

**22 March 1996**



**Maintenance**

**AIRCRAFT DE-ICING**

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This instruction implements AFPD 21-1, *Managing Aerospace Equipment Maintenance*, and T.O. 42C-1-2, *Anti-Icing, De-Icing and Defrosting of Parked Aircraft*. It specifies procedures to control and eliminate glycol run-off to storm drains by confining de-icing/anti-icing operations to defined areas, permitting proper disposal of the glycol. Additionally, it defines procedures that will minimize the need for de-icing, such as mechanical snow removal, solar de-icing, and ice avoidance through hangaring. It applies to the 914 AW, the Base Operating Services (BOS) contractor, and 107 ARG operations.

**SUMMARY OF REVISIONS**

This revision incorporates changes to the New York State Department of Environmental Conservation laws on de-icing. Only off pad de/anti-icing operations must be reported to 914 AW/CEV (para 1.2.2.1). The requirement to report daily usage of de/anti-ice fluid is no longer required (para 1.2.2.3). The immediate reporting of off pad de/anti-icing operations require more detailed information reporting (para 1.2.2.5 and 1.3.2), after pad de/anti-icing operations the runoff must be discharged into the sanitary sewer, and during spot de/anti-icing operations discharge collected fluids to the sanitary sewer (para 3.5).

**1. Responsibilities:**

- 1.1. The 914 AW and 107 ARG operations will make the best management decision to fly, or weather cancel, based on weather, runway condition reading (RCR), personnel availability, hangar space, and mission requirements. Decision-makers will take into account 914 AW Commander's guidance re-minimizing the amount of de-icing fluid used due to environmental considerations.
- 1.2. The 914 AW and 107 ARG maintenance operation center (MOC) will:
  - 1.2.1. Coordinate with their respective operations groups to prioritize the flying schedule daily. The decision to de/anti-ice will be based on the best management decision, as outlined in paragraph 1.1.

1.2.2. When a decision to de/anti-ice 914 AW aircraft is made, 914 MOC will:

1.2.2.1. Notify 914 AW/CEV prior to start of de/anti-icing operations for off-pad operations only and report location (using Disaster Preparedness Plan Map 0-3), unit and type of plane, de-icing chemicals to be used, and estimated time.

1.2.2.2. Coordinate a parking plan with 107 ARG/LG that will permit use of one of the three designated de-icing pads. If the pads are not available, ensure that aircraft de-iced on a parking spot are in a location where the storm drains can be blocked off and fluid collected prior to entering the storm drains.

1.2.2.3. Maintain a logbook reflecting de-icing location, amount of propylene glycol used, amount of water used, amount of propylene glycol recovered, and amount of water recovered.

1.2.2.4. At the end of each workday, forecast potential de-icing needs overnight and prior to the start of the next business day, based on the flying schedule and anticipated conditions. Coordination between the respective MOC and operations to ensure this de-icing instruction will be followed. Confirm with the BOS contractor that they are aware of the flying schedule and prepared to respond for snow removal.

1.2.2.5. Immediately report de-icing usage to CEV for off-pad operations and include the following information, location (using Disaster Preparedness Plan Map 0-3), unit and type of plane, chemical used, amount used and percent mixture, amount recovered and method of recovery. If CEV is not available (such as after normal duty hours and weekends), then immediately contact CEV the following day and provide the information. Follow up phone notifications with monthly written reports.

1.2.3. When a decision to de-ice 107 ARG aircraft is made, 107 ARG MOC will coordinate with 914 AW MOC to ensure all reporting and scheduling requirements spelled out in paragraph 1.2.2.1 and 1.2.2.4 are met.

1.3. 914 AW and 107 ARG Flightlines will:

1.3.1. Perform de-icing/anti-icing operations on the three dedicated pads, whenever possible. If de-icing on a parking spot, notify the respective MOC when and where de-icing/anti-icing will take place and stop up the storm drains.

1.3.2. Maintain de-icing/anti-icing logbook to report the amount of propylene glycol used, the amount of water used and, if de-icing on a spot, the amount of propylene glycol recovered and the amount of water recovered and other information as reported to CEV (paragraph 1.2.2.5).

1.3.3. Ensure checklists and emergency procedures are in place for lift station failure and fluids that migrate off the de-icing pad.

**2. Pad De-Icing/Anti-Icing Procedures.** This is the primary de/anti-icing method. Personnel will use only the minimum amount of fluid necessary.

2.1. Spots 1-2-3, on the 107 ARG ramp, are the designated de/anti-icing pads.

2.2. The pads must be plowed or swept clean of snow, before de/anti-icing begins.

2.3. The entire aircraft must be as clean as possible of snow and ice before going on the de/anti-icing pad.

2.4. The flapper valve that diverts storm drains outflow to the sanitary lift station must be fully open to the indicator links and marked with a safety cone to indicate that the valve is open.

2.5. Closely monitor the lift station pump warning light, just west of pad one, for proper operation. De/anti-icing operations must stop if the pump becomes inoperable. In this situation, notify the MOC, who will call the spill response team.

2.6. Closely monitor the pit for fluid back up. The run off should not back up above the third step from the top of the pit. A back up to this level indicates the lift station pump is not working properly; if it occurs, the de/anti-icing must be stopped. In this situation, notify the 914 AW and 107 ARG MOC, who will notify the spill response team.

2.7. After completing de/anti-icing, leave the flapper valve open and the safety cone in place for at least one hour, or until all de/anti-icing fluid is collected in the pit and pumped to the sanitary sewer. Ensure that all snow melt, slush, and runoff is pushed into the pit, melted if necessary, or vacuumed up and discharged to the sanitary sewer. The pad must be clear of contaminated runoff after the operation is over and the drain clear of deicing fluid, before resetting the flapper valve to the storm drain position.

2.8. Report the amount of propylene glycol and water used to the respective MOC.

**3. Spot De/Anti-Icing Procedures.** This is not the primary method of de/anti-icing and should be used only where absolutely necessary to meet mission requirements. Personnel will:

3.1. Stop up the storm drains and contain the de/anti-icing runoff with booms, blankets, or pigs.

3.2. Clear the entire aircraft of snow and ice, through mechanical means, before beginning to de/anti-ice.

3.3. Ensure the de/anti-icing spot is clean of snow before beginning operations.

3.4. Park the aircraft in an area where the runoff can be contained and not contaminate the soil, or the storm drains. Do not de/anti-ice on the 706 ramp.

3.5. Vacuum and inspect the area during and after de/anti-icing, to prevent runoff from going into the storm drain or surrounding soil. Discharge collected de-icing material to the sanitary sewer.

3.6. Report the amount of propylene glycol and water used and collected to the respective MOC.

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