



Vistual ICAO / ACI OLS Symposium

The New Surfaces – Obstacle Evaluation Surfaces (OES)

Malte KARGER

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airsight GmbH | Gustav-Meyer-Allee 25, 13355 Berlin, Germany | info@airsight.de | www.airsight.de | +49 30 45 80 3177



Agenda

Why Obstacle Evaluation Surfaces (OES)

Principles of the OES

Summary



- **Obstacle Free Surfaces (OFS)** intend to:
 - provide a free volume of airspace in critical surroundings of the runway



- **Obstacle Evaluation Surfaces (OES)** intend to:
 - provide the volume of airspace where obstacles could impact the operations, and
 - where their impact needs to be evaluated
- Infringements of OES trigger an aeronautical study

Agenda

Why Obstacle Evaluation Surfaces (OES)

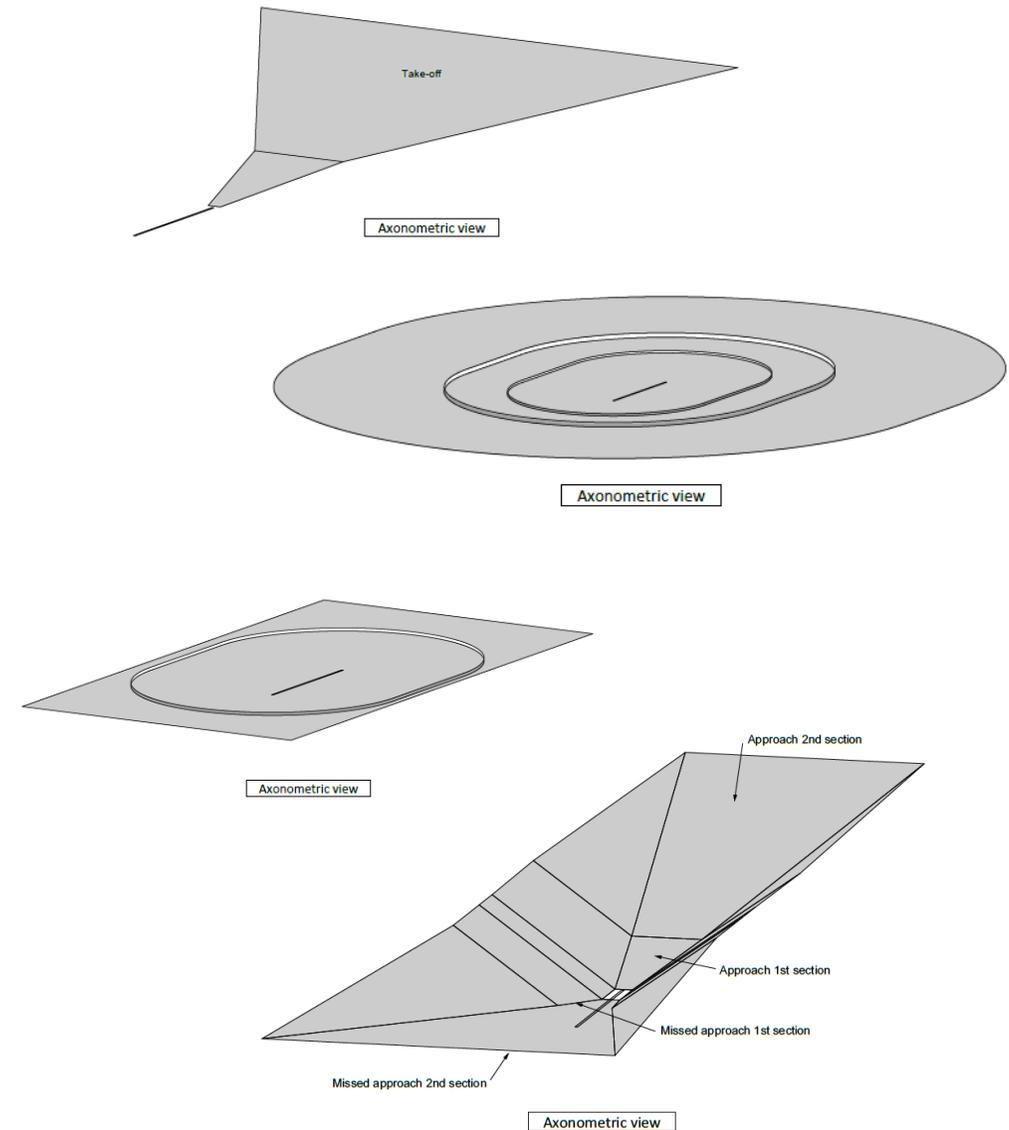
Principles of the OES

Summary



- **OES of standard dimensions** are proposed to cover the most common types of operations
- **OES may be modified** to address operations varying from the ones supporting the standard OES dimensions
- **OES with specific characteristics and dimensions** can be adopted

- Instrument departure surface
- Horizontal surface
- Surface for straight-in instrument approaches
- Surface for precision approaches

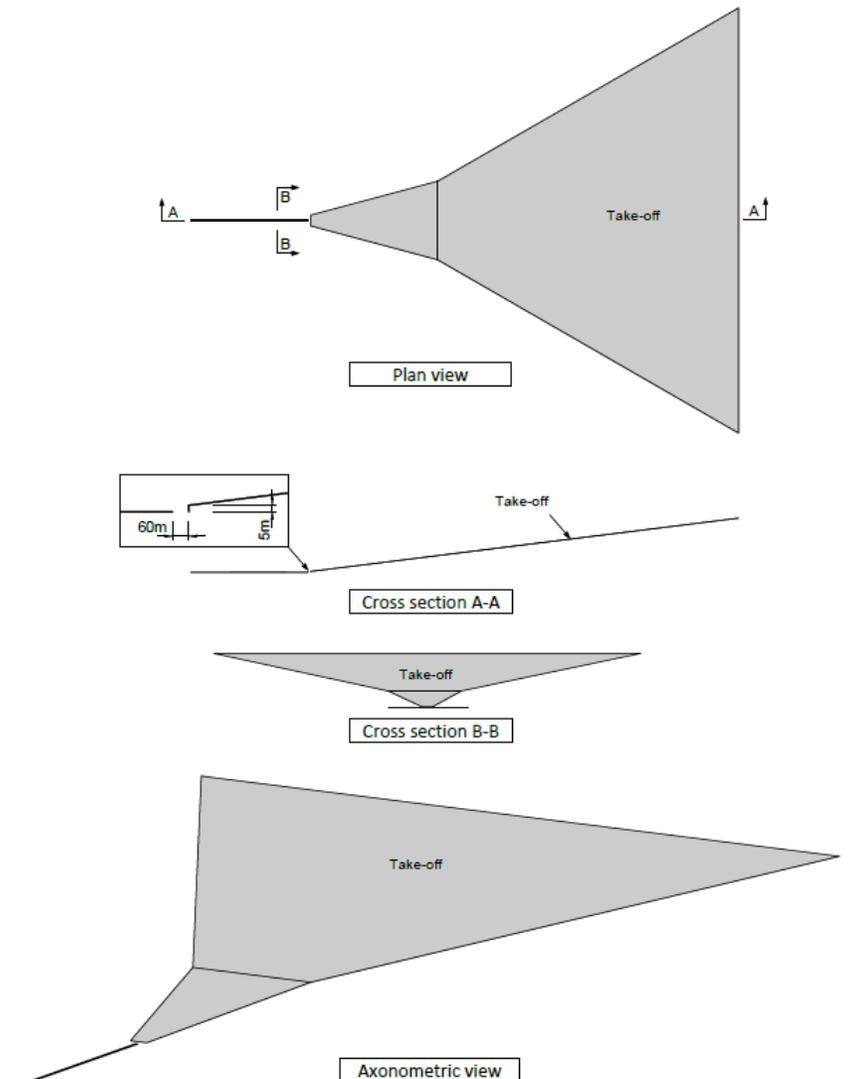


○ Instrument departure surface

- *Volume of airspace where obstacles may have an impact on aircraft following an omnidirectional instrument departure procedure*

