

**Metropolitan Washington Airports Authority****ORDERS & INSTRUCTIONS**Date: 10/14/14

SUBJECT: AIRCRAFT DEICING LOCATIONS, FLUID USE, AND REPORTING AT  
WASHINGTON DULLES INTERNATIONAL AIRPORT

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**1. PURPOSE**

This Orders & Instructions (O&I) establishes aircraft deicing procedures, locations, fluid use, and reporting requirements to comply with the Washington Dulles International Airport (Dulles Airport) stormwater discharge permit.

**2. DISTRIBUTION**

This O&I is distributed to Dulles Airport Department Managers and above, Office of Engineering Department Managers and above, all air carriers, Fixed Base Operators (FBOs), Ground Service Handlers, and Snow Removal Companies at Dulles Airport.

**3. CANCELLATION**

This O&I supersedes and cancels O&I IAD 5-2-2C, *Aircraft Deicing Locations, Fluid Use, And Reporting At Washington Dulles International Airport*, dated September 30, 2009. It also updates the required Aircraft Deicing Authorization Application form, Aircraft Deicing Fluid (ADF) Usage Report form, and the Aircraft Deicing Areas map.

**4. BACKGROUND**

In accordance with the Federal National Pollutant Discharge Elimination System (NPDES) regulations, Washington Dulles International Airport is required to obtain a permit for stormwater discharges from Airport activities. The Environmental Protection Agency (EPA) has delegated its NPDES compliance authority to the Commonwealth of Virginia. Within the Commonwealth, the Virginia Department of Environmental Quality (VADEQ) is the administering agency for the Virginia Pollutant Discharge Elimination System (VPDES) program. Typically, stormwater runoff contaminants from the Airport are associated with winter deicing activities and the use and storage of jet fuels and maintenance chemicals. The Airport remains compliant with the stormwater permit through a variety of permit conditions. Most notably is the collection and analysis of stormwater samples, the reporting of glycol usage, the recovery and disposal of aircraft deicing fluids and the coordination with VADEQ and the Fairfax County Water Authority (FCWA) during aircraft deicing events.

Although the glycol product used at the Airport since 1997 has been restricted to a propylene-based glycol, and is not considered hazardous, the Metropolitan Washington Airports Authority (Airports Authority) is required by the stormwater permit to recover and dispose of glycol from deicing operations. During winter operations, the air carriers deice at gate locations and centralized pad locations. Deicing activities also occur at the cargo aprons and FBOs. The Airports Authority has a Glycol Recovery Contract in place to recover glycol from the airfield application areas. This is done using Glycol Recovery Vehicles (GRVs), by installing inflatable bladders in storm drains, and by sectioning off storm drainage systems using existing valves. Since recovering glycol contaminated runoff from the airfield becomes difficult because of the size of the area, our goal is to recover as much deicing fluid at its point of application rather than allowing the fluids to dilute as part of the stormwater runoff.

## 5. GENERAL PROCEDURES AND LOCATIONS

- a. Ban on Use of Ethylene Glycol and Urea – This ban remains in effect since its use would be a direct violation of our VPDES stormwater permit and may incur fines. The Airports Authority prohibits the use of ethylene glycol at Dulles Airport. In addition, in accordance with EPA Regulation 40 CFR 449, there shall be no discharge of airfield pavement deicers containing urea. The Airports Authority prohibits the use of urea at Dulles Airport.
- b. Authorization and Reporting Glycol Usage – All companies performing deicing at Dulles Airport are required to obtain an Aircraft Deicing Authorization for each winter season.
  - (1) By September 15 of each year, each company that deices aircraft directly shall submit the Aircraft Deicing Authorization Application (Appendix A) to the Government Programs Engineer (GPE), Engineering and Maintenance Department. Deicing companies and airlines that perform deicing for two or more airlines must submit an Aircraft Deicing Authorization Application with an Airline Information Sheet signed by each airline for which they will perform deicing operations. The deicing company is only authorized to perform deicing for those airlines with a completed Airline Information Sheet. The Aircraft Deicing Authorization Application must then be approved by the Engineering and Maintenance Department. If changes are required, the application will be returned to the company with comments. If the application is approved, the company will receive a certification that will authorize it to conduct deicing activities at Dulles Airport.
  - (2) Each company shall report its specific deicing activities monthly, using the enclosed ADF Usage Report form (Appendix B). If deicing activities for the air carrier are performed by a company other than their own, it is still the responsibility of the air carrier to ensure the form is completed and submitted by the 10<sup>th</sup> of the following month and within three (3) days after

any major deicing event (snow greater than 1 inch and any ice accumulation).

