



Draft Final Report on Serious Incident between
M/s Air Asia Ltd. VT-JRT, A320
and
M/s Interglobe Ltd (Indigo) VT-IEW, A320
in
Varanasi ACC
on
16.04.2017

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Assistant Director
Member, Committee of Inquiry

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Foreword

In accordance with Annex 13 to the Convention on International Civil Aviation Organization (ICAO) and Rule 3 of Aircraft (Investigation of Accidents and Incidents), Rules 2017, the sole objective of the investigation of an incident or accident shall be the prevention of incidents and accidents and not apportion blame or liability.

This document has been prepared based upon the evidences collected during the investigation, opinion obtained from the experts and laboratory examination of various components. Consequently, the use of this report for any purpose other than for the prevention of future incidents /accidents could lead to erroneous interpretations.

Glossary

AAIB	Aircraft Accident Investigation Bureau, India
AGL	Above Ground Level
AIP	Aeronautical Information Publication
AOP	Air Operator Permit
ATCO	Air Traffic Control Officer
ATIS	Automatic Terminal Information Service
AUW	All Up Weight
CDU	Control and Display Unit
C of A	Certificate of Airworthiness
C of R	Certificate of Registration
COI	Committee of Inquiry
CPL	Commercial Pilot License
DFDR	Digital Flight Data Recorder
EFB	Electronic Flight Bag
FMC	Flight Management Computer
ICAO	International Civil Aviation Organization
IATA	International Air Transport Association
IFR	Instrument Flight Rule
MHz	Mega Hertz
MTOW	Maximum Take Off Weight
NOTAM	Notice to Airmen
PIC	Pilot In Command
Pax.	Passenger
QFE	Query: Field Elevation
QNH	Query: Nautical Height
R/T	Radio Telephony
VHF	Very High Frequency
UTC	Co-ordinated Universal Time

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Final Report on Serious Incident between M/s Air Asia Ltd. VT-JRT IAD768 A320 & M/s Interglobe Ltd (Indigo) VT-IEW IGO398, A320 in Varanasi ACC on 16.04.2017.

1. Aircraft

Type : A320-216 (Air Asia)/ A320-232 (Indigo)

Nationality : INDIAN

Registration : VT-JRT (Air Asia)/ VT-AIV (Indigo)

2. Owner/ Operator : M/s Air Asia Ltd. / M/s Interglobe Ltd.(Indigo)

3. Pilot – in –Command : ATPL Holder for both Air Asia and Indigo

Extent of injuries : Nil

4. First Officer : CPL Holder for both Air Asia and Indigo

Extent of injuries : Nil

5. Place of Incident : Varanasi ACC

6. Date & Time of Incident : 16th April 2017; 08:06 UTC

7. Last point of Departure : Bagdogra for Air Asia and New Delhi for Indigo

8. Point of intended landing : New Delhi for Air Asia and Bagdogra for Indigo

9. Type of operation : Schedule Operation for Air Asia & Indigo

10. Crew on Board : 02+04 Crew for both Air Asia and Indigo

Extent of injuries : Nil

11. Passengers on Board : 170 (Air Asia) and 175 (Indigo)

Extent of injuries : Nil

12. Phase of operation : Descending for Air Asia & Level Cruise for Indigo

13. Type of Occurrence : Air Proximity

(ALL TIMINGS IN THE REPORT ARE IN UTC)

Synopsis:

“On 16.04.2017, Air Asia’s flight IAD768, A320, west bound flight from Bagdogra to New Delhi was given descent from FL360 to FL340 by the Varanasi Radar Controller and the same was correctly read back by the Crew of IAD768¹. IAD768 continued descent to FL320 without authorization from Varanasi ATC and became a potential Conflict to the reciprocal east bound Indigo flight IGO398 from New Delhi to Bagdogra at a level cruise at FL330. IGO398 reported getting traffic advisory and was observed to be turning right to avoid the essential traffic whereas the Radar Controller advised IGO398 to turn left heading 020. The Crew of IAD768 and Radar Controller were involved in argument² over R/T.

Thereafter the flights were uneventful. The lateral and vertical separation was reduced to 5 NM and Zero feet respectively. There was no injury to person on board both the aircraft and there was no fire.

Ministry of Civil Aviation constituted a committee of inquiry, vide notification number AV-15013/04/2017-DG, to investigate the cause of the Serious Incident under Rule 11 (1) of Aircraft (Investigation of Accidents and Incidents), Rules 2012 comprising of Dr. Jitender Loura, Assistant Director, AAIB as Chairman and Shri Raje Bhatnagar, Assistant Director, AAIB as member.

1. Factual Information:

1.1 History of the flight

1. IAD768, A320 from Bagdogra to Delhi was maintaining FL360 when it came in Contact with Varanasi Radar Controller. IGO398, A320 from Delhi to Bagdogra was maintaining FL330 when it came with Varanasi Radar Controller. There was two way communication established between Varanasi Radar and the two aircrafts IAD768 & IGO398 on frequency 128.15 MHz.

