

**FINAL REPORT OF SERIOUS INCIDENT OF ENROUTE CONFLICT
BETWEEN CHINA SOUTHERN AIRLINE (A319, B-6202) AND CHINA
SICHUAN AIRLINE (A 330-300, B-5900) ON LSO-LINSO AIR ROUTE IN
YANGON FIR ON MAY, the 3rd, 2017**

SYNOPSIS

At 0845 (UTC) on May, the 3rd, 2017, there was an enroute conflict between China Southern Airlines (A 319, B-6202, CSN 6068) and China Sichuan Airlines (A 330-300, B-5900, CSC 603) on LSO-LINSO air route in Yangon FIR. No aircraft was damaged and no one was injured in this serious incident.

Aircraft Details

China Southern Airlines

Registered owner and operator	: China Southern Airlines
Aircraft type	: A 319
Nationality	: China
Registration	: B-6202
Place of Occurrence	: on LSO-LINSO air route
Date & Time	: 3 May 2017 (0845 UTC)
Type of operation	: Scheduled Passenger International Flight
Phase of operation	: Enroute (A 599)
Persons on Board	: Crew - 10, Passengers - 109

Aircraft Details

China Sichuan Airlines

Registered owner and operator	: China Sichuan Airlines
Aircraft type	: A 330-300
Nationality	: China
Registration	: B-5960
Place of Occurrence	: on LSO-LINSO air route
Date & Time	: 3 May 2017 (0845 UTC)
Type of operation	: Scheduled Passenger International Flight
Phase of operation	: Enroute (A599)
Persons on Board	: Crew - 14, Passengers - 239

1 FACTUAL INFORMATION

1.1 History of the flight

1.1.1 China Southern Airlines

The route of China Southern Aircraft A 319(B-6202), flight number CSN 6068, was VNKT- ZGGG. The last departure point was KATMANDU and the planned destination was GUANGZHOU. It was flying at FL 350 on ATS route A599 in the ATS route type of RADAR. There was an enroute conflict with China Sichuan Westbound Aircraft A 330-340, flight number CSC 603 on ATS route at about 08:43:56 (UTC).

1.1.2 China Sichuan Airlines

The route of China Sichuan Aircraft A330-343 (B-5960), flight number CSC 603, was ZUUU- OMDB. The last departure point was CHENDU and the planned destination was Dubai International Airport. It was flying at FL 360 on ATS route A599 in the ATS route type of RADAR. There was an enroute conflict with China Southern Eastbound Aircraft A 319(B-6202), flight number CSN 6068 on ATS route at about 08:43:56(UTC).

1.1.3 History of the event

08:38:26 (TC), CSN 6068 first contacted Kunming ACC on 125.75 MHz before LINSO, So the Kunming ACC controller instructed CSN 6068 to report over LINSO.

08:41:55 (UTC) CSC 603 maintaining FL 360 was transferred to Yangon ACC on 126.75 MHz at 15 KM east of LINSO.

08:42:05 (UTC) CSC 603 first contacted Yangon ACC maintaining FL 360 position at over LINSO.

08:42: 12 (UTC) the Controller of Yangon ACC contacted another aircraft MJC 683 saying "**MJC 683, Identified, report LSO, level 370 is not available due traffic, descend FL 350**"

08:42:25(UTC) CSC 603 read back, "**next report LSO, confirm descend to 350**"

08:42:29(UTC) the controller of Yangon ACC, acknowledged the read back, "**Affirm descend FL350**"

08:42:38(UTC) read back again, "**603,next report report LSO and right now descend to FL350**"

08:42:45(UTC) the Controller of Yangon ACC instructed "**MJC, affirmative descend FL350**"

08:42:53(UTC) CSC 603 read back, "**Descend to Fl 350, next report position LSO thank you CSC 603**"

08:43:15(UTC) CSC 603 commenced descending when passing LINSO, at that time the separation between both aircraft was 66KM.

08:43:56(UTC) there was **Predicated Conflict Alert (PCA)** on the Kunming ACC radar display, showed CSC 603 was descending with the distance 46Km to CSN 6068. The controller of Kunming ACC tried to coordinated with Yangon ACC, meanwhile, called CSN 6068 to make an immediate right turning on course 125 degree to avoid the opposite CSC 603.

