



CALCULATED TAKE-OFF TIME

ATFM DEPARTURE SLOT

1. Definition

The Calculated Take-Off Time (CTOT) is the departure time slot also known as ATFM departure slot (air traffic flow management). The departure time slot is the time interval within which the take-off has to take place. The departure slot is defined to improve the traffic flow and avoid to jam-up the airspace.

If the assigned time slot is missed by the pilot, a new CTOT has to be requested to the controller. The pilot shall bear in mind that priority is given to aircraft which are respecting the assigned slot.

2. Regulation

2.1. General rules

Unless specific circumstances require application of a different priority rule, the controller shall allocate **departure slots in accordance with the first-planned first-served principle** (all the flights entering the regulated airspace are sequenced in the order they would have arrived in the absence of any restriction).

The circumstances that require different priority rules include :

- exclusion of certain traffic flows that enter but do not reduce the capacity of the location of the measure
- exclusion or forcing of specific flights in order to reduce excessive individual delays and optimise the use of capacity
- exclusion and prioritization of specific flights that are not able to benefit from rerouting measures due to overflight permissions or similar constraints

The following flights are exempted from ATFM measures:

- flights carrying Heads of State (or equivalent status);
- flights engaging in fire fighting
- flights conducting search and rescue operations;
- flights for life critical medical emergencies evacuations
- flights approved for exemption from ATFM measures by the appropriate ATS authority
- STS/ATFMX

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Where a flight is subject to an ATFM departure slot, that slot is included as part of the air traffic control clearance.

Controllers (local ATFM units) shall be responsible for slot compliance monitoring within their area of responsibility.

2.2. Controller rules

Controllers shall be responsible for slot compliance at departure aerodromes:

- a slot tolerance is a window of time around a CTOT available to ATC which the aircraft must not depart outside
- ATS units shall provide all possible assistance to operators to meet ATFM slots or to coordinate a revised ATFM slot

In Europe, the departure slot is defined by Eurocontrol with a time tolerance of **-5 minutes and +10 minutes** around the CTOT.

In America, the CTOT is issued by the ATCSSC (Air Traffic Control System Command Center) using very similar procedures.

For example, if the assigned CTOT is 10h15, the aircraft cannot take off before 10h10 and after 10h25

Controllers shall suspend a flight plan when, considering the time tolerance, the ATFM departure slot cannot be met and a new estimated off-block time is not known.

3. Use of CTOT on IVAO

On IVAO, the departure slot assignment is mostly used in the case of large events. In these cases CTOT are issued in order to avoid that too many people connect at the same time, which can induce long waiting time for taking off and even large delay at the arrivals.

Several cases may be envisaged:

- In the case of a **specific event**, a booking form is available on the internet site of the event. Each booked flight is associated with a **CTOT** and the controllers must respect the CTOT list generated over the whole booking phase.
- In the case of **heavy load** on a platform, the controller may issue a **CTOT** to help the regulation of departures.

As is the case in real life, priority is given to pilots with an assigned CTOT and who are able to comply..

If the pilot is ready on time, ATC must handle the traffic in order to make the aircraft taking off within the assigned time slot.

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