¹ Varanasi - ATC Tape Transcript

² *ibid*

2. Varanasi Radar Controller asked IAD768 the estimates for waypoints LKN (Lucknow) and JAL (Jalalabad) and after receiving estimates asked IAD768 at 07:56 UTC that “FL360 not available³. Alternate FL380 or FL320. Report requested level.” and IAD768 requested FL320. To this request, Radar Controller asked IAD768 to standby for lower level.
3. At time 08:01 UTC Radar Controller gave descent to IAD768 to FL340 which was duly acknowledged by Crew of IAD768.
4. IAD768 continued descend below FL340 without any authorization from Radar Controller.
5. Radar Controller also lacked surveillance over IAD768 and was busy with other non – priority transmissions like Radar Service terminated Contact....., which could have been attended after addressing IAD768 who was heading for an airprox.
6. At time 08:04:49 UTC, When IAD768 was passing FL334 with rate of descend 1000 feet per minute and 12 miles from reciprocal IGO398, Radar Controller asked IAD768 “ IAD768 Radar, IAD768 Radar report Level” to which IAD replied FL332 for FL320 and again FL330 for FL330.
7. At time, 08:05:08 UC, Radar Controller gave avoiding action to IGO398 to turn left heading 020° but IGO preferred an immediate right turn to avoid the traffic.
8. IAD768 passed through the level of IGO398 at approximately 5 miles. The relative speed/rate of closure of the aircrafts was with a relative speed of 850 knots per hour.
9. IGO398 reported getting traffic advisory (TA).
10. Crew of IAD768 also reported getting Traffic Advisory (TA).

³ Varanasi ATC tape transcript and Radar replay.

11. The Crew of IAD768 and Radar Controller were involved in argument⁴ over R/T.

12. Thereafter the flights were uneventful.

13. Visibility was reported to be 3000m in Haze.

1.2 Injuries to persons.

INJURIES	CREW	PASSENGERS	OTHERS
FATAL	Nil	Nil	Nil
SERIOUS	Nil	Nil	Nil
MINOR/NONE	(02+04) Air Asia (02 +04) Indigo	170 Air Asia 175 Indigo	Nil

1.3 Damage to aircraft: Nil

1.4 Other damage: Nil

1.5 Personnel information:

1.5.1 M/s Air Asia Ltd. -VT-JRT

Pilot in command

⁴ *ibid*

1.5.2 M/s Interglobe Ltd. (Indigo) - VT-IEW

Pilot- in-Command:

AGE	27 Years and 01 Month
License	ATPL
Date of License Issue and Valid up to	21 st June 2013 Valid up to 20 th June 2020
Category	Aero plane
Class	MEL – Land / Sea
Endorsements as PIC	Cessna 152A, Piper Seneca PA34, A320
Date of Joining Company	08 th November 2010
Date of Endorsement as PIC on type	08 th May 2015
Instrument Rating	12 th December 2016
Date of RTR Issue and Valid up to	17 th September 2011 valid up to 09 th July 2018
Date of FRTOL issue & validity	04 th February 2014 valid up to 03 rd February 2019
Date of Med. Exam & validity	19 th May 2016 valid up to 18 th May 2017
Date of Route Check	17 th April 2017
Date of Last Proficiency Check	12 th December 2016
Date of English language Proficiency	31 st January 2017 valid up to Lifetime (PELA-6)
Date of last CRM	29 th November 2016
Date of last Monsoon training	12 th December 2016
of Dangerous Goods Awareness Training	22 nd July 2016
Date of last Refresher/Simulator	01 st December 2016
Simulator Training for Critical Emergencies	----
Familiarity with Route/ Airport flown for last	SXR cleared as a P2

12 months and since joining the company.	Gulf cleared as a PIC EDTO cleared as a PIC
Total flying experience	4537:27 Hrs
Total Experience on type	4392:20 Hrs
Total Experience as PIC on type	1217:24 Hrs
Last flown on type	14 th April 2017
Total flying experience during last 01 Year	674:21 Hrs
Total flying experience during last 180 days	380:35 Hrs
Total flying experience during last 90 days	238:08 Hrs
Total flying experience during last 30 days	99:34 Hrs
Total flying experience during last 07 Days	22:38 Hrs
Total flying experience during last 24 Hours	06:14 Hrs
Rest period before the flight	24 Hrs

Co-pilot:

