

**GUIDE TO THE DETERMINATION OF HISTORIC PRECEDENCE  
AT VIENNA AIRPORT**

**Valid as of Summer period 2013**

**Editorial changes**

**1. Introduction**

- 1.1 This document sets out SCA's guidance for the determination of historic precedence in accordance with the IATA Worldwide Slot Guidelines and Regulation 95/93 as amended by Regulation 793/2004 – the EU Slot Regulation.
- 1.2 It is intended as general advice to air carriers on common issues of practice and interpretation. It does not purport to cover all possible scenarios and circumstances.
- 1.3 This document is not applicable for flight operations during night or night shoulder periods according to the Mediation agreement. For such flights specific regulations apply.

**2. Eligibility for Historic Precedence**

- 2.1 To be eligible for historic precedence in the next equivalent season, slots must be:
- A series of at least **five slots** requested at the same time on the same day-of-week.
  - Used for the operation of **scheduled or programmed non-scheduled services**
  - **Operated as cleared** by the coordinator for **at least 80%** of the time during the period allocated
  - **Not operated repeatedly and intentionally** at either a **significantly** different time or in a significantly different way than allocated
- 2.2 A series of slots is defined separately by day-of-week, so a daily service is considered as a series of Mondays, series of Tuesdays, etc. The 80% use rule is applied to each day-of-week.

**3. Determination of the 80% Target**

- 3.1 The 80% use of a series of slots is measured against the number of slots held at the relevant "Historics Baseline Date" of 31 January (summerseason) or 31 August (winterseason) at 23:59 hours UTC, or on the date first allocated, whichever is later.
- 3.2 Cancellations before the Historics Baseline Date**
- 3.2.1 Cancellations of less than five consecutive weeks do not reduce the period eligible for historic precedence, provided the total number of cancellations is less than 20% of the allocated slots.
- 3.2.2 Cancellations of less than five consecutive weeks resulting in a total of cancellations of more than 20% of the allocated slots will create separate periods.

- 3.2.3 Cancellations of 5 or more than 5 consecutive weeks and not clearly marked as the same service will create separate periods.
- 3.2.4 Cancellations of 5 or more than 5 consecutive weeks and clearly marked as the same service will result in one period for the calculation of the 80/20 rule.
- 3.2.5 Any change of the start or end date of a series of slots will reduce the period eligible for historic precedence.

### **3.3 Cancellations after the Historics Baseline Date:**

Cancellations after the "Historics Baseline Date" and failures to operate without cancelling in advance will count against the 80% use unless they can be justified under Article 10(4) of the Slot Regulation.

## **4. Counting Operations**

- 4.1 Actual operations automatically count towards the 80% use when they operate within the following times of the allocated slot:
  - Arrivals: 2 hours early to 3 hours late
  - Departures: 30 minutes early to 3 hours late
- 4.2 Deviations between 3 and 24 hours should be discussed between the airlines and the coordinator.
- 4.3 Deviations over 24 hours must request a new slot and do not count towards the 80% use.
- 4.4 Following ad hoc (e.g. single date) schedule changes, actual operations continue to count towards the 80% use of the series where the air carrier:
  - Operates at the same slot time with a different service, or;
  - Operates the same service at a new slot time
- 4.5 Changes of both the time and service details do not count towards the 80% use of the series. This is to prevent air carriers attempting to circumvent the 80% use rule by 'borrowing' cancellations from a better performing service.
- 4.6 In the case of ad hoc time changes, slot performance is measured against the new time.

### **Tip**

*Where times are changed for a significant proportion of the scheduling period, the coordinator and air carrier should agree which time will be considered as historic in the next equivalent season (subject to slot availability) in order to minimise schedule fragmentation. Where the aircraft type varies during the scheduling period, the most commonly used type will normally be considered as historic in the next equivalent season.*

## **5. Repeated and Intentional Slot Abuse**

- 5.1 A series of flights is considered to have a *potential* slot performance issue if its average actual time falls outside of a slot tolerance range by a statistically significant amount (see Annex 1 for details). The slot tolerance ranges are:
  - Arrivals: 20 minutes early to 30 minutes late
  - Departures: 10 minutes early to 30 minutes late

