

FLIGHT OPERATIONS KNOW-HOW

Aircraft de-icing forecast service



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**Presented by
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Aircraft de-icing forecast service

- **Service provided by SITA and UKMO**
- **Initiative to provide more “outcome” based forecasts**
- **Help operators make weather-related decisions**
- **Provide information in user terms (e.g. holdover times)**

Aircraft de-icing forecast service

- **Uses latest delivery techniques (via Web, SMS etc.)**
- **Utilise latest meteorological research techniques**
- **Forecaster able to intervene ensuring consistency**
- **Reduce delays**
- **More cost effective and safer operations**
- **Low initial costs to set up**

Customer Feedback

“It enabled us to make informed decision about likelihood of de-icing earlier than previous methods”

“The service was used to pre-warn our de-icing provider that de-icing was likely. There was a noticeable difference in past years in them being available when needed!”

“The forecasts were used as an additional tool in forward planning and decision making. This is especially important at small airports that are single-manned - can’t de-ice and load bags at the same time!”

“Fluid dumping due to heating fluid too many times unnecessarily seemed to happen less this year”

“De-icing operations cost us **\$1.4M** this winter. The service was used to justify the cost on a case by case basis”

bmi



How the de-icing service works

- **A de-icing instruction at 0330** (Local time)
 - ‘Icing expected at your airport, please de-ice your aircraft’
- Sent by **Email, SMS Text or Fax**

- **and if required, the night before:**

An anti-icing instruction at 2000 (Local) – ‘Icing expected at your airport, please anti-ice your aircraft’

- **A dedicated web page for each airport.** The webpage provides weather information on:
 - **24 Hr Temperature**, showing air temperature and dew point
 - **24 Hr Weather types** relevant to icing events – Freezing rain, etc
 - **% Confidence** in weather occurrences.
 - **24 Hr Risk of Icing**, ‘Traffic-Lighted’ for Low, Medium or High risk
 - **24 Hr Holdover times** based on your fluid tables

 - **5 Day Icing Outlook**, ‘Traffic Lighted’ for planning purposes

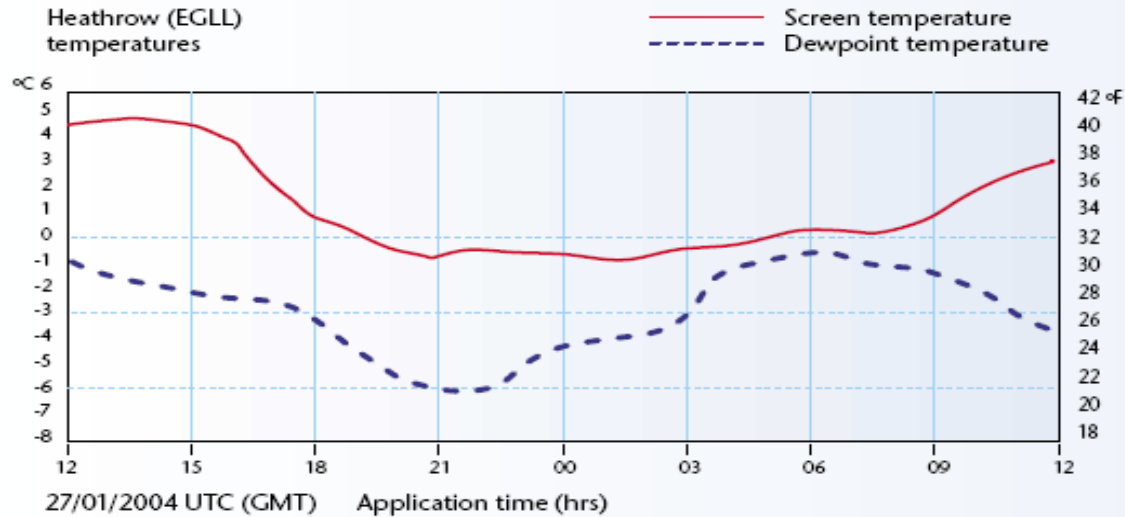
Talk directly to an Aviation Meteorologist about icing issues at any time, day or night

