



PROCEDURES OVERVIEW

**Brussels Tower
EBBR_TWR**

**NOT FOR REAL
AVIATION**

In Brussels (EBBR), landing/take off clearances are issued by the tower controller. However if EBBR_TWR is not online landing/take off clearances can be issued by the next higher position (Approach controller, or Center controller).

EBBR_TWR: 118.600

SITUATION

As local control or tower controller at EBBR you are in charge of the active runways and the control zone, Brussels CTR, in a radius of 10 nm around the airport from ground up to 1500 feet. The airspace Brussels CTR is class C.

RESPONSIBILITIES

Your job is to determine the correct runways in use, by taking the winds and the preferential runway into account, organize and expedite the flow of air traffic and respect the separation standards. Arrivals always receive priority over departures.

WEATHER CONDITIONS

One of the first things you do when coming online as Brussels Tower is determine whether or not VFR flights are possible regarding the weather: visibility is not less than 5 km and BCN or OVC clouds not lower than 1000 feet.

RUNWAY SELECTION

Most of the time during daytime, if the tail wind does not exceeds 7 knots (gusts included) and the crosswind does not exceeds 20 knots (gusts included), Runway 25R will be selected for takeoff and runway 25L for landing. To reduce taxi time and/or to avoid runway crossing, runway 25R can also be used for landing for VFR, cargo and military aircraft. At night and on Sunday afternoon, things are different. See table below. A typical configuration for easterly winds is : runway 02 for landing and runway 07R for take-off.

		Day		Night	
Local Times !		0500 to 1559	1600 tot 2159	2200 to 0159	0200 to 0459
MON	TKOF		25R	20	07R / 07L *
	LDG		25R / 25L	25R / 25L	20
TUE	TKOF		25R	25R / 20 **	
	LDG		25R / 25L	25R / 25L	
WED	TKOF		25R	25R	07R / 07L *
	LDG		25R / 25L	25R / 25L	20

THU	TKOF	25R	25R / 20 **
	LDG	25R / 25L	25R / 25L
FRI	TKOF	25R	20 07R / 07L *
	LDG	25R / 25L	25R / 25L 20
SAT	TKOF	25R	25L
	LDG	25R / 25L	25R
SUN	TKOF	20 25R	25R / 20 **
	LDG	25R / 25L	25R / 25L

(*) **07L** to NIK, HELEN, DENUT, ELSIK and KOK / **07R** to CIV, LNO, SPI, SOPOK, PITES and ROUSY.

(**) **20** to LNO, SPI, SOPOK, PITES, ROUSY / **25R** to NIK, CIV, HELEN, DENUT, KOK, ELSIK

The preferential runway system is not the determining factor in runway selection under the following circumstances:

- For RWYs 25R, 25L, 07L and 07R: when RWY s are dry or wet and the cross and/or tail wind component exceed(s) respectively 20 kt and 7 kt (gusts included).
- For RWY s 20 and 02 for landing ACFT : when RWYs are dry or wet and the cross and/or tail wind component exceed(s) respectively 15 kt and 5 kt (gusts included).
- For RWYs 20 and 02 for departing ACFT from 2300 to 0559: when RWYs are dry or wet and the cross and/or tail wind component exceed(s) respectively 15 kt and 5 kt (gusts included).
- For RWYs 20 and 02 for departing ACFT from 0600 to 2259: when RWYs are dry or wet and the cross and / or tail wind component exceed(s) respectively 15 kt and 0 kt (gusts included).
- When RWYs are contaminated or when the braking action is less than good.
- During low visibility operations.
- When alternative RWYs are successively requested by pilots for safety reasons.
- When wind shear has been reported or forecast or when thunderstorms are expected to affect the APCH or DEP.

When the components exceed the values stated here above, a runway more nearly into wind will be assigned. However, neither RWYs 07L and 07R shall be used for LDG , except when no other suitable RWY is AVBL.

In order to expedite departing traffic when runway 02 is in use, departures from runway 07R are compulsory either from position "H" (TORA 2 891), line-up position 1 (TORA 2 624) or line-up position 2 (TORA 2 341) to be intercalated between arrivals on runway 02.

In headwind configurations, the cross wind component is not a limiting factor for takeoffs which are conducted on pilot's responsibility and ATC discretion.