- (3) Failure to comply with any of the O&I requirements will result in revocation of the Aircraft Deicing Authorization. If the company's Aircraft Deicing Authorization is revoked, the company is no longer authorized to apply aircraft deicing fluid until the authorization is reissued.

c. Approved Deicing Locations – During past winter seasons, the Engineering and Maintenance Department's representatives sampled at numerous outfalls on the Airport to identify the highest concentrations of glycol runoff. They also verified that the drains that had been closed or blocked were properly holding in all areas listed below. Any drains that were found not to be adequate were adjusted prior to the next season. Appendix C provides the approved location of glycol application areas (i.e., Areas 1 – 8, Centralized Deicing Pad, FBOs, and Cargo Ramps) that were used or may be used in the future. No other areas are allowed to be used for applying glycol, unless approved by Airport Operations and notification to the Glycol Recovery Contractor is made before application.

- (1) Area 1 – Deicing operations for aircraft on the Z Gates may occur on the gate. There is a trench drain at the rear of the aircraft that is closed and the glycol runoff is captured and transported to storage tanks.
- (2) Area 2 – Deicing operations for the north side of Concourses A and B may occur on the gate. The majority of the ramp is set up with drains that eliminate glycol from entering the storm system. Aircraft shall be positioned in a manner that ensures that no portion of the aircraft overhangs the trench drains during deicing operations, unless deemed otherwise by the Engineering and Maintenance Department.
- (3) Area 3 – Deicing operations on the south side of Concourses A and B may occur on the gate. The majority of the ramp is set up with drains that eliminate glycol from entering the storm system. Aircraft shall be positioned in a manner that ensures that no portion of the aircraft overhangs the trench drains during deicing operations, unless deemed otherwise by the Engineering and Maintenance Department.
- (4) Area 4 – No centralized deicing on Taxiway D on the north side of Concourses C and D is allowed. On-gate deicing will be allowed only during frost events and minor events (snow less than 1 inch predicted). Aircraft deicing for safe-taxi (the application of aircraft deicing fluid necessary to remove snow or ice to prevent damage to a taxiing aircraft) shall be limited to 50 gallons of normalized ADF (aircraft deicing fluid less any water added by the manufacturer or company before aircraft deicing fluid application).

- (5) Area 5 – No centralized deicing allowed on Taxiway E on the south side of Concourses C and D. On-gate deicing will be allowed only during frost events and minor events (snow less than 1 inch predicted). Aircraft deicing for safe-taxi (the application of aircraft deicing fluid necessary to remove snow or ice to prevent damage to a taxiing aircraft) shall be limited to 50 gallons of normalized ADF (aircraft deicing fluid less any water added by the manufacturer or company before aircraft deicing fluid application).
- (6) Area 6 – Centralized deicing operations can occur on the remote gates along the north side of Taxiway F with prior approval from Airport Operations. The majority of the ramp is set up with drains that eliminate glycol from entering the storm system. Notification to Airport Operations and the Glycol Recovery Contractor is required prior to performing any deicing operations.
- (7) Area 7 – The 12/30 Run-Up block is designated as a centralized deicing pad. Notification to Airport Operations and the Glycol Recovery Contractor is required prior to performing any deicing operations at this location.
- (8) Area 8 – On-gate deicing on all sides of the Express Gates on Concourse A will be allowed only during frost events. On-gate deicing is prohibited for any snow and/or ice storms. Aircraft shall be positioned in a manner that does not allow for any portion of the aircraft to overhang the trench drains. Aircraft deicing for safe-taxi (the application of aircraft deicing fluid necessary to remove snow or ice to prevent damage to a taxiing aircraft) shall be limited to 50 gallons of normalized ADF (aircraft deicing fluid less any water added by the manufacturer or company before aircraft deicing fluid application) unless deemed otherwise by the Engineering and Maintenance Department.
- (9) Apron W – The centralized deicing pad between runways 1C/19C and 1L/19R. Notification to Airport Operations and the Glycol Recovery Contractor is required prior to performing any deicing operations at this location.
- (10) Cargo Area 1 – Area used by Cargo Operators and, occasionally, FBOs. Deicing may occur on the ramp after notification to Airport Operations and the Glycol Recovery Contractor.
- (11) Cargo Area 2 – Area used infrequently by Cargo Operators. Deicing may occur on the ramp after notification to Airport Operations and the Glycol Recovery Contractor.
- (12) North FBO Operations – Deicing may occur on the ramp after the drains are plugged and a GRV is on-site. Notification to Airport Operations and