AGE	26 Years and 10 Months
License	CPL
Date of License Issue and Valid up to	28 th January 2010
Category	Aero plane
Class	MEL – Land / Sea
Endorsements as PIC	Cessna 172, Duchess 76
Date of Joining Company	27 th August 2015
Date of Endorsement as PIC on type	NA
Instrument Rating	29 th May 2016
Date of RTR Issue and Valid up to	27 th November 2014 valid up to 08 th June 2070
Date of FRTOL issue & validity	21 st December 2014 valid up to 20 th December 2019
Date of Med. Exam & validity	28 th June 2016 valid up to 27 th June 2017
Date of Route Check	01 st January 2017
Date of Last Proficiency Check	10 th November 2016
Date of English language Proficiency &	03 rd November 2014 valid up to 02 nd November 2020

Valid up to	
Date of last CRM	13 th September 2016
Date of last Monsoon training	10 th November 2016
Date of Dangerous Goods Awareness Training	24 th September 2015
Date of last Refresher/Simulator	15 th September 2016
Simulator Training for Critical Emergencies	
Familiarity with Route/ Airport flown for last 12 months and since joining the company.	Cleared for short airfield as a P2
Total flying experience	1306:41 Hrs
Total Experience on type	1018:35 Hrs
Total Experience as PIC on type	NA
Last flown on type	14 th Apr 2017
Total flying experience during last 01 Year	788:07 Hrs
Total flying experience during last 180 days	412:27 Hrs
Total flying experience during last 90 days	184:31 Hrs
Total flying experience during last 30 days	40:26 Hrs
Total flying experience during last 07 Days	26:36 Hrs
Total flying experience during last 24 Hours	06:14 Hrs
Rest period before the flight	24 Hrs

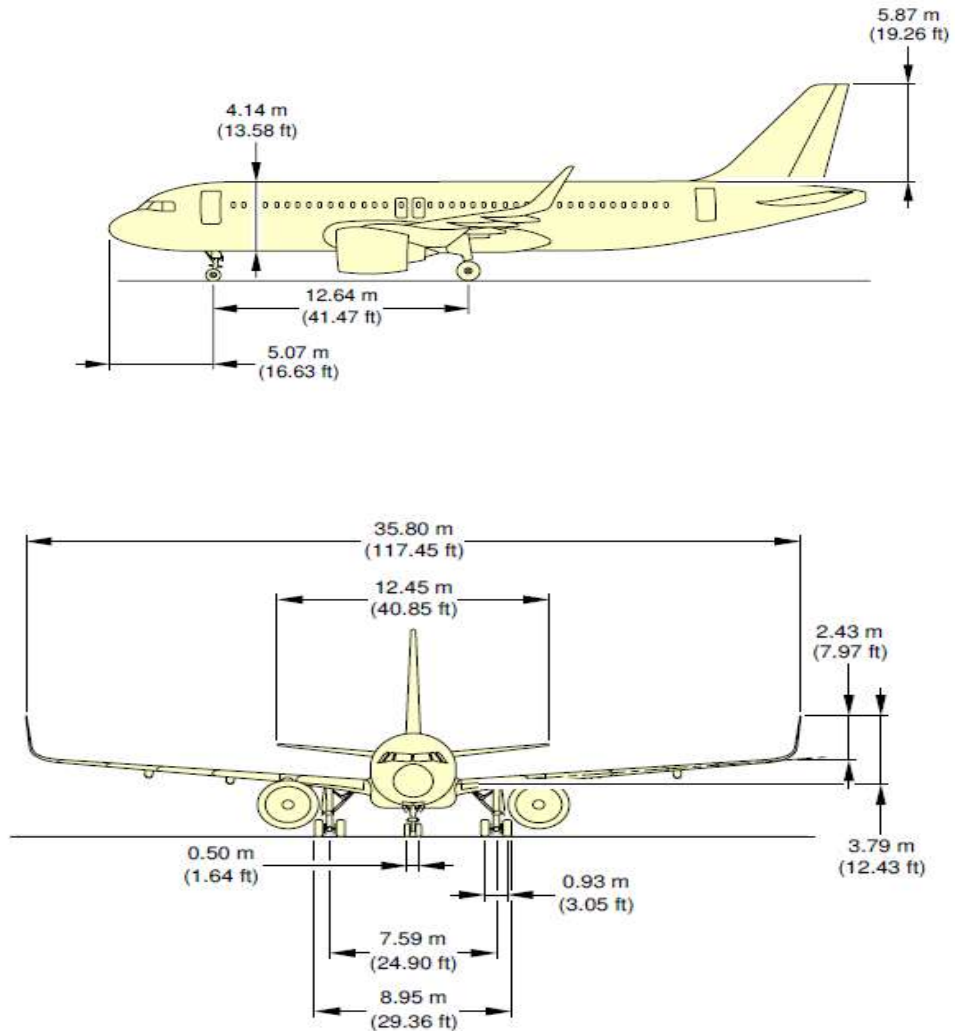
1.5.3 Radar (RSR) Controller

STATION	ATC UNIT	Date of RATING
Varanasi Airport	ADC/APP	30 th November 2015
	ACC	02 nd June 2016
	RSR	09 th January 2017

1.6 Aircraft information:

1.6.1 M/s Air Asia Ltd. : A320-216 and M/s Inter-globe Ltd.: A320-232

The A320 is a subsonic, medium-range, civil transport aircraft. The aircraft has two high bypass turbofan engines manufactured by M/S CFM General. The aircraft is designed for operation with two pilots and has passenger seating capacity of 180 pax.



