



**FINAL REPORT ON SERIOUS INCIDENT OF
PILOT INCAPACITATION TO M/s SPICEJET
LTD. BOEING 737-800 AIRCRAFT VT-SZD AT
HYDERABAD ON 08/01/2014**

**(Gp. Capt. Rajesh Kumar)
Director Medical Science (CA)
DGCA**

**Sh. A X Joseph
Deputy Director, AAIB**

Foreword

This document has been prepared based upon the evidences collected during the investigation, opinion obtained from the experts. The investigation has been carried out in accordance with Annex 13 to the convention on International Civil Aviation and under the Rule 11 of Aircraft (Investigation of Accidents and Incidents), Rules 2012 of India. The investigation is conducted not to apportion blame or to assess individual or collective responsibility. The sole objective is to draw lessons from this incident which may help to prevent such future accidents or incidents.

<u>INDEX</u>		
CONTENTS		PAGE No.
	SUMMARY	2
1	FACTUAL INFORMATION	3
1.1	HISTORY OF THE FLIGHT	3
1.2	INJURIES TO PERSONS	4
1.3	DAMAGE TO AIRCRAFT	5
1.4	OTHER DAMAGE	5
1.5	PERSONNEL INFORMATION	5
1.6	AIRCRAFT INFORMATION	7
1.7	METEOROLOGICAL INFORMATION	9
1.8	AIDS TO NAVIGATION	9
1.9	COMMUNICATIONS	10
1.10	AERODROME INFORMATION	10
1.11	FLIGHT RECORDERS	11
1.12	WRECKAGE AND IMPACT INFORMATION	12
1.13	MEDICAL AND PATHOLOGICAL INFORMATION	12
1.14	FIRE	13
1.15	SURVIVAL ASPECTS	14
1.16	TESTS AND RESEARCH	14
1.17	ORGANISATIONAL & MANAGEMENT INFORMATION	14
1.18	ADDITIONAL INFORMATION	15
1.19	USEFUL AND EFFECTIVE TECHNIQUES	16
2	ANALYSIS	16
2.1	SERVICEABILITY OF AIRCRAFT	16
2.2	WEATHER	17
2.3	ACTIONS IN CASE OF FLIGHT CREW INCAPACITATION	17
2.4	CIRCUMSTANCES LEADING TO THE INCIDENT	18
3	CONCLUSIONS	19
3.1	FINDINGS	19
3.2	PROBABLE CAUSE OF THE INCIDENT	21
4	SAFETY RECOMMENDATIONS	21

FINAL REPORT ON SERIOUS INCIDENT TO M/s SPICE JET BOEING 737-800 AIRCRAFT VT-SZD AT HYDERABAD ON 08/01/2014

1. Aircraft
Type : Boeing 737-800
Nationality : Indian
Registration : VT-SZD
2. Owner/ Operator : Spicejet Limited
3. Pilot – in –Command : Holder of Aircraft Transport Pilot License
Extent of injuries : No injuries, however the PIC experienced blurred vision and partial loss of hearing
4. First Officer : Holder of Commercial Pilot License
Extent of injuries : None
5. Place of Incident : Shamshabad Airport, Hyderabad
6. Date of Incident : 8th January 2014
7. Last point of Departure : Mumbai
8. Point of intended landing : Hyderabad
9. Type of operation : Scheduled Operation
10. Crew on Board : 2 cockpit crew & 4 cabin crew
Extent of injuries : None
11. Passengers on Board : 144
Extent of injuries : None
12. Phase of operation : Descent
13. Type of incident : Pilot Incapacitation

(All the timings in this report are in UTC)

SUMMARY:

On 08/01/2014, M/s Spicejet, Boeing B737-800 aircraft registration VT-SZD was scheduled to operate flight SG 401/227, sectors BOM-HYD-VTZ-HYD-DEL. Both the operating crew were duly qualified on type B737 aircraft to operate the flight. There were 144 passengers and 06 crew members on board the aircraft.

During the first sector Mumbai-Hyderabad the flight, the take-off, climb and cruise were uneventful, however during approach into Hyderabad, a medical emergency, owing to Pilot-in Command (PIC) incapacitation was declared by the first officer to ATC and requested for medical assistance on landing. Subsequently a safe auto-land was carried out at Hyderabad by the first officer. There was no damage to the aircraft. There were no fire and no injury to any of the occupants on board the aircraft.