- 5.2 The slot tolerance ranges are not a licence for intentional abuse within these bands. They are intended as filters to distinguish potential slot abuse from normal operational variability. Evidence of *intentional* off-slot operations within these tolerances is still considered slot abuse.
- 5.3 Having identified a potential slot performance issue, the coordinator will contact the air carrier concerned seeking an explanation. The air carrier is expected to respond to the enquiry within a reasonable timeframe set by the coordinator. If an adequate explanation is not forthcoming, the coordinator may seek the assistance of the airport's Slot Performance Committee.
- 5.4 An air carrier's historic precedence to the series of slots is at risk where there is evidence of intentional abuse, or where the air carrier fails to provide the coordinator with adequate information to determine intentional abuse or provides false or misleading information. Article 14(4) of the Slot Regulation permits the coordinator to withdraw a series of slots for the remainder of the scheduling period after having heard from the air carrier concerned and issued a single warning.
- 5.5 The coordinator may use whatever additional information is available to determine intentional slot abuse, such as published/ticketed times, ground handling requests, flight plan information, or comparisons with the slot times at the other end of the route.
- 5.6 An air carrier's historic precedence to the series of slots is at risk where an air carrier repeatedly operates a different aircraft type from that allocated in breach of the airport capacities, such as terminal or stand capacity, or night quota. Article 14(4) also applies in these circumstances.

## 6. Justifications for the Non-utilisation of Slots

- 6.1 Article 10(4) of the Slot Regulation provides for limited circumstances where the non-utilisation of slots can be justified.
- 6.2 Each justification must be considered on its own merits. Justifications are subject to a general test of reasonableness that:
- The circumstances are genuinely beyond the air carrier's control and could not have been anticipated or mitigated.
  - The volume and duration of the cancellations are proportionate to the circumstances.
  - The air carrier has sought to recover normal operations as soon as possible.
  - The air carrier has no feasible alternative uses for the slots.

### **Tip**

*Air carriers must inform the coordinator of any non-utilisation of slots they believe is justified in advance where possible or immediately after the event. Claims should not be left until the determination of historic precedence at the end of the season.*

*Non-utilisation generally cannot be justified where the air carrier fails to operate without cancelling in advance where it is practical to do so.*

*Non-utilisation of a complete series of slots generally cannot be justified where the slots are newly allocated from the pool and the air carrier has never operated those slots.*

**7. Allocations on a Non-Historic Basis**

7.1 Slots may become available due to circumstances where the original slot holder will none-the-less retain historic precedence in the next equivalent season. This situation can arise where the cancellation is justified under Article 10(4) or where the cancellation, or combination of cancellations, is less than 20% of the original series of slots.

*Example: Series of slots available due to ad hoc cancellations*

Carrier A:	16	<del>4</del>	10	26/30 = 87%
Carrier B:	12	<del>4</del>	14	26/30 = 87%
Ad Hoc Availability:		8		

7.2 In order to make use of scarce airport capacity, the coordinator may offer these slots to other air carriers on a non-historic basis. The coordinator will inform the air carrier of the slots' status at the time of the offer, and in accepting the offer the air carrier acknowledges that the slots are not eligible for historic precedence in the next equivalent season.

**8. Data Used for Slot Monitoring**

8.1 The actual flight data used for slot monitoring is supplied by the airport operator based on flight details and times recorded by the airport and ATC and are based on the block on / block off times. These times may differ slightly from air carriers' own records (e.g., from dispatch records or ACARS).

**9. Date Adjustments for the New Season**

- 9.1. Historic precedence is determined in relation to the dates of the new season. The start and end dates of the series are adjusted to the nearest equivalent dates on the same day-of-week in the next equivalent season. For calendar reasons, this will be one day earlier, or two days earlier following a leap year. For example, a summer 2004 Day 4 series 03JUN-30SEP becomes in summer 2005 Day4 series 02JUN-29SEP.
- 9.2. When the number of weeks in a season changes, series of slots with start and/or end dates at the beginning or end of the season are adjusted to the new season boundaries.
- 9.3. For calendar reasons, when seasons become longer an extra week appears at the end of the season, and when they become shorter a week is lost at the beginning of the season.

## ANNEX 1: SLOT PERFORMANCE METHODOLOGY

A series of flights is considered to have a potential slot performance issue if its average actual time falls outside of a slot tolerance range by a statistically significant amount.