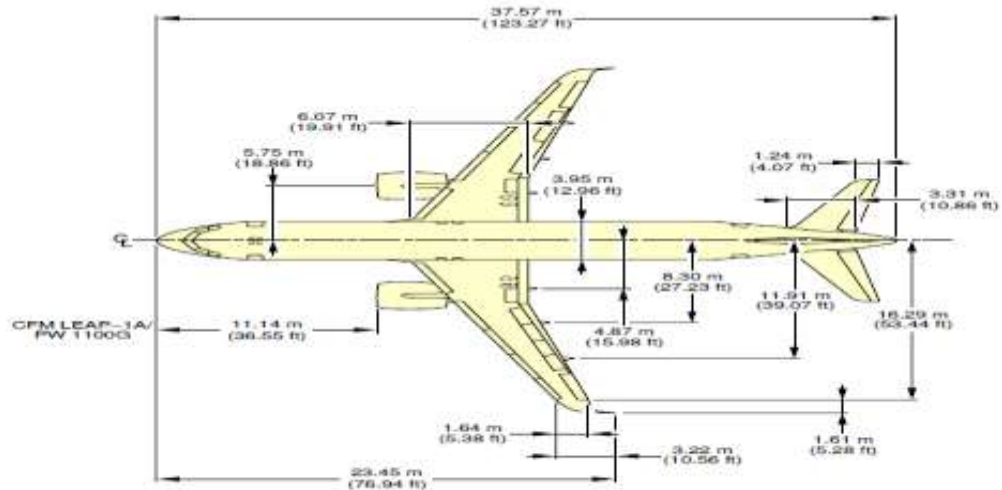


Figure 1: An A320-232 aircraft

The aircraft is certified in Normal (Passenger) category, for day and night operation under VFR & IFR. The maximum operating altitude is 39800 feet and the maximum Laden weight (MTOW) is 77000 Kgs. The Aircraft length is 37.57 meters, wingspan is 34.10 meters and height of this aircraft is 12.08 meters. The distance between main wheels is 8.95 meters. The distance between engines is 11.5 meters and Engine Ground Clearance is 0.85 meters.

Airbus A320-232 aircraft VT-IEW (MSN 5155) had been manufactured in year 2012. The aircraft is registered under Category 'A' and the Certificate of registration No. 4329/1. The Certificate of Airworthiness Number 6438 under "NORMAL category" subdivision Passenger / Mail / Goods was issued by DGCA. The specified minimum operating crew is two and the maximum all up weight is 73500 Kgs. At the time of incident the Certificate of Airworthiness was current.

The Aircraft was holding a valid Aero Mobile License No. A-002/062/-RLO(NR) at the time of serious incident. This aircraft was operated under Scheduled Operator's Permit No S-19 which was valid up to 02.08.2017. The aircraft's left and right engine's serial Number and hours/cycles logged on the day of serious incident i.e. 16.04.2017 are:

1. Engine number 1: Serial Number V16238 and 16242 hours and 11307 cycles.

2. Engine number 2: Serial number V16237 and 15612 hours and 10837 Cycles.

The Airbus A320 aircraft and its engines are being maintained as per the maintenance programme consisting of calendar period/ flying hours or cycles based maintenance as per maintenance programme approved by Regional Airworthiness office.

Accordingly, the last major inspection 5 Year check carried out on 23.03.2017. Subsequently all lower inspections (Preflight checks, Service Checks, Weekly Checks) were carried out as and when due before the incident. The aircraft was last weighed on 14.05.2012 and the weight schedule was prepared and duly approved by the office of Director of Airworthiness, DGCA. Prior to the incident flight the weight and balance of the aircraft was well within the operating limits.

All the concerned Airworthiness Directive, mandatory Service Bulletins, DGCA Mandatory Modifications on this aircraft and its engine has been complied with as on date of serious incident.

Airbus A320-216 aircraft VT-JRT (MSN 3448) had been manufactured in year 2008. The aircraft is registered under Category 'A' and the Certificate of registration No. 4539/2. The Certificate of Airworthiness Number 6649 under "NORMAL category" subdivision Passenger / Mail / Goods was issued by DGCA. The specified minimum operating crew is two and the maximum all up weight is 73500 Kgs. At the time of incident the Certificate of Airworthiness was current.

