

Aéroports de Paris

2013-2014
winter season





Snow is a fact of winter...



*but Aéroports de Paris
does all it can to make sure
your travel plans proceed smoothly...*

Press kit

Contents

Key figures	6
Aéroports de Paris snow plan will remain in place from 15 October to 15 April	7
Aéroports de Paris clears snow from runways and aircraft parking stands	9
Airside winter operations programme – runway snow removal	11
Régis Lacote, general manager of airside operations & facilities at Paris-Charles de Gaulle airport	12
Séverine Toussaint, "snow train" driver at Paris-Orly airport	14
Aéroports de Paris de-ices aircraft	16
Airside winter operations programme – de-icing aircraft	18
Aéroports de Paris lends its assistance to airlines in providing information to passengers and dealing with their needs	19
Emmanuelle Tardy, "risk and crisis" analyst at Paris-Charles de Gaulle airport	22



Key figures

Paris-Charles de Gaulle

- ▶ **61.6 million** passengers handled in 2012
- ▶ Largest airport in France, **2nd** largest airport in Europe, **7th** worldwide,
- ▶ **6,5 million** m² of aeronautical coatings
- ▶ **300 aircraft** parking stands
- ▶ **100 kilometres** of aircraft taxiway
- ▶ **80 kilometres** of service roads
- ▶ **4 runways:** two long (4,200 metres) and two short (2,700 metres) runways
- ▶ Surface area: **3.250 ha**
- ▶ **172** snow-clearing vehicles
- ▶ **20 aircraft de-icing areas**
- ▶ **50** de-icers
- ▶ **2,400 m³ of glycol stocks** for the coming winter season

Paris-Orly

- ▶ **27.2 million** passengers handled in 2012
- ▶ **2nd** largest airport in France and **11th** largest in Europe
- ▶ **104 aircraft** parking stands
- ▶ **18 km** of taxiways
- ▶ **3 runways:** 3,600 metres, 3,300 metres and 2,400 metres long
- ▶ Surface area: **1,528 ha**
- ▶ **64** snow-clearing vehicles
- ▶ **540 m³ of glycol** stock



15 October - 15 April

Aéroports de Paris snow plan will remain in place



During the winter period, Aéroports de Paris constantly monitors the weather forecasts, working closely with the staff of Météo France, the French weather forecast service. The snow plan is activated as soon as any weather-related risks become apparent. An emergency committee comprising representatives of Aéroports de Paris, the

French civil aviation authority (DGAC), the airlines and Météo France convenes to decide what resources will need to be mobilised, both in terms of manpower and machinery. This group, which is known as the CDM (Collaborative Decision Making) carries out a key coordination role and each of its members plays a part.

Who does what?

Météo France is constantly updating and publishing weather forecasts, which are passed on to the various players. At Paris-Charles de Gaulle, a dedicated Météo France team is based within the airport grounds.

The Direction Générale de l'Aviation Civile (DGAC) is the French civil aviation authority in charge of air traffic control (aircraft movements on the ground and in the air). It defines the airport capacity, based on weather conditions and the number of available runways (the number of aircraft authorised to land and take off per hour), and if necessary will request the airlines to adapt their flight schedule in line with the meteorological data. The DGAC grants aircraft permission to take off and land, and if necessary, it can suspend air traffic operations altogether.

Aéroports de Paris clears runways, taxiways and aircraft parking stands when they are unoccupied. If parking stands are occupied, the airlines themselves must clear the snow. At Paris-Charles de Gaulle, Aéroports de Paris is responsible for aircraft de-icing operations, which are performed by service-providers within dedicated areas. At Paris-Orly, however, the airlines themselves are responsible for aircraft de-icing operations, via service-providers.

Aéroports de Paris also helps to keep passengers informed, by spreading the information it receives from the airlines (delays, cancellations, etc.). If necessary, Aéroports de Paris can also attend to passengers whose airlines have been unable to find them accommodation in nearby hotels, and who therefore find themselves stuck in the airport terminals.

Airlines adapt their flight schedules, provide information and assistance for their customers and look after them if flights are delayed or cancelled. If necessary, airlines will provide hotel accommodation for their passengers. Airlines may also experience flight delays and cancellations due to weather conditions at airports where inbound flights originated, and not just due to weather conditions in the local Ile-de-France region.

