


**ETHIOPIAN CIVIL AVIATION AUTHORITY
AERODROME SAFETY AND STANDARD
DIRECTORET**

Calculation of Declared Distance

2014

	ETHIOPIAN CIVIL AVIATION AUTHORITY AERODROME SAFETY AND STANDARDS DIRECTORATE	REF.ECAA-AC-AGA014/2014
		Rev. 0 Date: August, 2014
Calculation of Declared Distance		

PREAMBLE

WHEREAS, it is desirable to consolidate and modernize the aviation Advisory Circular to bring them to international standards,

WHEREAS, it is important to set the Advisory Circular as to how the regulatory, administrative technical and supervisory activities of the Authority shall be performed in the one hand and setting the duties, obligations and standards that shall be respected by operators and aviation personnel,

WHEREAS, it is necessary, to provide detailed Advisory Circular for the administration of license, certification, investigation and enforcement of aviation laws

NOW THEREBY, The Authority under its power given by Article 92/2 of the Civil Aviation Proclamation No. 616/2008 issued the following Advisory Circular.

1. SHORT TITLE

This Advisory Circular may be cited as "Advisory Circular for Calculation of Declared Distance, No. ECAA-AC-AGA014/2014"

2. REPEAL AND INAPPLICABLE LAWS

No law, directive, order or practice shall, in so far as it is inconsistent with this Advisory Circular, be applicable with respect to matters provided for by this Advisory Circular.

3. EFFECTIVE DATE

This Advisory Circular shall come into force as of August' 2014.

Done at Addis Ababa, August, 2014


Wosseniyah Munegeza (Col.)
Director General





Ethiopian Civil Aviation Authority

Advisory Circular ECAA-AC-AGA014

August, 2014

Technical Guidance for calculating declared distances

Purpose

The purpose of this advisory circular is to

- Provide supplementary guidance to aerodrome operators on the calculation of declared distances for each runway direction at a certified aerodrome. It provides guidance on what is acceptable to the Aerodrome Safety and Standards Directorate of the Ethiopian Civil Aviation Authority to compliance with regulatory requirements in section 6.2.8.Declared Distance of Manual of Implementing Standards Aerodrome (MOIS).
- Explain different distances required to be calculated for a runway direction intended to be used and illustrate the suggested format for providing information on declared distance.

Applicability

This Advisory Circular is applies to all aerodrome in Ethiopian.

Introduction

Declare distances are the available operational distance notified to a pilot for take-off, landing or safely aborting a take-off. These distances are used to determine whether the

runway is adequate for the proposed landing or take-off or to determine the maximum payload permissible for a landing or take-off.

Declared distances are a combination of the runway (i.e. full strength pavement), any stopway (SWY) and clearway (CWY) provided.

Objective

The objective of measuring and providing information on declared distance is to allow pilots to determine aircraft loading and performance requirements.

Definitions

Clearway. A defined rectangular area on the ground or water under the control of the appropriate authority selected or prepared as a suitable area over which an aeroplane may make a portion of its initial climb to a specified height.

Declared distances.

- a) ***Take-off run available (TORA).*** The length of runway declared available and suitable for the ground run of an aeroplane taking off.
- b) ***Take-off distance available (TODA).*** The length of the take-off run available plus the length of the clearway, if provided.
- c) ***Accelerate-stop distance available (ASDA).*** The length of the take-off run available plus the length of the stopway, if provided.
- d) ***Landing distance available (LDA).*** The length of runway which is declared available and suitable for the ground run of an aeroplane landing.

Stopway. A defined rectangular area on the ground at the end of take-off run available prepared as a suitable area in which an aircraft can be stopped in the case of an abandoned take-off.

Calculation of Declared Distance

The Declared distances shall be calculated to the nearest meter for each runway direction. These declared distances comprise of the take-off run available (TORA), take-

off distance available (TODA), accelerate distance available (ASDA) and landing distance available (LDA).

When 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 should normally be equal to the length of the runway, as shown in figure- 1.