The Aircraft was holding a valid Aero Mobile License No. A-122/WRLO-15 at the time of serious incident. This aircraft was operated under Scheduled Operator's Permit No S-26 which was valid on the date of serious incident. The aircraft's left and right engine's serial Number and hours/cycles logged on the day of serious incident i.e. 16.04.2017 are:

1. Engine number 1: Serial Number 697520 and 32604:08 hours and 20882 cycles.
2. Engine number 2: Serial number 697170 and 34853:57 hours and 20999 Cycles.

The Airbus A320 aircraft and its engines are being maintained as per the maintenance programme consisting of calendar period/ flying hours or cycles based maintenance as per maintenance programme approved by Regional Airworthiness office.

Accordingly, the last major inspection (C5 check, landing gear and engine change) was carried out on 22.11.2016. Subsequently all lower inspections (Preflight checks, Service Checks, Weekly Checks) were carried out as and when due before the incident. The aircraft was last weighed on 18.03.2015 and the weight schedule was prepared and duly approved by the office of Director of Airworthiness, DGCA. Prior to the incident flight the weight and balance of the aircraft was well within the operating limits.

All the concerned Airworthiness Directive, mandatory Service Bulletins, DGCA Mandatory Modifications on this aircraft and its engine has been complied with as on date of serious incident.

1.7 Meteorological information:

Date: 16th April 2017 Time of Observation: 07:30 UTC Wind: 070° 09 Kts

Visibility: 3000 meters Weather: HZ (Haze) Cloud: NSC

Temperature: 29 ° C Dew Point: 15 ° C QNH: 1006 hPa

1.8 Aids to navigation:

All the aids to navigation including Radar frequency 128.15 MHz were reported working normal.

1.9 Communications:

During the period of occurrence both the aircrafts, IAD768, A320 and IGO398, A320 were in contact with ATC on RSR frequency 128.15 MHz. There was always two way communications between the ATC and both the aircrafts.

1.10 Aerodrome information:

Lal Bahadur Shastri International Airport (IATA: VNS, ICAO: VEBN) is a public airport located at Babatpur, 26 km northwest of Varanasi, Uttar Pradesh, India. It is India's 21st-busiest airport in terms of passenger movement and second-busiest airport in Uttar Pradesh. The air traffic services at Varanasi airport are provided by AAI which includes Aerodrome Control service (ADC/SMC), Approach Control service (APP), Area Control Service (ACC) and Route Surveillance Radar Service (RSR).

1.11 Flight recorders:

The ATC tape transcripts of frequency 128.15 MHz and Radar Snap Shots along with DFDR data were analyzed for observations. It reveals that:

1. IAD768, A320 from Bagdogra to Delhi was maintaining FL360 when it came in Contact with Varanasi Radar Controller. IGO398, A320 from Delhi to Bagdogra was maintaining FL330 when it came with Varanasi Radar Controller. There was two way communication established between Varanasi Radar and the two aircrafts IAD768 & IGO398 on frequency 128.15 MHz.
2. Varanasi Radar Controller asked IAD768 the estimates for waypoints LKN (Lucknow) and JAL (Jalalabad) and after receiving estimates asked IAD768 at 07:56 UTC that “FL360 not available⁵, Alternate FL380 or FL320, Report requested level.” and IAD768 requested FL320. To this request, Radar Controller asked IAD768 to standby for lower level.
3. At time 08:01 UTC Radar Controller gave descent to IAD768 to FL340 which was duly acknowledged by Crew of IAD768.
4. IAD768 continued descend below FL340 without any authorization from Radar Controller.

⁵ Varanasi ATC tape transcript and Radar replay.

5. Radar Controller also lacked surveillance over IAD768 and was busy with other non –priority transmissions like Radar Service terminated Contact....., which could have been attended after addressing IAD768 who was heading for an airprox.
6. At time 08:04:49 UTC, When IAD768 was passing FL334 with rate of descend 1000 feet per minute and 12 miles from reciprocal IGO398, Radar Controller asked IAD768 “ IAD768 Radar, IAD768 Radar report Level” to which IAD replied FL332 for FL320 and again FL330 for FL330.
7. At time, 08:05:08 UC, Radar Controller gave avoiding action to IGO398 to turn left heading 020° but IGO preferred an immediate right turn to avoid the traffic.
8. After this there was argument between the Radar Controller and Crew of IAD768 on R/T from 08:05:20 to 08:05:52 UTC.
9. IAD768 crossed the flight level of IGO398 i.e. FL330 at time 08:05:05 UTC with rate of descend 2300 feet per minute and the maximum rate of descend was observed to be 2820 feet per minute at time 08:05:10 with IAD768 passing FL327.

1.12 Wreckage and impact information.

There was no damage to either of the aircraft or to any ground facilities.

1.13 Medical and pathological Information:

The cockpit crew of both M/s Tata Singapore Airlines (Air Asia) and M/s Interglobe (Indigo) had undergone pre-flight medical check prior to the flight and the same was found to be satisfactory.

1.14 Fire:

There was no fire.

1.15 Survival aspects:

The incident was survivable.

