

FINAL INVESTIGATION REPORT

11-10



INCIDENT OF TCAS-RA REPORTED BY UAE600
B77W REG. NO. A6EGV (DUBAI - KARACHI) ON
11TH OCTOBER, 2016

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INVESTIGATION INTO THE INCIDENT OF TCAS-RA REPORTED BY UAE600
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SYNOPSIS

On 11th October, 2016 M/s Emirates Air Flight No. UAE600 (B77W, Reg No. A6EGV) from Dubai to Karachi encountered TCAS-RA at position 17 NM South West of Karachi while descending through FL118 for FL110 due to M/s Arabian Air Flight No. ABY540 (A320, Reg No. A6ANX) from Karachi to Sharjah which was climbing to FL100. The incident was reported in daily IOU Report for the period 110500LT to 120500LT (**Appendix 'A'**). Notification issued vide letter no. HQCAA/1904/40 /102/SIB/537 dated 18th October, 2016 (**Appendix 'B'**). All available evidences were analyzed at Safety Investigation Board (SIB). Significant findings and recommendations of SIB are as under:-

1. FACTUAL INFORMATION

- 1.1. **History of Flight.** M/s Emirates Air Flight No. UAE600 (B77W, Reg No. A6EGV) from Dubai to Karachi and M/s Arabian Air Flight No. ABY540 (A320, Reg No. A6ANX) from Karachi to Sharjah were schedule flights.
- 1.2. **Injuries to Person(s).** No injury was reported on board to any of the passengers.
- 1.3. **Damage to Aircraft.** No damage occurred due to this incident to any aircraft.
- 1.4. **Other Damages.** None.
- 1.5. **Personnel Information.** Not applicable.
- 1.6. **Aircraft Information.**
 - 1.6.1. **M/s Emirates Air (UAE600)**

Aircraft Make	:	Boeing
Type of Aircraft	:	B77W
Aircraft Registration	:	A6EGV
Sector	:	Dubai to Karachi
Flight Conditions	:	DESCENDING
Altitude	:	FL110
 - 1.6.2. **M/s Arabian Air (ABY540)**

Aircraft Make	:	Airbus
Type of Aircraft	:	A320
Aircraft Registration	:	A6ANX
Sector	:	Karachi to Sharjah
Flight Conditions	:	CLIMBING
Altitude	:	FL100
- 1.7. **Meteorological Information.** No significant weather was reported at operating altitude at the time of occurrence.

- 1.8. **ATC Tape Extracts.** Audio / video tape extracts (**Appendix 'C' & 'D'**) were obtained for detailed analysis.
- 1.9. **Resumption of Navigation by Aircraft.** Post occurrence, the aircraft continued for their respective destination
- 1.10. **Sequence of Events.**
 - 1.10.1. At 05:22:36 (UTC) UAE600 contacted Karachi Approach while passing F220 descending to FL150. In response Karachi Approach advised UAE600 to descend and maintain FL150 and to turn right heading 090°. This was acknowledged by the aircraft.
 - 1.10.2. At 05:26:15 (UTC) Karachi Approach re-cleared UAE600 to descend to FL130 which was acknowledged by the aircraft..
 - 1.10.3. At 05:27:44 (UTC) ABY540 contacted Karachi Approach after departure. Karachi Approach advised ABY540 to climb FL60.
 - 1.10.4. At 05:29:10 (UTC) Karachi Approach advised ABY540 to fly heading 200° and climb to FL100 which was acknowledged by the aircraft.
 - 1.10.5. At 05:29:41 Karachi Approach advised ABY540 to turn right heading 270° which was acknowledged by the aircraft.
 - 1.10.6. At 05:29:59 (UTC) Karachi Approach re-cleared UAE600 to descend FL110 and turn left heading 075° which was acknowledged by aircraft.
 - 1.10.7. At 05:30:22 (UTC) Approach Controller cleared ABY540 to proceed direct to "PARET".
 - 1.10.8. At 05:31:16 (UTC) UAE600 reported TCAS – RA.
 - 1.10.9. At 05:31:35 (UTC) ABY540 intimated Tower that we are at FL95 and got the traffic.
 - 1.10.10. At 05:32:43 (UTC) ABY540 reported that at FL95 got TCAS-RA as well, now at FL100.

2. FINDINGS

- 2.1 Duty Approach Radar Controller provided standard separation by assigning FL100 to ABY540 and FL110 to UAE600.
- 2.2 As per Radar video tracing:
 - 2.2.1 ABY540 was observed maintaining high rate of climb (3745 ft/min) at the point while climbing through FL92 for FL100. At this time UAE600 was approx 4 NM 10 O'clock to ABY540.
 - 2.2.2 Similarly UAE600 was observed maintaining high rate of descend (2394 ft/min) at the same point while descending through FL116 for FL110.
 - 2.2.3 Both aircraft crossed each other at 4 NM abeam position with vertical separation of 1800 ft.
- 2.3 There was no loss of separation between UAE600 and ABY540
- 2.4 Both aircraft reported TCAS-RA on R/T.

- 2.5 Traffic information was passed to UAE600 only.
- 2.6 Both UAE600 and ABY540 maintained high vertical speed profile during last 1000ft of the assigned level / altitude.
- 2.7 Approach radar Controller issued series of heading instructions to ABY540 and UAE600 without informing pilot about the purpose of taking aircraft on Radar vectors.

2.8 Cause Of Occurrence

- 2.8.1 TCAS-RA triggered due to non compliance of the recommended procedures by UAE600 and ABY540 on vertical speed limitation during last 1000ft of assigned level / altitude as mentioned in ICAO Doc 9863 ACAS Manual.

3. SAFETY RECOMMENDATIONS

- 3.1. M/s Emirates Air and M/s Arabian Air to thoroughly brief their cockpit crew for strict adherence to the recommended procedure in respect of descent / climb limitation during last 1000ft of the assigned altitude, as mentioned in ICAO Doc 9863 ACAS Manual.

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