Table 4-15. Dimensions of instrument departure surface

Aeroplane design group		I to V
	Length of inner edge	300 m
	Slope	2.5 %
First section	Length	3 500 m
	Divergence	26.8 %
Second section	Length	8 300 m
	Divergence	57.8 %

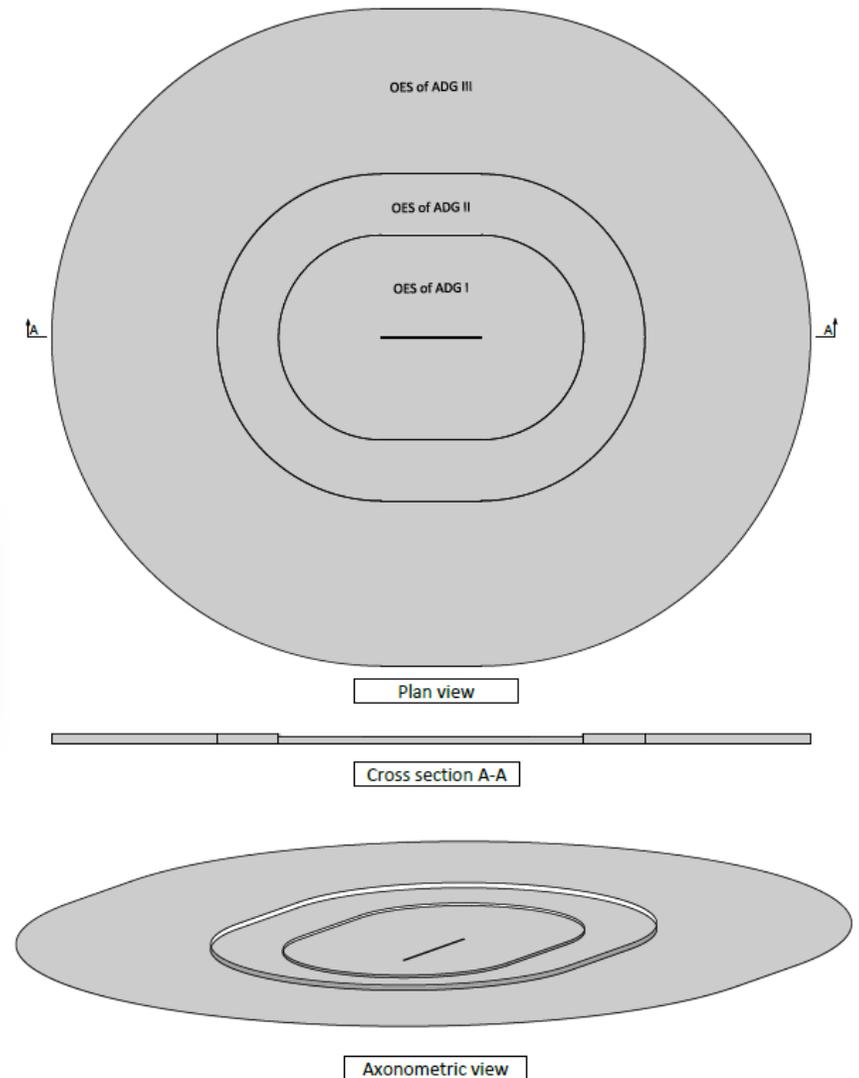


○ Horizontal surface

- *Volume of airspace where obstacles may have an impact on circling procedures*
- *Also provides some protection for terminal instrument flight procedures*