1.16 Tests and research: Nil

1.17 Organizational and management information:

M/s Inter-globe is an Indian registered Schedule airline It operates scheduled flights to both domestic and international sectors. The Flight Safety Department is headed by Chief of Flight Safety approved by DGCA. M/s Inter-globe has a full established Operations training facility for the pilots. M/s Air Asia Ltd is also an Indian registered scheduled Air Operator. The Flight Safety Department is headed by Chief of Flight Safety approved by DGCA.

Airports authority of India (AAI) is a public sector undertaking. AAI provides Air Navigation Services in air space measuring 2.8 million square nautical miles which cover entire Indian air space. The Air Traffic Services at Varanasi airport are provided by AAI which includes Route radar Surveillance, Area control Service, Approach Control Service and Aerodrome Control Service.

1.18 Additional information:

1.18.1 The analysis of Log books of Tower, Approach and Area, Duty rosters of ATCOs from October 2016 to April 2017 and Proficiency Check report of AAI reveals that:

1. There were 20⁶ radar Controllers at Varanasi airport as on the date of serious incident and these controllers were rated, as per records in RSR, Tower, Approach and Area Units
2. Out of these 20 Radar Controllers, as on date of serious incident, three radar controllers [as mentioned at S.No. 14,16 and 19 of email dated 24/07/2017 sent by ATS-in-Charge, Varanasi] have failed to perform even a single duty in Area (ACC) Control for over 180 days and thus rendering their Area rating/authorization as invalid and the three Radar Controllers have lost the privilege of providing ATC services in Area Control.
3. Out of these 20 Radar Controllers, one Radar Controller, who is looking after the duties of Training-in-Charge as on date, [at S.No. 04 of the email dated 24.07.2017 sent by ATS-in-Charge, Varanasi] performed a single duty in Area Control for just 05 minutes

⁶ Email from ATS-in Charge Varanasi dated 24.07.2017

for over 180 days i.e. from 0535 UTC to 0540 UTC on 15.03.2017. There are several Radar Controllers who have performed duties ranging from 15 minutes, 20 minutes, 25 minutes, 30 minutes and for that matter less than one hour at a time.

4. Out of these 20 Radar Controllers, as on date of serious incident, Six radar controllers (including the Radar controller involved in the serious incident) have failed to perform even a single duty in Aerodrome/Approach Control for over 180 days. One Radar Controller who is looking after the duties of Training-in-Charge as on date, performed one duty in Aerodrome/Approach Control for 01: 20 hrs from 14:25 to 15:45 hrs on 13/09/2016 and thereafter failed to perform even a single duty in over 180 days and SEVEN radar Controllers [as mentioned at S.No. 04,05,09,10,15,18 and 20 of email dated 24/07/2017 sent by ATS-in-Charge, Varanasi] rendered their Aerodrome/Approach Control rating/authorization as invalid and these seven Radar Controllers have lost the privilege of providing ATC services in Aerodrome/Approach Control.
5. The ATS-in-Charge who prepared/signed the duty roster for the ATCOs failed to mark the duty of the Radar Controllers in various procedural units for keeping their Aerodrome/Approach/Area ratings current.
6. The Training-in-Charge who prepared/signed the duty roster for the ATCOs for the month of February 2017 also failed to mark the duty of the Radar Controllers in various procedural units to keep their Aerodrome/Approach/Area ratings current.

1.18.2 Incidents of Similar Nature:

1. **In Serious incident between JAI792 and LLR628 in Nagpur on 02.12.2016**, it was found that:
 - Out of 19 Radar Controller at the time of serious incident, none of the Radar Controllers have performed duties in Aerodrome Control for over 180 days thus rendering their rating/authorization to perform independent duty in Aerodrome Control as INVALID.

- 19 Radar Controllers including the ATC training-in-charge, SQMS-in-charge, Watch Supervisory Officer (WSO) have Tower rating lapsed.
- The RSR Controller involved in the serious incident fails to perform duty in Tower, Approach and Area for over an year i.e. from January 2016 to January 2017 and has lost the privilege of performing independent duty in Nagpur Tower, Approach and Area. Thus his procedural ratings have lapsed.
- In respect of Approach rating, 16 of the 19 radar Controllers have their Approach rating Lapsed. The three remaining Radar Controllers performed duty in segregated approach for the duration varying from 01:40 Hrs to 03:00 Hrs to 08:12 Hrs... in total in over one year. They have performed duty as minimum as 05 minutes and 15 minutes as one duty.
- Seven of the 19 Radar Controllers have their Area (ACC) rating expired.
- There were six radar Controllers who had all of their Procedural ratings i.e. Tower, Approach and Area expired/Lapsed/Void during the period of analysis i.e. January 2016 to January 2017.
- The ATS- in-charge, the training in charge and WSOs at Nagpur airport failed to mark/reassign the duties of ATC Controllers/Radar Controllers in all the units for which these controllers were holding the ratings and thereby failed to give the controllers an opportunity to do an independent duty in the units to keep their ratings current/Valid.
- It has been observed that ATC Controllers have performed duty for a duration as less as 05 minutes, 15 minutes etc.