The incident was immediately reported by M/s Spicejet to DGCA and AAIB. Subsequently considering the seriousness of the occurrence, the AAIB classified the occurrence as serious incident and ordered an Inquiry under Aircraft (Investigation of Accidents and Incidents), Rules 2012 to investigate into the cause of the serious incident vide Ministry of Civil Aviation Order No. AV. 15013/04/2013 – DG.

1. FACTUAL INFORMATION.

1.1 History of the flight:

On 08/01/2014, M/s Spicejet, Boeing 737-800 aircraft VT-SZD was scheduled to operate flight SG 401/227, sectors BOM-HYD-VTZ-HYD-DEL. The flight was under the command of PIC holding current Air Transport Pilot License (ATPL) along with First officer holding current Commercial Pilot License (CPL). Both the operating crew were duly qualified on type B 737- NG aircraft to operate the flight. There were 144 passengers and 06 crew members on board the aircraft.

The flight from Mumbai to Hyderabad, the take-off, climb and cruise was uneventful, however during approach into Hyderabad, a medical emergency, owing to Pilot-in Command (PIC) incapacitation was declared by the first officer to ATC and requested for medical assistance on landing. Subsequently a safe auto-land was carried out at Hyderabad by the first officer.

The PIC in his statement had stated that, on the day of occurrence he woke up early in the morning with neck pain. However, as the pain was reducing he decided to continue with his flight schedule and reported for duty.

He further stated that, in-flight due to repeated stretching of arms to operate controls and overhead panels the neck pain got aggravated. To get relief from neck pain he decided to take a pain killer from his flight bag in which he used to carry over the counter (OTC) medicine like pain killer and anti-allergic medicine. However, during descent into Hyderabad he experienced partial loss of hearing and a blurred vision. To counter the existing reaction of the pain killer he took an anti-allergic tablet, the symptoms improved after 10 min of taking anti-allergic medicine.

The PIC apprised his First Officer regarding his health condition and briefed him about the medicine he had consumed. He further stated that he had instructed the first officer of the following actions.

1. Hand over the controls to First Officer and instructed him to carry out an auto-land.
2. Inform ATC regarding the situation and request of a doctor after landing.
3. Request a tow tractor to tow aircraft after landing to parking bay.

The first officer had stated that all actions were carried out as per the instructions of PIC and a safe auto-land was carried out at Hyderabad. However, the cabin crew in-charge of the flight was not informed regarding PIC health conditions that he had suffered incapacitation.

The PIC stated that he did not feel diverting the flight after experiencing the blurring of vision and block sensation in the ears as the flight was already more than half way in descent phase with landing expected in less than 30 min and best option was to continue to Hyderabad.

After landing and vacating of the runway the PIC health improved and he took over the controls and taxied the aircraft to the parking bay.

After the aircraft was parked on the bay, the airport doctor attended the PIC immediately. The airport doctor during examination also confirmed that the probable cause of partial loss of hearing and a blurred vision was reaction to the pain killer medicine. During examination all his vitals were found stable. No other test/ medicine was recommended by the doctor & a fit to fly certificate was given to PIC by the airport doctor.

However, under the Chief of Flight Safety and Chief Medical Officer (CMO) of M/s Spicejet instructions were issued to PIC that he is not allowed to continue with his flight schedule and he should undergo complete medical examination before he is rostered for flight.

1.2 Injuries to persons:

There was no injury to any of the occupant on board the aircraft.

1.3 Damage to aircraft:

The aircraft landed safely and there was no damage to the aircraft.