We also send a direct ‘Heads-up’ auto-warning to you, one and two days in advance

Verification of de-icing activity, de-icing instructions and observed weather

Airport-specific web pages

Temperature chart



Weather type



RF Risk of Active Frost FR FR Light or Heavy Freezing Rain FF Freezing Fog HL Hail
 AF Air Frost RN RN Light or Heavy Rain FG Fog SN SN Light or Heavy Sleet or Snowfall

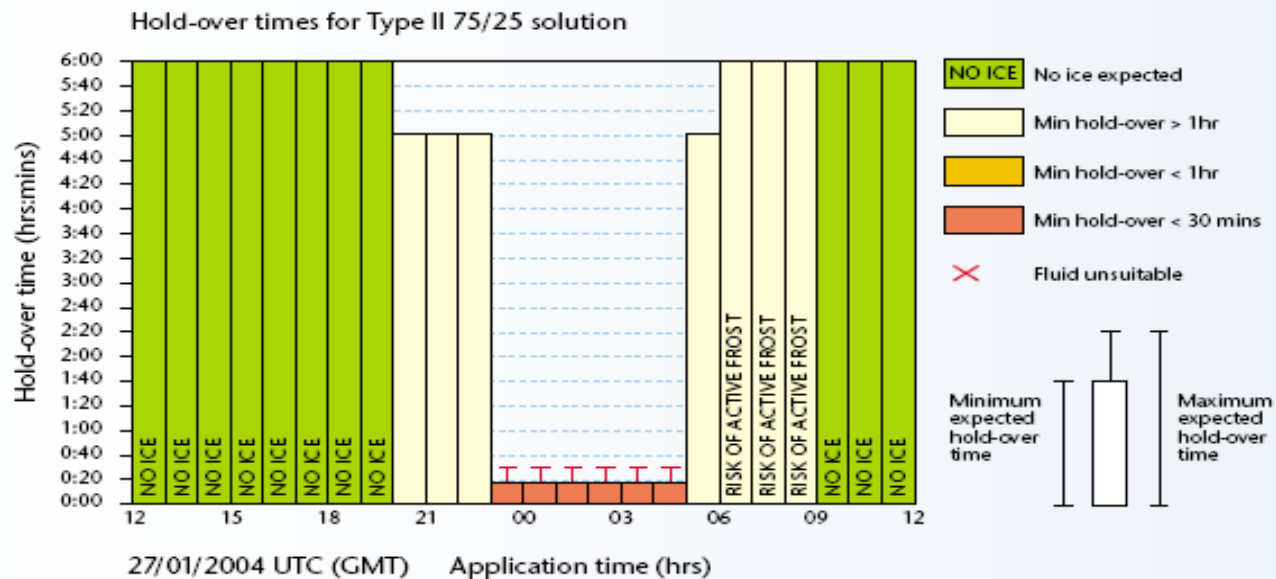
▲ < 30% confidence ▲ 30-60% confidence ▲ 60-80% confidence ▲ > 80% confidence