Working together with our partners enables us to anticipate and cope as smoothly as possible with any forecast disruption and thus to guarantee optimum safety conditions.



Aéroports de Paris clears snow from runways and aircraft parking stands



In the event of snowfalls or ice conditions, it is absolutely vital to ensure that aircraft runways and taxiways are properly cleared. During take-off and landing, an aircraft reaches speeds of 200 km/hour so it is imperative that runways are cleared, to ensure the safety of passengers and crew.

This is when Aéroports de Paris deploys its "snow train", consisting of various machines used simultaneously to clear the runways as quickly as possible.

How many vehicles does a "snow train" consist of?

The composition of a "snow train" varies according to several criteria: the type of snow, the temperature on the ground, the wind direction and the specific area to be treated.

The "snow train" (around 13 vehicles) normally comprises a command vehicle followed by six high-performance snow-removal vehicles, two spreading trucks and two snow throwers. A runway friction measuring equipment is positioned at the back, and is used to measure the skid resistance. The results obtained are immediately sent to the French civil aviation authority, sole authority competent to approve aircraft take-offs and landings.

To provide additional information, probes are positioned at three locations along the runways so that the condition of the runways can be checked in real time and interventions carried out, if necessary, to treat them.

How long does it take to clear snow from a runway?

The average time depends on the runway length. Long runways (4,200 metres) can be cleared in 30 minutes, whereas the shorter 2,700-metre runways take around 20 minutes to treat. These figures are obviously an average and actual time may vary according to weather conditions. During snow removal operations, traffic on the runway is suspended and the airport's capacities are reduced, which may give rise to delays in airlines flight schedules.

How is snow cleared from taxiways?

In addition to the runways used for take-off and landing (4 at Paris-Charles de Gaulle and 3 at Paris-Orly), the Aéroports de Paris teams also clear and treat the surfaces of dozens of kilometres of taxiways, so that aircraft can safely taxi to their runways or parking stands.

What about aircraft parking stands?

Paris-Charles de Gaulle airport has 300 aircraft parking stands, and Paris-Orly has 104. Aéroports de Paris clears these parking stands when they are unoccupied. However, if these stands are occupied by an aircraft, it is the airline, or its support contractor, who removes the snow. In 2011, Aéroports de Paris acquired lighter vehicles for clearing snow from cramped spaces. Some of these vehicles have been made available to the airlines.

Why does the time taken to clear snow sometimes vary?

Each snow episode is different. Wet and sticky snow is often harder to deal with. Consequently, it is not so much the thickness of the layer of snow as the type of snow that is the main factor to be taken into consideration when clearing a runway.

Frequent spells of freezing rain in the winter months also create a need for runways to be treated rapidly and at frequent intervals.

Did you know?

6.5 million m²:

the equivalent of the airside surface areas to be treated at Paris-Charles de Gaulle.

60 metres:

the width of a runway, i.e. 6 times the width of a 2-lane motorway.

113 football pitches:

this is the total surface area of the runways to be cleared of snow at Paris-Charles de Gaulle.

236 vehicles:

the snow removal fleet at Aéroports de Paris.

Airside winter operations programme

runway snow removal

RUNWAY SNOW REMOVAL

172
snow removal machines
at Paris-Charles de Gaulle

64
snow removal machines
at Paris-Orly

About **30 minutes**
to clear a **4,200m**
runway

About **20 minutes**
to clear a **2,700m**
runway

13
vehicles make up the **snow train**

1
vehicle
to monitor
runway friction

This information **helps pilots** adjust
their take-offs and landings.

3
snow
blowers

2
salt
spreaders

6
high-performance **snow ploughs**

1
command vehicle

1,050
staff members
and partners
involved in snow
removal operations
at Paris-Charles
de Gaulle and
Paris-Orly

Régis Lacote,

General Manager of Airside Operations & Facilities at Paris-Charles de Gaulle Airport



Régis Lacote is General Manager of Airside Operations and Facilities at Paris-Charles de Gaulle Airport. All year long, he and his teams prepare for the next winter so that aircraft can safely take off and land.