1.4 Other damage : Nil

1.5 Personnel information

1.5.1 Pilot – in – Command:

AGE	: 36 Yrs 8 Months
License No.	: ATPL
Date of Initial Issue	: 09-Aug-10
Date of Re-issue	: 09-Aug-12
Valid up to	: 08-Aug-14
Category	: ATPL
Endorsements as PIC	: CESSNA 152 A,DUCHESS 76, B 737 800/900
Date of Med. Exam.	: 04-Feb-13
Med. Exam valid upto	: 03-Feb-14
FRTTO License No.	: Valid
Date of issue	: 15-May-07

Total flying experience (In Hours)

Experience on type	: 2807:21
Experience as PIC on type	: 2584:40

Total flying experience during last 180 days	: 461:45
Total flying experience during last 90 days	: 171:30
Total flying experience during last 30 days	: 80:12
Total flying experience during last 07 Days	: 25:04
Total flying experience during last 24 Hours	: 01:20

1.5.2 Co-Pilot:

AGE	: 26 Yrs 6 Months
License No.	: CPL
Date of Issue	: 02-Mar-09
Valid up to	: 01-Mar-14
Category	: CPL
Endorsements as PIC	: CESSNA 172, DUCHESS 76
Endorsements as Co-Pilot	: B 737 800/900
Date of Med. Exam.	: 07-Aug-13
Med. Exam valid upto	: 06-Aug-14
FRTTO License No.	: Valid

Total flying experience (in hours)

Experience on type	: 1627:48
Total flying experience during last 180 days	: 352:40
Total flying experience during last 90 days	: 180:14
Total flying experience during last 30 days	: 64:16
Total flying experience during last 07 Days	: 22:18
Total flying experience during last 24 Hours	: 02:05

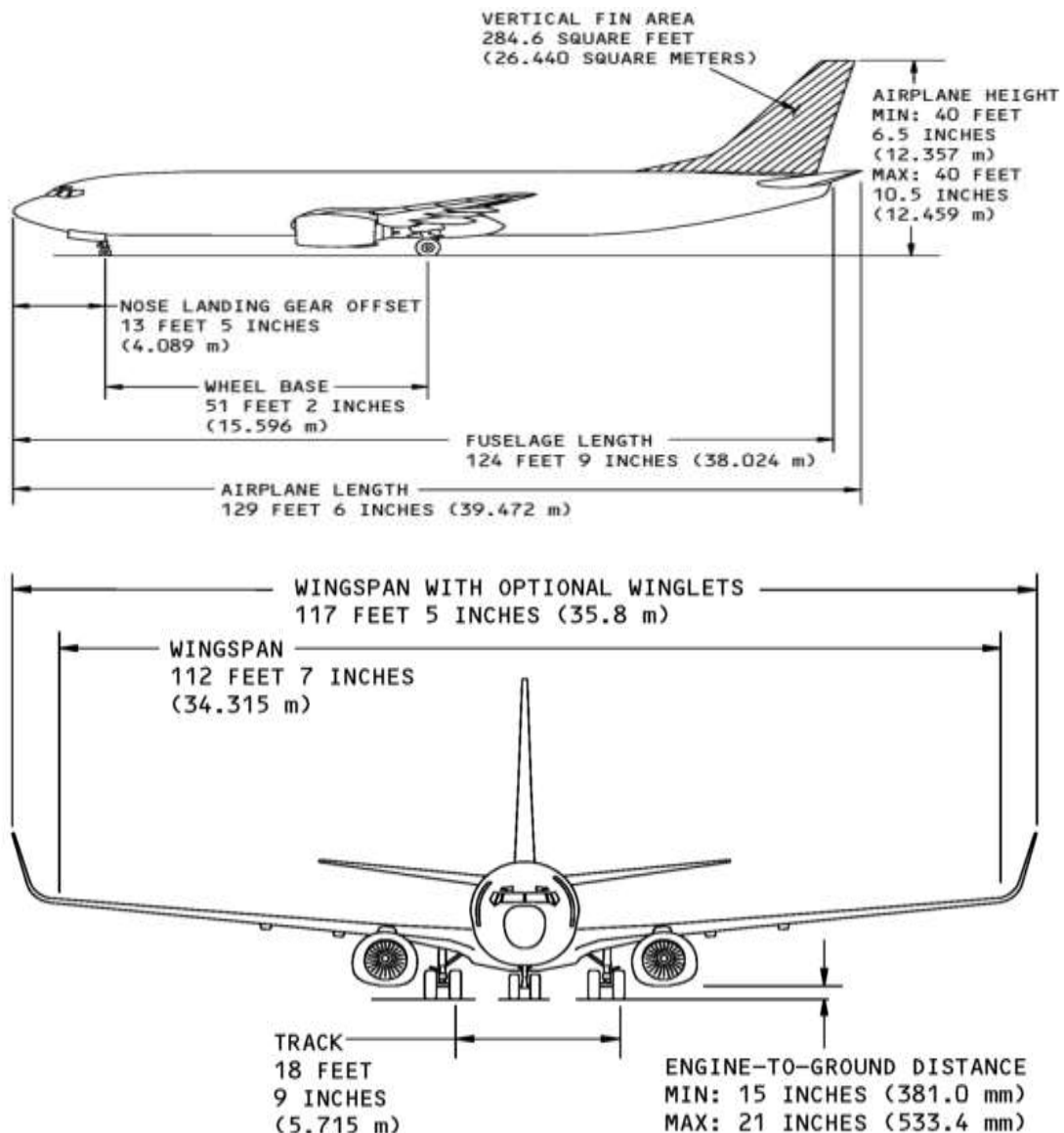
Both the operating crew were not involved in any serious incident/ accident in past. Both the operating crew were current in all training and had adequate rest as per the Flight Duty Time Limitations (FDTL) requirement prior to operating the incident flight.