1.2 Injuries to Persons

Not applicable.

1.3 Damage to Aircraft

Not applicable.

1.4 Personnel Information

Pilot in Command (China Southern Airlines)

Age	:	40
Licence	:	420102197709060376
Licence issued date	:	12 th June 2017
Total hours	:	15762
On type	:	10688
Medical expire	:	25 th July 2016
Line check date	:	17th October 2016
Type rating check date	:	4 th December 2016
Last 90 days	:	205

Last 30 days : 56
 Last 24 hours : 5:31

Co-Pilot (China Southern Airlines)

Age : 29
 Licence : 140402198808312819
 Licence issued date : 25th November 2009
 Total hours : 6174
 On type : 2091
 Medical expire : 5th September 2017
 Line Check date : none
 Type rating check date : 1th March 2017
 Last 90 days : 223
 Last 30 days : 93
 Last 24 hours : 5:31

Pilot in Command (China Sichuan Airlines)

Age : 48
 Licence : ATPL 000886196906234001
 Licence issued date : 4th December 2009
 Total hours : 5448(Sichuan Airlines only)
 On type : A 320 (1181) A330 (4267)
 Medical expire : 11th November 2017
 Line check date : 16th March 2017
 Type rating check date : 25th December 2016
 Last 90 days : 189
 Last 30 days : 64
 Last 24 hours : Nil

Co-Pilot (China Sichuan Airlines)

Age : 28
 Licence : CPL 320106198904252417
 Licence issued date : 29th August 2012

Total hours : 1797
 On type : A320 (807) A330(740)
 Medical expire : 13th May 2018
 Line check date : Nil
 Type rating check date : 15th December 2016
 Last 90 days : 135
 Last 30 days : 55
 Last 24 hours : Nil

Co-Pilot (China Sichuan Airlines)

Age : 34
 Licence : CPL 652301198312306415
 Licence issued date : 8th July 2009
 Total hours : 2640
 On type : A320(1229) ,A330(1161)
 Medical expire : 27th September 2017
 Line check date : Nil
 Type rating check date : 25th March 2017
 Last 90 days : 66
 Last 30 days : 54
 Last 24 hours : 4

Air Traffic Control

(1) Age : 34 (male)
 Licence : Nil
 Designation : ATCO II (duty controller)
 Work schedule : 7:00 am - 7:00 pm
 Training : ATC Basic Course, Aerodrome Course,
 Approach and area Control Course, CNS/ ATM
 Course
 Work Experience : 11 years

- (2) Age : 45 (male)
 Licence : Aerodrome, Approach, Non-radar, Radar
 Designation : Manager (Shift IC)
 Work schedule : 7:00 am - 7:00 pm
 Work Experience : 21 years
 Medical : valid

1.5 Aircraft information

1.5.1 General

China Southern Airlines

- Manufacture : Airbus
 Type : A 319-115
 Serial number : 2546
 Date of Manufacture : 25th August 2005
 Total flight hours : 36002
 Certificate of Registration : B-6202
 C of A : CAAC Certificate of Airworthiness
 Flight Number : CZ 6068
 Call Sign : CSN (China Southern) 6068
 Last Time Check : Katmandu Transit, 2-5-2017
 Last Base Check : C7, 12-5-2016

China Sichuan Airlines

- Manufacture : Airbus
 Type : A 330-343
 Serial number : 1579
 Date of Manufacture : 25th November 2014
 Total flight hours : 9616.95
 Certificate of Registration : B- 5960
 C of A : CAAC Certificate of Airworthiness
 Flight Number : 3U603
 Call Sign : CSC (Sichuan Airlines) 603

Last Time Check : A check: 2A5, 9-5-2017 9482 FH
3547CY
C Check: 1C, 30-10-2016, 7430FH
2877CY

Last Base Check : N/A, 6YE deadline 23-11-2020

1.6 Meteorological Information

Not applicable.

1.7 Aid to Navigation

It was discovered that the radar coverage the air route between LINSO and LSO was not working normally; intermittently disappeared.