Table 4-10. Dimensions of horizontal surface

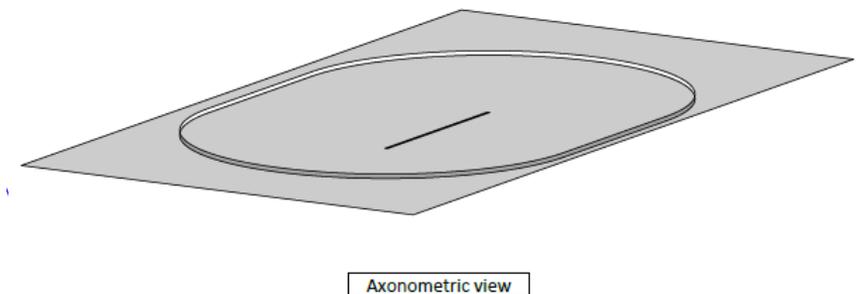
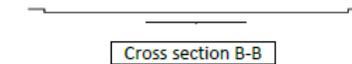
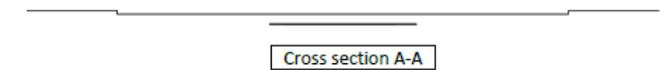
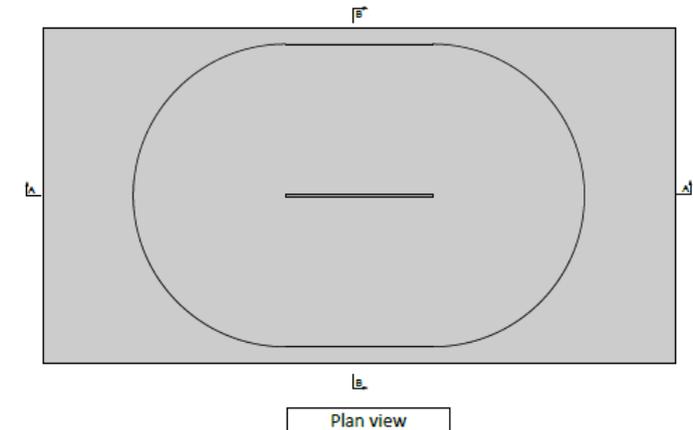
Aeroplane design group	I-IIA	IIB	IIC	III	IV	V
Radius	3 350 m	5 350 m	10 750 m	10 750 m	10 750 m	10 750 m
Height	45 m	60 m	90 m	90 m	90 m	90 m



- **Surface for straight-in instrument approaches**
 - *Volume of airspace where obstacles may have an impact on straight-in instrument approaches, where the horizontal surface(s) or parts thereof are not established*

Table 4-11. Dimensions of surface for straight-in instrument approaches

	Aeroplane design group	I to V
Lower section	Height	45 m
	Height	60 m
Upper section	Length of shorter side	7 410 m
	Length of longer side before and after the threshold or thresholds	5 350 m

