

EG 1-6: Aircraft Deicing

Date:	January 1, 2024
Document Owner:	CCDOA Environmental Specialist

I. Activity Description:

Aircraft deicing is the application of aircraft de-icing fluid (ADF) to an aircraft for the purpose of ground movement or flight. The following guideline outlines environmental requirements of aircraft deicing and of the associated activities listed below:

- A. Management of Virgin ADF Product
 - 1. Delivery/distribution
 - 2. Storage
 - 3. Application
- B. Management of Spent ADF
 - 1. Collection
 - 2. Storage
 - 3. Disposal/recycling

ALL parties associated with deicing activities are responsible for compliance with this guideline.

II. Potential Environmental Risks

- A. The Clark County Department of Aviation (CCDOA) - Environmental, Health & Safety (EHS) office has identified the following environmental concerns associated with these activities:
 - 1. Unpermitted, improper or inappropriate discharge of ADF
- B. Potential consequences from performing the activity incorrectly:
 - 1. Property damage
 - 2. Personal injury
 - 3. Long-term damage to the environment
 - 4. Citations, Notices of Violation and related (financial & non-financial) penalties

III. Critical Operating Requirements

- A. Prohibited Activities
 - 1. The application of ADF in an unauthorized manner or location
 - 2. The use of unauthorized ADF. All aircraft deicing fluids must be approved by the CCDOA, EHS office prior to use
 - 3. Unauthorized discharge of ADF to any sewer system, storm drain system, drainage waterway or onto any soils
- A. Required Activities

1. All deicing and anti-icing activities must be coordinated with the Airport Control Center (702) 261-5125 and the CCDOA Airport Operations Coordinators (radio call sign 220)
2. Compliance with spill reporting requirements. Environmental Guideline EG 6-1, Spill Response

B. General Considerations

1. Airlines and/or Deicing Contractors (DCs) are responsible for understanding the applicable regulations and managing their activities accordingly. This Environmental Guideline is meant as guidance only and does not supersede any regulations
2. Airlines and/or DCs will not waste ADF. Care will be taken to ensure that the amount of the deicing agent applied is appropriate to the need. For safety reasons, the actual quantity of ADF applied is at the discretion of the Airline
3. Airlines and/or DCs will clean ADF from ramps and roadways after each de-icing activity. It is recommended to vacuum up excess ADF from the ramp
4. Dispose of or recycle the fluids in accordance with all Local, State and Federal Regulations
5. Warm water deicing/anti-icing is strongly recommended
6. It is recommended that tenants develop and implement a preventative maintenance program to ensure the leak-free operation of all de-icing/anti-icing equipment
7. Coordinate all de-icing and anti-icing activities with the Airport Control Center (702) 261-5125) and CCDOA Airport Operations Coordinators (radio call sign 220)
8. De-icing and anti-icing activities conducted at general aviation airports must be coordinated with the appropriate Customer Service Desk for the area (see phone numbers in Section IX below)

D. Training Requirements

1. Airline and/or DC employees performing aircraft deicing services must receive Storm Water Pollution Prevention training on an annual basis
2. Each operator/tenant is responsible for informing their personnel of DOA spill reporting requirements; refer to Environmental Guideline EG 6-1, Spill Response
3. As applicable, training will support the applicable Storm Water Pollution Prevention Plan (SWPPP) requirements for the facility, and address such topics as spill response, good housekeeping and material management practices
4. Airline and/or DC is responsible for ensuring that all operators of de-icing equipment are adequately trained in proper deicing procedures as well as, equipment and spill response procedures, which may include on-the-job training

Unless otherwise specified at the beginning of the document, printed copies of this document are UNCONTROLLED. Always refer to the online CCDOA EMS document library prior to use to ensure you are using the most current copy

