





***OBJECTIVE STANDARDS AND DEFINED AREAS  
THE NEW DIRECTION OF ANNEX 14 -Vol. II***

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# *ACTUAL SITUATION*



Annex 14 lacks objectives.

This has resulted in the provision of prescriptive standards that have not met any test of objectivity.

# *WHY THE NEED OF OBJECTIVE STANDARD?*

Most heliports experience severe constraints on development

Changes to the physical shape and size of the operational and movement areas, if permitted, are often expensive and disruptive to operations.

Heliports need to have infrastructure that best fits the space available and the type of operations they wish to attract.

***This implies that Annex 14 standards need to allow design flexibility.***

# *WHY THE NEED OF OBJECTIVE STANDARD?*

As no two heliports are alike SARPS should be written in a style which *permits heliport designers to apply best practice and development, whilst preserving safety.*

There should also be

*a balance between operational - or risk-based - standards and prescriptive standards.*



# *OBJECTIVE STANDARD*

The approach should be:

- identify operational objective, acceptable risk and relevant factors, and parameters;
- establish as standards the objective and acceptability criteria;
- develop one or several recommended means to meet the objective.



# *HDWG TASK*

- Chapter 3 is undergoing a review based on Jim Lyons 'Discussion Paper'.
- Next to be reviewed are chapter 5 and the Heliport Manual.
- Certification of heliports and implementation of sms are tasked also

# *DISCUSSION PAPER*

Presents the defined areas. These are the basic building blocks of heliports.

Introduces the principle of encapsulation (a black box approach).

- each of the defined areas has a set of attributes and minimum dimensions which permit freedom of location alongside, or collocation with other defined areas.
- each defined area is completely self-contained; they can be used in any combination without breaching their integrity – or the integrity of the heliport i.e. a set of building blocks.



# THE BASIS OF OBJECTIVITY

- The description of any defined area is complete (i.e. a set of attributes resulting in a 'black box' approach).
- Each defined area has some, or all, of the following attributes:
  - containment – to account for 'normal'\* errors
  - surface loading
  - an associated area – to account for 'abnormal'\*\* errors

\* e.g. positioning errors

\*\*errors of manoeuvring, under challenging environmental conditions

# ATTRIBUTES

**Containment** - an area in which the relevant part(s) will always be contained under normal manoeuvring/positioning errors - specifically:

- the undercarriage; or
- the helicopter

## **Surface loading**

- static – where mass only is considered
- dynamic – where weight (a force) is considered

**Safety/Protection Area** – for abnormal manoeuvring/positioning errors in:

- the FATO – the safety area or, for a helideck, the obstacle free segment
- the Stand – the protection area
- Taxiways – the associated Taxi-route

# DEFINED AREAS

Defined areas are in one of four main categories:

- **FATO** - the area over which the final approach and take off is completed
- **TLOF** - the surface on which the touch-down (and lift-off) is conducted
- **Stand** - the area for parking (and within which positioning takes place)
- **Taxiway and associated Taxi-route** - the surface/area for ground or air taxi

# FATO

## 3.1.1 A FATO shall:

### a) provide:

1) an area free of obstacles, except for essential objects which because of their function must be located in it, of sufficient size and shape to ensure containment of every part of the design helicopter in the final phase of approach and commencement of take-off - in accordance with the intended procedures, and to compensate for normal deviation;

*Note. — Essential objects are visual aids (e.g. lighting), or others necessary for safety purposes.*

2) when solid, a surface which is impervious to the effects of rotor downwash; and

i) when collocated with a TLOF, is contiguous with the TLOF, with adjoining edges at the same elevation; does not present a hazard to operations; has bearing strength capable of withstanding the intended operational loads; and, ensures effective drainage; or

ii) when not collocated with a TLOF, is free of hazards should a forced landing be required.

*Note: Impervious implies that effects from the rotor downwash neither causes a degradation of the surface nor results in flying debris.*

b) be associated with a safety area to compensate for abnormal deviation



# TLOF

3.1.20 A TLOF shall:

a) provide:

1) an area free of obstacles of sufficient size and shape to ensure containment of the undercarriage of the most demanding helicopter the TLOF is intended to serve in accordance with the intended orientation, and to compensate for normal deviation;

2) a surface which:

i) has sufficient bearing strength to accommodate the dynamic loads associated with the anticipated type of arrival of the helicopter at the designated TLOF;

ii) is free of irregularities that would adversely affect the touchdown or lift-off of helicopters;

iii) has sufficient friction to avoid skidding of helicopters or slipping of persons;

iv) is impervious to the effects of rotor downwash; and

v) ensures effective drainage whilst having no adverse effect on the control or stability of a helicopter during touchdown and lift-off, or when stationary.

b) be associated with a FATO or stand.

# TAXIWAY

3.1.30 A helicopter ground taxiway shall:

a) provide:

1) an area free of obstacles of sufficient width to ensure containment of the undercarriage of the most demanding wheeled helicopter the taxiway is intended to serve and compensate for normal deviation;

2) a surface which:

i) has bearing strength to accommodate the taxiing loads of the helicopters the ground taxiway is intended to serve;

ii) is free of irregularities that would adversely affect the ground taxiing of helicopters;

iii) is impervious the effects of rotor downwash; and

ii) ensures effective drainage whilst having no adverse effect on the control or stability of a wheeled helicopter when being manoeuvred under its own power, or when stationary.

b) be associated with a taxi-route.

# TAXI-ROUTE

3.1.33 A helicopter taxi-route shall provide:

a) an area free of obstacles, except for essential objects which because of their function must be located in it, established for the movement of helicopters; with sufficient width to ensure containment of the largest helicopter the taxi-route is intended to serve and compensate for deviation; and

b) when solid, a surface which is impervious to the effects of rotor downwash; and

1) when collocated with a ground taxiway:

i) is contiguous with the taxiway, with adjoining edges at the same elevation;

ii) does not present a hazard to operations; and

iii) ensures effective drainage.

2) when not located with a ground taxiway:

i) is free of hazards should a forced landing be required.

# STAND

3.1.41 A helicopter stand shall:

a) Provide:

1) an area free of obstacles of sufficient size and shape to ensure containment of every part of the largest helicopter the stand is intended to serve when it is being positioned within the stand, and to compensate for normal deviation;

2) a surface which:

i) is impervious to the effects of rotor downwash;

ii) is free of irregularities that would adversely affect the manoeuvring of helicopters;

iii) has bearing strength capable of withstanding the intended operational loads;

iv) has sufficient friction to avoid skidding of helicopters or slipping of persons; and

v) ensures effective drainage whilst having no adverse effect on the control or stability of a wheeled helicopter when being manoeuvred under its own power, or when stationary.

b) be associated with a protection area to compensate for abnormal deviation.



спасибо  
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ngiyabonga  
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dziękuje  
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sagolun  
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kop khun krap  
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