The slot tolerance ranges are:

- Arrivals: 20 minutes early to 30 minutes late
- Departures: 10 minutes early to 30 minutes late

These slot tolerance ranges are derived from analyses of actual flight operations and encompass normal operational variability.

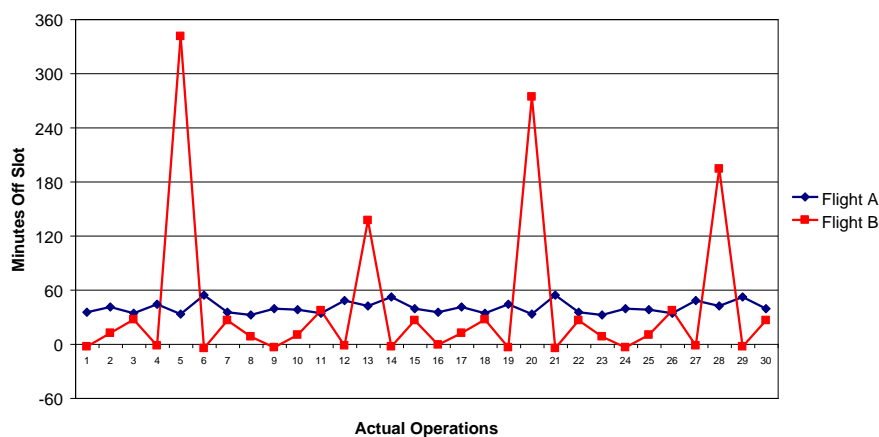
The test of statistical significance is conducted using the t-distribution method for small sample sizes<sup>1</sup>. This involves estimating the 'true average' number minutes off-slot from the sample of actual operations to date. The formula used is:

$$M = x \pm t (s / \sqrt{n})$$

Where,

- M : true average
- x : sample average
- t : t-distribution factor
- s : sample standard deviation
- n : sample size (i.e., number of operations)

The purpose of this method is to distinguish repeated (and possibly intentional) off-slot operations from statistically insignificant variations. For example, a flight may have an average delay of 40 minutes. If the flight operates *repeatedly* 40 minutes late then it indicates intentional slot abuse. However, if it generally operated on time but had suffered a few large delays then intentional abuse is unlikely. This is illustrated below:



<sup>1</sup> 'Small' is generally considered a sample size of less than 30. Given that a summer season has a maximum of 31 weeks, this method is appropriate to slot monitoring. For larger sample sizes, the t-distribution approaches the normal distribution.

<b>Flight A</b>		<b>Flight B</b>	
Average off slot (min)	= 40	Average off slot (min)	= 40
Standard Deviation	= 12	Standard Deviation	= 83
Number of Operations	= 30	Number of Operations	= 30
t-value for 30 ops	= 1.699	t-value for 30 ops	= 1.699
M	= 40 ± 1.699 (12 / √30)	M	= 40 ± 1.699 (83 / √30)
	= 40 ± 4		= 40 ± 26
M <sub>min</sub>	= 36	M <sub>min</sub>	= 14
M <sub>min</sub>	> 30, so significantly late	M <sub>min</sub>	< 30, so not significantly late

Flight A falls outside of the slot tolerance range by a statistically significant amount and is, therefore, repeatedly and significantly off slot. Additionally, if the flight was allocated a slot at 0655 but the air carrier published 0730 then it is clearly intentional slot abuse.

For Flight B, the fact that its observed average delay of 40 minutes appears greater than the 30-minute tolerance is not statistically significant. The flight had suffered a few large delays, but otherwise performed within tolerances.

### Values of t

Based on 95% confidence level – one tail test:

No of Ops	t	No of Ops	t	No of Ops	t
2	6.314	12	1.796	22	1.721
3	2.920	13	1.782	23	1.717
4	2.353	14	1.771	24	1.714
5	2.132	15	1.761	25	1.711
6	2.015	16	1.753	26	1.708
7	1.943	17	1.746	27	1.706
8	1.895	18	1.740	28	1.703
9	1.860	19	1.734	29	1.701
10	1.833	20	1.729	30	1.699
11	1.812	21	1.725	31	1.697