What distinguishes snow removal operations at an airport such as Paris-Charles de Gaulle?

Paris-Charles de Gaulle Airport covers over 3,257 hectares. Removing snow from the four runways alone means dealing with an area equivalent to 113 football pitches. On top of that, there are about 80 km of roads and over 300 aircraft stands. So you can easily imagine the challenge posed by snow removal at an airport like ours.

It takes an average of 30 minutes to remove snow from a 4,200-metre runway and 20 minutes for shorter, 2,700-metre runways. Runway snow removal handles a swath 60 metres wide. That's four times the width of a two-line highway.

Snow is ploughed and swept aside by 1,000 h.p. machines set all across the runway, and it must be moved as far from the edge as possible to avoid forming drifts, which are potentially dangerous obstacles for aircraft engines.

Snow removal is a ballet brilliantly choreographed by our teams.

Can runway snow removal be compared with normal roadway snow removal?

No, they have nothing in common! For obvious safety reasons, we cannot have planes take off from or land on runways covered in snow or glazed over with ice making them slippery.

In a car, if the road is covered with snow or ice, you slow down. In aviation, it's more complicated because aircraft are moving at over 200 km/h during take-off or landing. So we need to act fast using mechanical and chemical means to make sure runways are not slippery. On a normal road we use salt – sodium chloride – but that's not an option for runways as it could damage aircraft. We prefer to use liquid or solid potassium formate instead.

What technical means do you have at your disposal at Paris-Charles de Gaulle?

Since the winter of 2010, which was particularly harsh, Aéroports de Paris benefits from a significantly enhanced snow removal system. That's especially true for Paris-Charles de Gaulle Airport which currently has 172 snow removal machines versus 75 in 2010.

Furthermore, we have doubled our stock of glycol, jumping from 1,200 m³ in 2010 to our current 2,400 m³, which will cover about 10 days of treatment in case of severe airport snow conditions. We have also expanded our de-icing fleet, from 34 in 2010 to 50 at present.

Finally, we have designated new aircraft de-icing zones. Paris-Charles de Gaulle now has 20 of them.

To make all these machines run, we depend on 700 employees and partners for snow removal and 300 for de-icing. That's about 1,000 male and female employees of Aéroports de Paris or partner companies-assigned to Paris-Charles de Gaulle winter operations.

They receive training all year long to be ready when the snow falls or the temperature drops, creating icy conditions.



Séverine Toussaint, "Snow train" driver at Paris-Orly airport



Séverine Toussaint is Assistant Manager of Airport Resources at the south terminal of Paris-Orly airport. She is in charge of real-time management of airport resources, such as aircraft parking stands, boarding areas and gates, and baggage handling for arrivals and departures. Since 2011, she has been playing an active role in the Aéroports de Paris "snow plan". As a volunteer, she drives the vehicles that make up the "snow train", which oversees snow clearance, particularly from the runways.

Why did you decide to play a part in the Aéroports de Paris "snow plan"?

The winter of 2010 was particularly severe in terms of weather conditions. My own experience of it consisted of handling passengers who were stranded at the west terminal of Paris-Orly. I knew that the holiday period had been very hard for my colleagues in charge of clearing the snow from the runways, so when I heard the call put out by Aéroports de Paris for volunteers to help out with the "snow plan", I immediately felt like taking part. I wanted to make myself useful, help out my colleagues, and be out on the ramp close to the aircraft and the life of the airport.

What part do you play in the snow plan?

I'm a driver; I can be called upon to operate any of the vehicles that make up the "snow train", whether wide body vehicles (with a plough width of up to 8 metres), "compacts" (with a plough width of 6 metres), snowblowers, or salt spreaders.

What training did you have to do before you could carry out this role?

I got my heavy vehicles driving licence in October last year. Once I had that, I received training on each of the vehicles that make up the snow train. I also attended a course on the safe operation of snow clearance vehicles as well as some theory training.

What do you get out of participating in this activity?

By taking part in the Aéroports de Paris "snow plan", I've become much more familiar with the runways, taxiways, and aircraft stands. It has added an element of diversity to my work too, as well as broadening my range of skills and giving me the chance to get to know different colleagues at Aéroports de Paris.