The Crew of SG-401 were operating within the Flight and Duty Time Limitations contained in Chapter 2 of Operations Manual Part A, revision 10. The flight Crew had started their flight from Mumbai after a layover. The following is a summary of the accumulated time compared to the various limitations.

Block Hours		
	30 days	7 days
Max Hrs	125:00	35:00
PIC	78:52	23:44
F/O	54:23	16:33

1.6 Aircraft Information:

Boeing 737-800 is a Twin engine aircraft fitted with CFM 56-7B Engine and is manufactured by CFM. This aircraft is certified in Normal category, for day and night operation under VFR & IFR. The maximum operating altitude is 41000 feet and maximum takeoff weight is 70,987 Kgs. Aircraft length is 39.472meters, wingspan is 35.8 meters and height of this aircraft is 12.459meters. This airplane is certified in the Transport Category, FAR Part 25 and Part 36.



Aircraft VT-SZD (MSN- 39430) had been manufactured in year 2013. The aircraft was registered with DGCA under the ownership of M/S AWAS 39430, Ireland Ltd. The aircraft is registered under Category 'A' and the Certificate of registration No. 4422.

The Certificate of Airworthiness Number 6531 under "Normal category" subdivision Passenger / Mail / Goods was issued by DGCA on 09/05/2013. The specified minimum operating crew is two and the maximum all up weight is 70987 Kgs. At the time of incident the Certificate of Airworthiness was current and was valid up to 13/05/2018

The Aircraft was holding a valid Aero Mobile License No- A-010/057-RLO(NR) at the time of incident. This Aircraft was operated under Scheduled Operator's Permit No- S-16 which was valid up to 16/05/2018. As on 08/01/2014 the aircraft had logged 2307:05 Airframe Hours and 1488 cycles.

The aircraft and its Engines are being maintained as per the maintenance program consisting of calendar period/ flying Hours or Cycles based maintenance as per maintenance program approved by Regional Airworthiness office, Delhi.

Accordingly, the last major '4A'-check carried out at 1342 cycles on 17/12/2013. Subsequently all lower inspections (Pre-flight checks, Service Checks, Weekly Checks) were carried out as and when due before the incident.

The aircraft was last weighed on 18/04/2013 at Renton, Washington and the weight schedule was prepared and duly approved by the office of Director of Airworthiness, DGCA, Delhi. As per the approved weight schedule the Empty weight of the aircraft is 42629:13 Kgs. Maximum Usable fuel Quantity is 29324:41 liters. Maximum payload with fuel tanks full is 6220.87 Kgs. Empty weight CG is 16.82 meters aft of datum. As there has not been any major modification affecting weight & balance since last weighing, hence the next weighing is due on 17/04/2018. 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 event.

Transit Inspections are carried out as per approved Transit Inspection schedules and all the higher inspection schedules include checks 1 inspection as per the manufacturer's guidelines as specified in Maintenance Program and are approved by the Continuing Airworthiness Manager (Post Holder for Continuous Airworthiness). The fuel microbiological test was not applicable on the day of incident as the aircraft Date of Manufacture 09.05.2013 and less than one year.