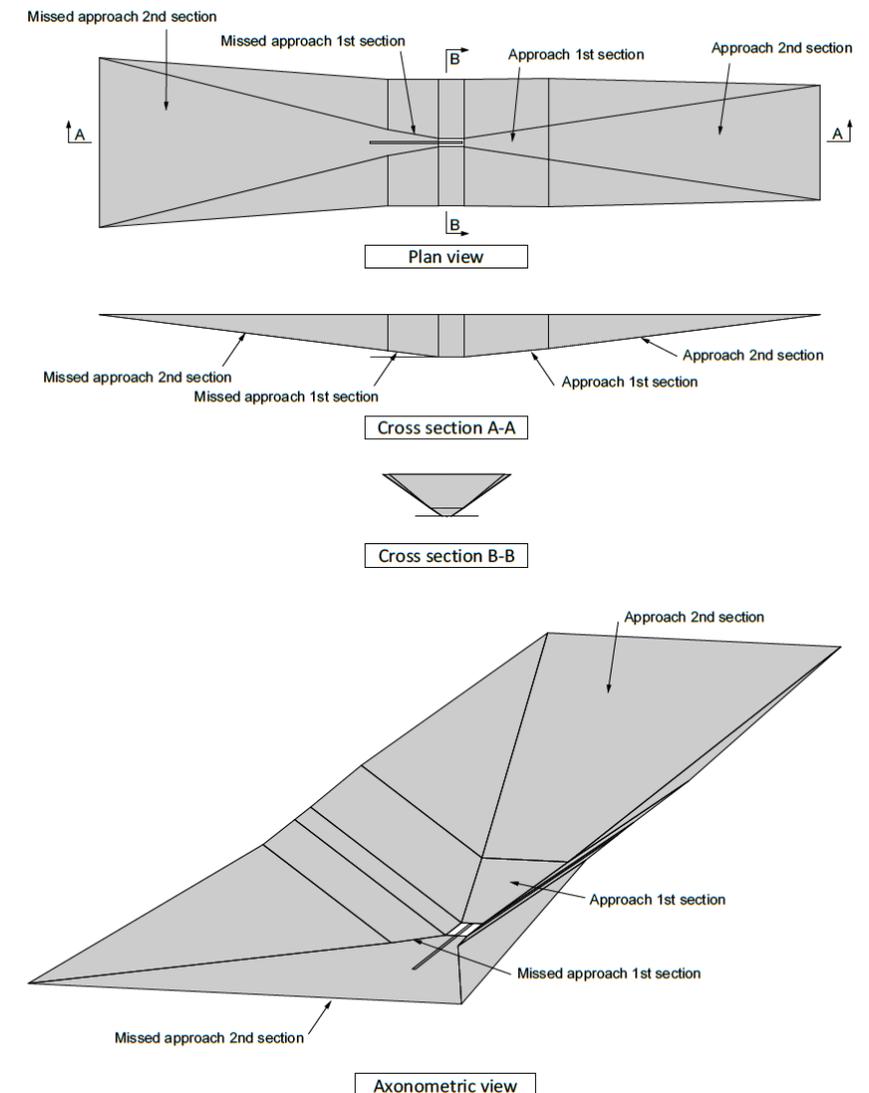


○ Surface for precision approaches

- *Volume of airspace where obstacles may have an impact on common straight-in precision approach procedures (using ILS or MLS, GBAS or SBAS CAT I)*