E. Storage and Materials Management Requirements

1. Operators of bulk storage devices shall have adequate protection so as to contain spills and prevent any spilled material from entering storm water systems
2. Proper storage of ADF containers (containers will be in good condition, properly labeled, lid closed and on spill pallets)
3. Loading/transfer of ADF will occur in areas with containment and the operator will be in control of transfer nozzle and have access to shut off valves during the entire process

IV. Planning Requirements

A. Aircraft operators and FBOs interested in de-icing and/or proactive anti-icing should consider the following in their planning and implementation:

1. Identify services or equipment for improving weather-forecasting abilities and thereby the accuracy of de-icing and anti-icing
2. Develop protocols for identifying conditions appropriate for de-icing and/or proactive anti-icing
3. Develop standard operating procedures for de-icing and anti-icing, including weather forecasting, de-icing/anti-icing equipment coordination, de-icing/anti-icing agent application, and scheduling

B. Current SWPPP documents

1. Obtain a copy of this document from CCDOA EHS
2. Complete internal SWPPP inspections and report any non-compliant conditions to CCDOA EHS for evaluation
3. Maintain all SWPPP inspections and audits on file for a minimum of 3 years

C. Airlines and/or DCs will maintain adequate supplies of spill response equipment and materials, and are responsible for clean-up as needed

D. Airlines and/or DCs will develop and implement an effective inspection and preventative maintenance(PM) program to minimize leakage of or spillage from deicing equipment

C. Critical Tasks

- a. All deicing and anti-icing activities will be coordinated with the Airport Control Center (702) 261-5125 and CCDOA Airport Operations Coordinators (radio call sign 220), or applicable Customer Service desk
- b. Disposal of unused off-specification ADF must be in accordance with all applicable Local, State and Federal Regulations
- c. Recycle spent ADF to the extent practicable to reduce the load to the sanitary sewer system

Unless otherwise specified at the beginning of the document, printed copies of this document are UNCONTROLLED. Always refer to the online CCDOA EMS document library prior to use to ensure you are using the most current copy

D. Emergency Response

- a. If a spill occurs, immediately stop the source of the spill if possible. Refer to Environmental Guideline EG 6-1, Spill Response.
- b. Call the Airport Control Center (702) 261-5125 or the appropriate Customer Service Desk for the area (see phone numbers in Section IX below), immediately, for all spills
- B. Spill/releases should be contained and cleaned up as soon as possible using either manual (i.e., absorbents, shovel) or mechanical (i.e., vacuum, sweeper) means, to minimize potential storm water impacts. Containerized wastes should be properly labeled, stored and disposed
- C. Spills of any kind shall not be washed into any sewer or waterway, or onto any soil areas
- D. Complete the CCDOA Spill Reporting Form and return the completed form to the CCDOA EHS office within 24-hours of the release

E. Inspection and Maintenance Requirements

- a. Airlines and/or DCs will implement inspection and PM program as developed to minimize leakage of, or spillage from, deicing equipment and storage
- b. Operators of bulk storage structures will inspect implemented protective measures, as necessary

F. Expected Records and Outputs

- A. ADF usage and recycling reports
 1. These reports are generated by the Airline/DC and supplied to CCDOA, EHS office
- B. Inspection and general maintenance records
 1. Records must be maintained by Airline/DC
- C. Spill and release records for any spills
 1. Spill/release must immediately be called in to Airport Control Center (702) 261-5125, or appropriate Customer Service Desk
 2. Responsible party for the spill completes and submits a Spill Report Form to CCDOA, EHS office. Spill Report Forms are available from Airport Operation Coordinators, Customer Service Desks, or the CCDOA EHS office

Unless otherwise specified at the beginning of the document, printed copies of this document are UNCONTROLLED. Always refer to the online CCDOA EMS document library prior to use to ensure you are using the most current copy