2. In serious incident between AIC142 and AIC154 in Delhi ACC on 11.10.2016 and Serious incident between IGO977 and KLM811 in Delhi ACC on 02.11.2016, it was

observed that over 80 Radar Controllers haven't performed duties in Tower for over 180 days and have rendered their rating/authorization as Invalid. The handing over and taking over of ATC Channel was not followed at several times.

3. In serious incident between IGO334 and UAE353 in Nagpur ACC on 28.01.2018, it was observed that the Procedural Controller was doing a proxy controlling/unauthorized radar controlling on behalf of the Radar Controller and the Radar Controller was observed to leave the active ATC Channel for at least thrice.

1.19 Useful and Effective Techniques: Nil

2. ANALYSIS

The analysis of Radar Snap Shots (sequence of event as displayed over RADAR in front of RSR Controller), ATC tape transcript ,DFDR data, Log books of Tower, Approach and Area, Duty rosters of ATCOs from October 2016 to April 2017 and Proficiency Check report of AAI was carried out and it reveals:

1. IAD768, A320 from Bagdogra to Delhi was maintaining FL360 when it came in Contact with Varanasi Radar Controller. IGO398, A320 from Delhi to Bagdogra was maintaining FL330 when it came with Varanasi Radar Controller. There was two way communication established between Varanasi Radar and the two aircrafts IAD768 & IGO398 on frequency 128.15 MHz.
2. Varanasi Radar Controller asked IAD768 the estimates for waypoints LKN (Lucknow) and JAL (Jalalabad) and after receiving estimates asked IAD768 at 07:56 UTC that "FL360 not available⁷. Alternate FL380 or FL320. Report requested level." and IAD768 requested FL320. To this request, Radar Controller asked IAD768 to standby for lower level.

⁷ Varanasi ATC tape transcript and Radar replay.

3. At time 08:01 UTC Radar Controller gave descent to IAD768 to FL340 which was duly acknowledged by Crew of IAD768.
4. IAD768 continued descend below FL340 without any authorization from Radar Controller.
5. Radar Controller also lacked surveillance over IAD768 and was busy with other non – priority transmissions like Radar Service terminated Contact....., which could have been attended after addressing IAD768 who was heading for an airprox.
6. At time 08:04:49 UTC, When IAD768 was passing FL334 with rate of descend 1000 feet per minute and 12 miles from reciprocal IGO398, Radar Controller asked IAD768 “ IAD768 Radar, IAD768 Radar report Level” to which IAD replied FL332 for FL320 and again FL330 for FL330.
7. At time, 08:05:08 UC, Radar Controller gave avoiding action to IGO398 to turn left heading 020° but IGO preferred an immediate right turn to avoid the traffic.
8. After this there was argument between the Radar Controller and Crew of IAD768 on R/T from 08:05:20 to 08:05:52 UTC.
9. IAD768 crossed the flight level of IGO398 i.e. FL330 at time 08:05:05 UTC with rate of descend 2300 feet per minute and the maximum rate of descend was observed to be 2820 feet per minute at time 08:05:10 with IAD768 passing FL327.



Figure: Showing IAD768 just before crossing the path of IGO398

10. There were 20⁸ radar Controllers at Varanasi airport as on the date of serious incident and these controllers were rated, as per records in RSR, Tower, Approach and Area Units
11. Out of these 20 Radar Controllers, as on date of serious incident, **three radar controllers** [as mentioned at S.No. 14,16 and 19 of email dated 24/07/2017 sent by ATS-in-Charge, Varanasi] **have failed to perform even a single duty in Area (ACC) Control for over 180 days** and thus rendering their Area rating/authorization as invalid and the three Radar Controllers have lost the privilege of providing ATC services in Area Control.

⁸ Email dated 24.07.2017 from ATS-in-Charge, Varanasi.