The aircraft is powered with two CFMI Engines. The details of the Engines are given below:

	Engine # 1	Engine # 2
Engine Model	CFM56 – ENGINE	CFM56 - ENGINE
Serial number	962772	962793
TSN (Hrs)	2307:05	2307:05
CSN	1488	1488

There was no defect report on the engine on the previous flight.

1.7 Meteorological information:

At the time of landing at Shamshabad airport, Hyderabad, the weather reported by ATC was visibility of 4000 meters, Winds 130/04 knots, temperature 14°C with no significant change in the prevailing weather conditions.

1.8 Aids to navigation

There are two runway available at Shamshabad International Airport, Hyderabad which has the orientation 09R and 09L. The VOR, DME approach is available on 09R and Instrument Landing System (ILS) facility is available for both

the approaches for runway 09L. PAPI is available on both sides of the runway for both the runways.

1.9 Communications

There was always two way communications between the ATC and the aircraft.

1.10 Aerodrome information



Parallel runway 09R & 09L at Shamshabad International Airport, Hyderabad

ICAO code: VOHS

Co-ordinates: 171426N 0782544E North of PTB

ARP : 601 M

Elevation : 1972 ft

Runway Orientation and dimension

RWY designator	TORA (M)	TODA (M)	ASDA (M)	LDA (M)	Remarks
09R	4260	4260	4260	4260	RESA 285M X150M
09L					

R/W & Taxi Tracks Markings Standard as per Annex- 14

- RWY: Marked : Designation, THR, TDZ, Centreline, Aiming Point and Side stripe
- TWY: Marked : Centreline, Taxiway edge marking, taxiway holding positions and intermediate holding position markings at intersections Lighted TWY 'A' Edge Light, links from A1 to A10, B3, B4 and B5 with C/L and edge light (elevated).

Approach and Runway Lighting

- Lighted : Threshold, Edge, Centreline and Runway End lights

RWY.	HIALS (APCH LGT)	THR LGT	PAPI	Rwy Centre Line LGT	HIRL (RWY edge LGT)
09R	CAT-1, 900M	Green	Left / 3°, 22.5M	4260M, 30M	4260M,60M
09L					

Met Services

24 hours MET services are available with trend forecasting on every half hourly basis.

1.11 Flight recorders:

The aircraft was fitted with Solid state Cockpit Voice Recorder having part No. 2100-1020-00 and Serial No. 000455432 and Digital Flight Data Recorder having part No. 2100-4043-00 and Serial No. 000849101.

1.11.1 Cockpit Voice Recorder:

The CVR was not removed after the incident and hence it was not available for investigation.

1.11.2 DFDR:

The DFDR was downloaded and following information was available from it.

Time in UTC	Sequence of events
23:57:13	#2 ENG started
23:57:32	#1 ENG started Selected TRA Filtered #1 – 36.04 Selected TRA Filtered #2 – 35.68
23:58:21	Take-off flaps 05 selected
00:06:16	Auto throttle Engaged
00:08:01	Aircraft Took off Flaps – 05 Pitch Trim POSN – 4.9 Units Selected Altitude – 7000 Feet
00:08:51	Flaps UP
00:11:38	Auto Pilot Engaged CMD B – Selected
00:27:26	Top of cruise
00:34:15	Top of Descent FL 370
00:37:22	Aircraft commenced Descent Selected Altitude – 3600 FEET
01:00:32	Flaps 30 Selected
01:02:11	Speedbrakes UP
01:02:12	Auto Pilot ON AUTO LAND CMD A – Selected CMD B - Selected Aircraft landed Auto throttle disengaged
01:03:04	Auto Pilot Disengaged
01:03:45	Speed brakes DOWN
01:04:18	Flaps UP
01:10:31	#1 ENG Cutoff
01:10:31	#2 ENG Cutoff

1.12 Wreckage and impact information : Nil

1.13 Medical and pathological Information

On 07/01/14, the PIC went for sleep at 1630 Hrs UTC and after approx. 06 hrs of sleep he got up early in the morning with pain in the neck. As the pain was reducing he reported for duty to continue with his flight schedule. Prior to flight from Mumbai both the pilots had undergone the pre-flight medical Breath analyser test at Mumbai and same was found negative. During half way of flight due to

repeated stretching of arm to operate controls and overhead panel, the pain in the neck got aggravated. To get relief from neck pain the PIC took a pain killer from his flight bag which he used to carry with him. After a few minutes of intake of medicine the PIC experienced symptoms like blurring of vision and block sensation in the ears. Non steroidal anti-inflammatory drugs (NSAIDS) can cause side effect of blurring of vision and ringing sensation in the ears. The PIC got relief from symptoms after taking an anti-allergic medicine which again he was carrying in his flight bag.