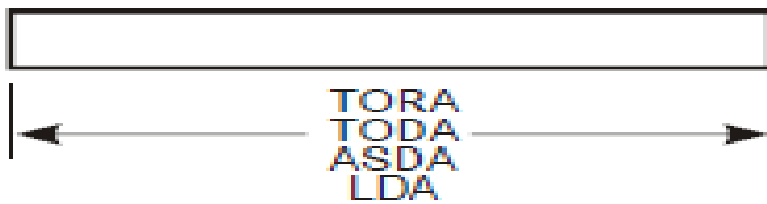


Figure- 1

Where a runway is provided with a clearway (CWY), then the TODA will include the length of clearway, as shown in Figure 2.

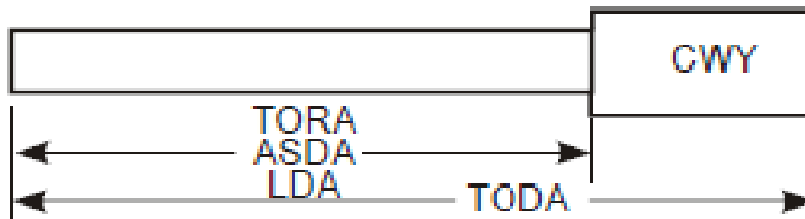


Figure 2

Where a runway is provided with a stopway (SWY), then the ASDA will include the length of stopway, as shown in Figure 3.

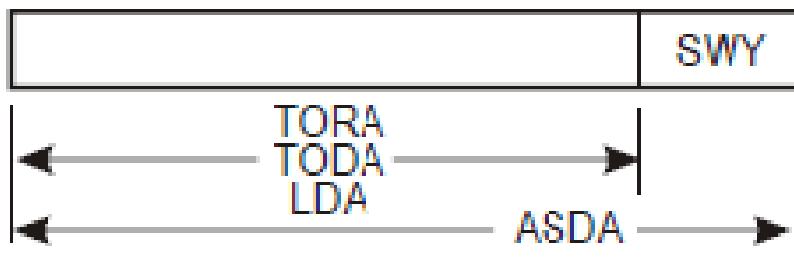


Figure 3

Where a runway has a displaced threshold, then the LDA will be reduced by the distance the threshold is displaced, as shown in Figure 4. A displaced threshold affects only the LDA for approaches made to that threshold; all declared distances for operations in the reciprocal direction are unaffected.

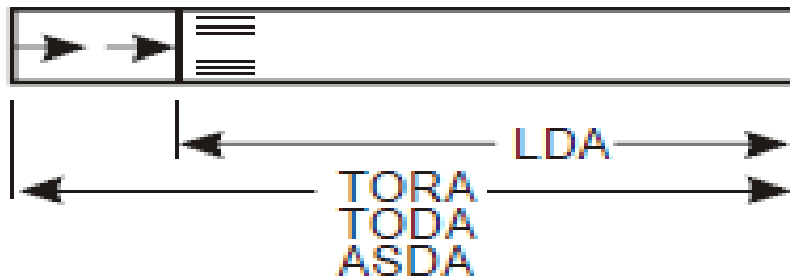


Figure 4

Figures 2 through 4 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 Figure 5.

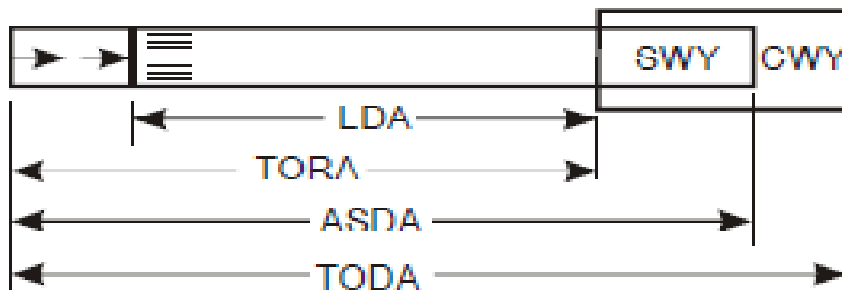


Figure 5

A suggested format for providing information on declared distances is given in Figure 6. 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.