Times of runway changeovers are subject to flexibility in order to ensure transition in safe conditions. ATC will operate the changeover as close as possible from the indicated time taken into account traffic conditions.

DEPARTURES

In general you first give a line-up and wait clearance :

Bee-line 413, line-up and wait runway 25R.
Lining up and wait runway 25R, Bee-line 413.

You can also give a condition :

Bee-line 413, behind the landing Boeing 747, line-up and wait runway 25R, behind.
Lining up and wait on runway 25R behind landing Boeing 747, Bee-line 413.

or

Beauty 123, behind departing Avroliner, line-up and wait runway 25R, behind.
Lining up and wait runway 25R behind departing Avroliner, Beauty 123.

The pilot has to readback all the clearances related to the active runway. This is very important! Most of the accidents happen on or in the vicinity of the aerodromes. When you line-up an aircraft on the runway behind a departing one repeat "behind" at the end of the phrase.

When you issue a take-off clearance, include the wind and remind the frequency to contact after take-off:

Beauty 123, Cleared for take-off runway 25R, wind 262 degrees 5 knots. When airborne contact departure on 126.62
Cleared for take-off runway 25R, departure on 126.62, Beauty 123.

When a RVR (runway visual range) is current on the aerodrome (when the general visibility is below 1500m, you will normally have a RVR value in the METAR), you should give this value to all departing traffic.

Beauty 123, Cleared for take-off runway 25R, wind 262 degrees 5 knots. RVR 300 meters. When airborne contact departure on 126.62

Minimum separation between departing aircraft

The general rule: You may not give take-off clearance until

1. The preceding departing aircraft has crossed the end of the runway-in-use or has started a turn; or until all preceding landing aircraft are clear of the runway-in-use. You may however give this take-off clearance if you have a reasonable assurance that this separation will exist between departing aircraft.
2. As tower controller you have also to comply with the following time separations when giving take-off clearances to successive departures. Those separations are very important! Departure and center controllers will thank you if they don't have a fast aircraft causing a conflict with previous departures.

Time	Condition
1 minute	When aircraft are to fly on tracks diverging by at least 45° immediately after take-off so that lateral separation is provided.
2 minutes	When the preceding aircraft is 40 knots or more faster than the following aircraft and both aircraft will follow the same track.
5 minutes	When a departing aircraft will be flown through the level of a preceding departing aircraft and both aircraft will follow the same track (in this case the separation applies at the time cruising levels are crossed).

Those rules are complementary to the standard IFR separations.

ARRIVALS

The tower controller owns the active runways. Normally the traffic is already established on the ILS, VOR radial, etc. by the approach controller. You just have to give the landing clearance. Always include the surface wind, and runway visual range (if any) in your clearance:

Bee-line 413, cleared to land runway 25R, wind 270 degrees 8 knots, RVR 350 meters.
Cleared to land runway 25R, Bee-line 413.

When the aircraft has landed, you should tell him to contact ground controller. The frequency depends on the airport.

Bee-line 413, take first right, when vacated contact Ground on 121.87.
First right, 121.87, Bee-line 413.

Minimum separation between arriving aircraft

The general rule: You may not give landing clearance until

1. The preceding departing aircraft has crossed the end of the runway-in-use or has started a turn; or until all preceding landing aircraft are clear of the runway-in-use. You may however give this landing clearance if you have a reasonable assurance that this separation will exist.

Wake vortex separation

In addition, you have to apply the following separation depending on the wake turbulence category of the aircraft.

Timed approaches

The following minima shall be applied to aircraft landing behind a heavy or medium aircraft:

TIME	CONDITION
2 min.	When a medium aircraft follows a heavy aircraft.
3 min.	When a light aircraft follows a medium or heavy aircraft.

Runway visual range

When the visibility on the aerodrome is less than 1200 meters you have to give the runway visual range (RVR) to the aircraft. This RVR is the visibility measured along the runway itself and is given in the METAR.

Contrary to departing traffic, you may not refuse a landing clearance for reason that the weather conditions are below published aerodrome minima. Use the following phraseology:

Rubens 415, reported RVR (or visibility, as appropriate) is 300 meters. This is below the published minimum. Advise your intentions.

But the pilot has his own rules to follow: he may not descend below his decision height corresponding to the instrument approach he follows if he has not established the required visual reference to the runway or approach lighting. The clearance you give does not relieve the pilot of his responsibilities.