After the incidence, the PIC was taken off flying at Hyderabad and subjected to medical examination to ascertain into the cause of incapacitation. The PIC underwent all the medical tests including blood hemogram, blood biochemistry, urinalysis, TMT and X-ray cervical spine as directed by the CMO of M/s Spicejet. All the test results were found normal. The opinion of cardiologist and Orthopedic were taken and same were also reviewed by M/s Spicejet CMO. All tests were found to be normal. Subsequently on 11.01.2014, after three days the PIC was cleared to resume his flying duties by CMO with a condition that he will not take any self-medication and avoid any medicine at least 12 hrs prior to his flying schedule.

Further the DGCA class-I medical records of the PIC for last three years were also scrutinised and no such limitation or observation was recorded on his medical assessments. The PIC underwent his last Class-I renewal medical examination on 04/02/13, and was assessed fit by DGCA. After the incident of incapacitation, the PIC had undergone his renewal of class-I medical assessment at AFCME, New Delhi and the same was found to be satisfactory with no limitations.

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. Spicejet Ltd is a low cost airline with its head office and registered office in Gurgaon, Haryana. M/s Spicejet is a Scheduled Airlines having DGCA SOP No. S-16 in Category Passenger and Cargo. The initial AOP issued was valid till 16/05/2018.

The Company is headed by CEO assisted by a team of professionals of various departments. The Flight Safety Department is headed by Chief of Flight Safety approved by DGCA. The Chief of Safety is a Senior Vice President in the company who reports directly to the Chairman.

The airline has 57 aircraft in its fleet which includes 36 Boeing 737-800, 06 Boeing 737-900ER and 15 Dash-8 Q400. Dash-8 Q400 aircrafts were inducted in Spicejet fleet in Sept 2011, and is used as a feeder / regional service with high connectivity. M/s Spicejet commenced International operations in 2010. At present it operates 40 domestic & 06 international destinations with more than 300 flights daily. The airlines has approximately 5700 employees.

M/s Spicejet as a full established Operations training facility for the pilots. The training facility for the Boeing pilots is in Gurgaon, Haryana. The Training for Q-400 aircraft is done at DGCA approved TRTOs abroad. Both the training facilities are headed by the General Manager Training who reports to Vice President Operations. The Engineering training facility for the maintenance of the aircraft is established at Delhi for B737 aircraft and at Hyderabad for Q-400 aircrafts.

1.18 Additional information:

1.18.1 Flight Crew Incapacitation: M/s SpiceJet Operational manual defines a detailed procedure for the crew and actions to be taken in case of crew incapacitation:

- 1) Take over control and establish a safe flight path. Engage the auto pilot whenever possible.
- 2) Care for the incapacitated crew member by summoning the assistance of other crew members, or other persons.
- 3) Restrain the incapacitated crew member so that he cannot interfere with essential controls and switches by fitting and locking full shoulder harness, sliding the seat fully aft and locking partly reclined.
- 4) Consider administering oxygen at 100%.
- 5) Consider enquiring if there is a medical doctor On-board.
- 6) Declare an emergency and inform ATC of the situation. Proceed to the nearest suitable aerodrome at which medical assistance can be provided. Radar vectors from ATC significantly reduce the workload.
- 7) Move the incapacitated crew member out of cockpit area, if possible.
- 8) If available, other crew may be asked to read relevant checklists.
- 9) Pass relevant details to ATC and request an ambulance to meet the aeroplane on arrival.
- 10) Passengers are to be notified in case of any route deviation through the PA to reassure them, if time and situation permits.
- 11) Do not allow the incapacitated crew member to take any further part in the conduct of the flight, even if he feels fully fit.
- 12) If the PIC is incapacitated, the Co-Pilot shall land the aeroplane from the right seat.
- 13) Finally, it is emphasized that incapacitation requires special actions using the good judgment of crew member left in command of aircraft.