the Glycol Recovery Contractor is required prior to the start of any deicing operations at this location.

- (13) East FBO Operations – Deicing may occur on the ramp after the drains are plugged and a GRV is onsite. Notification to Airport Operations and the Glycol Recovery Contractor is required prior to the start of any deicing operations.
- d. Prohibited Use of Aircraft Deicing Fluid – The use of aircraft deicing fluid in dry weather is prohibited, except for frost. The use of aircraft deicing fluid to deice any equipment other than aircraft is prohibited, including but not limited to, jet-bridges, ground service equipment, and pavement without prior approval from the Engineering and Maintenance Department.
- e. Snow Removal Procedures – Any deviation must be approved by Airport Operations, the Snow Desk, and the Engineering and Maintenance Department.
  - (1) The snow removal on the ramps and gates will require the Snow Removal Contractor(s) to haul the clean snow to an area designated by Airport Operations where it can melt. Mechanical melting of clean snow only will be allowed on top of trench drains designated by Airport Operations.
  - (2) Any ADF contaminated (dirty) snow collected by the Snow Removal Contractor from gate and ramps areas must be hauled to a location designated by Airport Operations. All snow from the dirty drain (closest to the concourse) side at all aircraft gates shall be considered contaminated and must be hauled to the dirty snow location, unless deemed otherwise by the Engineering & Maintenance Department.
- f. Post Snow/Ice Aircraft Deicing – Aircraft that remain through the duration of any snow and/or ice storm shall be deiced in accordance with the requirements of the deicing locations and the type of storm that occurred. When feasible, aircraft that will be remaining through the duration of any snow and/or ice storm should be relocated to a centralized deicing location.

## 6. AIRCRAFT DEICING PROCEDURES

- a. Compliance – All aircraft and airfield deicing operations will be conducted in accordance with Federal Aviation Administration (FAA) directives, advisories, aircraft manufacturer’s specifications, the Airport’s Storm Pollution Prevention Plan (SPPP) and Snow Plan, and this Orders and Instructions. FAA regulations and policies for safety and deicing facilities and controls include, but are not limited to:
  - (1) AC 150/5220-18A, Buildings for Storage and Maintenance of Airport Snow and Ice Control Equipment and Materials

- (2) AC 150/5200-30B, Airport Winter Safety and Operations
  - (3) AC 120-60B, Ground Deicing and Anti-icing Program
  - (4) AC 135-16, Ground Deicing and Anti-icing Training and Checking
  - (5) AC 120-58 Pilot Guide Large Aircraft Ground Deicing
- b. Aircraft Positioning – Aircraft shall be positioned in such a manner that the spray from deicing does not contaminate other vehicles or people (i.e., overspray on food trucks, loading trucks, ramp service vehicles or personnel). Aircraft shall be positioned on the pads and at the gates in a manner which ensures that any portion of the aircraft does not extend past the trench drains, if present.
  - c. Deicing with Aircraft Engines Running – Engines running during deicing operations is authorized only on Centralized Deicing Pads. All airlines conducting certified deicing operations with engines running must follow established company procedures.
  - d. Glycol Recovery – All deicing companies and airlines are required to notify Airport Operations and the Glycol Recovery Contractor prior to the start of any deicing activity, including frost. **The deicing company and/or airline shall wait for a recovery vehicle to arrive prior to the start of any fluid application or confirmation from the Glycol Recovery Contractor notification.**
  - e. Deicing Timeframe – Aircraft deicing shall occur no more than two hours prior to the aircraft’s scheduled departure time when the aircraft is being deiced on-gate.
7. PROCEDURES TO ELIMINATE THE DISCHARGE OF ADF DURING NORMAL OPERATIONS
- a. Spills – Spills of any kind (e.g., ADF, fuel, hydraulic fluid, etc.) must be reported immediately to Airport Operations at 703-572-2730, the Fire Department at 911 if flammable liquids are released, and the Engineering and Maintenance Department GPE at 703-572-2800. Spills must be contained and cleaned up by the responsible party as soon as possible, not to exceed three hours. Released ADF must be recovered by the Glycol Recovery Contractor.
  - b. Disposal of “Unused” or “Out-of-Spec” Fluids – The disposition of unused or out-of-spec fluids from deicing vehicles must be coordinated with Airport Operations and the Engineering and Maintenance Department GPE. Unused or out-of-spec fluids shall be recycled to the extent practicable. The Glycol Recovery Contractor may accept the material and will coordinate transfer locations for the material. Materials not acceptable for recycling must be disposed off-site at an appropriately permitted facility.