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Risk of icing

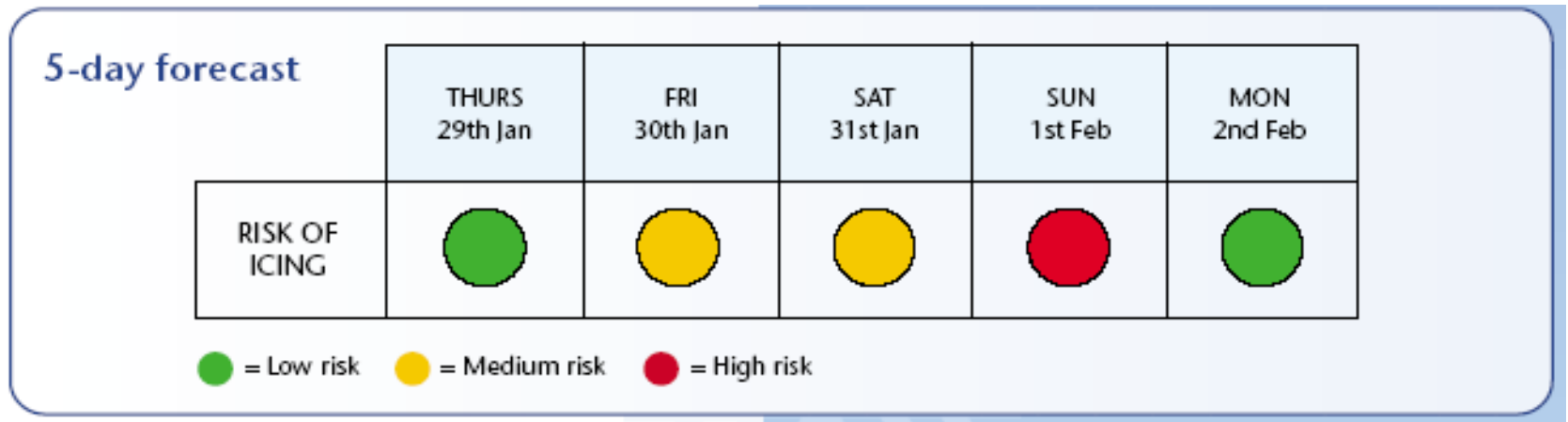


Hold-over times



Aircraft de-icing forecast service

5 day traffic light view



Service Options

- **Monthly Summary**
- **Forecaster Intervened Airports**
 - Professional service
 - Forecaster ensures consistency with actuals
- **Automated Service**
 - Low-cost solution
 - Ideal for smaller overseas airports where airline has limited movements.

Service Summary

- **Temperature Graph updated twice a day**
- **Weather type forecast - frost, rain, snow, fog, etc.**
- **Risk of Icing – shown as traffic light symbols**
- **Hold over time for specific de-icing fluids**
- **Five day forecast of icing conditions**
- **Access to UKMO forecaster**
- **Monthly summary of actual de-icing events**
- **Alerts issued as email, SMS or fax message**
- **Frost Alerts issued at 16Z and 04Z**

Accuracy of de-icing instructions

Summary for last three winter seasons '05-'08

	Season 1 Nov 05 – Mar 06	Season 2 Oct 06 – Mar 07	Season 3 Oct 07 - Apr 08	3 Seasons Total
Icing Events	876	488	798	2162
De-Icing Instructions Sent	872	502	832	2206
Icing Events 'Hit'	858 (98%)	471 (97%)	783 (98%)	2112 (98%)
Icing Events 'Missed'	18 (2%)	16 (3%)	15 (2%)	49 (2%)
False Alarms	17 (2%)	31 (6%)	49 (6%)	49 (4%)

De-icing costs

Average Costs

Approx. cost of de-icing: \$1843/aircraft

Approx. cost of delay : \$1500/flight (\$100/min, average 15 mins)

Acceptable costs of de-icing:

De-icing fluid + call out charge

But only when it's necessary! i.e. Forecaster instruction 'Hits'

Unacceptable costs of de-icing:

False Alarms

- Unnecessary call out and fluid usage
- Fluid wastage (reheating)

Missed de-icing

- Delays caused by late de-icing

Benefits

- Reduced delays and greater passenger satisfaction
- Management of de-icing supplier for optimum performance
- Improved logistical planning of staff, equipment and fluid availability
- Enhanced communication and coordination between aircraft operators and ground handling agents
- Reduced environmental damage and waste through unnecessary re-heating



**One source of consistent information allowing informed
& confident decision making**

**Cost of service per month equivalent to
one unnecessary de-icing or a 20 minute delay**

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