As a woman working in a very male domain, has it been easy for you?

It's true that there are very few women "drivers" and we're not treated any differently than our male colleagues. We have managed very successfully to become part of the team, and I must say I really enjoy talking with the guys who have been there for a long time and have lots of stories to tell about working in the snow.



Aéroports de Paris de-ices aircraft



In winter, the ice that builds up on an aircraft fuselage and wings will make it too heavy and therefore much harder to fly; this could in turn have serious consequences when taking off. For obvious safety reasons, the aircraft's captain may decide to request the de-icing of the aircraft.

► At Paris-Charles de Gaulle, Aéroports de Paris is responsible for operations within dedicated areas located close to the runways in order to minimise the time between completion of treatment operations and the aircraft take-off. This service is provided by contractors working for Aéroports de Paris.

► At Paris-Orly, aircraft are de-iced on their parking stand. The airlines are responsible for these operations, and have contracted this process to support companies providing this service. Aéroports de Paris supplies these service providers with glycol, except for Air France, which has its own stock

How do you de-ice an aircraft?

Between two and six de-icing vehicles are required, depending on the aircraft type. Operators spray the plane's fuselage and wings with a mixture of glycol and water. Once the de-icing process is completed, the plane has a "protection time" in which it will be able to taxi to the runway from which it will take off. To prevent further build-up of ice on the plane, de-icing operations have to be synchronised with snow removal operations, so that aircraft can quickly take off from a clear runway and thus avoid a further trip to the de-icing area.

At Paris-Charles de Gaulle, we have increased our fleet of de-icing vehicles from 34 in 2010 to 50 in 2013.

How long does it take to de-ice an aircraft?

The amount of time it takes to de-ice an aircraft varies both according to the aircraft type and the weather conditions at the time of de-icing operations. Usually, it takes at least 8 to 10 minutes to de-ice a medium-sized or wide-bodied aircraft. However, the process may take twice as long in sticky snow conditions.

What stocks of glycol are available for this winter?

To cope with the demands imposed by particularly severe and long winters like the one we had in 2010, Aéroports de Paris has decided to significantly increase its stocks of de-icing fluids (glycol). As a result, the supplies have more than doubled since last winter, boosting stocks to 2,400 m³ at Paris-Charles de Gaulle and to 540 m³ at Paris-Orly.

How many de-icing areas are there at Paris-Charles de Gaulle?

We have created five new de-icing areas in the past two years at Paris-Charles de Gaulle, which now numbers 20. We have also opted to upgrade the de-icing facilities at aircraft stands this year at Terminals 2D and 2F, and the special treatment applied to regional flights within dedicated areas.

Did you know?

2,400 m³

glycol storage capacity at Paris-Charles de Gaulle for winter 2013/2014.

540 m³

glycol storage capacity at Paris-Orly for winter 2013/2014

Airside winter operations programme

de-icing aircraft



Aéroports de Paris lends its assistance to airlines in providing information to passengers and dealing with their needs



Providing passenger information (flight times, delays, how to book another ticket, how to obtain a refund, etc.) and dealing with their needs, e.g. finding them overnight accommodation, are all tasks that are the airlines' responsibility. However, Aéroports de Paris stands by the airlines to help them discharge these responsibilities.

How do you update the flight information available in terminal buildings?

From 1 January 2012 onwards, we shall also be deploying 400 new digital advertising signs, which can be used to supplement the conventional display signs. These can be mobilised to transmit messages or advice to passengers, in the event of major disruption.

What other information channels does Aéroports de Paris use?

Airlines feed information into the same database, which is used to update all of our web and mobile applications in real time.

- By telephone: 39 50*
- Via the internet: www.aeroportsdeparis.fr
- New free email alert service: "My flight live"
- "My airport": an application to download free of charge to a smartphone
- Twitter: @AeroportsParis

* (€ 0.34 incl. tax/min. from a land line in mainland France, operator-specific additional costs not included). From abroad, dial: +33 1 70 36 39 50



Our information number, **39 50**, receives a great many calls during periods of severe air traffic disruption: it received nearly 91,000 calls in December 2010, with daily peaks of over 13,600 calls.