- c. Parking of Deicing Trucks – Deicing vehicles and support equipment shall be parked in designated parking places and shall not be parked in aircraft operating areas unless actively engaged in deice operations or in support of aircraft at the gate. Parking locations shall be approved by Airport Operations. Any leaking or ruptured truck must be taken out of service and repaired.
- d. Deicing Training – Deicing training will be performed in accordance with the Airport’s SPPP, which bans discharge of glycol in dry weather. Notification to Airport Operations, which in turn advises the Engineering and Maintenance Department GPEs, is required prior to commencement of any deicing training. Deicing training may be performed at any of the approved locations, but must use water only.

8. APPENDICES

- a. Aircraft Deicing Authorization Application (Appendix A)
- b. Aircraft Deicing Fluid Usage Report (Appendix B)
- c. Aircraft Deicing Areas (Appendix C)



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Christopher U. Browne  
Airport Manager  
Washington Dulles International Airport

10/14/14  
\_\_\_\_\_  
Date

Enclosures

Appendix A  
Aircraft Deicing Authorization Application



**METROPOLITAN WASHINGTON AIRPORTS AUTHORITY  
AIRCRAFT DEICING AUTHORIZATION APPLICATION  
WASHINGTON DULLES INTERNATIONAL AIRPORT**

An Aircraft Deicing Authorization (ADA) must be obtained by each airline that is performing its own deicing or by its contracted Deicing Company. An ADA is required to conduct deicing activities at Washington Dulles International Airport. The ADA application must be submitted by the Manager or authorized representative, and must be renewed annually. The application shall be submitted to the Metropolitan Washington Airports Authority (Airports Authority) by September 15. The application can be faxed to 703-572-0131. Upon submission, the ADA application shall be reviewed and either an ADA will be issued or comments will be returned. Any changes made to Deicing Activity after receiving an ADA must be submitted in writing within 10 business days. If you have any questions, contact Jennell Lowry (703-572-6918).

**Contact Information:**

Company Name: \_\_\_\_\_  
Manager Name: \_\_\_\_\_  
Phone Number: \_\_\_\_\_  
Email Address: \_\_\_\_\_  
Fax Number: \_\_\_\_\_  
Mailing Address: \_\_\_\_\_  
Office Location: \_\_\_\_\_

**Deicing Information:**

Contact Person\*: \_\_\_\_\_  
Phone Number: \_\_\_\_\_  
Fax Number: \_\_\_\_\_  
Email Address: \_\_\_\_\_

*I certify that all information in this application is correct. I understand that failure to follow the information provided in this application can result in loss of the Aircraft Deicing Authorization. I certify that the ADF Usage Tracking form shall be provided to the Airports Authority for each month by the 10<sup>th</sup> of the following month and within three (3) days after any major deicing event (snow greater than one inch and any ice accumulation). I understand that failure to comply with any of the Orders & Instruction: Aircraft Deicing requirements or any specialized requirements issued as part of my company's Aircraft Deicing Authorization can result in loss of the ADA.*

Manager Signature: \_\_\_\_\_ Date: \_\_\_\_\_

*I certify that urea shall not be used as a pavement deicer in accordance with the Airports Authority policy and the EPA regulation (40 CFR 449).*

