

S1.3

Obstacle Free Surfaces(OFS)

OFS *Obstacle Free Surfaces*

Purpose: preserve the accessibility and safety of operations near the runway, maintaining a volume of airspace free of obstacles.

Basis: Annex 14, Vol. I, Ch. 4 (Amendment 18).

The 5 OFS surfaces of Annex 14

Main surfaces

Approach surface

Protects the threshold arrival path

Transitional surfaces

Protects the sides of the runway

Inner surfaces (derived from the concept of OFZ)

Inner approach surface

Near-threshold reinforcement

Inner transitional surface

Sides; considers the aircraft at runway holding position

Balked landing surface

Protects aircraft during the critical climb phase of a late go-around or missed approach

The 3 internals were born from the concept of the Obstacle Free Zone (OFZ).

Approach + transition: then and now

Aproximación + Transición: anterior vs. nueva (Recife)

OLS anterior

OFS nueva (Enmienda 18)



Same aerodrome (Recife), same scale. The new surfaces are tighter than the previous ones.

Approach surface

Superficie de aproximación



What it is (Annex 14, 4.1.7)

An inclined plane or combination of planes preceding the threshold.

Protect the arrival path

to the threshold. It opens and ascends as it moves away from the runway, following the path that the aircraft flies as it approaches.

Transition Surface

Superficie de transición



What it is (Annex 14, 4.1.13)

A complex surface along the side of the strip and part of the side of the approach surface, that slopes upwards and outwards to the inner horizontal surface

Protects the sides. It is the surface that has the most contact with the urban environment on the sides of the airport — where conflicts with tall buildings often appear.

The 3 inner surfaces

Las 3 superficies internas



Inner approach

Reinforcement close to the threshold, for the most demanding approaches.

Inner transitional

Consider an aircraft stopped at the holding point, so that it does not penetrate the surface — something that can happen today.

Balked landing

Protects aircraft during the critical climb phase of a late go-around or missed approach.

The concept of these 3 was based on the old Obstacle Free Zone (OFZ), which ceases to exist as such.

Basis: Annex 14, Vol. I, Ch. 4 (Amendment 18). Model: Recife (SBRF).

Dimensions: the approach surface has been adjusted

Example of a specific situation — how each parameter of the approach surface changed:

Parameter	Previous	New
Inner Edge Length	240 m	≤ 200 m
Lateral divergence	15%	10%
Surface length	—	4 500 m
Slope	—	3,33%

The inner edge is lowered from 240 to ≤200 m and the divergence from 15% to 10%. The new surface is tighter. You don't have to memorize values: they are in Annex 14.

Values for a specific situation. Source: Annex 14, Vol. I, Ch. 4, OFS tables.

What's Changed From Older OLS

1

Oversized surfaces

Studies with real trajectory data showed that some old OLS were larger than necessary.

2

New Restrictions for Fixed and Mobile Objects

Inner approach and Inner transition now also for Non-Instrument and NPA runways.

3

Consistency with PANS-OPS

Gaps were closed between the protection of the airfield and the design of flight procedures.

TO DISCUSS

**At your airport, where would the OFS be
— and is there something inside?**

It is the first rehearsal of tomorrow's exercise.