



ICAO

International Civil Aviation Organization

Thirty-First Meeting of the Regional Airspace Safety
Monitoring Advisory Group (RASMAG/31)

Bangkok, Thailand, 29 June – 03 July 2026

Agenda Item 3: Reports from Asia/Pacific RMAs and EMAs

SUPPLEMENTARY SHARING OF CATEGORY I EVENTS

(Presented by China RMA)

SUMMARY

This paper provides additional information over Large Height Deviation (LHD) events recorded by China RMA during calendar year 2025. The analysis focuses on Category I events, defined as those attributable to factors such as turbulence.

1. INTRODUCTION

1.1 This report provides additional information over Large Height Deviation (LHD) events recorded by China RMA during calendar year 2025. The analysis focuses on Category I LHD events, defined as those attributable to factors such as turbulence.

2. DISCUSSION

2.1 In 2025, a total of 100 Category I LHD events were reported to China RMA. These events collectively resulted in a cumulative duration of 13.4 minutes.

2.2 The number of flight levels transitioned without clearance during these events amounted to 112 layers.

Examples are Shared to Provide General Information

Example 1

2.3 At 02:31 on July 9, 2025, VPCBB (Registration: VPCBB, Aircraft Type: GLF6) was maintaining an altitude of 12,200 meters and, due to thunderstorm weather ahead, deviated 20 NM to the right of airway W179. The aircraft was located 43 km east of NIXID when the controller observed altitude fluctuations. At 02:31:17, the automation system triggered a yellow LB warning (altitude deviation alert), which lasted for 120 seconds.

2.4 The controller immediately inquired whether the crew needed to change altitude; the crew replied that they did not, and requested to maintain 12,200 meters, to which the controller agreed. At 02:33:17, the aircraft returned to and maintained 12,200 meters.

2.5 Subsequently, upon inquiry, the crew reported encountering moderate to severe turbulence, with no reports of aircraft damage or personnel injuries. Radar playback showed that the aircraft's flight altitude was 12,200 meters (actual altitude 12,220 meters), with a minimum descent to 12,090 meters and a maximum deviation from the assigned altitude of 130 meters. During this period, the flight operated normally, and no other impacts were caused.

2.6 The event description clearly states that the aircraft's flight altitude fluctuated when it encountered turbulence, with a maximum deviation from the assigned altitude of 130 meters, and it also explicitly mentions 'altitude deviation alert, duration 120 seconds'. Therefore, China RMA recorded the LHD duration of this event as two minutes and number of flight levels transitioned without clearance as one layer.

Example 2

2.7 On May 8, 2025, HKE261 (A321, Registration BLEJ) deviated to the east side of airway W37 by 60 km due to weather conditions, at an altitude of 11,000 meters. At 16:28, the aircraft was located 60 km east of APESO, and radar showed it descending to 10,910 meters. The controller then instructed the flight to descend to 10,400 meters. The maximum deviation from the assigned altitude was 90 meters. After the event, when the crew was asked to confirm the reason for the altitude deviation, they reported: moderate turbulence encountered.

2.8 Since the aircraft's actual altitude deviated from the controller's cleared altitude by 90 meters in this event, China RMA recorded the number of flight levels transitioned without clearance as one layer. The report from ATS unit did not explicitly specify altitude fluctuations, nor did it indicate how long the aircraft flew at a certain altitude deviating from the cleared altitude. Therefore, the LHD duration of this event is recorded as zero.

Visualization

2.9 **Figure 1** provides a map of Category I LHD events in 2025.



Figure 1. Map of Category I LHD Events in 2025

Conclusion

2.10 Most Category I LHD events occurring within China RVSM airspace fall into one of the following two situations. In one situation, there is no significant altitude fluctuation, and the aircraft only climbs or descends when affected by weather conditions. When analyzing such events, China RMA only recorded the number of flight levels transitioned without clearance, and the LHD duration is recorded as 0. In the other situation, the aircraft experiences significant altitude fluctuations when encountering turbulence and the report from ATS unit explicitly specifies the duration of the altitude deviation alert. When analyzing such events, China RMA recorded both the LHD duration and the number of flight levels transitioned without clearance. However, regardless of which situation, China RMA classifies Category I LHD events as technical risk events.

2.11 China RMA aims to strengthen the reporting and analysis of Category I LHD events in the future reports.

3. ACTION BY THE MEETING

- 3.1 The meeting is invited to:
- a) review the information provided in the paper; and
 - b) discuss any relevant matters as appropriate.

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