

## 10.11 AIRCRAFT DE-ICING

### Definition

An aircraft that has frost, ice or snow on any of its critical structures (e.g., wings) is not permitted to attempt take-off under the Canadian Aviation Regulations. During weather conditions that would result in frost, ice or snow, the aircraft may be sprayed with de-icing and/or anti-icing fluids prior to take-off to remove or prevent ice or snow accumulation.

### Why are Chemicals that De-ice Aircraft a Threat to Drinking Water Sources?

A number of chemicals used in the de-icing of aircraft, could make their way into drinking water sources. The Ministry of the Environment and Climate Change's *Tables of Drinking Water Threats* identifies the following sub-threat activity:

- The management of runoff that contains chemicals used in the de-icing of aircraft (see circumstances #192-199)

The Ministry of the Environment and Climate Change's *Tables of Drinking Water Threats* identifies the following chemicals as potential concerns:

- Dioxane-1, 4
- Ethylene Glycol

Ethylene glycol is the active ingredient in de-icing fluids, and dioxane-1, 4 may be used as an additive for its wetting or dispersing properties. These chemicals could threaten the safety of drinking water sources in certain situations. The classification of this activity as a significant, moderate or low drinking water threat is dependent on the classification of the airport as a remote, small, regional or national airport.

The activity is classified as a significant threat only for airports that:

- i) have passenger traffic as part of the definition of 'regional' or 'national' airport; and
- ii) lie within an Intake Protection Zone or Wellhead Protection Area.

There are currently none of these threat activities in the CTC Source Protection Region.

See **Table 10-14** for when and where the management of runoff that contains chemicals used in the de-icing of aircraft may be a significant drinking water threat. Note: to determine if a specific activity is a significant drinking water threat consult the *Tables of Drinking Water Threats* for the specific circumstances that must be met for the activity to be a threat.

Prescribed Drinking Water Threat	Aircraft De-Icing Threat Sub-Category	Area and Vulnerability Score (VS)
The management of runoff containing chemicals used in the de-icing of aircrafts	The management of runoff containing chemicals used in the de-icing of aircrafts	<ul style="list-style-type: none"> <li>• WHPA-A</li> <li>• WHPA-B (VS = 10)</li> <li>• WHPA-E (VS ≥ 9)</li> </ul>

**Table 10-14: When/where the management of runoff that contains chemicals used in the de-icing of aircraft may be a significant drinking water threat**

Policy ID	Threat Description	Implementing Body	Legal Effect	Policy	Where Policy Applies	When Policy Applies	Related Policies	Monitoring Policy
DI-1	Management of runoff that contains chemicals used in the de-icing of aircraft	RMO	H	<p><b>Part IV, s.58</b></p> <p>The management of runoff that contains chemicals used in the de-icing of aircraft is designated for the purpose of s.58 under the <i>Clean Water Act</i>, requiring risk management plans, where the threat is, or would be significant, in any of the following areas:</p> <ul style="list-style-type: none"> <li>• WHPA-A (existing, future); or</li> <li>• WHPA-B (VS = 10) (existing, future); or</li> <li>• WHPA-E (VS ≥ 9) (existing, future).</li> </ul>	See Maps 1.1 - 1.21	<p>Future: Immediately (T-7)</p> <p>Existing: 1 year/ 5 years (T-6)</p>	GEN-1 GEN-2	MON-2
DI-2	Management of runoff that contains chemicals used in the de-icing of aircraft	Municipality	E	<p><b>Specify Action</b></p> <p>When developing new airports, the municipality shall encourage the federal and other government agencies to locate facilities for the de-icing of aircraft and the management of de-icing fluid runoff outside of areas where the activity would be a significant drinking water threat in any of the following areas:</p> <ul style="list-style-type: none"> <li>• WHPA-A (future); or</li> <li>• WHPA-B (VS = 10) (future); or</li> <li>• WHPA-E (VS ≥ 9) (future).</li> </ul>	See Maps 1.1 - 1.21	Future: Immediately (T-18)	N/A	MON-1