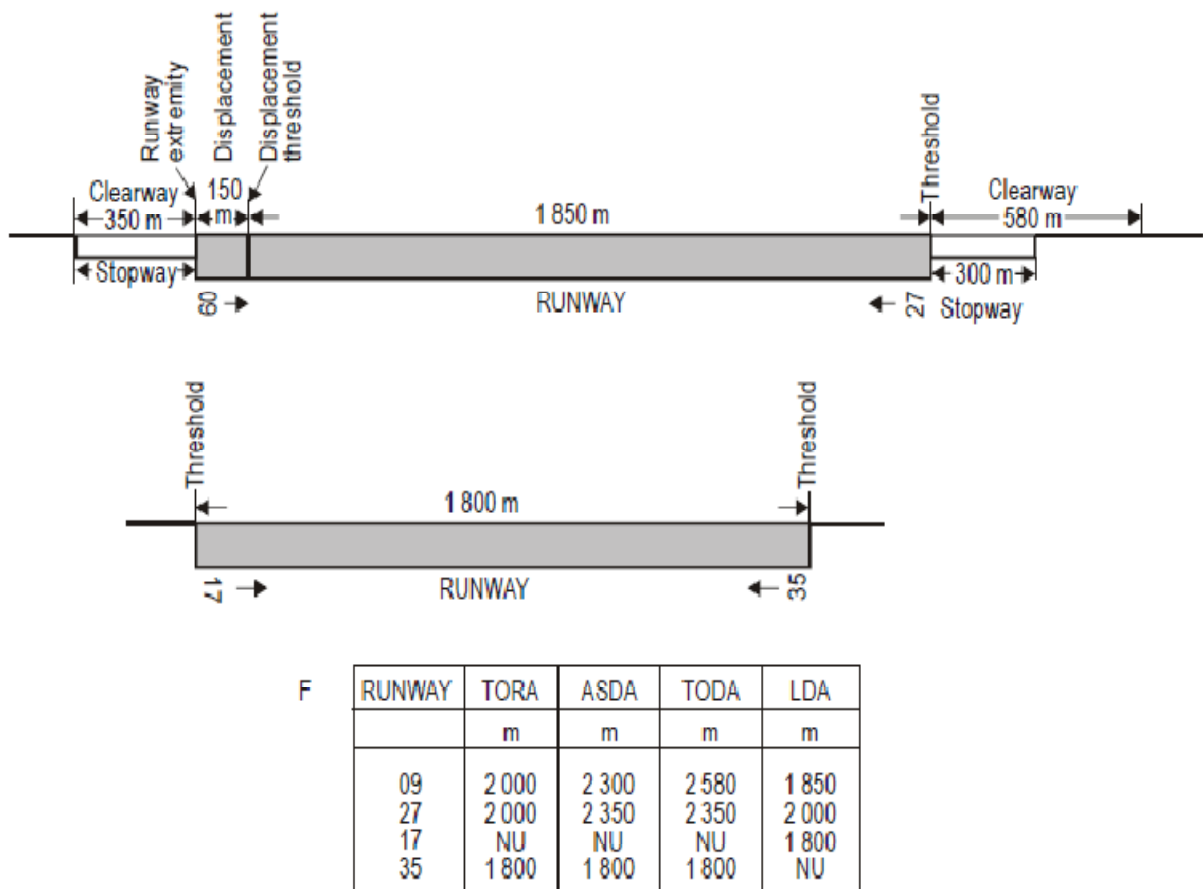


Figure 6

Information to be reported to Aeronautical Information Services

Under section 6.2.8 of Aerodrome Manual of Implementing Standards (MOIS), the declared distance shall be calculated and reported by the aerodrome operator to Aeronautical Information Services (AIS). Such information should be subsequent made available to pilots via Ethiopian Aeronautical Information Publication (AIP).