- E. Evidence of training on Storm Water Pollution Prevention Plan, Spill Prevention Control and Countermeasure Plan and Operator's SOPs
 - 1. Formal certifications are not always necessary however, proof of training such as sign-in sheets and handouts are expected to be available and signed by the attendees, and should be maintained on file by the operator/tenant
- E. Product Safety Data Sheets (SDSs) for ADF products
 - 1. Operator must maintain SDSs for the chemicals they use
 - 2. Copies of SDSs for ADF products must be made available to all employees engaged in deicing activities and maintained on file by the operator/tenant, as per the HAZCOM Standard
 - 3. A copy of the SDS for each ADF product must be submitted to the CCDOA, EHS office for approval prior to its use
- F. Disposal profile and manifests for old, used or off-spec ADF that cannot be recycled
 - 1. If off-site disposal of spent ADF is necessary, a profile of the fluid will be required by the disposal facility prior to transport
 - 2. Based on disposal profile, manifests and related forms may be required
 - 3. Manifests and profile forms can be obtained from the disposal facility for off-site disposal activities. Manifests **ARE REQUIRED** for hazardous wastes
 - 4. Operator must maintain waste management records at their facility for a minimum of three (3) years

G. References

- A. Phone Numbers
 - 1. CCDOA (Airport) Control Center (spill and release reporting).....(702) 261-5125
 - 2. Henderson Executive Airport Customer Service Desk.....(702) 261-4800
 - 3. North Las Vegas Airport Customer Service Desk.....(702) 261-3806
 - 4. CCDOA Environmental, Health & Safety (EHS).....(702) 261-5692
 - 5. NDEP Spill Reporting Hotline(for spills 25 gallons or greater)..... 1(888) 331-6337
- B. Guidance Materials (list is not limited to the following)
 - 1. CCDOA Storm Water Pollution Prevention Plan
 - 2. NDEP Storm Water Discharge Permit (NPDES)
 - 3. De-icing Standard Operating Procedures per Airline and/or DC
 - 4. SAE (Society of Automotive Engineers) glycol specifications
- C. Training Materials (list is not limited to the following)
 - 1. SWPPP Training (to include discussion of pertinent portions of applicable guidance materials and all appropriate applications, equipment and practices)
- D. Related Environmental Documents (list is not limited to the following)
 - 1. Environmental Guideline EG 1-6 Aircraft Deicing

Unless otherwise specified at the beginning of the document, printed copies of this document are UNCONTROLLED. Always refer to the online CCDOA EMS document library prior to use to ensure you are using the most current copy

2. Environmental Guideline EG 1-7 Storage of Vehicles and Equipment Containing Chemicals
 3. Environmental Guideline EG 4-3 Procurement
 4. Environmental Guideline EG 4-4 Tenant Operating Guidance
 5. Environmental Guideline EG 4-5 Tenant Relocation or Closeout
 6. Environmental Guideline EG 5-2 Management of Petroleum Products (SPCC Plan)
 7. Environmental Guideline EG 5-3 Storage, Handling and Management of Hazardous Materials
 8. Environmental Guideline EG 6-1 Spill Response
 9. Environmental Guideline EG 6-2 Abandoned Material Response
 10. Environmental Guideline EG 7-1 General Waste Management
 11. Environmental Guideline EG 7-2 Management of Recyclable and Reusable Materials
- E. Applicable Regulations (list is not limited to the following)
1. NAC 444/NRS 444 Sanitation
 2. NAC 445A Water Controls
 3. NAC 459/NRS 459 Hazardous Materials
 4. NAC 590 Motor Vehicle Fuel, Petroleum Products and Antifreeze
 5. 14 CFR Aeronautics and Space
 6. 29 CFR 1910 Occupational Safety and Health Standards
 7. 40 CFR Protection of the Environment
 8. 49 CFR Transportation
- F. Other Documents (list is not limited to the following)
1. Product Safety Data Sheet documents and other manufacturer specification information
 2. The Globally Harmonized System of Classification and labeling of chemicals (GHS)
 3. Waste Disposal Manifests

Unless otherwise specified at the beginning of the document, printed copies of this document are UNCONTROLLED.
Always refer to the online CCDOA EMS document library prior to use to ensure you are using the most current copy