.) which contributes elevated levels of problem pollutants to the wastewater or stormwater collection system of that facility. For the purposes of this definition, problem pollutants are substances for which treatment to meet a water quality or technology requirement may, considering the results of waste stream segment sampling, be deemed unreasonable. For the purposes of this definition, an elevated level is a concentration or mass loading of the pollutant in question which is sufficiently higher than the concentration of that same pollutant at the compliance monitoring location so as to allow for an economically justifiable removal, isolation, or B.A.T. treatment of wastewaters emanating from the segment.

7. **Airports:** The requirements listed under this section apply to stormwater discharges associated with industrial activity from air transportation facilities including air transportation (scheduled and non-scheduled); air courier services; airports; flying fields (except those maintained by aviation clubs); air terminal services including air traffic control (except government); aircraft storage at airports; aircraft upholstery repair; airfreight handling at airports; airport hangar rental; airport leasing, if operating airport; airport terminal services; hangar operation; airport, aircraft service and maintenance including aircraft cleaning and janitorial service; aircraft servicing /repairing except on a factory basis; vehicle maintenance shops; material handling facilities; equipment clearing operations; and airport/aircraft deicing and anti-icing. [Note: For the purpose of this section, the term "deicing" is defined as the process to remove frost, snow, or ice and "anti-icing" is the process which prevents the accumulation of frost, snow, or ice.] Only those portions of the facility that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, or deicing/anti-icing operations are addressed under this section. Tenants and other entities that apply or otherwise use deicing or anti-icing materials shall provide all necessary information to the permittee for the permittee to complete all requirements under this section.

   Additional Requirements for the BMP Plan: BMPs shall be developed for areas of the facility occupied by tenants of the airport and shall be integrated with the BMP plan for the entire airport. For the purposes of this permit, tenants of the airport facility include airline passenger or cargo companies, fixed based operators and other parties who have contracts with the airport authority to conduct business operations on airport property and whose operations result in stormwater discharges associated with industrial activity. The BMP plan shall include, at a minimum, the following items.

[1] Uncontaminated area means soils which are free of contamination by any toxic or non-conventional pollutants identified in the tables of SPDES Application Form NY-2C. Disturbance of any size contaminated area(s) and the resulting discharge of contaminated stormwater is not authorized by this permit unless the discharge is under State or Federal oversight as part of a remedial program or after review by the Regional Water Engineer; nor is such discharge authorized by any SPDES general permit for stormwater discharges.

BMPs FOR INDUSTRIAL FACILITIES (continued)

A. Site description

(i) Site map - The site map shall identify where any of the following activities may be exposed to precipitation/surface runoff: aircraft and runway deicing/anti-icing operations; fueling stations; aircraft, ground vehicle and equipment maintenance/cleaning areas; and storage areas for aircraft, ground vehicles and equipment awaiting maintenance.

(ii) Summary of potential pollutant sources - A narrative description of the potential pollutant sources from the following activities: aircraft, runway, ground vehicle and equipment maintenance and cleaning; aircraft and runway deicing/anti-icing operations (including apron and centralized aircraft deicing/anti-icing stations, runways, taxiways and ramps). Facilities which conduct deicing/anti-icing operations shall maintain a record of the types (including the Material Safety Data Sheets (MSDS)) and monthly quantities of deicing/anti-icing chemicals used, either as measured amounts, or in the absence of metering, as estimated amounts. This includes all deicing/anti-icing chemicals, not just glycols and urea (e.g., potassium acetate). Tenants and fixed-base operators who conduct deicing/anti-icing operations shall provide the above information to the airport authority for inclusion in the BMP for the entire facility.

B. Stormwater controls The BMP plan must include pertinent elements of the SWPPP for industrial activities, including but not limited to:

(i) Good housekeeping

(a) Aircraft, ground vehicle and equipment maintenance areas - The permittee must describe and implement measures that prevent or minimize the contamination of stormwater runoff from all areas used for aircraft, ground vehicle and equipment maintenance (including the maintenance conducted on the terminal apron and in dedicated hangars). The following practices (or their equivalents) shall be considered: performing maintenance activities indoors; maintaining an organized inventory of materials used in the maintenance areas; draining all parts of fluids prior to disposal; preventing the practice of hosing down the apron or hangar floor; using dry cleanup methods; and collecting the stormwater runoff from the maintenance area and providing treatment or recycling.

(b) Aircraft, ground vehicle and equipment cleaning areas - Permittees shall ensure that cleaning of equipment is conducted in designated areas only and clearly identify these areas on the ground and delineate them on the site map. The permittee must describe and implement measures that prevent or minimize the contamination of the stormwater runoff from cleaning areas.

(c). Aircraft, ground vehicle and equipment storage areas - The storage of aircraft, ground vehicles and equipment awaiting maintenance must be confined to designated areas (delineated on the site map). The following BMPs (or their equivalents) shall be considered: indoor storage of aircraft and ground vehicles; the use of drip pans for the collection of fluid leaks; and perimeter drains, dikes or berms surrounding storage areas.

(d) Material storage areas - Storage vessels of all materials (e.g., used oils, hydraulic fluids, spent solvents, and waste aircraft fuel) must be maintained in good condition, so as to prevent or minimize contamination of stormwater, and plainly labeled (e.g., "used oil," "Contaminated Jet A," etc.). The permittee must describe and implement measures that prevent or minimize contamination of precipitation/runoff from storage areas. The following BMPs or their equivalents shall be considered: indoor storage of materials centralized storage areas for waste materials; and installation of berms/dikes around storage areas.

(e) Airport fuel system and fueling areas - The permittee must describe and implement measures that prevent or minimize the discharge of fuels to the storm sewer/surface waters resulting from fuel servicing activities or other operations conducted in support of the airport fuel system. The following BMPs (or their equivalents) shall be considered: implementing spill and overflow practices (e.g., placing absorptive materials beneath aircraft during fueling operations); using dry cleanup methods; and collecting the stormwater runoff.

(ii) Source reduction - The permittee shall consider alternatives to the use of urea and glycol-based airfield deicing/anti-icing chemicals to reduce the aggregate amount of airfield deicing/anti-icing. The permittee shall require the tenants and other entities who apply or otherwise use deicing or anti-icing materials to consider alternatives to the use of urea and glycol-based deicing/anti-icing chemicals to reduce the aggregate amount of deicing/anti-icing chemicals used and lessen the environmental impact. Chemical options to replace ethylene glycol, propylene glycol and urea include: potassium acetate; magnesium acetate; calcium acetate; anhydrous potassium acetate.

BMPs FOR INDUSTRIAL FACILITIES (continued)

(a) Runway deicing operations - The Permittee shall evaluate present application rates to ensure against excessive over application by analyzing application rates and adjusting as necessary, consistent with considerations of flight safety. Also the following BMP options shall be considered (or their equivalents): metered application of chemicals; prewetting dry chemical constituents prior to application; installation of runway ice detection systems; implementing anti-icing operations as a preventive measure against ice buildup.

(b) Aircraft deicing/anti-icing operations - The Permittee shall require tenants and other entities who apply or otherwise use deicing or anti-icing materials to determine whether excessive application of deicing/anti-icing chemicals occurs, and adjust as necessary, consistent with considerations of flight safety. This evaluation should be carried out by the personnel most familiar with the particular aircraft and flight operations in question (versus an outside entity such as the airport authority). The use of alternative deicing/anti-icing agents as well as containment measures for all applied chemicals shall be considered. Also, the following BMP options (or their equivalents) shall be considered for reducing deicing fluid use: forced-air deicing systems; computer-controlled fixed-gantry systems; infrared technology; hot water; varying glycol content to air temperature; enclosed-basket deicing trucks; mechanical methods; solar radiation; hangar storage; aircraft covers; and thermal blankets. The use of ice-detection systems and airport traffic flow strategies and departure slot allocation systems shall also be considered.

(iii) Management of runoff - Where deicing/anti-icing operations occur, the permittee, tenants and other entities who apply or otherwise use deicing or anti-icing materials shall describe and implement a program to control or manage contaminated runoff to reduce the amount of pollutants being discharged from the site. The following BMPs (or their equivalents) shall be considered: establishing a dedicated deicing facility with a runoff collection/recovery system; using vacuum/collection trucks; storing contaminated stormwater/deicing fluids in tanks and releasing controlled amounts to a publicly owned treatment works; collecting contaminated runoff in a wet pond for biochemical decomposition (be aware of attracting wildlife that may prove hazardous to flight operations); and directing runoff into vegetative swales or other infiltration measures. The plan shall consider the recovery of deicing/anti-icing materials when these materials are applied during non-precipitation events (e.g., covering storm sewer inlets, using booms, installing absorptive interceptors in the drains, etc.) to prevent these materials from later becoming a source of stormwater contamination. Used deicing fluid should be recycled whenever possible.

(iv) Routine facility inspections - The inspection frequency shall be specified in the plan. At a minimum, inspections shall be conducted once per month during deicing/anti-icing season (e.g., October through April for most airports). If deicing occurs before or after this period, the inspections shall be expanded to include all months during which deicing chemicals may be used. Also, if significantly or deleteriously large quantities of deicing chemicals are being spilled or discharged, or if water quality impacts have been reported, the inspection frequency shall be increased to weekly until such time as the chemical spills/discharges or impacts are reduced to acceptable levels.

(v) Comprehensive site compliance evaluation - The annual site compliance evaluations shall be conducted by qualified facility personnel during periods of actual deicing operations, if possible. If not practicable during active deicing or if the weather is too inclement, the evaluations shall be conducted when deicing operations are likely to occur and the materials and equipment for deicing are in place.

MERCURY MINIMIZATION PROGRAM (MMP) - Type IV

On June 5, 2025, the permittee submitted a Conditional Exclusion Certification, certifying that the facility does not have any of the mercury sources listed in Part III.E. of DOW 1.3.10.

1. General - To reduce mercury effluent levels with the goal of achieving the water quality standard of 0.7 ng/L, the permittee must develop, implement, and maintain a written MMP plan, which includes the elements set forth below.
2. Conditional Exclusion Certification – A certification (Appendix C of DOW 1.3.10), signed in accordance with 6 NYCRR 750-1.8, must be submitted once every 5 years for Outfall 003 to the Regional Water Engineer and to the Bureau of Water Permits, certifying that the facility is neither a mercury source nor receives flows from a mercury source. Criteria to determine if a facility has a mercury source are as follows:
    - The facility is, or receives flow from, a Combined Sewer System (CSS) or sanitary sewer system with Type II Sanitary Sewer Overflows (SSO[2]);
    - One or more effluent samples exceed 12 ng/L, including samples taken as a result of the SPDES application process;
    - Internal or tributary waste stream samples exceed the GLCA effluent limitation and the final effluent samples are less than the GLCA due primarily to dilution by uncontaminated or less contaminated waste streams. Both components of this criterion may include samples taken as a result of the SPDES application process;
    - A SPDES permit application, or other information, indicates that mercury is handled on-site and could be discharged through outfalls;
    - Existence of outfalls that contain legacy mercury contamination;
    - The facility's collection system receives discharges from a dental and/or Categorical Industrial User (CIU[3]) that may discharge mercury;
    - The facility accepts hauled wastes; OR,
    - The facility is defined as a categorical industry that may discharge mercury. This may also include dentists, universities, hospitals, or laboratories, which have their own individual SPDES permit.
3. Control Strategy – develop and implement with the following minimum elements:
    a. Equipment and Materials – Equipment and materials (e.g., thermometers, thermostats) used by the permittee, which may contain mercury, must be evaluated by the permittee. As equipment and materials containing mercury are updated/replaced, the permittee must use mercury-free alternatives, if possible.
    b. Bulk Chemical Evaluation – for chemicals used at a rate which exceeds 1,000 gallons/year or 10,000 pounds/year, the permittee must obtain:
        i. A manufacturer's certificate of analysis;
        ii. A chemical analysis performed by a certified laboratory; OR,
        iii. A notarized affidavit that describes the substances' mercury concentration and the detection limit achieved.

    Where practicable, the permittee must only use bulk chemicals in the wastewater treatment process which contain <10 parts per billion (ppb) of mercury.

[2] These are Overflow Retention Facilities (ORFs) and are included under the 05 and 07 permit classifications.
[3] CIUs include those listed under Federal Regulation in 40 CFR Parts 405–471.

