CIVIL AVIATION PUBLICATION

AGA 10

CALCULATING DECLARED DISTANCES

INDEX

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INDEX

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CHAPTER 1

GENERAL

1.1 REQUIREMENTS

For aerodromes, CAR AGA 1 and 3 requires that Aerodrome Operators calculate and promulgate (to the nearest metre) the following declared distances for each aerodrome operational runway in both the Aerodrome Manual and the Aeronautical Information Publication (AIP)

1.2 APPLICABILITY

This CAP applies to all aerodromes and heliports that are required to be certified or licensed under CAR AGA 1, 2 and 3.

1.3 REFERENCES

- Annex 14 Volume 1 – Aerodrome Design and Operations (Eighth Edition July 2018)
- Annex 14 Volume II – Heliports (Fourth Edition July 2013)
- ICAO Doc 9981 – PANS Aerodromes. Second Edition 2016
- CAR AGA 1
- CAR AGA 2
- CAR AGA 3

1.4 DEFINITIONS

1.4.1 Aerodromes

TORA (Take-off run available). Either the distance from the point on the surface of the aerodrome at which the aeroplane can commence its take-off run to the nearest obstacle in the direction of take-off projecting above the surface of the aerodrome and capable of affecting the safety of the aeroplane, or one and one half times the take-off run available, whichever is the less.

TODA (Take-off distance available). The distance from the point on the surface of the aerodrome at which the aeroplane can commence its take-off run to the nearest point in the direction of take-off at which the surface of the aerodrome is incapable of bearing the weight of the aeroplane under normal operating conditions.

ASDA (Accelerate-stop distance available). The distance from the point on the surface of the aerodrome at which the aeroplane can commence its take-off run to the nearest point in the direction of take-off at which the aeroplane cannot roll over the surface of the aerodrome and be brought to rest in an emergency without the risk of accident

LDA (Landing distance available). The distance from the point on the surface of the aerodrome above which the aeroplane can commence its landing, having regard to the obstructions in its approach path, to the nearest point in the direction of landing at which the surface of the aerodrome is incapable of bearing the weight of the aeroplane under normal operating conditions or at which there is an obstacle capable of affecting the safety of the aeroplane.

1.4.2 Heliports

For heliports, CAR AGA 2 requires that heliport operators calculates and promulgates (to the nearest metre) the following declared distances in both the Heliport Manual and the Aeronautical Information Publication (AIP).

TODAH (Take-off distance available helicopters). The length of the final approach and take-off area (FATO) plus the length of helicopter clearway (if provided) declared available and suitable for helicopters to complete the take-off.

RTODAH (Rejected take-off distance available helicopters). The length of the final approach and take-off area (FATO) declared available and suitable for helicopters operated in performance class 1 to complete a rejected take-off.

LDAH (Landing distance available helicopters). The length of the final approach and take-off area (FATO) plus any additional area declared available and suitable for helicopters to complete the landing manoeuvre from a defined height.

CHAPTER 2

CALCULATING DECLARED DISTANCES

2.1 GENERAL

The declared distances to be calculated for each runway direction comprise:

(a) the take-off run available (TORA),

(b) take-off distance available (TODA),

(c) accelerate-stop distance available (ASDA), and

(d) landing distance available (LDA).

Where a runway is not provided with a stopway (SWY) or clearway (CWY) and the threshold is located at the extremity of the runway, the four declared distances shown above should normally be equal to the length of the runway, as shown in Table 1 (A).

