

**55<sup>th</sup> CONFERENCE OF  
DIRECTORS GENERAL OF CIVIL AVIATION  
ASIA AND PACIFIC REGIONS**

*Denarau Island, Nadi, Fiji  
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AGENDA ITEM 3: AVIATION SAFETY

**DENOTING THE PERIMETER OF THE ILS/ MLS CRITICAL/  
SENSITIVE AREA OR LOWER EDGE OF INNER  
TRANSITIONAL SURFACE ON EXIT TAXIWAYS**

Presented by India

**INFORMATION PAPER**

**SUMMARY**

The application of the provisions in para 5.4.3.18 and 5.3.17.7 of ICAO Annex 14 Vol-1 for denoting the perimeter of the ILS/ MLS critical/ sensitive area or lower edge of Inner Transitional Surface both for day and night operations on exit taxiways creates a potential safety hazard in certain situations.

This paper highlights this challenge and suggests amendments in the relevant provisions to address the issue.

## **DENOTING THE PERIMETER OF THE ILS/MLS CRITICAL/ SENSITIVE AREA OR LOWER EDGE OF INNER TRANSITIONAL SURFACE ON EXIT TAXIWAYS**

### **1. INTRODUCTION**

1.1 As per existing provisions of the Annex 14 Vol-1 the perimeter of the ILS/ MLS critical/ sensitive area or the lower edge of the Inner Transitional Surfaces on exit taxiways are denoted by Runway Vacated Signs and/ or specified colour coding of the taxiway center line lights i.e. alternate yellow and green lights.

1.2 Further, the location of the runway vacated sign and limit of the specified colour coding of the taxiway centre line lights are at the perimeter of the ILS/ MLS critical/ sensitive area or till lower edge of the Inner Transitional Surface, whichever is farther from runway.

1.3 The application of the above provisions creates safety hazard in certain situation e.g. the pilots invariably reports “Runway clear” on R/T to the ATC at a position where the cockpit of the aircraft is in line with the Runway Vacated Sign or the moment cockpit crosses the end of alternate yellow and green taxiway centre line lights, whereas in reality at that moment the full length of the aircraft remains within the ILS/ MLS critical/ sensitive area or infringes the Inner Transitional Surface.

1.4 This risk due to the above mentioned hazard increases manifold, in case the aircraft becomes unserviceable at the point where the cockpit is in line with the runway vacated sign or nose wheel have crossed the end of alternate yellow and green light and pilot reports to ATC that aircraft is clear of runway.

### **2. DISCUSSION**

2.1 Para 5.4.3.18 of Annex 14 Vol-1 specifies the location of the Runway Vacated Sign as shown below.

*“5.4.3.18 A runway vacated sign shall be located at least on one side of the taxiway. The distance between the sign and the centre line of a runway shall be not less than the greater of the following:*

*a) the distance between the centre line of the runway and the perimeter of the ILS/MLS critical/sensitive area; or*

*b) the distance between the centre line of the runway and the lower edge of the inner transitional surface.”*

2.2 Similarly, Para 5.3.17.7 of Annex 14 Vol-1 specifies the characteristics of the taxiway centre line lights as shown below.

*“5.3.17.7 Taxiway centre line lights on an exit taxiway shall be fixed lights. Alternate taxiway centre line lights shall show green and yellow from their beginning near the runway centre line to the perimeter of the ILS/MLS critical/sensitive area or the lower edge of the inner transitional surface, whichever is farthest from the runway; and thereafter all lights shall show green (Figure 5-26). The first light in the exit centre line shall always show green, and the light nearest to the perimeter shall always show yellow.”*

2.3 As can be seen from the above, the location of the runway vacated sign and the limit of the alternate yellow and green taxiway centre line lights are exactly at the perimeter of the ILS/ MLS critical/ sensitive area or till the lower edge of the Inner Transitional Surface, whichever is farther from runway.

2.4 Further, it is experienced that pilots invariably are in a habit of reporting on R/T that the aircraft is clear of runway immediately on crossing of the runway vacated sign by cockpit or crossing the end of alternate green and yellow taxiway centre line lights whereas full length of the fuselage and the tail of the aircraft remains in the ILS/ MLS critical/ sensitive area or infringing the Inner Transitional Surface.

2.5 The following case study further highlights the issue and describes the risks involved in detail.

2.5.1 At one of the airport, the aircraft abandoned the take-off due rear tyre bursts and vacated on nearest Rapid Exit Taxiway. The pilot stopped the aircraft at a position where the cockpit was in line with the runway vacated sign and reported to ATC that aircraft has vacated and clear of the runway. However, the full length of the aircraft including the tail of the aircraft was still in the ILS sensitive area and also infringed the Inner Transitional Surface. ATC continued the operation of the runway without realizing the actual situation.

2.5.2 Only after intervention of the airside operations team, the ATC was informed of the actual situation and the operation of the runway was stopped till the aircraft was removed from the taxiway.

2.5.3 After discussing with pilot, it was revealed that the pilot stopped the aircraft and reported runway clear to ATC on seeing the runway vacated sign thinking that the runway vacated sign is located at a position where the aircraft including its tail shall be cleared of the ILS sensitive area and Inner Transitional Surface.