MERCURY MINIMIZATION PROGRAM (MMP) – Type IV (continued)

4. Status Report – An **annual** status report must be developed, in accordance with the Schedule of Additional Submittals, summarizing:

    a. Review of criteria to determine if the facility has a potential mercury source;

    b. All actions undertaken, pursuant to the control strategy, during the previous year; and

    c. Actions planned, pursuant to the control strategy, for the upcoming year.

    The first status report is due in accordance with the Schedule of Additional Submittals. The permittee must maintain a file on-site with all MMP documentation.

5. MMP Modification – the permittee must submit a permittee-initiated modification request to DEC whenever:

    d. Changes at the facility, or within the collection system, increase the potential for mercury discharges; OR,
    e. A letter from DEC identifies inadequacies in the MMP.

    The permittee may use information in the status reports, as applicable in accordance with item 3 of this MMP, as a basis for the permittee-initiated modification.

DEFINITIONS:

Potential mercury source – a source identified by the permittee that may reasonably be expected to have total mercury contained in the discharge. Some potential mercury sources include switches, fluorescent lightbulbs, cleaners, degreasers, thermometers, batteries, hauled wastes, universities, hospitals, laboratories, landfills, Brownfield sites, or raw material storage.

DISCHARGE NOTIFICATION REQUIREMENTS

(a) The permittee shall install and maintain identification signs at all outfalls to surface waters listed in this permit, unless the Permittee has obtained a waiver in accordance with the Discharge Notification Act (DNA). Such signs shall be installed before initiation of any new discharge location.

(b) Subsequent modifications to or renewal of this permit does not reset or revise the deadline set forth in (a) above, unless a new deadline is set explicitly by such permit modification or renewal.

(c) The Discharge Notification Requirements described herein do not apply to outfalls from which the discharge is composed exclusively of storm water, or discharges to ground water.

(d) The sign(s) shall be conspicuous, legible and in as close proximity to the point of discharge as is reasonably possible while ensuring the maximum visibility from the surface water and shore. The signs shall be installed in such a manner to pose minimal hazard to navigation, bathing or other water related activities. If the public has access to the water from the land in the vicinity of the outfall, an identical sign shall be posted to be visible from the direction approaching the surface water.

The signs shall have **minimum** dimensions of eighteen inches by twenty-four inches (18" x 24") and shall have white letters on a green background and contain the following information:

N.Y.S. PERMITTED DISCHARGE POINT

SPDES PERMIT No.: NY_____

OUTFALL No. :____

For information about this permitted discharge contact:

Permittee Name: _____

Permittee Contact: _____

Permittee Phone: ( ) - ### - ####

OR:

NYSDEC Division of Water Regional Office Address:

NYSDEC Division of Water Regional Phone: ( ) - ### -####

(e) Upon request, the permittee shall make available electronic or hard copies of the sampling data to the public. In accordance with the RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS page of your permit, each DMR shall be maintained (either electronically or as a hard copy) on record for a period of five years.

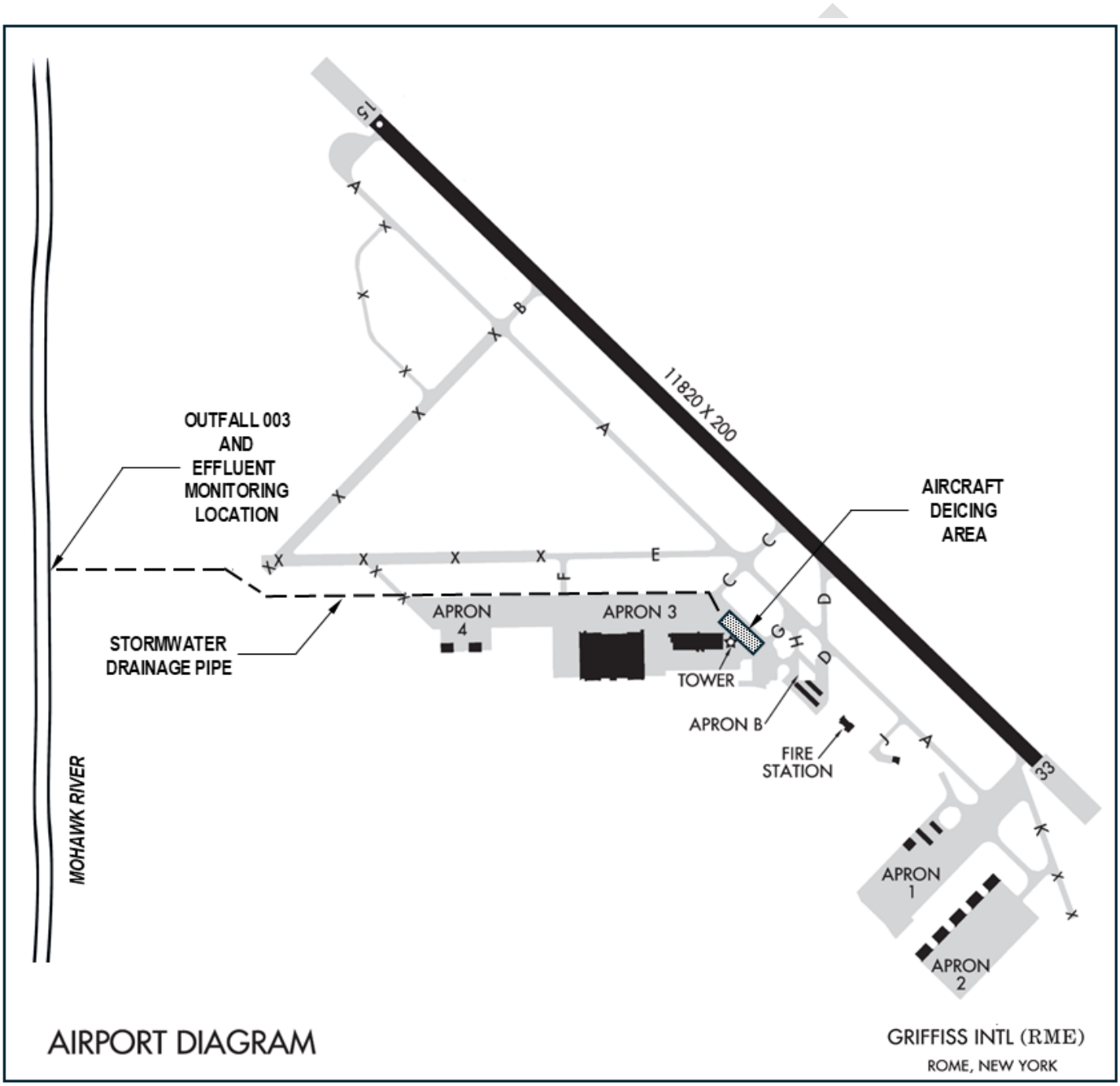
(f) The permittee shall periodically inspect the outfall identification sign(s) in order to ensure they are maintained, are still visible, and contain information that is current and factually correct. Signs that are damaged or incorrect shall be replaced within 3 months of inspection.

MONITORING LOCATIONS

The permittee shall take samples and measurements, to comply with the monitoring requirements specified in this permit, at the locations(s) specified below:

Effluent

The permittee may also collect effluent samples and measurements at an accessible location within the stormwater drainage pipe between Apron 4 and Outfall 003.



GENERAL REQUIREMENTS

A. The regulations in 6 NYCRR Part 750 are hereby incorporated by reference and the conditions are enforceable requirements under this permit. The permittee shall comply with all requirements set forth in this permit and with all the applicable requirements of 6 NYCRR Part 750 incorporated into this permit by reference, including but not limited to the regulations in paragraphs B through H as follows:

B. General Conditions

1.	Duty to comply	6 NYCRR 750-2.1(e) & 2.4
2.	Duty to reapply	6 NYCRR 750-1.16(a)
3.	Need to halt or reduce activity not a defense	6 NYCRR 750-2.1(g)
4.	Duty to mitigate	6 NYCRR 750-2.7(f)
5.	Permit actions	6 NYCRR 750-1.1(c), 1.18, 1.20 & 2.1(h)
6.	Property rights	6 NYCRR 750-2.2(b)
7.	Duty to provide information	6 NYCRR 750-2.1(i)
8.	Inspection and entry	6 NYCRR 750-2.1(a) & 2.3

C. Operation and Maintenance

1.	Proper Operation & Maintenance	6 NYCRR 750-2.8
2.	Bypass	6 NYCRR 750-1.2(a)(17), 2.8(b) & 2.7
3.	Upset	6 NYCRR 750-1.2(a)(94) & 2.8(c)

D. Monitoring and Records

1.	Monitoring and records	6 NYCRR 750-2.5(a)(2), 2.5(a)(6), 2.5(c)(1), 2.5(c)(2), & 2.5(d)
2.	Signatory requirements	6 NYCRR 750-1.8 & 2.5(b)

E. Reporting Requirements

1.	Reporting requirements for non-POTWs	6 NYCRR 750-2.5, 2.6, 2.7, &1.17
2.	Anticipated noncompliance	6 NYCRR 750-2.7(a)
3.	Transfers	6 NYCRR 750-1.17
4.	Monitoring reports	6 NYCRR 750-2.5(e)
5.	Compliance schedules	6 NYCRR 750-1.14(d)
6.	24-hour reporting	6 NYCRR 750-2.7(c) & (d)
7.	Other noncompliance	6 NYCRR 750-2.7(e)
8.	Other information	6 NYCRR 750-2.1(f)

F. Sludge Management

The permittee shall comply with all applicable requirements of 6 NYCRR Part 360.

G. SPDES Permit Program Fee

The permittee shall pay to the DEC an annual SPDES permit program fee within 30 days of the date of the first invoice, unless otherwise directed by the DEC, and shall comply with all applicable requirements of ECL 72-0602 and 6 NYCRR Parts 480, 481 and 485. Note that if there is inconsistency between the fees specified in ECL 72-0602 and 6 NYCRR Part 485, the ECL 72-0602 fees govern.

H. Water Treatment Chemicals (WTCs)

New or increased use and discharge of a WTC requires prior DEC review and authorization. At a minimum, the permittee must notify the DEC in writing of its intent to change WTC use by submitting a completed *WTC Notification Form* for each proposed WTC. The DEC will review that submittal and determine if a SPDES permit modification is necessary or whether WTC review and authorization may proceed outside of the formal permit administrative process. The majority of WTC authorizations do not require SPDES permit modification. In any event, use and discharge of a WTC shall not proceed without prior authorization from the DEC. Examples of WTCs include biocides, coagulants, conditioners, corrosion inhibitors, defoamers, deposit control agents, flocculants, scale inhibitors, sequestrants, and settling aids.

1. WTC use shall not exceed the rate explicitly authorized by this permit or otherwise authorized by the DEC.
2. The permittee shall maintain a logbook of all WTC use, noting for each WTC the date, time, exact location, and amount of each dosage, and the name of the individual applying or measuring the chemical. The logbook must also document that adequate process controls are in place to ensure excessive levels of WTCs are not used.
3. The permittee shall submit a completed WTC Annual Report Form each year that they use and discharge WTCs. This form shall be submitted in electronic format and attached to either the December DMR or the annual monitoring report required below. The *WTC Notification Form and WTC Annual Report Form* are available from the DEC's website at: http://www.dec.ny.gov/permits/93245.html

RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS

A. The monitoring information required by this permit shall be retained for a period of at least five years from the date of the sampling for subsequent inspection by the Department or its designated agent.

B. Discharge Monitoring Reports (DMRs): Completed DMR forms shall be submitted for each one (1) month reporting period in accordance with the DMR Manual available on DEC's website.

DMRs must be submitted electronically using the electronic reporting tool (NetDMR) specified by DEC. Instructions on the use of NetDMR can be found at: How To Complete And Submit Discharge Monitoring Reports (DMRs) - NYSDEC. **Hardcopy paper DMRs will only be accepted if a waiver from the electronic submittal requirements has been granted by DEC to the facility.**

The first monitoring period begins on the effective date of this permit, and, unless otherwise required, the reports are due no later than the 28th day of the month following the end of each monitoring period.