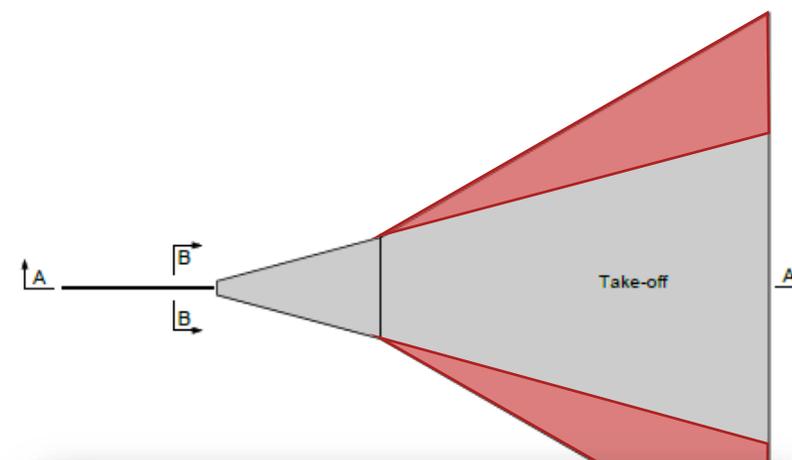
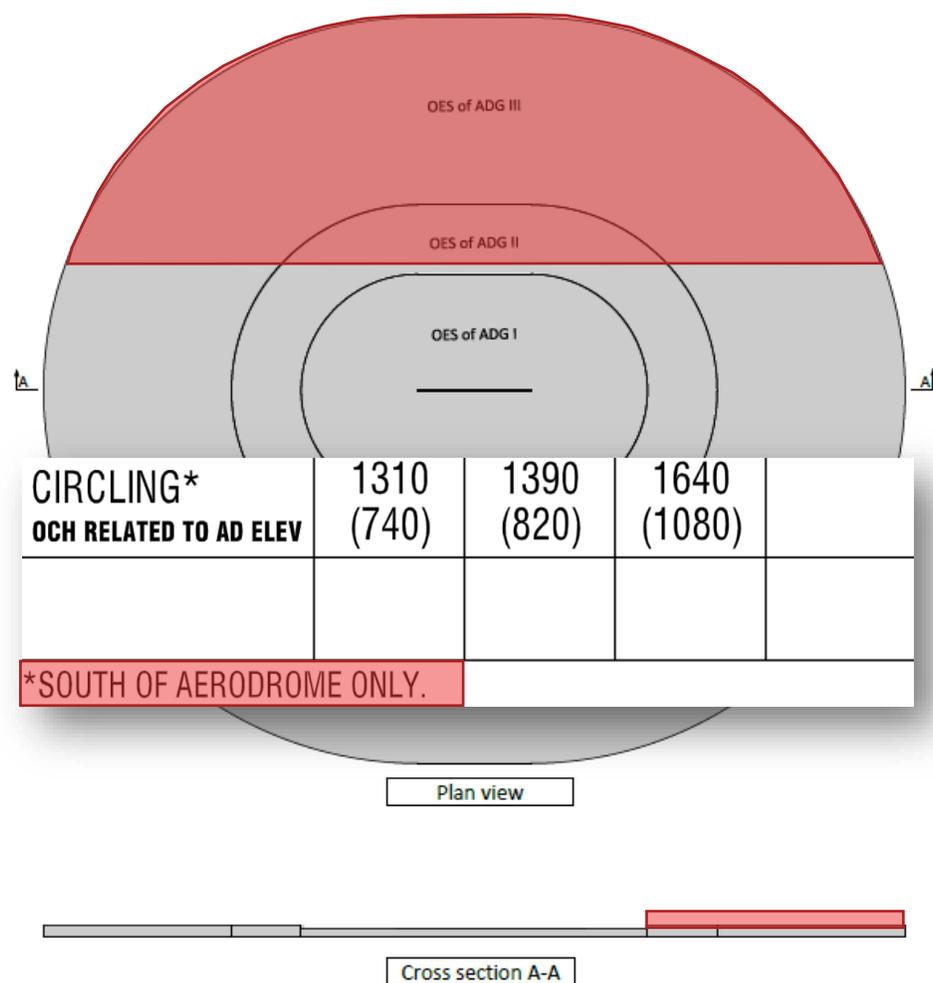
Table 4-12. Dimensions of surface for precision approaches

Aeroplane design group		I to V	
Approach component	Distance from threshold	60 m	
	Length of inner edge	300 m	
	Length	3 000 m	
	1 st section	Divergence (each side)	15 %
		Slope	2 %
	2 nd section	Length	9 600 m
		Divergence (each side)	15 %
		Slope	2.5 %
	Missed approach component	Distance after threshold	900 m
		Length of inner edge	300 m
Length		1 800 m	
1 st section		Divergence (each side)	17.48 %
		Slope	2.5 %
2 nd section		Length	10 200 m
		Divergence (each side)	25 %
		Slope	2.5 %
Transitional component		Slope	14.3 %

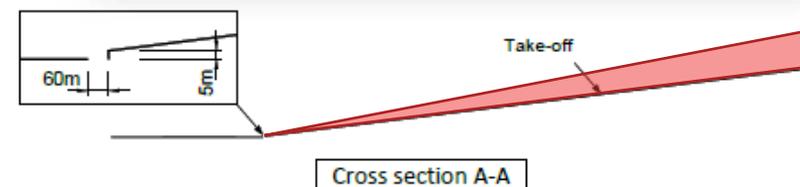


- **Modification of obstacle evaluation surfaces (OES)**

- to address operations varying from the ones supporting the standard OES dimensions



PDG 6.3% (385 ft/NM) or more due to obstacles.



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- **OES of standard dimensions** to cover the most common types of operations
- OES **may be modified** and **specific OES** may be adopted
- Infringements of OES **trigger an aeronautical study**

Thank you for your attention!

Do you have any questions?



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