1.8 Communication

There was no record of unserviceable equipment on the day of occurrence.

1.9 Aerodrome Information

Not applicable.

1.10 Recorders

Not applicable.

1.11 Wreckage, Site and Impact Information

Not applicable.

1.12 Medical and Pathological Information

Not applicable.

1.13 Fire

Not applicable.

1.14 Survival Aspects

Not applicable.

1.15 Test and research

Not applicable.

1.16 Organizational and Management Information

1.16.1 Air Traffic Control

Department of Civil Aviation is the air traffic control service provider within Yangon FIR. At the time of occurrence Yangon FIR was divided into two (02) sectors: sector 1, sector 2. Currently there are four sectors operation including new two sectors effective from 20 July 2017 to balance traffic density among sectors and enhance safety and convenience of flight operations and improve the air navigation services provision within Yangon FIR.

2 ANALYSIS

2.1 Introduction

The analysis by the investigation team has focused on the following areas:

- a) Individual/team action
- b) ATC record readback
- c) Radar Readback and Coverage

2.2 Individual/ Team Action

2.2.1) Duty Air Traffic Controller

He joined Department of Civil Aviation in 2007 and got the basic air traffic training and he has been working for area control for about (4) years. He attained the training courses such as Basic ATC Course, Aerodrome Control Course, Approach and Area Control Procedural Course and CAN/ATM course. However he still needs to attend the Area Control Course (Radar) which is totally related to current responsibility. Even though Licensing system is being executed for international operation as per Myanmar Civil Aviation Requirements, he was unlicensed. In the conversation between ATC controller and CSC 603 as per ATC record, he occasionally did not follow strictly the radio telephony procedures and acknowledged the readback from CSC 603 pilots without carefully listening to.

2.3 Radar Coverage

The radar coverage of air route A 599 between LSO and LINSO was insufficient and did not work properly for that purpose of radar operation as per radar readback. According to the witness statements there has been such deficiencies for long time. Around the time of occurrence CSC 603 could not be seen because of lack of radar coverage.



Fig 1. ADS- B data appeared at 08:45:27 (UTC)

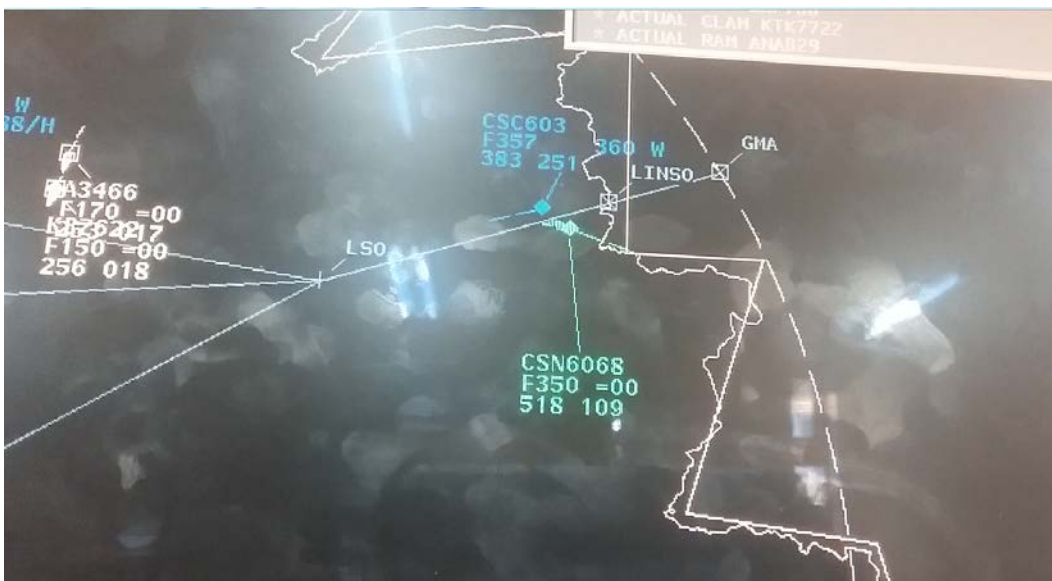


Fig 2. Radar Track appeared at 08:45:57 (UTC)