C. Additional information required to be submitted by this permit shall be summarized and reported to the Regional Water Engineer and Bureau of Water Permits at the following addresses:

Department of Environmental Conservation
Regional Water Engineer, Region 6
207 Genesee Street, Utica, New York, 13501-2885 Phone: (315) 793-2554

Department of Environmental Conservation
Division of Water, Bureau of Water Permits
625 Broadway, Albany, New York 12233-3505 Phone: (518) 402-8111

D. Schedule of Additional Submittals:

The permittee shall submit the following information to the Regional Water Engineer and to the Bureau of Water Permits, unless otherwise instructed:

Outfall(s)	SCHEDULE OF ADDITIONAL SUBMITTALS - Required Action	Due Date
003	BMP PLAN The permittee shall annually review the completed BMP plan, submitted to DEC dated September 2009, on an annual basis. The BMP plan shall be modified whenever: (a) changes at the facility materially increase the potential for releases of pollutants, b) changes to BMP requirements specified in this permit, (c) actual releases indicate the plan is inadequate, or (d) a letter from the DEC identifies inadequacies in the plan. The permittee shall certify in writing, as an attachment to the December Discharge Monitoring Report (DMR), that the annual review has been completed. All BMP plan revisions must be submitted to the Regional Water Engineer within 30 days.	January 28th Each Year
003	MERCURY MINIMIZATION PLAN The permittee must complete and maintain onsite an annual mercury minimization status report in accordance with the requirements of this permit.	***Maintained Onsite*** EDP + 12 months, annually thereafter
003	DEICING SUMMARY REPORT The permittee shall complete and maintain onsite a Deicing Summary Report each year for the previous deicing season. The Deicing Summary Report shall contain a summary of the information laid out on page 4.	***Maintained Onsite*** June 30th each year

Outfall(s)	SCHEDULE OF ADDITIONAL SUBMITTALS - Required Action	Due Date
003	MERCURY - CONDITIONAL EXCLUSION CERTIFICATION Permittee must submit a mercury conditional exclusion certification every five years in order to maintain MMP Type IV status. As part of the certification the permittee will be required to sample the effluent and measure <12 ng/L.	June 5, 2030, and every 5 years thereafter

Unless noted otherwise, the above actions are one-time requirements.

E. Monitoring and analysis shall be conducted using sufficiently sensitive test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.

F. More frequent monitoring of the discharge(s), monitoring point(s), or waters of the State than required by the permit, where analysis is performed by a certified laboratory or where such analysis is not required to be performed by a certified laboratory, shall be included in the calculations and recording of the data on the corresponding DMRs.

G. Calculations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.

H. Unless otherwise specified, all information recorded on the DMRs shall be based upon measurements and sampling carried out during the most recently completed reporting period.

I. Any laboratory test or sample analysis required by this permit for which the State Commissioner of Health issues certificates of approval pursuant to section 502 of the Public Health Law shall be conducted by a laboratory which has been issued a certificate of approval. Inquiries regarding laboratory certification should be directed to the New York State Department of Health, Environmental Laboratory Accreditation Program.

SPDES Permit Fact Sheet

Oneida County Department of Aviation

Griffiss International Airport

NY0257061

TABLE OF CONTENTS

ACRONYMS

1Q10	1-Day, 10-Year Low Flow
7Q10	7-Day, 10-Year Low Flow
30Q10	30-Day, 10-Year Low Flow
A(A)	Aquatic Acute
A(C)	Aquatic Chronic
BMP	Best Management Practices
BPJ	Best Professional Judgement
CFR	Code of Federal Regulations
CWA	Clean Water Act
DER	NYSDEC Division of Environmental Remediation
DMR	Discharge Monitoring Report
DO	Dissolved Oxygen
DOW	NYSDEC Division of Water
EBPS	Environmental Benefit Permit Strategy
ECL	Environmental Conservation Law
ELGs	Effluent Limitation Guidelines
GV	Guidance Value
HEW	Human/Aesthetic/Wildlife Protection
MDV	Multiple Discharge Variance
MGD	Million Gallons per Day
MMP	Mercury Minimization Program
MSGP	Multi-Sector General Permit for Stormwater Associated with Industrial Activity
NYCRR	New York Code of Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
RIBS	Rotating Intensive Basin Sampling
RSAT	River-Based Effluent Limit Screening Analysis Tool
SEQR	State Environmental Quality Review
SIC	Standard Industrial Classification
SPDES	State Pollutant Discharge Elimination System
TBELs	Technology-based Effluent Limitations
TMDL	Total Maximum Daily Load
TOGS	Technical and Operational Guidance Series
USAF	United States Air Force
USEPA	United States Environmental Protection Agency
USGS	United States Geologic Survey
WIN	Waters Index Number
WI/PWL	Waterbody Inventory/ Priority Waterbodies List
WQBELs	Water Quality-Based Effluent Limitations

SUMMARY OF PERMIT CHANGES

A State Pollutant Discharge Elimination System (SPDES) EBPS permit renewal has been drafted for the Griffiss International Airport. The changes to the permit are summarized below:

- Removed Outfalls 001 and 002 as they are permitted under a SPDES Multi Sector General Permit for Stormwater Discharges Associated with Industrial Activity (MSGP).
- Added new monthly flow monitoring requirements for Outfall 003.
- Revised Best Management Practices (BMP) requirements.
- Added a new Mercury Minimization Plan.
- Updated the effluent monitoring location diagram.
- Added a new Schedule of Submittals.
- Updated permittee contact information.
- Updated the permit to reflect current NYSDEC format, nomenclature, and latest general conditions.

This fact sheet summarizes the information used to determine the effluent limitations (limits) and other conditions contained in the permit. General background information including the regulatory basis for the effluent limitations and other conditions are in the Appendix linked throughout this fact sheet.

ADMINISTRATIVE HISTORY

01/01/2006 The SPDES permit became effective with a new five-year term and expiration date of 12/31/2010.

03/01/2009 The last full technical review was performed and the SPDES permit was modified accordingly. The 2009 permit modification has formed the basis of this permit.

01/01/2011 The permit was administratively renewed with a new five-year term and expiration date of 12/31/2015.

01/01/2016 The permit was administratively renewed with a new five-year term and expiration date of 12/31/2020.

12/02/2021 The permit was administratively renewed with a new five-year term and expiration date of 11/30/2026.

02/12/2025 DEC issued a Request for Information (RFI) to modify and renew the SPDES permit due to the facility's EBPS score[1]. At the time of the RFI, the facility had an EBPS score of 108 and a NYSDEC Region 6 ranking of 16.

05/14/2025 The Oneida County Department of Aviation submitted a NY-2C permit application.

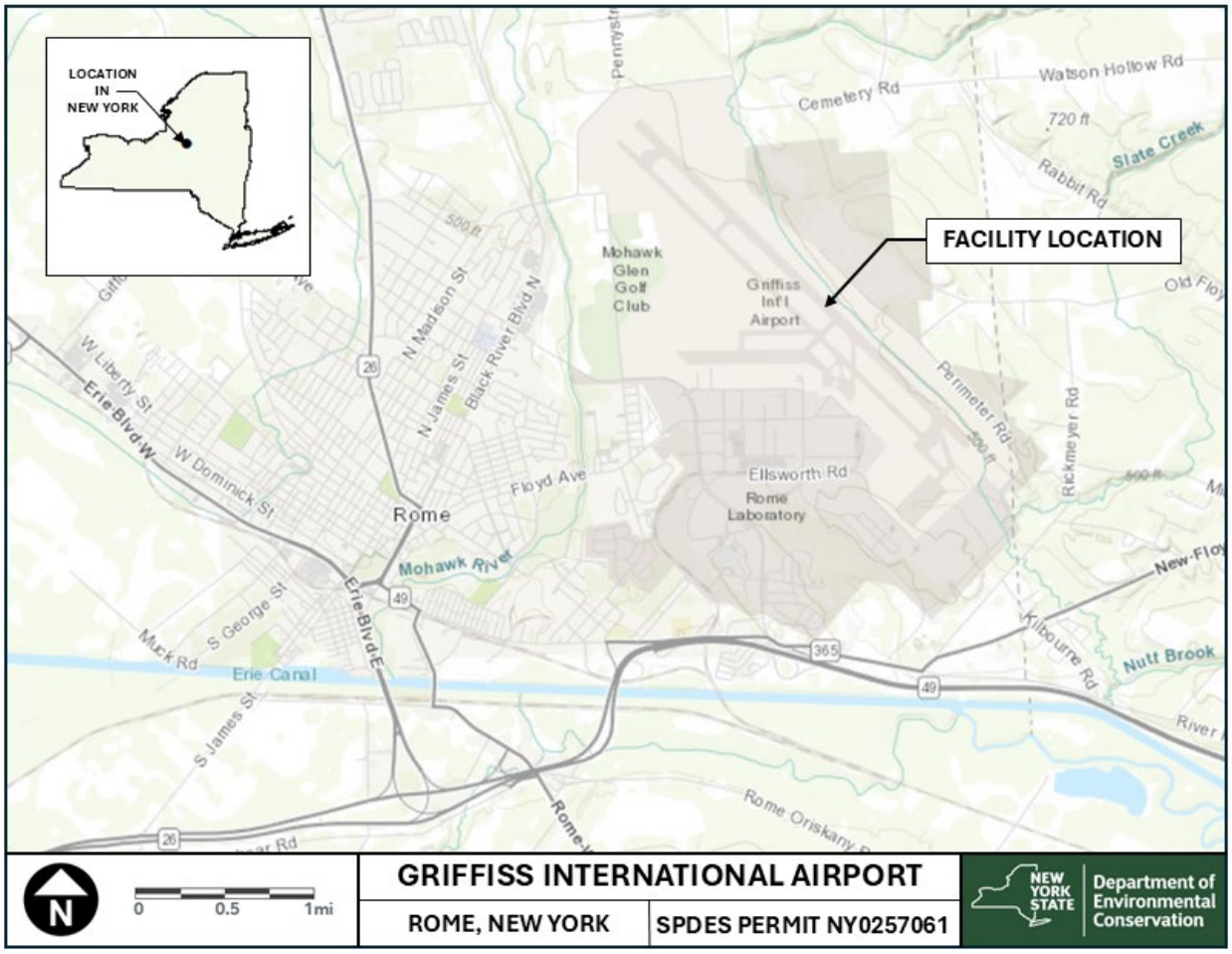
The Notice of Complete Application, published in the Environmental Notice Bulletin and newspapers, contains information on the public notice process.

[1] Pursuant to 6 NYCRR 750-1.18 and NYS Environmental Benefit Permit Strategy (EBPS)

FACILITY INFORMATION

Griffiss International Airport is situated in the City of Rome, Oneida County, New York. The airport is owned by Oneida County and is operated by the Oneida County Department of Aviation.

Figure 1. Location Map



Site Overview

Griffiss International Airport is a publicly owned and a publicly used airport. The airport is part of the former Griffiss Air Force Base, which was closed in 1995. The runway system and aircraft support facilities was conveyed to Oneida County after the air base was closed.

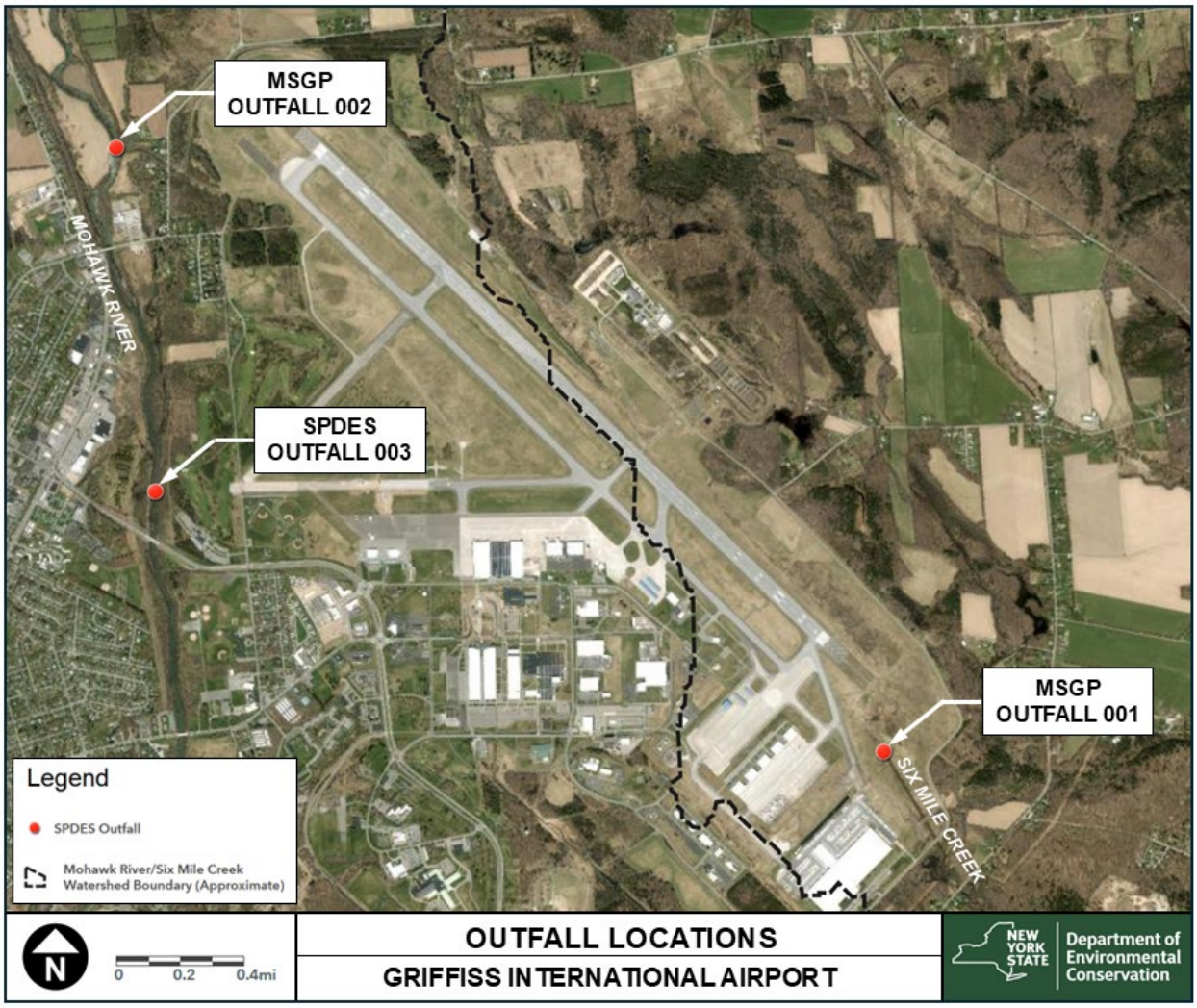
Airport services offered include a US Customs Office, aircraft refueling, aircraft deicing, aircraft tie-downs, and aircraft hangar housing. There are no scheduled commercial flights or courier services operating at the airport. The airport is primarily used by privately and business owned aircraft and occasional military aircraft practicing touch and go exercises.

