



WORKING PAPER

ASSEMBLY — 37TH SESSION

TECHNICAL COMMISSION

Agenda Item 30: Runway Safety

PROVISION OF THE RAPID EXIT TAXIWAY INDICATOR MARKINGS

(Presented by the Republic of Korea)

EXECUTIVE SUMMARY

This working paper presents possible benefits of the provision of the “rapid exit taxiway indicator markings” on the runways having rapid exit taxiways, in combination with the rapid exit taxiway indicator lights (RETILs).

Action: The Assembly is invited to:

- a) note the information contained in this paper; and
- b) encourage ICAO to consider the inclusion of the “rapid exit taxiway indicator markings” to the Annex 14 — *Aerodromes*, Volume I — *Aerodrome Design and Operations*, for its global implementation.

<i>Strategic Objectives:</i>	This working paper relates to Strategic Objective D: Efficiency – <i>Enhance the efficiency of aviation operations</i>
<i>Financial implications:</i>	Not applicable
<i>Reference:</i>	Annex 14 — <i>Aerodromes</i>

1. INTRODUCTION

1.1 To accommodate high traffic volume and maximize the runway capacity, the rapid exit taxiways are essential at busy airports. In addition to the introduction of the rapid exit taxiways, the Rapid Exit Taxiway Indicator Lights (RETILs) should be provided, as recommended by ICAO, on the runway to indicate distance-to-go information to the nearest rapid exit taxiways.

1.2 The airport lighting systems on the runway are extremely important for the aircraft operations in night-time or in poor visibility conditions. The RETILs are supposed to be used when the runway visual range is less than 300m as referred to in paragraph 5.3.14 of Annex 14, Volume I. This means that, in the daytime or good visibility weather conditions, the RETILs are barely operated. The RETILs are not displayed in the event of any lamp or circuit's failure. In this case, pilots are not able to utilize the RETILs and it is not easy to locate the nearest rapid exit taxiways.

2. THE IMPORTANCE OF THE RAPID EXIT TAXIWAY INDICATOR MARKINGS

2.1 To resolve the issues of para 1.2 above, it is necessary to consider the provision of the so-called “rapid exit taxiway indicator markings” indicating the location and direction of the rapid exit taxiway, in addition to the RETILs. The “rapid exit taxiway indicator markings”, if provided, would be of value to the landing pilots in regulating their deceleration rate at the time when aircraft approach to the rapid exit taxiways on the runway.

2.2 The “rapid exit taxiway indicator markings” should be provided in combination with the RETILs to allow provision of the idea of distance remaining to the nearest rapid exit taxiway in daylight normal operations conditions and in case of the RETILs failure.

2.3 The location of the “rapid exit taxiway indicator markings” which are arrows painted with white and made with reflective material (glass beads), should be 300m (three arrows), 200m (two arrows) and 100m (one arrow) from the nearest rapid exit taxiway, and they should be displayed right after the RETILs which are displaced 2m from each, as shown in Figure 1.

2.4 However, current provisions of Annex 14, Volume 1, stipulate the RETILs only, not the “rapid exit taxiway indicator markings”, in connection with the operation of the rapid exit taxiways.

2.5 The arrow bars should be aligned in the direction of the rapid exit taxiway.

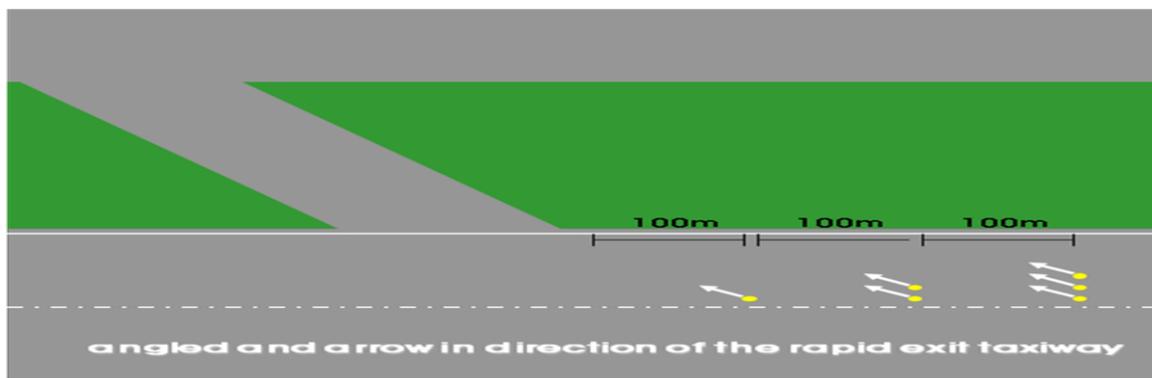


Figure 1. Example of rapid exit taxiway indicator markings

2.6 The dimensions of the arrow are as shown in Figure 2.

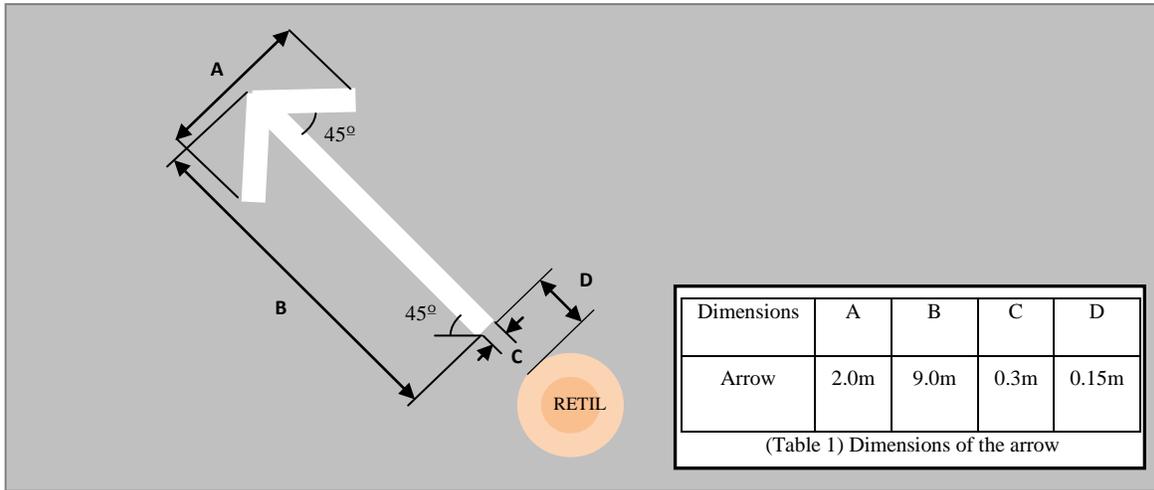


Figure 2. Dimensions of the rapid exit taxiway indicator markings

2.7 It is expected that, if provided, the “rapid exit taxiway indicator markings” will provide the following benefits:

- a) provide pilots with useful information of the distance remaining to the nearest rapid exit taxiway in daylight normal operations conditions and in case of the RETILs failure as well; and
- b) decrease the runway occupancy time (ROT) regardless of the time, day or night, or status of RETILs operation, and as a result, it will ultimately improve the runway and airport capacity.

3. CONCLUSION

3.1 Considering the benefits of the “rapid exit taxiway indicator markings,” as described above, there should be efforts to include the “rapid exit taxiway indicator markings” with the dimensions suggested in Figure 2 above, to Annex 14, Volume I, for its global implementation.