Where a runway is provided with a clearway (CWY), then the TODA will include the length of clearway, as shown in Table 1 (B)

Where a runway is provided with a stopway (SWY) then the ASDA will include the length of stopway, as shown in Table 1 (C)

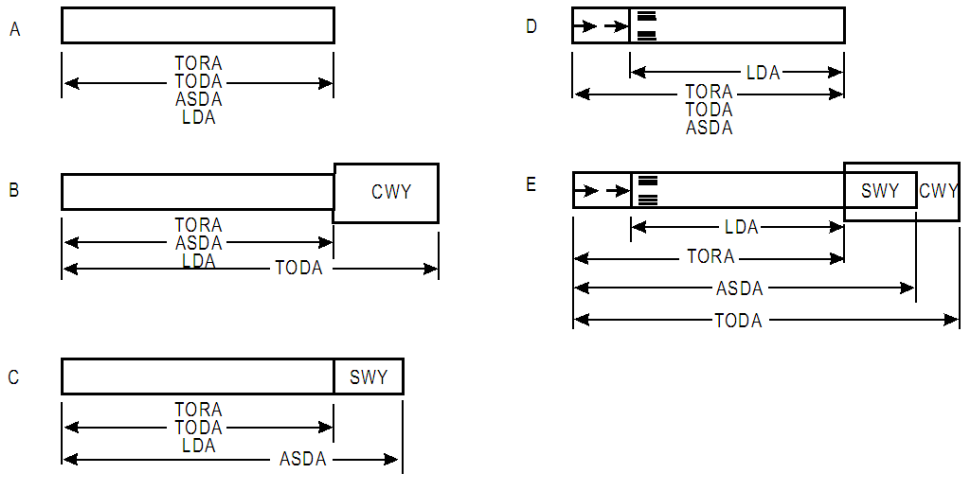
Where a runway has a displaced threshold, then the LDA will be reduced by the distance the threshold is displaced, as shown in Table 1 (D) A displaced threshold affects only the LDA for approaches made to that threshold; all declared distances for operations in the reciprocal direction are unaffected.

Table 1 (B) through to (D) illustrate a runway provided with a clearway or a stopway or having a displaced threshold. Where more than one of these features exist, then more than one of the declared distances will be modified; but the modification will follow the same principle illustrated. An example showing a situation where all these features exist is shown in Table A-1 (E)

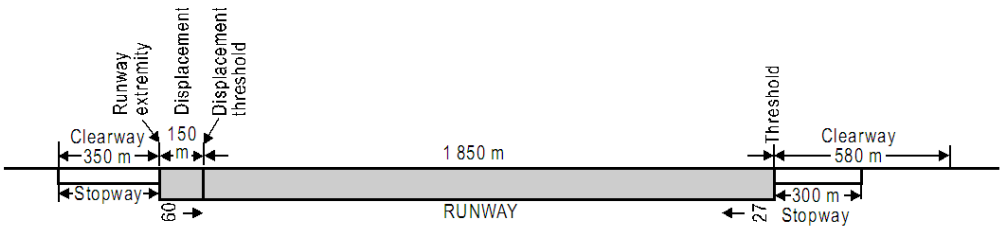
A suggested format for providing information on declared distances is given in Table 1 (F) If a runway direction cannot be used for take-off or landing, or both, because it is operationally forbidden, then this should be declared and the words “not usable” or the abbreviation “NU” entered.

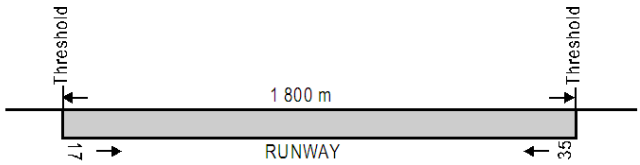
Where the provision of a RESA (runway end safety area) would be particularly prohibitive to implement, consideration should be given to reducing the declared distances of the runway for the provision of a RESA and/or the installation of an arresting system.

Table 1 – Illustration of Declared Distances



Note.— All declared distances are illustrated for operations from left to right.





F

RUNWAY	TORA	ASDA	TODA	LDA
	m	m	m	m
09	2 000	2 300	2 580	1 850
27	2 000	2 350	2 350	2 000
17	NU	NU	NU	1 800
35	1 800	1 800	1 800	NU