The 1,680-acre facility includes a 2.2-mile long by 200-feet wide runway, taxiways, and apron areas that generates industrial stormwater. Some taxiways and apron areas are no longer in use.

Outfalls 001 and 002 are being removed from the individual SPDES permit because they have permit coverage under a separate SPDES Multi Sector General Permit for Stormwater Discharges Associated with Industrial Activity (MSGP). The permit number is NYR00H182 with an effective date of 11/28/2025. Discharges include stormwater and runway deicing.

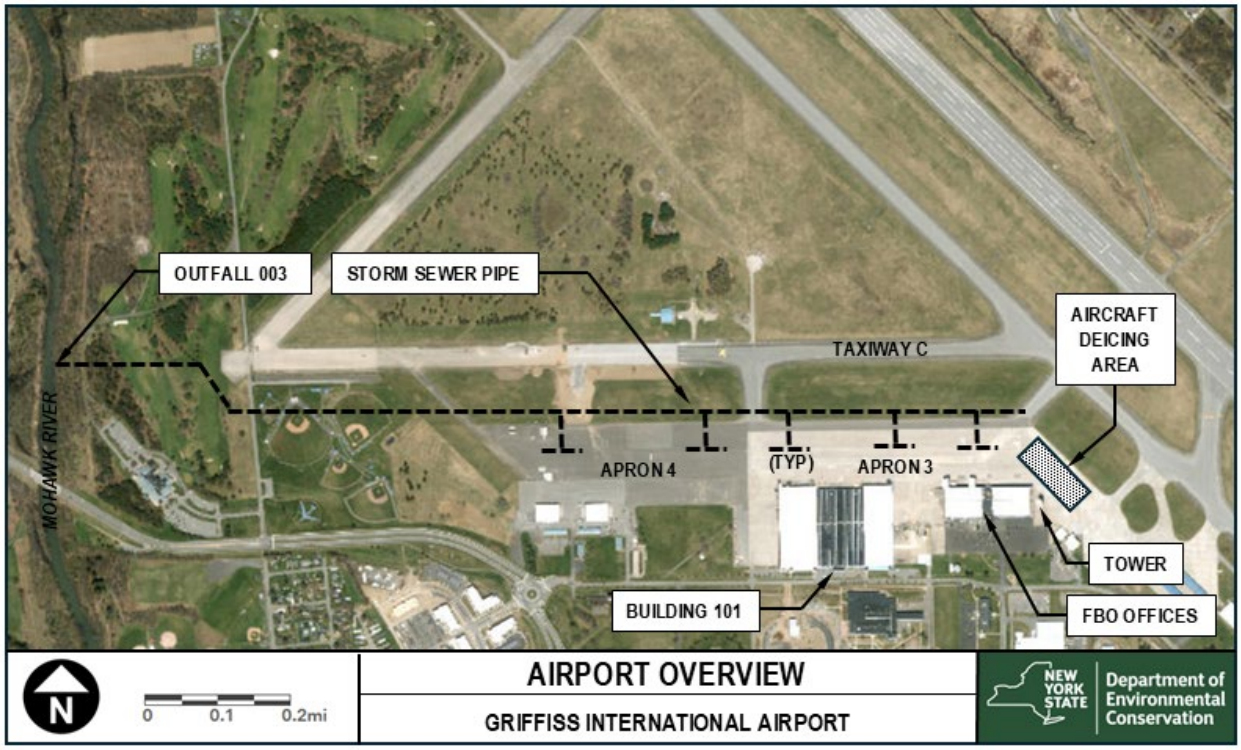
Outfall 003 consists of stormwater runoff and aircraft deicing. Due to the potential of discharges from aircraft deicing during dry weather, Outfall 003 does not qualify for the MSGP and must be authorized under an individual SPDES permit. Propylene glycol is used for aircraft deicing.

Figure 2. Outfall Locations



Aircraft deicing operations occurs on Apron 3 in front of the control tower and fixed-base operator (FBO) and administrative buildings. Aircraft deicing uses around 100 to 380 gallons per application of propylene glycol/water solution depending on aircraft sizes and needs. Stormwater runoff includes Apron 3 and 4, and Taxiway C, and is collected in an underground storm sewer pipe. The storm sewer pipe ranges in size from 12 inches to 72 inches before discharging into the Mohawk River through Outfall 003.

Figure 3. Facility Overview



Enforcement History

Compliance and enforcement information can be found on the USEPA's Enforcement and Compliance History Online (ECHO) website.

Existing Effluent Quality

The Pollutant Summary Table presents the existing effluent quality and effluent limitations. The existing effluent quality was determined from Discharge Monitoring Reports and the SPDES Permit Application submitted by the permittee for the period 01/01/2021 to 12/31/2024. Appendix Link

RECEIVING WATER INFORMATION

The facility discharges via the following outfalls:

Table 1. Outfall Information

Outfall No.	SIC Code	Wastewater Type	Receiving Water
003	4581	Aircraft and Stormwater Deicing	Mohawk River Class C(T)
001 Removed from the Permit (Authorized under MSGP NYR00H182)	4581	Stormwater and Runway Deicing	Sixmile Creek Class C
002 Removed from the Permit (Authorized under MSGP NYR00H182	4581	Stormwater and Runway Deicing	Mohawk River Class C(T)

Reach Description

The Mohawk River flows through central New York State and has a drainage area of about 3,460 square miles before entering the Hudson River. Outfall 003 is located on Portion 15 of the Mohawk River with a drainage area of 157 square miles. Portion 15 is the 6.5-mile river segment that flows through Rome, NY, starting from below Delta Reservoir at Delta Dam to the point where the Mohawk River joins the Barge Canal.

The Mohawk River at Outfall 003 is specified in 6 NYCRR Part 876, Table 1 - Item 19 with a Waters Index Number (WIN) of H-240 and is classified as a Class C(T) fresh surface water. About one mile downstream of Outfall 003, the classification changes to Class C at the Floyd Avenue bridge.

The best usage of Class C waters is fishing. These waters shall be suitable for fish, shellfish and wildlife propagation and survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes. The (T) symbol means that the classified waters are trout waters and any water quality standard, guidance value, or thermal criterion that specifically refers to trout or trout waters applies.

The classifications of individual surface waters are specified in 6 NYCRR Parts 800 - 941. The best uses and standards of quality and purity applicable to specific water classes are specified in 6 NYCRR Parts 701-706.

See the Outfall and Receiving Water Summary Table and Appendix for additional information.

Impaired Waterbody Information

The Mohawk River, Portion 15 (PWL No. 1201-0070) is not listed on the 2020/2022 New York State Section 303(d) List of Impaired/TMDL Waters, and therefore, there are no applicable wasteload allocations (WLAs) for this discharge.

Critical Receiving Water Data

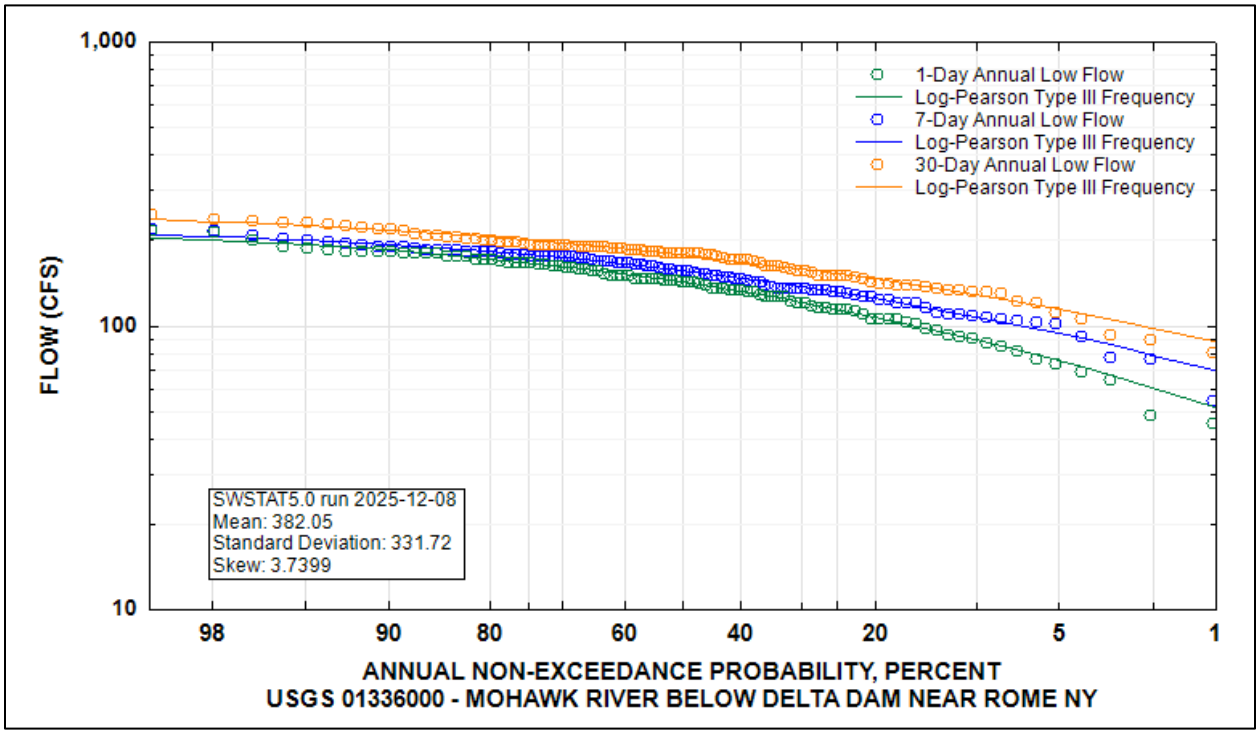
NYSDEC uses critical low flows to evaluate effluent limitations to ensure water quality standards are maintained. The 1Q10, 7Q10 and 30Q10 flows can be thought of as the lowest 1 Day, 7-Day and 30-Day average flows that are expected to occur on average once every 10 years.

The 1Q10 flow is used to assess for aquatic acute A(A), the 7Q10 for aquatic chronic A(C), and the 30Q10 for human, aesthetic, wildlife (HEW) water quality standards.

The 1Q10, 7Q10 and 30Q10 flows were determined by using the USGS Hydrologic Toolbox software based on the Log-Pearson Type III Distribution at United States Geological Survey (USGS) gaging station USGS 01336000, Mohawk River below Delta Dam near Rome NY, located about 3 miles upstream of Outfall 003.