Manager Signature: \_\_\_\_\_ Date: \_\_\_\_\_

\*Contact Person – the individual who will be responsible for sending the monthly glycol usage reports and can answer questions about the deicing operations

1. **Additional Airlines/Secondary Deicer**

Please list any other companies that will be deiced by your company:

Please list any company that will be used as a secondary deicer:

2. **Aircraft Deicing Fluid**

Please provide an inventory of the types of materials used for aircraft deicing activity. Please provide the manufacturer name, product name, and the ratio of mixture. For all chemicals used, please attach the Safety Data Sheet to this application.

**Type I Fluid:**

Manufacturer: \_\_\_\_\_

Product Name: \_\_\_\_\_

Ratio of Mixture: \_\_\_\_\_

**Type IV Fluid:**

Manufacturer: \_\_\_\_\_

Product Name: \_\_\_\_\_

Ratio of Mixture: \_\_\_\_\_

3. **Aircraft Deicing Equipment**

Please provide an inventory of the types of equipment used during aircraft deicing activities (i.e. Make and Model of Deicers).

4. **Aircraft Deicing Fluid Storage**

Please provide an inventory of fixed and mobile storage containers of aircraft deicing fluid. Please include type of container, size, and location of container for each fluid type.

5. **Pavement Deicing**  
Please provide an inventory of the types of materials used for pavement deicing activity. Please provide the manufacturer name and product name. For all chemicals used, please attach the Safety Data Sheet to this application.

Please describe the procedure for application of pavement deicer.

6. **Deicing Location(s)**  
Please provide a list of all possible deicing locations.

7. **Response to Frost and Minor Events**

Please describe the deicing procedures that would occur during a frost or minor event. This includes type of ADF used, equipment used, and locations.

8. **Response to Snow/Ice Event**

Please describe the deicing procedures that would occur during a snow/ice event. This includes type of aircraft deicing fluid used, equipment used, and locations.

**METROPOLITAN WASHINGTON AIRPORTS AUTHORITY  
AIRCRAFT DEICING AUTHORIZATION APPLICATION  
WASHINGTON DULLES INTERNATIONAL AIRPORT**

**AIRLINE INFORMATION SHEET:**

An Aircraft Deicing Authorization (ADA) must be obtained by each airline that is performing either its own deicing or by a contracted Deicing Company. The ADA application must be submitted and renewed annually. According to the information provided by the Deicing Company, this airline contracts their deicing activity to the Deicing Company. Since the basic information for the Deicing Company will be the same for all airlines they deice, the Airline Information Sheet is required by all airlines. Any airline that fails to complete and submit their Airline Information Sheet shall be excluded from the ADA for the Deicing Company. If you have any questions, contact Jennell Lowry (703-572-6918).

**Airline Name:** \_\_\_\_\_

**Contact Information:**

Manager Name: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Email Address: \_\_\_\_\_

Fax Number: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Office Location: \_\_\_\_\_

Is the Airline a Co-Permittee?  YES  NO

*The airline is required to be a co-permittee if deicing activities are to be performed on their aircraft.*

Are there any changes to the Deicing Company's deicing operations for this airline?

Does the Airline conduct any pavement deicing? If yes, please provide an inventory of the materials used (including Safety Data Sheet) and the procedure for applying.

*I certify that all information in this application is correct. I understand that \_\_\_\_\_ will be conducting deicing activities for my airline and that I will be contacted and held responsible if \_\_\_\_\_ fails to follow any requirements of the Airports Authority Orders & Instructions: Aircraft Deicing and any special requirements issued as part of the deicing company's Aircraft Deicing Authorization.*

