

## Winter Conditions at Northern Finland Airports

### INTRODUCTION

When pilots think of winter operations, the first things that come to mind are cold temperatures, high winds, frost, snow, ice, and additional time required. There are many other factors to consider and winter flying can create challenges for flight operators. Though these conditions are not always hazardous, they can be if not planned for and managed properly.

Safe winter operations normally require special procedures by airline maintenance, engineering, ground crew, flight crew, and de-icing personnel. In Finland, FINAVIA and TRAFICOM publish an annual Safety Bulletin on winter conditions. The attached Bulletin focuses on operations in northern Finland but the content is relevant to other locations subject to similar weather. It provides excellent guidance for both flight crews and operators.

### ATTACHMENTS

Three (3) page Bulletin,

**Winter Conditions at Northern Finland Airports - Requirements for Pilots and Air Operators**

Helsinki, 15 October, 2019

Finnish Transport and Communications Agency (Traficom), [www.traficom.fi](http://www.traficom.fi)

Finavia Oyj, [www.finavia.fi](http://www.finavia.fi)



Helsinki, 15 October 2019

## Winter conditions at northern Finland airports – requirements for pilots and air operators

Winter conditions at airports in northern Finland can be very challenging from October to March, when there is plenty of snow and ice. For safety reasons, pilots and air operators with limited experience from difficult winter conditions in northern Europe should read these instructions carefully.

Airport winter maintenance in Finland is at top level, and Finavia is internationally renowned for its *snowhow*. However, the weather and surface conditions at northern Finland airports can be very difficult. Besides runways, the taxiways and aprons may also be partly or entirely covered with snow and ice, but yet in an operable condition.

### **Airport conditions are reported in SNOWTAM messages**

Airport movement area conditions are reported using a SNOWTAM message. Some of the most important issues to consider are listed below.

- The cleared runway area may have separate outer and middle parts. Friction in the outer parts of the cleared runway area may differ significantly from that in the middle part.
- The friction level is indicated as Estimated Surface Friction (ESF) for each third of the runway. Friction may vary along the runway length.
- In SNOWTAM messages, the conditions are reported for each third of the runway, beginning from the smaller

runway designator. In landing instructions provided by the ATS unit, however, they are given in the direction of landing.

- The conditions reported on radio are based on the latest inspection.
- SNOWTAM item T) reports information on the total extent of runway contamination. If the runway is covered in both ice and dry or wet snow and the total extent of contamination is 50–100%, the extent of ice coverage may still be insignificant to performance calculations (10 or 25%). These situations will be reported in SNOWTAM item T) as follows:  
[ICE COVERAGE ON CLEARED RWY AREA DOES NOT EXCEED 25 PER CENT].

Further information is provided in the figures on page 3 and in ANS Finland's SNOWTAM instructions:

<https://www.ais.fi/ais/snowtam.pdf>

Pilots are required to check the content and effect of SNOWTAMs before operating to airports in northern Finland. It is important to understand how the reported weather conditions actually affect flight operations. Air carriers must ensure that their pilots receive sufficient SNOWTAM training. The aim is to time runway maintenance according to the needs of air traffic. Flight planning must take into account the possibility that the conditions prevailing at take-off time may be significantly

different. (Estimated Surface Friction may change.)

Up-to-date information on runway conditions is available from the ATS unit. Airport maintenance actions can also be requested where necessary. Sand is not used in Finland to improve surface friction. The ATS unit and airport maintenance are there at the pilots' service.

### **En-route and initial approach**

Runway conditions and prevailing weather may vary. Whenever necessary, ask for the latest information directly from the destination airport in good time.

Airports may provide AFIS, radar service or procedural ATC service. The effect of the service level on pilot responsibilities must be noted. At AFIS airports and airports with procedural ATC, for example, pilots are responsible for calculating any temperature corrections themselves. It is particularly important to take account of temperature corrections in cold winter conditions.

### **Aerodrome Flight Information Service (AFIS)**

Some Finnish airports are not providing air traffic control service, but only have an AFIS unit that provides Aerodrome Flight Information Services. The AFIS unit reports any known traffic, and the pilot-in-command is responsible for maintaining safe distance to other traffic based on these reports and in compliance with the Rules of the Air. Pilots are also required to report their own intentions. The AFIS unit is responsible for the use of any necessary aerodrome equipment, and for controlling vehicle traffic.

Operational procedures for AFIS aerodromes are described in section GEN 3.3, paragraph 3.1 of the Aeronautical Information Publication, AIP Finland. Please read them before operating to any AFIS aerodrome.

### **Approach and landing**

To minimize the risk of runway excursion, it is essential to make sure that the approach is stabilized when the runway friction is at an

average level or even lower. At the airports of northern Finland, the Estimated Surface Friction (ESF) is often less than "good".

The decision on making a go-around must be made early in case of any signs of an unstabilized approach. It is also important to note that the touchdown zone markings may not be fully visible.

The reported estimated friction (ESF) and the actual braking action (BA) as felt by the crew may differ considerably. When there are reported deposits (e.g. snow and ice) on the runway, friction may vary significantly along the runway length and, in some wind conditions, also between the left and right side of the runway centerline. Any significant differences are reported separately.