Gage Name:	Mohawk River below Delta Dam near Rome NY
Gage ID:	USGS 01336000
Period of Record Used:	April 1, 1928 - March 31, 2025
Drainage Area at Gage (mi^2):	152
1Q10 Flow at Gage (CFS):	89.1
7Q10 Flow at Gage (CFS):	108
30Q10 Flow at Gage (CFS):	128

Figure 4. Critical Low Flow Frequencies



To convert the calculated critical flows from cubic feet per second (CFS) to million gallons per day (MGD), a multiplier of 0.646 was applied.

Table 2. Critical Low Flows

Receiving Water	Outfall	1Q10 (MGD)	7Q10 (MGD)	30Q10 (MGD)
Mohawk River	003	57.6	69.8	82.7

The 1Q10, 7Q10, and 30Q10 flows were used to calculate the initial acute, chronic, and human, aesthetic, wildlife (HEW) dilution ratios, respectively. Dilution ratios are calculated as:

$$Dillution\ Ratio = \frac{(Facilty\ Design\ Flow + Critical\ Low\ Flow)}{Facility\ Design\ Flow}$$

NYSDEC uses a design flow to evaluate the water quality resulting from the discharge. The facility design flow of 0.388 MGD for Outfall 003 was set to the highest flow from monthly DMRs submitted by the facility for the period of 01/01/2021 - 12/31/2024.

Table 3. Stream Flow Based Dilution Ratios

Outfall No.	Design Flow (MGD)	Acute Dilution Ratio A(A)	Chronic Dilution Ratio A(C)	Human, Aesthetic, Wildlife Dilution Ratio (HEW)	Basis
003	0.388	149:1	181:1	214:1	Gage Analysis

For large rivers, NYSDEC Technical Operations Guidance Series (TOGS) 1.3.1 limits the maximum allowable dilution ratios of 50:1 and 100:1 for aquatic acute and chronic mixing zone criteria, respectively. HEW is set to a maximum allowance of 100:1.

Table 4. Maximum Allowable Dilution Ratios

Outfall No.	Design Flow (MGD)	Acute Dilution Ratio A(A)	Chronic Dilution Ratio A(C)	Human, Aesthetic, Wildlife Dilution Ratio (HEW)	Basis
003	0.388	50:1	100:1	100:1	TOGS 1.3.1

Receiving Water Quality Information

NYSDEC collects water quality information on rivers, streams, lakes, estuaries, and coastal waters in New York. The Rotating Integrated Basin Studies (RIBS) Program monitors rivers, lakes and streams.

Receiving water quality information for the Mohawk River was based on RIBS Station 12-MOHK-124.0, Mohawk River in Rome at Floyd Avenue Bridge, which is located about 0.7 miles downstream from Outfall 003 at the Floyd Avenue bridge.

Table 5. Receiving Water Quality

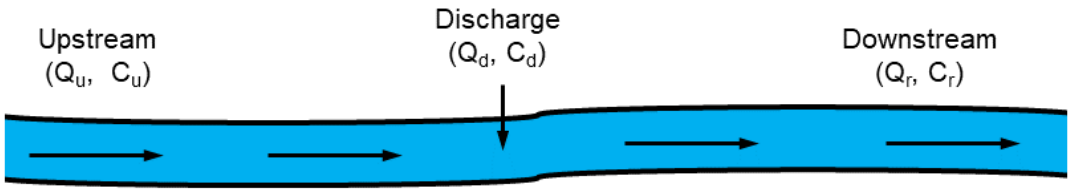
Parameter	Units	Average	Range	Number of Samples
pH	SU	7.6	6.7 - 8.3	14
Hardness (as $CaCO_3$)	mg/L	76	76	1

Critical receiving water data are listed in the Pollutant Summary Table at the end of this fact sheet. Appendix Link

Water Quality Review Methodology

For conservative pollutants with rapid and complete mixing, a steady-state, mass-balance approach used to calculate the downstream water quality resulting from a discharge. A conservative pollutant is a pollutant that does not readily degrade or breakdown in the environment and are mitigated primarily by dilution after entering receiving waters.

Figure 5. Mass Balance Schematic



$$Q_r \times C_r = Q_u \times C_u + Q_d \times C_d$$

because $Q_r = Q_u + Q_d$, the resulting downstream concentration becomes:

$$C_r = \frac{(Q_u \times C_u) + (Q_d \times C_d)}{(Q_u + Q_d)}$$

where:

Q_u = upstream flow in MGD or CFS above the point of discharge
C_u = upstream background pollutant concentration in mg/L or ug/L
Q_d = discharge flow in MGD or CFS
C_d = discharge pollutant concentration in mg/L or ug/L
Q_r = resulting downstream flow, after discharge in MGD or CFS
C_r = resulting downstream pollutant concentration in mg/L or ug/L

The various terms in the general mass balance equation can also be solved in terms of dilution, which can simplify water quality calculations and becomes necessary when dilution is reduced to maximum allowable or by mixing zone limitations.

When receiving water background concentrations are considered, the resulting downstream pollutant concentration (C_r) for conservative pollutants based on dilution can be calculated as:

$$C_r = \frac{C_d + C_u(D-1)}{D}$$

Where:

C_r = Resulting downstream pollutant concentration.
C_d = Discharge pollutant concentration.
C_u = Upstream or background pollutant concentration.
D = Dilution factor.

The dilution factor is the allowable dilution. For example, if the dilution ratio is 100:1, the dilution (D) is 100.

For the case when the pollutant background concentration is considered negligible or zero, the above equation simplifies to the discharge concentration divided by the dilution:

$$C_r = \frac{C_d}{D}$$

Water quality-based effluent limitations (WQBELs) for conservative pollutants can be calculated based on dilution as follows:

$$C_{eff} = (C_{wqs} - C_u)D + C_u$$

Where:

C_{eff} = Allowable effluent concentration or effluent limitation.
C_u = Upstream or background concentration.
C_{wqs} = Water quality standard concentration.
D = Allowable dilution.

When the background concentration is considered negligible or zero, the above equation simplifies to the water quality standard times allowable dilution:

$$C_{eff} = (C_{wqs})D$$

For non-conservative, oxygen-demanding pollutants, instream dissolved oxygen concentrations from a point source discharge to a river or stream are calculated using the River-Based Effluent Limit Screening Analysis Tool (RSAT) model developed by NYSDEC based on Streeter-Phelps equations. The method used is documented in *Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants in Surface and Ground Water, EPA/600/6-85/002a*.

PERMIT REQUIREMENTS

The following describes basis for the conditions included in the SPDES permit.

Effluent Limitations

The technology based effluent limitations (TBELs), water quality-based effluent limitations (WQBELs), Existing Effluent Quality and a discussion of the selected effluent limitation for each pollutant present in the discharge are provided in the Pollutant Summary Table.

In general, the more stringent of the TBELs or WQBELs for each pollutant is selected as the final effluent limitation

USEPA Effluent Limitation Guidelines (ELGs) Applicable to Facility

Best Practicable Control Technology Currently Available (BPT), Best Conventional Pollutant Control Technology (BCT), Best Available Technology Economically Achievable (BAT), and New Source Performance Standards (NSPS) limitations are based on Effluent Limitation Guidelines developed by USEPA for specific industries[2]. ELGs for the Airport Deicing Point Source Category are specified in 40 CFR Part 449. Appendix Link

Because the facility does not meet the definition of “primary airports” meaning that it is a service airport that has more than 10,000 passenger boardings each year, the facility is not subject to the ELGs in 40 CFR Part 449.

Whole Effluent Toxicity (WET) Testing

An evaluation of the discharge indicates there is no reasonable potential for toxicity. Therefore, WET testing requirements are not required. Appendix Link

Discharge Notification Act Requirements

In accordance with the Discharge Notification Act (ECL 17-0815-a), the permittee is required to post a sign at each point of wastewater discharge to surface waters, unless a waiver is obtained. This requirement is being continued from the previous permit.

Additionally, the permit contains a requirement to make the DMR sampling data available to the public upon request. This requirement is being continued from the previous permit.

Best Management Practices (BMPs) for Industrial Facilities

In accordance with 6 NYCRR 750-1.14(f) and 40 CFR 122.44(k), the permittee is required to continue implementation of a BMP plan that prevents, or minimizes the potential for, the release of toxic or hazardous pollutants to state waters. The BMP plan requires annual review by the permittee.

BMP requirements have been updated from the previous permit to include additional BMPs specific to airports.

[2] As promulgated under 40 CFR Parts 405 - 471

Stormwater Pollution Prevention Requirements

The facility discharges stormwater associated with industrial activity and requires SPDES permit coverage under 40 CFR 122.26(a)(6).

Stormwater discharges at Outfalls 001 and 002 are permitted under a SPDES Multi-Sector General Permit (MSGP) under Sector S, Air Transportation. The facility's permit number of NYR00H182. The current MSGP (GP-0-23-001) expires on March 7, 2028.

Due to the potential of dry weather discharges from aircraft deicing at Outfall 003, discharges for this outfall require coverage under an individual SPDES permit and cannot obtain coverage under the MSGP. However, the permit includes BMPs and stormwater pollution prevention requirements consistent with the MSGP. This requirement is updated from the previous permit.

Mercury[3]

The multiple discharge variance (MDV) for mercury provides the framework for DEC to require mercury monitoring and mercury minimization programs (MMPs), through SPDES permitting. Appendix Link

The facility is USEPA Non-Major/Class 01 Industrial. On 06/05/2025, the permittee submitted a Conditional Exclusion Certification, certifying that the facility does not have any of the mercury sources listed in Part III.A.3. of DOW 1.3.10 and the effluent measured <12 ng/L. Effluent results were <0.5 ng/L. Therefore, consistent with DOW 1.3.10, the permit includes requirements for the implementation of MMP Type IV and does not include mercury effluent limitations. The Schedule of Additional Submittals includes a mercury minimization plan annual status report (maintained onsite), and re-certification of the exclusion every five years. As part of the re-certification, the effluent must be sampled and continue to measure <12 ng/L. This requirement is new.

Emerging Contaminant Monitoring

Emerging Contaminants, such as Perfluorooctanoic acid (PFOA), Perfluorooctanesulfonic acid (PFOS), and 1,4-Dioxane (1,4-D), have been used in a wide variety of consumer and industrial product as well as in manufacturing processes for decades. These contaminants do not break down easily, therefore their presence in wastewater can remain a concern for years following their discontinued use. As the science surrounding these contaminants is still evolving, additional monitoring is needed to better understand potential sources and background levels. For more information on emerging contaminants, please see the DEC Division of Water web page: Emerging Contaminants In NY's Waters - NYSDEC and TOGS 1.3.13, Industrial Permitting Strategy for Implementing Guidance Values for PFOA, PFOS, and 1,4-Dioxane.

The facility is within the former Griffiss Air Force Base complex which has a history of environmental concerns from past military operations and is listed as both a federal and state Superfund site with remedial actions and studies being performed by the United States Air Force (USAF) under the oversite of the USEPA and NYSDEC Division of Environmental Remediation (DER).

Studies conducted for the USAF found PFOA/PFOS contamination at the former Fire Training area. Training exercises occurred about three times per year from the 1960's to 1995 where waste fuel would be dumped on the ground in a 200-foot diameter fire training pit, ignited, and

[3] In accordance with DOW 1.3.10 Mercury – SPDES Permitting & Multiple Discharge Variance (MDV), December 30, 2020.

extinguished with aqueous film forming foam (AFFF) containing PFOA/PFOS. There is an existing stormwater pipe that drains runoff and groundwater (I&I) near the Fire Training area that is directly connected to outfall pipe leading to Outfall 003. The USAF is expected to conduct a follow-up remedial investigation to determine the full nature and extent of PFOA/PFOS contamination.

PFOA and PFOS was detected in the effluent at Outfall 003. In accordance with TOGS 1.3.13, PFOA/PFOS contamination from historic military operations will be handled by federal/state remediation and superfund programs under the oversite of the USEPA/NYSDEC and not through the SPDES permitting program. SPDES permitted activities at Griffiss International Airport performed under the direction of the Oneida County Department of Aviation are unrelated to and are not expected to contribute to PFOA/PFOS contamination. The USAF is the responsible entity for remedial follow-up.

Schedule of Additional Submittals

A schedule of additional submittals has been included for the following (Appendix Link):

- BMP Plan Annual Review.
- Mercury Minimization Program Annual Status Report (maintained onsite).
- Deicing Summary Annual Report (maintained onsite).
- Mercury Conditional Exclusion Certification every five years.