12. Out of these 20 Radar Controllers, one Radar Controller, who is looking after the duties of Training-in-Charge as on date, [as mentioned at S.No. 04 of email dated 24/07/2017 sent by ATS-in-Charge, Varanasi] performed a single duty in Area Control for just 05 minutes for over 180 days i.e. from 0535 UTC to 0540 UTC on 15.03.2017. There are several Radar Controllers who have performed duties ranging from 15 minutes, 20 minutes, 25 minutes, 30 minutes and for that matter less than one hour at a time.
13. Out of these 20 Radar Controllers, as on date of serious incident, Six radar controllers (including the Radar controller involved in the serious incident) have failed to perform even a single duty in Aerodrome/Approach Control for over 180 days. One Radar Controller who is looking after the duties of Training-in-Charge as on date, performed one duty in Aerodrome/Approach Control for 01: 20 hrs from 14:25 to 15:45 hrs on 13/09/2016 and thereafter failed to perform even a single duty in over 180 days and **SEVEN radar Controllers [as mentioned at S.No. 04,05,09,10,15,18 and 20 of email dated 24/07/2017 sent by ATS-in-Charge, Varanasi] rendered their Aerodrome/Approach Control rating/authorization as invalid and these seven Radar Controllers have lost the privilege of providing ATC services in Aerodrome/Approach Control.**
14. The ATS-in-Charge who prepared/signed the duty roster for the ATCOs failed to mark the duty of the Radar Controllers in various procedural units for keeping their Aerodrome/Approach/Area ratings current.
15. The Training-in-Charge who prepared/signed the duty roster for the ATCOs for the month of February 2017 also failed to mark the duty of the Radar Controllers in various procedural units to keep their Aerodrome/Approach/Area ratings current.
16. The involved Radar Controller was not maintaining personal log book of the duty performed by him in ATC units.

3. Conclusions:

3.1 Findings

1. Both the Indian registered aircrafts (Air Asia IAD768, A320 and Indigo, IGO398, A320) were on schedule flights from Bagdogra to Delhi and from Delhi to Bagdogra respectively under the command of an appropriately licensed ATPL holder and FO being CPL holders.
2. The medical of both the cockpit crew members was valid. Both have undergone pre-flight medical checks including BA test which was negative.
3. Traffic density with route Radar was moderate.
4. The RSR Controller involved in the serious incident failed to perform duty in Tower for over 180 days and has lost the privilege of performing independent duty in Varanasi Tower, Thus his Tower rating has lapsed.
5. The Crew listened and read back the descend instruction to FL340 but continued descent to FL320 without any authorization, probably due to the expectation bias for FL320.
6. The CVR data was not made available to the committee neither by Air Asia nor by Indigo.
7. The ATS- in-charge, the training in charge and WSOs at Varanasi airport failed to mark/reassign the duties of ATC Controllers/Radar Controllers in all the units for which these controllers were holding the ratings and thereby failed to give the controllers an opportunity to do an independent duty in the units to keep their ratings current/Valid.
8. The handing over taking over of watch was not followed properly in various log books. At many places the handing over and taking over Controllers have not even signed the log books when where is the question of briefing. A clear violation of provisions of MATS1 was being practiced by controllers at Varanasi ATC.
9. The individual Controllers are not maintaining records of duty performed by them in ATC units.

3.2 Probable Cause:

1. Unauthorized descend by Crew of IAD 768 beyond Flight Level cleared by ATC.


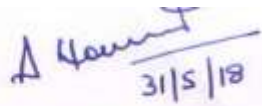
3.3 Contributory Factors:

1. Expectation bias for FL320 by Crew of IAD768.
2. Attention deficit due to handing over communication to P2 by P1 for writing in Tech Log.
3. Failure of the Radar Controller to maintain proper surveillance over the aircrafts and poor traffic conflict resolving.
4. Failure of the Radar Controller and Crew of IAD768 to maintain RT discipline as both was having arguments over RT.

4 SAFETY RECOMMENDATIONS:

1. The RSR Controller shall be imparted training in class room, on simulator and on OJT on conflict resolution, radar techniques, separation standards, Surveillance and RT discipline.
2. AAI shall initiate corrective action for the lapsed procedural ratings of the Radar Controllers as per MATS1 and also action as deemed fit, for unauthorized taking over of ATC Channel after lapse of ATC ratings in Tower/APP/ACC Units.
3. AAI shall make certain procedural changes in the interest of safety:
 - To reduce the number of ratings held by Controllers.
 - To make clear provisions for the currency of ratings in terms of minimum hours of duty to be performed per rating/unit by prescribing minimum norms of at least 10 to 20 hours per unit per month and also defining minimum amount of duration of one duty irrespective of whether the controller is doing active/regular ATC duty or general duty or PRD. As performing just 05 minutes of duty in a six months/one

- month or even at one time, seems to be highly unjustified. A duty performed for a period of less than one hour at a time shall not be considered.
- AAI shall make clear provisions in the duty roster that the Controllers are marked in all the units every month for which they are rated. The non- marking of a Controller's duty for over one month/six months cannot be justified in any manner.
 - AAI shall introduce Controller's duty log book system in a standard format wherein the controllers shall enter the duties performed by him/her in every ATC unit and the log book shall be duly verified by WSO/ATS in-Charge.
4. The crew of IAD768 shall be imparted CRM training and corrective training on RT discipline.

 (Raje Bhatnagar) Assistant Director of Airworthiness, AAIB Member, CoI to VT-JRT	 (Dr. Jitender Loura) Assistant Director of Operations, AAIB Chairman, CoI to VT-JRT
Place: New Delhi	
Date: 31/05/2018	