1.18.2 Succession of Command In Case of Flight Crew Incapacitation:

As per Spicejet Operation Manual, in the event of incapacitation/death of the Commander, it defines the order of succession for the Command of the aircraft:

- a. Accompanied Crew Member Examiner/Instructor/Line Training Captain type rated on aircraft travelling on the aircraft.
- b. Accompanied Crew Member Line Captain rated on aircraft travelling on the aircraft.
- c. Trainee Captain rated as co-pilot on aircraft. (He shall occupy the left seat).
- d. Co-Pilot. He shall occupy the right seat.
- e. Accompanied Crew Member Co-Pilot qualified on type.

1.19 Useful or effective investigation techniques : Nil

2. ANALYSIS

2.1 Serviceability of the aircraft

Aircraft VT-SZD (MSN- 39430) had been manufactured in year 2013. The aircraft is registered with DGCA under the ownership of M/S AWAS 39430, Ireland Ltd. At the time of incident the Certificate of Airworthiness was current and was valid. On the day of incident, the aircraft VT-SZD had logged 2307:05 Airframe Hours and 1488 cycles. VT-SZD was operated under Scheduled Operator's Permit No S-16 which was valid up to 16.05.2018.

The aircraft and Engines were being maintained under continuous maintenance as per maintenance program consisting of calendar period based maintenance and flying Hours/ Cycles based maintenance as per maintenance program approved by O/o Deputy Director General, DGCA (Northern Region). Accordingly, the last major '4A'-check carried out at 1342 cycles on 17/12/2013. Subsequently all lower inspections (Pre-flight checks, Service Checks, Weekly Checks) were carried out as and when due before the incident.

The left Engine S/N 962772 had logged 2307:05 and 1448 cycles and the right Engine S/N 962793 had logged 2307:05 Hrs. and 1448 cycles. There was no defect report on the engine on the previous flight.

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 event. The defect record of the aircraft were scrutinized for a period of one month prior to the date of occurrence of the serious incident and no defect was found pending on the aircraft. Prior to the incident flight the weight and balance of the aircraft was well within the operating limits.

From the above it is inferred that the serviceability of the aircraft is not a contributory factor to the incident.

2.2 Weather

The weather at the time of landing at Hyderabad was 4000 meter, Winds 130/04 knots and temperature 14°C with no significant change in the prevailing weather conditions is not a contributory factor to the incident.

2.3 Actions in case of Flight Crew Incapacitation:

In case of flight crew incapacitation, M/s Spicejet Operational manual defines the procedure wherein the other crew is advised to take over control and establish a safe flight path and engage the auto pilot whenever possible. With the assistance of other crew members/cabin crew, the incapacitated crew member should be restrained so that he does not interfere with essential controls. Also administer oxygen at 100% to revive the crew and move the incapacitated crew member out of cockpit area, if possible. Declare an emergency and inform ATC of the situation. Further, flight/cabin crew to enquire if there is a medical doctor On-board for immediate assistance and do not allow the incapacitated crew member to take any further part in the conduct of the flight, even if he feels fully fit after the incapacitation.

If the PIC is incapacitated, the Co-Pilot shall land the aeroplane from the right seat. The operation manual also defines that in the event of incapacitation/death of the Commander, the order of succession in Command of the aircraft will be an Examiner/Instructor/Line Training Captain type rated on aircraft travelling as Accompanied Crew Member (ACM) in the aircraft. Then Line Captain rated on aircraft travelling as ACM, Trainee Captain rated as co-pilot travelling as ACM on aircraft shall occupy the left seat and the Co-Pilot shall occupy the right seat.

In this case the cabin crew was not informed about the PIC incapacitation by the first officer. Also the first officer did not call the cabin crew in the cockpit for assistance in removing the PIC from the controls as per the procedures outlined in their operations manual. The ATC was informed for medical assistance, however the emergency was not declared by the first officer this action prevented the ATC from alerting all the safety services to be ready in case of any emergency situation encountered during landing. The cabin in-charge was not aware of the situation hence the cabin could not be prepared for any emergency condition occurring post landing.