Anti-backsliding

In generally, the relaxation of effluent limitations (backsliding) in SPDES permits is prohibited under state and federal regulations unless one of the specified exceptions applies. Appendix Link

The limitations contained in the permit are at least as stringent as the previous permit limits and there are no instances of backsliding.

Antidegradation

The permit contains effluent limitations which ensure that the best usages of the receiving waters will be maintained. The Notice of Complete Application published in the Environmental Notice Bulletin contains information on the State Environmental Quality Review (SEQR)[4] determination. Appendix Link

[4] As prescribed by 6 NYCRR Part 617

Permittee: Oneida County Department of Aviation
Facility: Griffiss International Airport
SPDES Number: NY0257061
USEPA Non-Major/Class 01 Industrial

Date: March 11, 2026
Permit Writer: Michael Bocchi
Full Technical Review

OUTFALL AND RECEIVING WATER SUMMARY TABLE

Outfall	Latitude	Longitude	Receiving Water Name	Water Class	Water Index No. / Priority Waterbody Listing (PWL) No.	Major / Sub Basin	Hardness (mg/l)	1Q10 (MGD)	7Q10 (MGD)	30Q10 (MGD)	Critical Effluent Flow (MGD)	Dilution Ratio		
												A(A)	A(C)	HEW
003	43° 13' 46.6" N	75° 25' 58.6" W	Mohawk River	C	H-240 PWL: 1201-0070	12/01	76[5]	57.6	69.8	82.7	0.388	50:1	100:1	100:1

POLLUTANT SUMMARY TABLE

Outfall 003

Outfall #	003	**Description of Wastewater:** Stormwater Runoff from Main Apron Area, Aircraft Deicing													
		Type of Treatment: NA													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis		

General Notes:

Existing discharge data from 01/01/2021 to 12/31/2024 was obtained from Discharge Monitoring Reports provided by the permittee.

All applicable water quality standards were reviewed for development of the WQBELs.

The water quality standard and water quality-based effluent limitations (WQBELs) shown below represent the most stringent applicable water quality criteria (type).

The technology based effluent limitations (TBELs) were developed from TOGS 1.2.1, Attachment C.

The more stringent of the TBELs and WQBELs for each pollutant is selected as the basis of the permit condition and is highlighted is bold.

Effluent limitations are typically expressed to two (2) significant digits in consistent with 6 NYCRR Part 750-2.5(e)(2) and USEPA NPDES Permit Writer's Manual, 2010.

[5] Ambient hardness was taken from RIBS Station 12 MOHK 124.0, Mohawk River in Rome at Floyd Avenue Bridge, located 0.7 miles downstream of Outfall 003.

Outfall #	003	**Description of Wastewater:** Stormwater Runoff from Main Apron Area, Aircraft Deicing **Type of Treatment:** NA

Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis		
Flow Rate	MGD	Monthly Avg	No data, new requirement.			Monitor	6 NYCRR Part 750-1.13	No alterations that will impair the waters for their best usages.					6 NYCRR Part 703.2	-	Monitor
	MGD	Daily Max	Monitor	0.154/ 0.388	48/0	Monitor	6 NYCRR Part 750-1.13								

Existing effluent quality is the average daily maximum flow and highest daily maximum flow based on DMRs submitted by the facility for the period of 01/01/2021 - 12/31/2024.

TBELs
Flow is required to be monitored in accordance with 6 NYCRR Part 750-1.13.

WQBELs
Not applicable.

Basis of Permit Condition
Daily maximum flow monitoring is being continued from the previous permit. Monthly average flow monitoring is a new permit requirement.

Outfall #	003	**Description of Wastewater:** Stormwater Runoff from Main Apron Area, Aircraft Deicing
		Type of Treatment: NA

Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis		
pH	SU	Minimum	6.0	6.6	26/0	6.0	TOGS 1.2.1	7.6[6]	7.58	6.5 - 8.5	Range	-	6 NYCRR Part 703.3	-	TBEL
		Maximum	9.0	6.9	26/0	9.0			7.61						

Existing effluent quality is the lowest minimum and highest maximum from monthly DMRs submitted by the facility for the period of 01/01/2021 - 12/31/2024.

TBELs
Consistent with TOGS 1.2.1, TBELs in the range of 6.0 - 9.0 reflect the available treatment technology listed in Attachment C.

WQBELs

With a dilution ratio of 100:1 (maximum allowable) and a receiving water ambient background of 7.6 SU, the projected instream concentration (C_r) for the TBELs is:

$$C_r = \frac{C_d + C_u(D-1)}{D}$$

C_r (pH Min) = [6.0 SU + 7.6 SU(100 – 1)] / 100 = 7.58 SU
C_r (pH Max) = [9.0 SU + 7.6 SU(100 – 1)] / 100 = 7.61 SU

TBELs are protective of water quality standards. WQBELs are unnecessary.

Basis of Permit Condition
The TBELs are specified in the draft permit and are continued from the previous permit.

[6] Ambient pH calculated from RIBS Station 12 MOHK 124.0, Mohawk River in Rome at Floyd Avenue Bridge, located 0.7 miles downstream of Outfall 003.

Outfall #	003	**Description of Wastewater:** Stormwater Runoff from Main Apron Area, Aircraft Deicing **Type of Treatment:** NA

Effluent Parameter	Units	Averaging Period	Existing Discharge Data: Permit Limit	Existing Discharge Data: Existing Effluent Quality	Existing Discharge Data: # of Data Points Detects / Non-Detects	TBELs: Limit	TBELs: Basis	Water Quality Data & WQBELs: Ambient Bkgd. Conc.	Water Quality Data & WQBELs: Projected Instream Conc.	Water Quality Data & WQBELs: WQ Std. or GV	Water Quality Data & WQBELs: WQ Type	Water Quality Data & WQBELs: Calc. WQBEL	Water Quality Data & WQBELs: Basis	ML	Basis for Permit Requirement
Dissolved Oxygen (DO) SUMMER 6/1 – 10/31 WINTER 11/1 – 5/31	mg/L	Daily Min	-	-	-	-	-	7.50	7.39	5.0 mg/L		-	6 NYCRR Part 703.3	-	No Limitation

TBELs
Not applicable.

WQBELs
The resulting downstream Dissolved Oxygen (DO) concentration was modeled using the NYSDEC River-Based Effluent Limit Screening Analysis Tool (RSAT) based on Streeter-Phelps equations under summer receiving water critical conditions:

Receiving Water Characteristics:
Flow = 75.6 CFS (7Q10 reduced by 30% due to flow regulation, TOGS 1.3.1)
Temperature = 24°C (Trout Waters, TOGS 1.3.1.D)
DO Saturation = 90% (7.50 mg/L, TOGS 1.3.1.D)
Upstream NOD = 1.5 mg/L (RIBS Data)
Upstream UOD = 3.0 mg/L (TOGS 1.3.1.D)

Effluent Characteristics:
Flow = 0.60 CFS (0.388 MGD, Design Flow)
Temperature = 24°C (Trout Waters, TOGS 1.3.1.D)
DO = 2.0 mg/l (NYSDEC Default)
$BOD_5/CBOD_5$ = 45 mg/L (Permit Limit)
UOD = 4.5 mg/L (BPJ, TKN Stormwater EMC)

The 2.7-mile segment from outfall 003 to the confluence with the Barge Canal was modeled. Results showed minimal impact to DO levels, primarily because of available dilution. WQBELs for DO/BOD_5 are unnecessary and the BOD_5 TBEL is protective of DO water quality standards. Winter modeling is not necessary.

Basis of Permit Condition
Dissolved oxygen effluent limitations are unnecessary.

Effluent Parameter	Units	Averaging Period	Existing Discharge Data: Permit Limit	Existing Discharge Data: Existing Effluent Quality	Existing Discharge Data: # of Data Points Detects / Non-Detects	TBELs: Limit	TBELs: Basis	Water Quality Data & WQBELs: Ambient Bkgd. Conc.	Water Quality Data & WQBELs: Projected Instream Conc.	Water Quality Data & WQBELs: WQ Std. or GV	Water Quality Data & WQBELs: WQ Type	Water Quality Data & WQBELs: Calc. WQBEL	Water Quality Data & WQBELs: Basis	ML	Basis for Permit Requirement
5-day Biochemical Oxygen Demand (BOD_5)	mg/L	Daily Max	45	6.8	14/3	45	TOGS 1.2.1	-	See Dissolved Oxygen			-	6 NYCRR Part 703.3	-	TBEL

Existing effluent quality was set to the 99th percentile based on monthly DMRs submitted by the facility for the period of 01/01/2021 - 12/31/2024. Nondetects were set to the reported detection level.

TBELs
Consistent with TOGS 1.2.1, a daily maximum TBEL of 45 mg/L reflects the available treatment technology listed in Attachment C.

WQBELs
Given the available dilution, an effluent limitation equal to the TBEL is protective of the narrative water quality standards. Please see justification and modeling results for dissolved oxygen.

Basis of Permit Condition
The TBEL is specified in the draft permit and is continued from the previous permit.

Outfall #	003	**Description of Wastewater:** Stormwater Runoff from Main Apron Area, Aircraft Deicing
		Type of Treatment: NA

Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis		
Total Suspended Solids (TSS)	mg/L	Daily Max	45	29	17/3	45	TOGS 1.2.1	-	None from sewage, industrial wastes or other wastes that will cause deposition or impair the waters for their best usages.				6 NYCRR Part 703.2	-	TBEL

Existing effluent quality was set to the 99th percentile based on monthly DMRs submitted by the facility for the period of 01/01/2021 - 12/31/2024. Nondetects were set to the reported detection level.

TBELs
Consistent with TOGS 1.2.1, a daily maximum TBEL of 45 mg/L reflects the available treatment technology listed in Attachment C.

WQBELs
Given the available dilution, an effluent limitation equal to the TBEL is protective of the narrative water quality standards.

Basis of Permit Condition
The TBEL is specified in the draft permit and is continued from the previous permit.

Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis		
Oil & Grease	mg/L	Daily Max	15	11	13/13	15	TOGS 1.2.1	-	No residue attributable to sewage, industrial wastes or other wastes, nor visible oil film nor globules of grease.				6 NYCRR Part 703.2	-	TBEL

Existing effluent quality was set to the 99th percentile based on monthly DMRs submitted by the facility for the period of 01/01/2021 - 12/31/2024. Nondetects were set to the reported detection level.

TBELs
Consistent with TOGS 1.2.1, a daily maximum TBEL of 15 mg/L reflects the available treatment technology listed in Attachment C.

WQBELs
Given the available dilution, an effluent limitation equal to the TBEL is protective of the narrative water quality standards.

Basis of Permit Condition
The TBEL is specified in the draft permit and is continued from the previous permit.

Outfall #	003	**Description of Wastewater:** Stormwater Runoff from Main Apron Area, Aircraft Deicing
		Type of Treatment: NA

Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis		
Propylene Glycol	mg/L	Daily Max	Monitor	1.4	1/17	Monitor	-	-	0.0133	-	-	-	-	-	Monitor

Because of all the nondetects (16 of 17), existing effluent quality was set to average from monthly DMRs submitted by the facility for the period of 01/01/2021 - 12/31/2024. Nondetects were set to the reported detection level.

TBELs
There are no TBELs developed for propylene glycol in TOGS 1.2.1, Attachment C. Monitoring is specified for informational purposes.

WQBELs
There are no water quality standards or guidance values for propylene glycol applicable to Class C waterbodies. Assuming an ambient background concentration of 0 mg/L, with an A(C) dilution ratio of 100:1 (maximum allowable), the projected instream concentration (C_r) is:

$$C_r = \frac{C_d}{D} = \frac{1.4}{100} = 0.014\ mg/L$$

Monitor only is appropriate because there are no applicable water quality standards.

Basis of Permit Condition
Monitoring is specified in the draft permit and is continued from the previous permit.

Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis		
Total Mercury	ng/L	Daily Max	-	< 0.5	1/1	-	-	-	-	0.7	H(FC)	-	-	-	DOW 1.3.10

Existing discharge data is from the monitoring results submitted with the permit application.

Please see the Mercury section of this fact sheet for the mercury multiple discharge variance (MDV) and minimization program.

Outfall #	003	**Description of Wastewater:** Stormwater Runoff from Main Apron Area, Aircraft Deicing														
		Type of Treatment: NA														
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement	
			Permit Limit	Existing Effluent Quality	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis			
Additional Pollutants Detected																
Emerging Contaminants PFOA	ng/L	Daily Max	-	12	1/1	-	-	-	-	-	-	-	-	-	-	

Existing discharge data is from the monitoring results submitted with the permit application.

