



ICAO

International Civil Aviation Organization

Sixth Meeting of the Asia/Pacific Aerodrome Assistance
Working Group (AP-AA/WG/6)

Bangkok, Thailand, 2 to 5 April 2024

Agenda Item 7: Technical Assistance/Cooperation in AGA Field**THE REQUIREMENTS OF RUNWAY SIDE STRIPE MARKINGS &
TAXI SIDE STRIPE MARKINGS**

(Presented by Malaysia)

SUMMARY

The paper aims to highlight the significance of runway side stripe markings and taxi side stripe markings, while also addressing the challenges encountered by Aerodrome Operators in meeting these requirements. Additionally, the paper seeks to explore best practices implemented by other States in the Asia-Pacific Region on this matter

1. INTRODUCTION

1.1 Annex 14 Standard 5.2.7.1 mandates the provision of runway side stripe markings when there is insufficient contrast between the runway edges and surrounding terrain, emphasizing the critical need for enhanced visual guidance in such conditions.

Annex 14 Standard 5.2.7.1 - “A runway side stripe marking shall be provided between the thresholds of a paved runway where there is a lack of contrast between the runway edges and the shoulders or the surrounding terrain”

1.2 Runway side stripe markings serve as crucial delineators, ensuring pilots maintain alignment within the designated runway area. By enhancing the visual distinction between the runway and adjacent terrain or shoulders, these markings play a pivotal role in averting runway incursions and upholding safe aircraft operations.

1.3 Annex 14 Standard 7.2.1 underscores the necessity of delineating boundaries between load-bearing surfaces and non-load-bearing areas, particularly on taxiways, runway turn pads, holding bays and aprons. To address this, the installation of taxi side stripe markings becomes imperative, facilitating clear differentiation and mitigating the risk of aircraft damage during ground movements.

Annex 14 Standard 7.2.1 - “Shoulders for taxiways, runway turn pads, holding bays and aprons and other non-load-bearing surfaces which cannot readily be distinguished from load-bearing surfaces and which, if used by aircraft, might result in damage to the aircraft shall have the boundary between such areas and the load-bearing surface marked by a taxi side stripe marking”.

1.4 Paved shoulders alongside taxiways, while resembling full-strength pavement, are not designed for aircraft use and may lack the necessary support. These areas, often installed for jet blast protection and foreign object debris prevention, necessitate distinct demarcation. Taxi side stripe markings fulfil this role by clearly defining the boundary between load-bearing and non-load-bearing surfaces, thereby enhancing operational safety.

2. DISCUSSION

2.1 It has been noted that certain aerodromes are not provided with runway side stripe markings, attributed to their initial design where consultants or contractors deemed the distinction between runway edges (pavement surface) and adjacent shoulders or surrounding terrain (normally turfed) to be sufficiently clear. Consequently, the provision of runway side stripe markings was deemed unnecessary for these runways. Similarly, taxi side stripe markings were omitted based on the belief that the pavement of the taxiway and adjacent turfed areas inherently distinguished between load-bearing and non-load-bearing surfaces.

2.2 The absence of runway side stripe markings and taxi side stripe markings at aerodromes often leads to a common issue: inadequate maintenance of grass along runway and taxiway strips, particularly the portions abutting the runway or taxiway surfaces. This neglect can result in the narrowing of the effective width of the runway or taxiway, as illustrated in the figure below.



2.3 With the narrowing of the runway/taxiway due to grass encroachment onto the pavement surface, the affected paved area can no longer be considered as load-bearing area. This presents a significant challenge for aerodrome operators, who must conduct regular surveys to accurately determine the current width of the runway/taxiway.

2.4 In cases where aerodrome operators are unable to implement runway side stripe marking and taxi side stripe marking as per regulatory requirements, certain critical measures require heightened attention:

- Ensuring meticulous maintenance of grass areas
- Maintaining optimal performance of runway and taxiway surfaces
- Ensuring that the surface of the strip adjacent to runways and taxiways remains flush with their respective surfaces
- Continuously monitoring the width of runways and taxiways to adhere to Annex 14 Vol I requirements and uphold the integrity of aerodrome-related aeronautical data.

2.5 CAA Malaysia has issued Civil Aviation Directives (CADs) to address such concerns. CADs serve as documents containing standards, requirements, and procedures derived primarily from the standards and recommended practices (SARPs) outlined in the International Civil Aviation Organization (ICAO) Annexes. These directives expand upon the requirements delineated in the Malaysian Civil Aviation Regulations.

2.6 Recognizing the critical importance of runway side stripe markings, CAAM through CAD 14 Vol I (Aerodrome Design and Operations) has adopted the standards outlined in Annex 14, specifically Standard 5.2.7.1. In light of this, CAD 14 Vol I has decided to enforce a more stringent level of implementation of SARPs.

A runway side stripe marking shall be provided between the thresholds of a paved runway.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) share relevant best practices by other States in the Asia-Pacific Region;
- c) suggest AP-AA/WG to develop regional guidance materials for cases whereby the aerodrome does not have runway side stripe marking and taxi side stripe marking using State's best practices and experiences; and
- d) discuss any relevant matters as appropriate.

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