From the above it is inferred that the first officer actions were not in line with their own company approved procedures in case of flight crew incapacitation.

2.4 Circumstances leading to the Incident:

On 08/01/2014, M/s Spicejet aircraft was scheduled to operate flight sector Mumbai-Hyderabad. This was the first sector for the flight. Both the flight crew were duly qualified and adequately rested to operate the schedule flight.

Prior to operating the flight from Mumbai, the PIC had approx. 6 hrs of sleep and got up early in the morning with neck pain, however since the pain was reducing the PIC continued with the flight schedule and reported for duty to operate the flight.

However during the flight due to repeated over stretching of arms to operate control and overhead panels PIC again experienced pain in the neck and to relief from neck pain he took a pain killer medicine. However, during descent into Hyderabad he experienced partial loss of hearing and a blurred vision. The PIC then took an anti-allergic tablet to counter the reaction and apprised his First Officer regarding his health condition and instructed him to carry out auto-land and inform ATC for medical assistance on landing.

The first officer carried out all actions as per the instructions of PIC and a safe auto-land was carried out at Hyderabad.

3 CONCLUSIONS:

3.1 Findings:

1. The Aircraft had valid Airworthiness Certificate and was complying all the concerned Airworthiness Directive, mandatory Service Bulletins, DGCA Mandatory Modifications on this aircraft and its engine as on date of event.
2. Both the operating crew were duly qualified on type B737 aircraft to operate the flight.
3. Both the crew had rested well prior to undertaking the flight Mumbai-Hyderabad on 08/01/2014.
4. The PIC woke up with a neck pain in the morning, however as the pain was reducing, he decided to continue with his flight schedule and reported for duty.
5. The PIC did the pre-flight medical check, however did not inform the doctor regarding his condition for neck pain.
6. During flight he experienced pain in the neck and consumed a pain killer medicine in flight to subside the pain.
7. The aircraft came in contact with Hyderabad ATC, at around 0030 UTC approximately, and the visibility reported was 4000 m.


8. During descent, the PIC experienced partial loss of hearing and a blurred vision and decided to take an anti-allergic tablet to counter the presumed reaction of the pain killer medicine.
9. The PIC apprised his First Officer regarding his health condition and briefed him about the medicines he had consumed.
10. He also instructed the first officer to carry out an auto-land and inform ATC to provide a doctor on ground after landing.
11. M/s Spicejet Company Operations Manual has guidelines for the flight crew in case of incapacitation and succession of command.
12. As per the procedures in the Operation Manual, the CCIC was not called inside the cockpit and briefed about the situation.
13. The actions required in case of crew incapacitation required by the first officer were not carried out.
14. The CVR was not removed after the flight and hence was not available for investigation.
15. The DFDR was downloaded which confirmed that the auto-land was selected to carry out the landing at Hyderabad.
16. The aircraft landed safely on auto-land and there was no damage to the aircraft.
17. After landing at Hyderabad the PIC taxied the aircraft after recovering from incapacitation this action was also not in-line with the company procedures.
18. There were no fire and no injury to any of the occupants on board the aircraft.

3.2 Probable cause of the Incident:

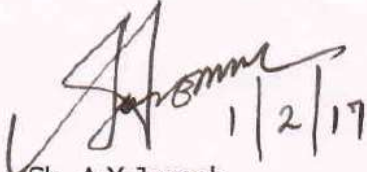
The most probable cause of the PIC getting incapacitated was due to side effect of a pain killer which was taken by the PIC without any prescription / consultation by a doctor.

4 Safety Recommendations

1. DGCA should sensitize all the Scheduled Operators/Non-Scheduled Operators with a circular directing all operators to educate their flight crew/cabin crew of the consequences of self-medication and also the importance of communicating any ailments to the company doctor during the pre-flight medical.
2. DGCA should issue instructions to all schedule operators should to sensitize flight crew recurrent training on the importance of procedures in case of flight crew incapacitation.



Gp Capt Rajesh Kumar
Director Medical Services (Civil Aviation)



Sh. A X Joseph
Deputy Director, AAIB

Date: 01.02.2017

Place: New Delhi