TBELs
Not applicable.

WQBELs
There are no water quality standards or guidance values for PFOA applicable to Class C waterbodies.

Basis of Permit Condition
In accordance with TOGS 1.3.13, PFOA/PFOS sources will be handled by federal/state remediation programs under USEPA/NYSDEC oversite and not through the SPDES permitting program. Please see the Emerging Contaminant Monitoring section of this fact sheet for further information.

Outfall #	003	**Description of Wastewater:** Stormwater Runoff from Main Apron Area, Aircraft Deicing
		Type of Treatment: NA

Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis		
Emerging Contaminants PFOS	ng/L	Daily Max	-	180	1/1	-	-	-	11.2	160,000	A(C) Guidance Value	16,000,000	TOGS 1.1.1 2023 Addendum	-	-

Existing discharge data is from the monitoring results submitted with the permit application.

TBELs
Not applicable.

WQBELs
The projected receiving water concentration (C_r) was calculated using the measured effluent concentration of 180 ng/L, a multiplier of 6.2, a dilution ratio of 100:1, and an assumed negligible upstream ambient concentration. The multiplier was selected from EPA's Technical Support Document Chapter 3.3, Table 3-2, with a coefficient of variation of 0.6 (default), to account for the limited number of samples.

$$C_r = \frac{C_d}{D} = \frac{(180\ x\ 6.2)}{100} = 11.2\ ng/L$$

With an allowable dilution of 100:1 and a guidance value (GV) of 160 ug/L which is equal to 160,000 ng/L (TOGS 1.1.1, 2023 Addendum) for Class C waterbodies, the calculated WQBEL is:

$$C_{eff} = (C_{wqs})D$$

$$C_{eff} = 160{,}000 \text{ x } 100 = 16{,}000{,}000 \text{ ng/L}$$

A comparison of the projected receiving water concentration to the WQBEL indicates no reasonable potential to cause or contribute to an exceedance to the guidance value.

Basis of Permit Condition
In accordance with TOGS 1.3.13, PFOA/PFOS sources will be handled by federal/state remediation programs under USEPA/NYSDEC oversite and not through the SPDES permitting program. Please see the Emerging Contaminant Monitoring section of this fact sheet for further information.

Outfall #	003	**Description of Wastewater:** Stormwater Runoff from Main Apron Area, Aircraft Deicing
		Type of Treatment: NA

Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis		
Emerging Contaminants PFAS Chemicals	ng/L	-	-	-	1/1	-	-	-	-	-	-	-	-	-	-

Per- and Polyfluoroalkyl Substances (PFAS) is a large group of chemicals that includes PFOA and PFOS. The following additional PFAS chemicals were detected with the monitoring results submitted with the permit application.

Pollutant	Result (ng/L)
Perfluorobutanoic acid (PFBA)	8.1
Perfluoropentanoic acid (PFPeA)	29
Perfluorohexanoic acid (PFHxA)	23
Perfluoroheptanoic acid (PFHpA)	9.7
Perfluorobutanesulfonic acid (PFBS)	3.3
Perfluoropentanesulfonic acid (PFPeS)	4.4
Perfluorohexanesulfonic acid (PFHxS)	80
Perfluoroheptanesulfonic acid (PFHpS)	2.0
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	88
Perfluorooctanesulfonamide (PFOSA)	7.7

In accordance with TOGS 1.3.13, PFOA/PFOS sources will be handled by federal/state remediation programs under USEPA/NYSDEC oversite and not through the SPDES permitting program. Please see the Emerging Contaminant Monitoring section of this fact sheet for further information.

APPENDIX: REGULATORY AND TECHNICAL BASIS OF PERMIT AUTHORIZATIONS

The Appendix is meant to supplement the fact sheet for multiple types of SPDES permits. Portions of this Appendix may not be applicable to this specific permit.

Regulatory References

The provisions of the permit are based largely upon 40 CFR 122 subpart C and 6 NYCRR Part 750 and include monitoring, recording, reporting, and compliance requirements, as well as general conditions applicable to all SPDES permits. Below are the most common citations for the requirements included in SPDES permits:

- Clean Water Act (CWA) 33 section USC 1251 to 1387
- Environmental Conservation Law (ECL) Articles 17 and 70
- Federal Regulations
  - 40 CFR, Chapter I, subchapters D, N, and O
- State environmental regulations
  - 6 NYCRR Part 621
  - 6 NYCRR Part 750
  - 6 NYCRR Parts 700 - 704 – Best use and other requirements applicable to water classes
  - 6 NYCRR Parts 800 – 941 - Classification of individual surface waters
- NYSDEC water program policy, referred to as Technical and Operational Guidance Series (TOGS)
- USEPA Office of Water Technical Support Document for Water Quality-based Toxics Control, March 1991, Appendix E

The following is a quick guide to the references used within the fact sheet:

SPDES Permit Requirements	Regulatory Reference
Anti-backsliding	6 NYCRR 750-1.10(c)
Best Management Practices (BMPS) for CSOs	6 NYCRR 750-2.8(a)(2)
Environmental Benefits Permit Strategy (EBPS)	6 NYCRR 750-1.18, NYS ECL 17-0817(4), TOGS 1.2.2 (revised January 25,2012)
Exceptions for Type I SSO Outfalls (bypass)	6 NYCRR 750-2.8(b)(2), 40 CFR 122.41
Mercury Multiple Discharge Variance	Division of Water Program Policy 1.3.10 (DOW 1.3.10)
Mixing Zone and Critical Water Information	TOGS 1.3.1 & Amendments
PCB Minimization Program	40 CFR Part 132 Appendix F Procedure 8, 6 NYCRR 750-1.13(a) and 750-1.14(f), and TOGS 1.2.1
Pollutant Minimization Program (PMP)	6 NYCRR 750-1.13(a), 750-1.14(f), TOGS 1.2.1
Schedules of Compliance	6 NYCRR 750-1.14
Sewage Pollution Right to Know (SPRTK)	NYS ECL 17-0826-a, 6 NYCRR 750-2.7
State Administrative Procedure Act (SAPA)	State Administrative Procedure Act Section 401(2), 6 NYCRR 621.11(l)
State Environmental Quality Review (SEQR)	6 NYCRR Part 617
USEPA Effluent Limitation Guidelines (ELGs)	40 CFR Parts 405-471
USEPA National CSO Policy	33 USC Section 1342(q)
Whole Effluent Toxicity (WET) Testing	TOGS 1.3.2
General Provisions of a SPDES Permit Department Request for Additional Information	NYCRR 750-2.1(i)

Outfall and Receiving Water Information

Impaired Waters

The NYS 303(d) List of Impaired/TMDL Waters identifies waters where specific best usages are not fully supported. The state must consider the development of a Total Maximum Daily Load (TMDL) or other strategy to reduce the input of the specific pollutant(s) that restrict waterbody uses, in order to restore and protect such uses. SPDES permits must include effluent limitations necessary to implement a waste load allocation (WLA) of an EPA-approved TMDL (6 NYCRR 750-1.11(a)(5)(ii)), if applicable. In accordance with 6 NYCRR 750-1.13(a), permittees discharging to waters which are on the list but do not yet have a TMDL developed may be required

to perform additional monitoring for the parameters causing the impairment. Accurate monitoring data is needed to determine the existing capabilities of the wastewater treatment plants and to assure that WLAs are allocated equitably.

Interstate Water Pollution Control Agencies

Some POTWs may be subject to regulations of interstate basin/compact agencies including: Interstate Sanitation Commission (ISC), International Joint Commission (IJC), Delaware River Basin Commission (DRBC), Ohio River Valley Water Sanitation Commission (ORSANCO), and the Susquehanna River Basin Commission (SRBC). Generally, basin commission requirements focus principally on water quality and not treatment technology. However, interstate/compact agency regulations for the ISC, IJC, DRBC and NYC Watershed contain explicit effluent limits which must be addressed during permit drafting. 6 NYCRR 750-2.1(d) requires SPDES permits for discharges that originate within the jurisdiction of an interstate water pollution control agency, to include any applicable effluent standards or water quality standards (WQS) promulgated by that interstate agency.

Existing Effluent Quality

The existing effluent quality is determined from a statistical evaluation of effluent data in accordance with TOGS 1.2.1 and the USEPA Office of Water, Technical Support Document for Water Quality-based Toxics Control, March 1991, Appendix E (TSD). The existing effluent quality is equal to the 95th (monthly average) and 99th (daily maximum) percentiles of the lognormal distribution of existing effluent data. When there are greater than three non-detects, a delta-lognormal distribution is assumed, and delta-lognormal calculations are used to determine the monthly average and daily maximum pollutant concentrations. Statistical calculations are not performed for parameters where there are less than ten data points. If additional data is needed, a monitoring requirement may be specified either through routine monitoring or a short-term high intensity monitoring program. The Pollutant Summary Table identifies the number of sample data points available.

Permit Requirements

Basis for Effluent Limitations

Sections 101, 301, 304, 308, 401, 402, and 405 of the CWA and Titles 5, 7, and 8 of Article 17 ECL, as well as their implementing federal and state regulations, and related guidance, provide the basis for the effluent limitations and other conditions in the permit.

When conducting a full technical review of an existing permit, the previous effluent limitations form the basis for the next permit. Existing effluent quality is evaluated against the existing effluent limitations to determine if these should be continued, revised, or deleted. Generally, existing limitations are continued unless there are changed conditions at the facility, the facility demonstrates an ability to meet more stringent limitations, or in response to updated regulatory requirements. Pollutant monitoring data is also reviewed to determine the presence of additional contaminants that should be included in the permit based on a reasonable potential analysis to cause or contribute to a water quality standards violation.

Anti-backsliding

Anti-backsliding requirements are specified in the CWA sections 402(o) and 303(d)(4), ECL 17-0809, and regulations at 40 CFR 122.44(*l*) and 6 NYCRR 750-1.10(c) and (d). Generally, the relaxation of effluent limitations in permits is prohibited unless one of the specified exceptions applies, which will be cited on a case-by-case basis in this fact sheet. Consistent with current case law[7] and USEPA interpretation[8] anti-backsliding requirements do not apply should a revision to the final effluent limitation take effect before the scheduled date of compliance for that final effluent limitation.

[7] American Iron and Steel Institute v. Environmental Protection Agency, 115 F.3d 979, 993 n.6 (D.C. Cir. 1997)
[8] U.S. EPA, Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California; 65 Fed. Reg. 31682, 31704 (May 18, 2000); Proposed Water Quality Guidance for the Great Lakes System, 58 Fed. Reg. 20802, 20837 & 20981 (April 16, 1993)

Antidegradation Policy

New York State implements the antidegradation portion of the CWA based upon two documents: (1) Organization and Delegation Memorandum #85-40, "Water Quality Antidegradation Policy" (September 9, 1985); and, (2) TOGS 1.3.9, "Implementation of the NYSDEC Antidegradation Policy – Great Lakes Basin (Supplement to Antidegradation Policy dated September 9, 1985) (undated)." The permit for the facility contains effluent limitations which ensure that the existing best usage of the receiving waters will be maintained. To further support the antidegradation policy, SPDES applications have been reviewed in accordance with the State Environmental Quality Review Act (SEQR) as prescribed by 6 NYCRR Part 617.

Effluent Limitations

In developing a permit, the Department determines the technology-based effluent limitations (TBELs) and then evaluates the water quality expected to result from technology controls to determine if any exceedances of water quality criteria in the receiving water might result. If there is a reasonable potential for exceedances of water quality criteria to occur, water quality-based effluent limitations (WQBELs) are developed. A WQBEL is designed to ensure that the water quality standards of receiving waters are met. In general, the CWA requires that the effluent limitations for a particular pollutant are the more stringent of either the TBEL or WQBEL.

Technology-based Effluent Limitations (TBELs) for Industrial Facilities

A TBEL requires a minimum level of treatment for industrial point sources based on currently available treatment technologies or Best Management Practices (BMPs). CWA sections 301(b) and 402, ECL sections 17-0509, 17-0809 and 17-0811, and 6 NYCRR 750-1.11 require technology-based controls on effluents. TBELs are set based upon an evaluation of New Source Performance Standards (NSPS), Best Available Technology Economically Achievable (BAT), Best Conventional Pollutant Control Technology (BCT), Best Practicable Technology Currently Available (BPT), and Best Professional Judgment (BPJ).

