

Failure to Capture Localizer Guidance

--- Safety Information Sharing

Presented to

The Fifteenth Meeting of the ICAO Asia-Pacific
Regional Aviation Safety Team [APRAST/15]

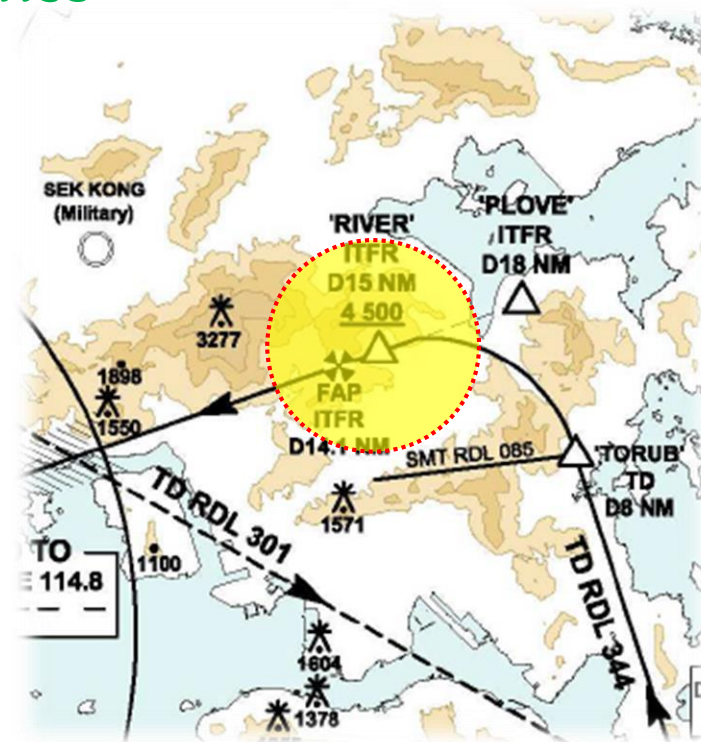
Presented by

Flight Standards and Airworthiness Division
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Failure to Capture Localizer Guidance

From June 2019 to April 2020, there were seven (7) cases concerning B787 aircraft failing to properly intercept the LOC track during ILS Runway (RWY) 25 approach into HKIA.



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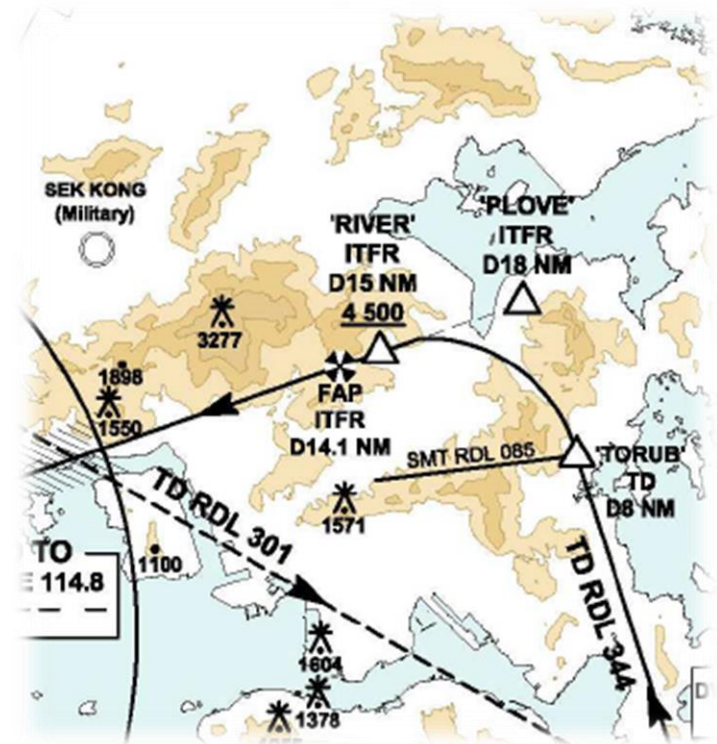
With collaborative efforts from industry partners such as the operators involved, the aircraft manufacturer and relevant National Civil Aviation Authorities (NCAAs), an aircraft Autopilot Flight Director System (AFDS) software issue has been identified to have contributed to these anomalies.

Failure to Capture Localizer Guidance

- Operators have reported AFDS did not provide proper guidance when intercepting the LOC at large angles (40 degrees or above);
- The failure to properly capture the LOC can take place at any airport;
- The anomaly was reproduced in the simulator.

Actions Taken

While a fix is being formulated by the aircraft manufacturer, proactive actions were thereby taken by Hong Kong, China to mitigate the risks involved and prevent recurrence in the interim, including alerting all relevant Hong Kong airspace operators and pilots operating into HKIA and temporarily amending ATC procedures



Actions Taken

- a) Hong Kong, China has issued an internal safety alert to ATC controllers reminding them of the special handling procedures;
- b) A reminder was issued to all B787 operators into HKIA informing them about the recent occurrences of B787 aircraft failing to properly capture the ILS LOC track at HKIA, and raising their attention that they should remain vigilant and adhere to the published procedures at all times, especially during the descent and approach phases;
- c) Aeronautical Information Circular (AIC) 09/20 on ‘Terrain Clearance for Arriving and Departing HKIA Traffic’ and AIC 12/20 on “Coverage of ILS Facilities and Warning of False Capture and Signal Deviation at Hong Kong International Airport” were



Actions Taken

- d) A Notice to Airmen (NOTAM) (A0658/20) was also issued with a view to raise their awareness about the LOC capture anomalies of RWY 25 ILS/LOC for B787. In addition, a reminder was added in the HKIA Arrival Automatic Terminal Information Service (ATIS) message;
- e) Hong Kong, China has implemented an ATC procedure to vector all B787 arriving HKIA on RWY 25 with a shallower intercepting angle to the LOC; and
- f) Hong Kong, China has brought this issue to the attention of the ICAO with a view to share safety information to other States/Administrations.



Proactive Safety Management

According to the information from the aircraft manufacturer, the failure to properly capture LOC can take place at any airport and the software fix is expected to be available around **Q1 2021**. The associated safety risk to the affected air operators, Air Navigation Service Providers (ANSPs) and NCAAs is therefore recommended to be carefully and proactively managed.

The Meeting is invited to:

- 1) note proactive actions taken by Hong Kong, China since the corresponding AFDS software fixes may take some time;
- 2) recommend the ICAO to issue a State Letter to the States/Administrations on the hazard and promote sharing of safety information on similar incidents at other airports;
- 3) recommend the States/Administrations to remind B787 aircraft operators and ANSPs to remain vigilant and adhere to the published procedures at all times;
- 4) recommend States/Administrations/Industry to expedite the implementation of effective measures for mitigating the safety risk associated with the failure of LOC capture



Thank you!

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