The number of hits received by our website www.aeroportsdeparis.fr may increase from 300,000 per week to more than 1,700,000 hits, with peaks of over 400,000 visitors in a single day. Our website offers a new

free service, "My flight live", which provides an email alert when the airline issues a confirmation or changes to flight details (e.g. confirming it is on time, delayed, postponed, cancelled, changes terminals, etc.).

Most of the information on flight times and the advice prior to flying can also be accessed via our smartphone application. This can be downloaded free of charge: **My Airport**.

And in the event of disruption, we plan to make greater use of our Twitter account **@AeroportsParis** during this winter season.

Do you have back-up support if crowds of passengers are stuck at the airport?

Looking after passengers is one of the airlines' duties, but needless to say, our 450 customer care staff members are mobilised throughout the winter, to guide passengers, direct them to the right person to speak to and provide the latest available information on flight schedules.

In the event of large numbers of passengers congregating at our airports, all staff teams working at Paris-Charles de Gaulle and Paris-Orly are mobilised, and provide assistance within the terminals to meet passengers' needs (distributing snacks, passenger kits, equipping areas to accommodate families with children or elderly persons overnight, etc.).

Aéroports de Paris can also rely on a pool of volunteers, who are employed in jobs of a more administrative nature all year round, to provide back-up services.



What about overnight accommodation for stranded passengers? What night-time accommodations can stranded passengers expect?

Paris-Charles de Gaulle has over 2,700 folding beds, 18,000 blankets, and more than 23,500 "courtesy kits" – including inflatable cushions, sleeping masks, earplugs, and toiletries – at hand for passengers. Paris-Orly has over 1,300 folding beds and more than 5,500 blankets. We have also put together

"patience kits" specially aimed at families with children. Each contains a stuffed animal, a deck of cards, and colouring pencils.

Did you know?

3,400 flight information screens in our terminals

91,000 calls to the 3950 hotline in December 2010, peaking at 13,600 per day

1,700 000 visitors per week to our website during periods of major traffic disruption, peaking at 400,000 visitors per day

Emmanuelle Tardy,

"Risk and crisis" analyst at Paris-Charles de Gaulle airport



Emmanuelle Tardy has been working for Aéroports de Paris for 19 years. Currently "Risk and crisis" analyst at Paris-Charles de Gaulle airport, she set up the call for volunteers programme. At Paris-Charles de Gaulle airport, almost 300 volunteers (around 100 at Paris-Orly airport) are ready to take action in the case of exceptional weather conditions, in order to help and inform passengers.

What does the Aéroports de Paris call for volunteers programme involve?

The call for volunteers programme involves increasing the number of administrative staff in all management teams at Aéroports de Paris. The volunteers back up the operational teams on the ground during adverse conditions. Snow and exceptional weather are a part of this but the volunteers can also be called upon, for example, during strikes or major holiday travel periods.

What role do volunteers play?

Their main task is to welcome passengers, provide information and be generally helpful in the various airport terminals. When passengers find out that their flight is delayed or has been cancelled, it is necessary for us to communicate with them and explain the situation in order to help them ask for information from their specific airline, find accommodation, etc. During disrupted periods, information evolves rapidly and some passengers can quickly feel lost and in need of

reassurance. That is where we come in. In other circumstances, volunteers can also be required to hand out water, hot drinks or courtesy kits to passengers, and even to offer them "emergency" accommodation in specially dedicated rooms in the terminal buildings.

What is the classic profile of a volunteer?

There really is no classic profile. When a call for volunteers is made we notice that employees from all departments make themselves available. They are motivated by the idea of being in contact with and helping passengers. We are all united in solidarity and I think this also shows how committed employees are to the company. We are first and foremost here to provide a service and this becomes clear in difficult circumstances.

How do you explain the success of the call for volunteers programme?

The call for volunteers programme meets the desire of many employees to serve the company in a different way than usual. It allows them to make a real contribution to the satisfaction of our customers. But I also think that it is the need to help others, to show a little humanity. An airport is a fascinating place and being a volunteer is just one way of sharing the passion for this distinctive world.

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