USEPA Effluent Limitation Guidelines (ELGs) Applicable to Facility

In many cases, BPT, BCT, BAT and NSPS limitations are based on effluent guidelines developed by USEPA for specific industries, as promulgated under 40 CFR Parts 405-471. Applicable guidelines, pollutants regulated by these guidelines, and the effluent limitation derivation for facilities subject to these guidelines is in the USEPA Effluent Limitation Guideline Calculations Table.

Best Professional Judgement (BPJ)

For substances that are not explicitly limited by regulations, the permit writer is authorized to use BPJ in developing TBELs. Consistent with section 402(a)(1) of the CWA, and NYS ECL section 17-0811, the DEC is authorized to issue a permit containing "any further limitations necessary to ensure compliance with water quality standards adopted pursuant to state law". BPJ limitations may be set on a case-by-case basis using any reasonable method that takes into consideration the criteria set forth in 40 CFR 125.3. Applicable state regulations include 6 NYCRR 750-1.11. The BPJ limitation considers the existing technology present at the facility, the statistically calculated existing effluent quality for that parameter, and any unique or site-specific factors relating to the facility. Technology limitations generally achievable for various treatment technologies are included in TOGS 1.2.1, Attachment C. These limitations may be used for the listed parameters when the technology employed at the facility is listed.

Water Quality-Based Effluent Limitations (WQBELs)

In addition to the TBELs, permits must include additional or more stringent effluent limitations and conditions, including those necessary to protect water quality. CWA sections 101 and 301(b)(1)(C), 40 CFR 122.44(d)(1), and 6 NYCRR Parts 750-1.11 require that permits include limitations for all pollutants or parameters which are or may be discharged at a level which may cause or contribute to an exceedance of any State water quality standard adopted pursuant to NYS ECL 17-0301. Additionally, 6 NYCRR Part 701.1 prohibits the discharge of pollutants that will cause impairment of the best usages of the receiving

water as specified by the water classifications at the location of discharge and at other locations that may be affected by such discharge. Water quality standards can be found under 6 NYCRR Parts 700-704. The limitations must be stringent enough to ensure that water quality standards are met at the point of discharge and in downstream waters and must be consistent with any applicable WLA which may be in effect through a TMDL for the receiving water. These and other requirements are summarized in TOGS 1.1.1, 1.3.1, 1.3.2, 1.3.5 and 1.3.6. The DEC considers a mixing zone analysis, critical flows, and reasonable potential analysis when developing a WQBEL.

Mixing Zone Analyses

In accordance with TOGS 1.3.1., the DEC may perform additional analysis of the mixing condition between the effluent and the receiving waterbody. Mixing zone analyses using plume dispersion modeling are conducted in accordance with the following:

- EPA Technical Support Document for Water Quality-Based Toxics Control (March 1991)
- EPA Region VIII's "Mixing Zones and Dilution Policy" (December 1994)
- NYSDEC TOGS 1.3.1, Total Maximum Daily Loads and Water Quality-Based Effluent Limitations (July 1996)
- CORMIX v11.0" (2019)

Critical Flows

In accordance with TOGS 1.2.1 and 1.3.1, WQBELs are developed using dilution ratios that relate the critical low flow condition of the receiving waterbody to the critical effluent flow. The critical low flow condition used in the dilution ratio will be different depending on whether the limitations are for aquatic or human health protection. For chronic aquatic protection, the critical low flow condition of the waterbody is typically represented by the 7Q10 flow and is calculated as the lowest average flow over a 7-day consecutive period within 10 years. For acute aquatic protection, the critical low flow condition is typically represented by the 1Q10 and is calculated as the lowest 1-day flow within 10 years. However, NYSDEC considers using 50% of the 7Q10 to be equivalent to the 1Q10 flow. For the protection of human health, the critical low flow condition is typically represented by the 30Q10 flow and is calculated as the lowest average flow over a 30-day consecutive period within 10 years. However, NYSDEC considers using 1.2 x 7Q10 to be equivalent to the 30Q10. The 7Q10 or 30Q10 flow is used with the critical effluent flow to calculate the dilution ratio. The critical effluent flow can be the maximum daily flow reported on the permit application, the maximum of the monthly average flows from discharge monitoring reports for the past three years, or the facility design flow. When more than one applicable standard exists for aquatic or human health protection for a specific pollutant, a reasonable potential analysis is conducted for each applicable standard and corresponding critical flow to ensure effluent limitations are sufficiently stringent to ensure all applicable water quality standards are met as required by 40 CFR 122.44(d)(1)(i). For brevity, the pollutant summary table reports the results of the most conservative scenario.

Reasonable Potential Analysis (RPA)

The Reasonable Potential Analysis (RPA) is a statistical estimation process, outlined in the 1991 USEPA Technical Support Document for Water Quality-based Toxics Control (TSD), Appendix E. This process uses existing effluent quality data and statistical variation methodology to project the maximum amounts of pollutants that could be discharged by the facility. This projected instream concentration (PIC) is calculated using the appropriate ratio and compared to the water quality standard (WQS). When the RPA process determines the WQS may be exceeded, a WQBEL is required. The procedure for developing WQBELs includes the following steps:

1. Identify the pollutants present in the discharge(s) based upon existing data, sampling data collected by the permittee as part of the permit application or a short-term high intensity monitoring program, or data gathered by the DEC.

2. Identify water quality criteria applicable to these pollutants.

3. Determine if WQBELs are necessary (i.e. reasonable potential analysis (RPA)). The RPA will utilize the procedure outlined in Chapter 3.3.2 of EPA's Technical Support Document (TSD). As outlined in the TSD, for parameters with limited effluent data the RPA may include multipliers to account for effluent variability,

4. Calculate WQBELs (if necessary). Factors considered in calculating WQBELs include available dilution of effluent in the receiving water, receiving water chemistry, and other pollutant sources.

The DEC uses modeling tools to estimate the expected concentrations of the pollutant in the receiving water and develop WQBELs. These tools were developed in part using the methodology referenced above. If the estimated concentration of the pollutant in the receiving water is expected to exceed the ambient water quality standard or guidance value (i.e. numeric interpretation of a narrative water quality standard), then there is a reasonable potential that the discharge may cause or contribute to an exceedance of any State water quality standard adopted pursuant to NYS ECL 17-0301. If a TMDL is in place, the facility's WLA for that pollutant is applied as the WQBEL.

For carbonaceous and nitrogenous oxygen demanding pollutants, the DEC uses a model which incorporates the Streeter-Phelps equation. The equation relates the decomposition of inorganic and organic materials along with oxygen reaeration rates to compute the downstream dissolved oxygen concentration for comparison to water quality standards.

The Division of Water has been using the TMDL approach in permit limit development for the control of toxic substances. Since the early 1980's, the loading capacity for specific pollutants has been determined for each drainage basin. Water quality-limiting segments and pollutants have been identified, TMDLs, wasteload allocations and load allocations have been developed, and permits with water quality-based effluent limits have been issued. In accordance with TOGS 1.3.1, the Division of Water implements a Toxics Reduction Strategy which is committed to the application of the TMDL process using numeric, pollutant-specific water quality standards through the Watershed Approach. The Watershed Approach accounts for the cumulative effect of multiple discharges of conservative toxic pollutants to ensure water quality standards are met in downstream segments.

Whole Effluent Toxicity (WET) Testing:

WET tests use small vertebrate and invertebrate species to measure the aggregate toxicity of an effluent. There are two different durations of toxicity tests: acute and chronic. Acute toxicity tests measure survival over a 96-hour test exposure period. Chronic toxicity tests measure reductions in survival, growth, and reproduction over a 7-day exposure. TOGS 1.3.1 includes guidance for determining when aquatic toxicity testing should be included in SPDES permits. The authority to require toxicity testing is in 6NYCRR 702.9. TOGS 1.3.2 describes the procedures which should be followed when determining whether to include toxicity testing in a SPDES permit and how to implement a toxicity testing program. Per TOGS 1.3.2, WET testing may be required when any one of the following seven criteria are applicable:

1. There is the presence of substances in the effluent for which ambient water quality criteria do not exist.

2. There are uncertainties in the development of TMDLs, WLAs, and WQBELs, caused by inadequate ambient and/or discharge data, high natural background concentrations of pollutants, available treatment technology, and other such factors.

3. There is the presence of substances for which WQBELs are below analytical detectability.

4. There is the possibility of complex synergistic or additive effects of chemicals, typically when the number of metals or organic compounds discharged by the permittee equals or exceeds five.

5. There are observed detrimental effects on the receiving water biota.

6. Previous WET testing indicated a problem.

7. POTWs which exceed a discharge of 1 MGD. Facilities of less than 1 MGD may be required to test, e.g., POTWs <1 MGD which are managing industrial pretreatment programs.

Minimum Level of Detection

Pursuant to 40 CFR 122.44(i)(1)(iv) and 6 NYCRR 750-2.5(d), SPDES permits must contain monitoring requirements using sufficiently sensitive test procedures approved under 40 CFR Part 136. A method is "sufficiently sensitive" when the method's minimum level (ML) is at or below the level of the effluent limitation established in the permit for the measured pollutant parameter; or the lowest ML of the analytical methods approved under 40 CFR Part 136. The ML represents the lowest level that can be measured within specified limitations of precision and accuracy during routine laboratory operations on most effluent matrices. When establishing effluent limitations for a specific parameter (based on technology or water quality requirements), it is possible that the calculated limitation will fall below the ML established by the approved analytical method(s). In these instances, the calculated limitation is included in the permit with a compliance level set equal to the ML of the most sensitive method.

Monitoring Requirements

CWA section 308, 40 CFR 122.44(i), 6 NYCRR 750-1.13, and 750-2.5 require that monitoring be included in permits to determine compliance with effluent limitations. Additional effluent monitoring may also be required to gather data to determine if effluent limitations may be required. The permittee is responsible for conducting the monitoring and reporting results on Discharge Monitoring Reports (DMRs). The permit contains the monitoring requirements for the facility. Monitoring frequency is based on the minimum sampling necessary to adequately monitor the facility's performance and characterize the nature of the discharge of the monitored flow or pollutant. Variable effluent flows and pollutant levels may be required to be monitored at more frequent intervals than relatively constant effluent flow and pollutant levels (6 NYCRR 750-1.13). For industrial facilities, sampling frequency is based on guidance provided in TOGS 1.2.1. For municipal facilities, sampling frequency is based on guidance provided in TOGS 1.3.3.

Other Conditions

Mercury

The multiple discharge variance (MDV) for mercury was developed in accordance with 6 NYCRR 702.17(h) "to address widespread standard or guidance value attainment issues including the presence of a ubiquitous pollutant or naturally high levels of a pollutant in a watershed." The first MDV was issued in October 2010, and subsequently revised and reissued in 2015; each subsequent iteration of the MDV is designed to build off the previous version, to make reasonable progress towards the water quality standard (WQS) of 0.7 ng/L dissolved mercury. The MDV is necessary because human-caused conditions or sources of mercury prevent attainment of the WQS and cannot be remedied (i.e., mercury is ubiquitous in New York waters at levels above the WQS and compliance with a water quality based effluent limitation (WQBEL) for mercury cannot be achieved with demonstrated effluent treatment technologies). The DEC has determined that the MDV is consistent with the

protection of public health, safety, and welfare. During the effective period of this MDV, any increased risks to human health are mitigated by fish consumption advisories issued periodically by the NYSDOH.

All surface water SPDES permittees are eligible for authorization by the MDV provided they meet the requirements specified in DOW 1.3.10.

Schedules of Compliance

Schedules of compliance are included in accordance with 40 CFR Part 132 Attachment F, Procedure 9, 40 CFR 122.47 and 6 NYCRR 750-1.14. Schedules of compliance are intended to, in the shortest reasonable time, achieve compliance with applicable effluent standards and limitations, water quality standards, and other applicable requirements. Where the time for compliance is more than nine months, the schedule of compliance must include interim requirements and dates for their achievement. If the time necessary to complete the interim milestones is more than nine months, and not readily divisible into stages for completion, progress reports must be required.

Schedule(s) of Additional Submittals

Schedules of Additional Submittals are used to summarize the deliverables required by the permit not identified in a separate Schedule of Compliance.

Best Management Practices (BMP) for Industrial Facilities

BMP plans are authorized for inclusion in NPDES permits pursuant to Sections 304(e) and 402 (a)(1) of the Clean Water Act, and 6 NYCRR 750-1.14(f). The regulations pertaining to BMPs are promulgated under 40 CFR Part 125, Subpart K. These regulations specifically address surface water discharges.