Airline Manager's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

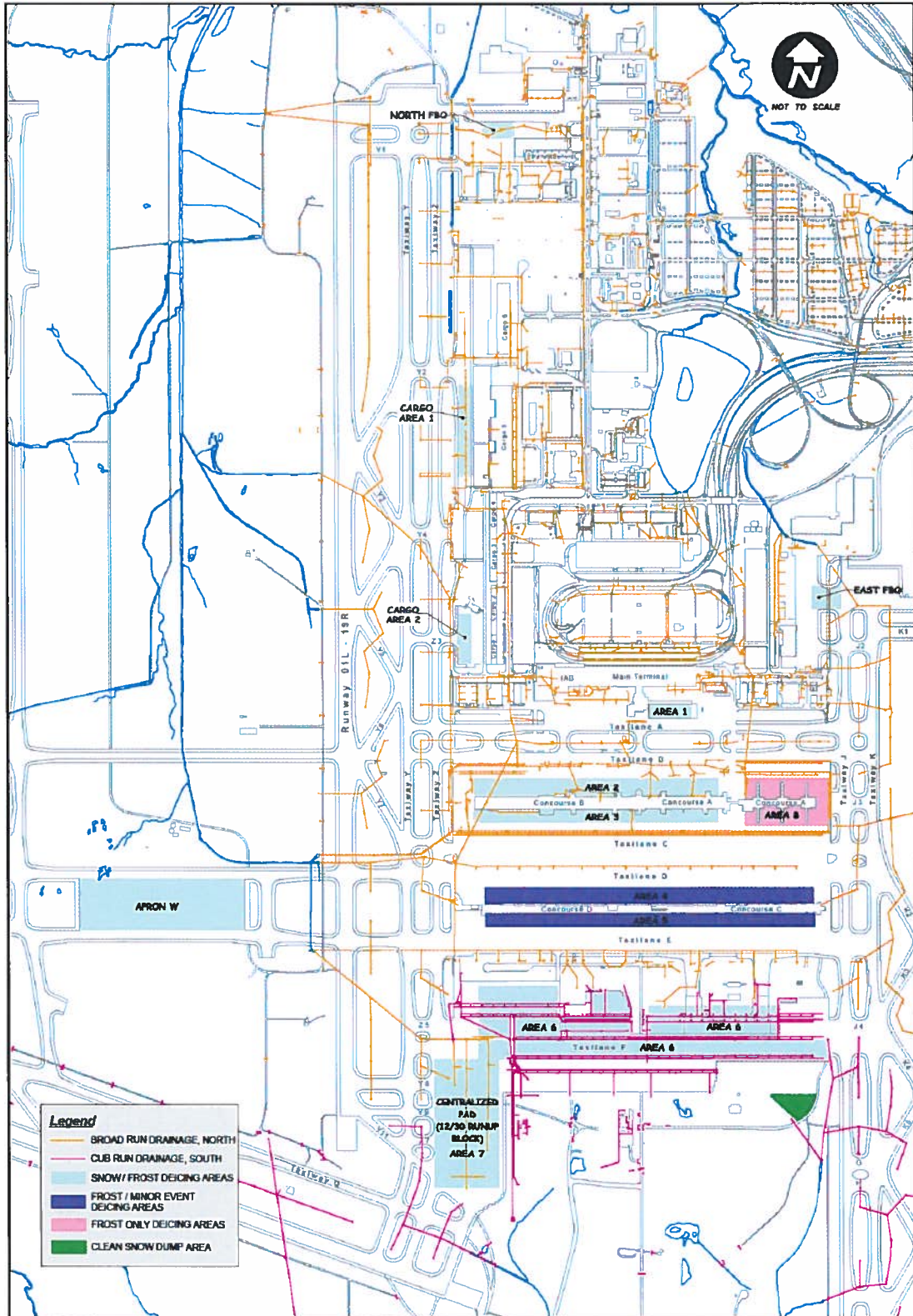
*I certify that urea shall not be used as a pavement deicer in accordance with the Airports Authority policy and the EPA regulation (40 CFR 449).*

Airline Manager's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Appendix B**  
**Aircraft Deicing Fluid Usage Report**



Appendix C  
Aircraft Deicing Areas



**Legend**

	BROAD RUN DRAINAGE, NORTH
	CLUB RUN DRAINAGE, SOUTH
	SNOW/ FROST DEICING AREAS
	FROST / MINOR EVENT DEICING AREAS
	FROST ONLY DEICING AREAS
	CLEAN SNOW DUMP AREA



**METROPOLITAN WASHINGTON AIRPORTS AUTHORITY**  
 WASHINGTON DULLES INTERNATIONAL AIRPORT  
 ENGINEERING DIVISION

## Deicing Areas

August 28, 2014