2.5.4 Also, due to the design of the face of the runway vacated sign similar to the runway holding position marking, it becomes exceedingly likely to misinterpret that the moment cockpit is in line with the sign, the aircraft is clear of the ILS/ MLS critical/ sensitive area and below the Inner Transitional surface.

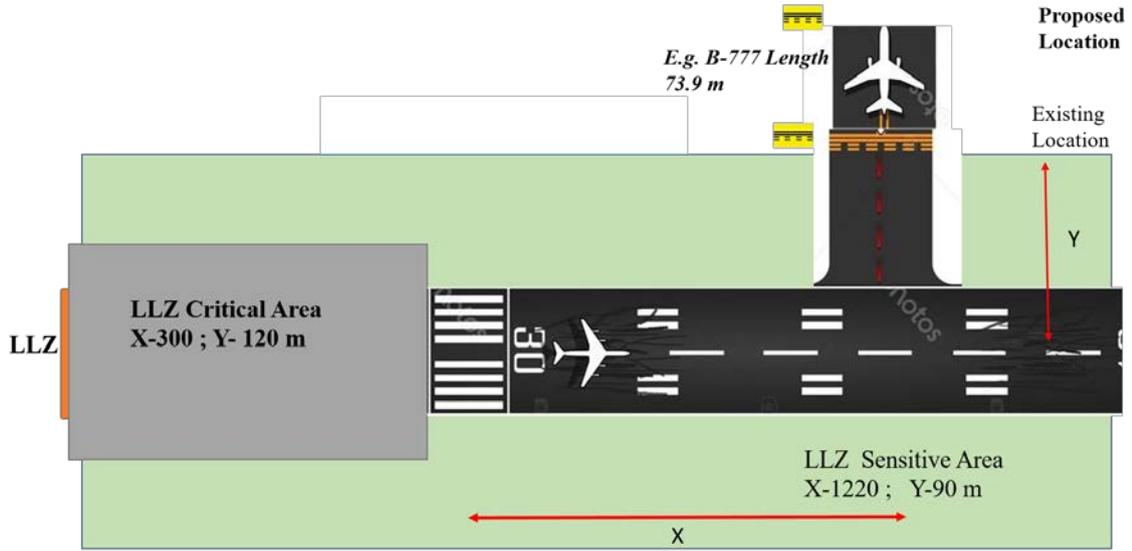
2.6 To address the issue, it is proposed that para 5.4.3.18 and 5.3.17.7 may be suitable modified to add longest length of the aircraft operating at the aerodrome for installation of “runway vacated sign” and extant of taxiway centerline lights to be provided on an exit taxiway. (See attached graphic)

### **3. ACTION BY THE CONFERENCE**

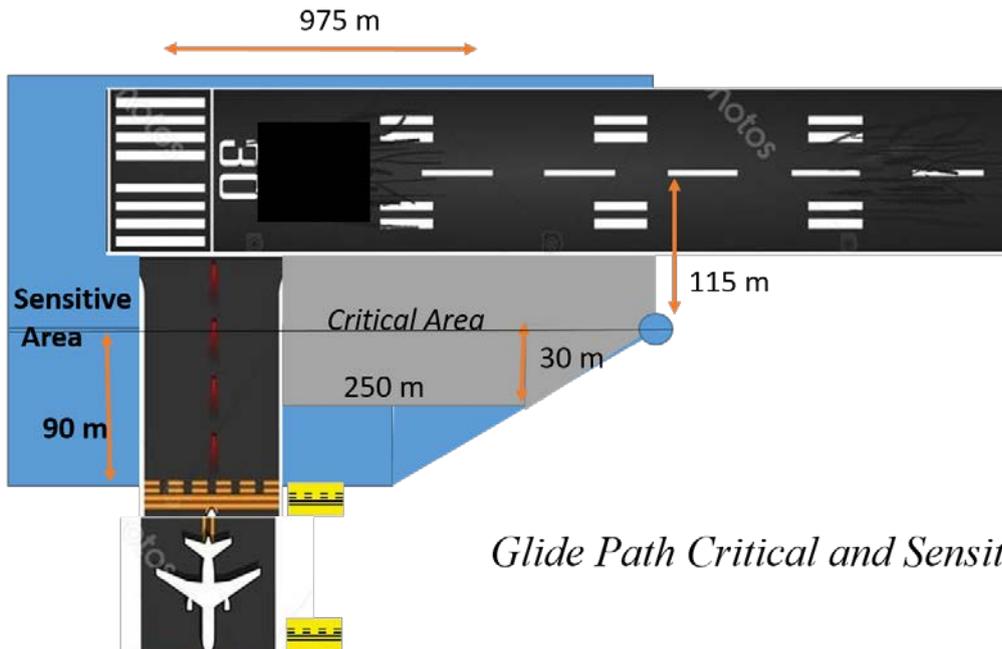
3.1 The Conference is invited to:

- a) discuss the information contained in this paper; and
- b) discuss any relevant matters as appropriate.

— END —



*Localizer critical and sensitive area*



*Glide Path Critical and Sensitive area*