### **Runway, taxiways and apron**

Friction levels on taxiways and at the apron may differ from those on the runway, usually in the lower direction. Note that there is normally snow and ice on the taxiways and apron, and they can be slippery. In such conditions, it is especially important to prepare for any movements or changes well in advance.

At some airports, the apron or aircraft stands may be on sloping ground, which means that parking brakes must be used. Check the need for using brakes from airport ground services.

It is important to note that freezing temperatures may affect brakes and other aircraft devices.

Passengers must also be warned that the apron may be slippery.

### **De-icing**

In winter, operators must identify the possible need for aircraft de-icing on the ground, make sure that de-icing services are available, and verify that their aircrews are appropriately trained also for de-icing operations on the ground.

Under challenging winter conditions, proper de-icing is an essential element of flight safety. When there is reason to suspect that frost, ice

or snow is adhering to aircraft surfaces, the need for de-icing must be determined. This must be done from a point offering good visibility of the aircraft surfaces. Once the need for de-icing has been determined, the pilot-in-command is responsible for deciding whether de-icing treatment is necessary.

The 'Clean Aircraft Concept' ensures safe flight operations. In all operations, the pilot-in-command is responsible for assessing whether the aeroplane is safe. The aircrew and ground or maintenance personnel must still report anything that may affect flight safety. Open communication is vital, and all matters affecting airworthiness must be communicated to the pilot-in-command in a clear and brief manner.

It is crucial that the aeroplane must not take off if the pilot-in-command has not been able to assess whether the aeroplane is free of frost, ice and snow. This requirement can also be met by having the aeroplane checked by personnel with relevant training and ratings.

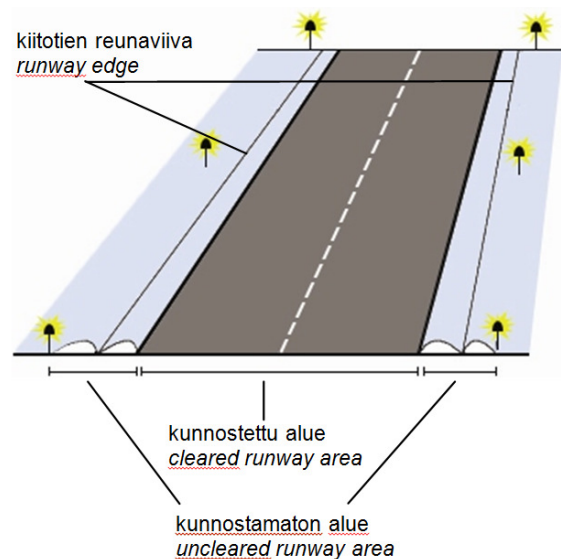
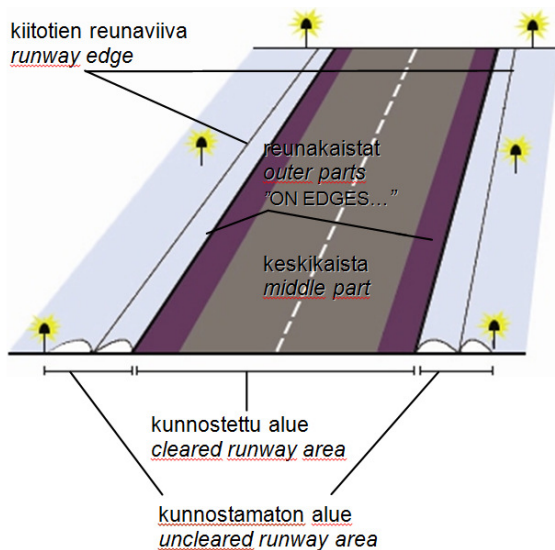
Any contamination observed before a flight can be removed by applying a hot de-icing fluid that will melt and flush off ice and snow deposits. Moreover, anti-icing fluid may be sprayed on critical surfaces before take-off to prevent new formations of frost and ice.

The pilot-in-command must check the hold-over times of de-icing fluids from the tables available.

### Further information

Further information on winter operations can be found in ANS Finland's Aeronautical Information Publication (AIP Finland), section AD 1.2 and specifically for each airport. AIP Finland is available at <https://www.ais.fi/en>.

Please also read the AIC A information circular about the seasonal snow plan published at [https://www.ais.fi/ais/aica/AipAicA\\_en.htm](https://www.ais.fi/ais/aica/AipAicA_en.htm).



16 JAN 2017

## Have a safe flying season and welcome to Finavia airports!

This information leaflet was drafted jointly by Finavia Corporation and the Finnish Transport and Communications Agency (Traficom), which is the civil aviation authority of Finland.

Finavia provides and develops airport services with a focus on safety, customer-orientation and cost efficiency in Finland. Finavia's comprehensive network of 21 airports enables international connections from Finland — and to areas throughout Finland. Helsinki Airport is the leading northern European transit airport for flights between Europe and Asia.

Traficom is a Finnish transport authority and a solid expert in the transport sector, acting decisively in support of responsible traffic.