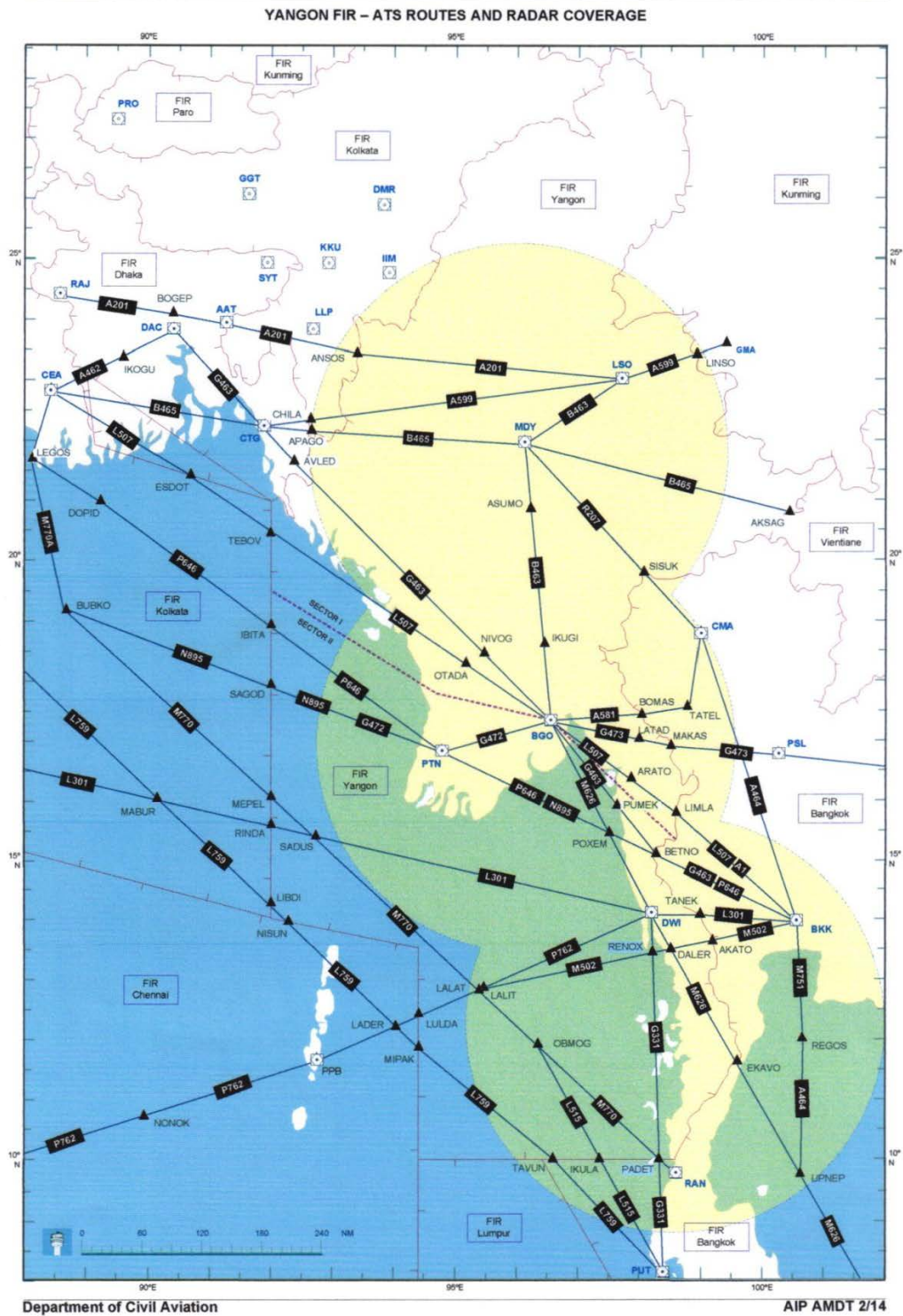


Fig 3. Yangon FIR –ATS Routes and Radar Coverage

3 CONCLUSIONS

3.1 Findings

From the evidence available, the following findings are made. These findings should not be read as apportioning blame or liability to any particular organization or individual:

- a) It was discovered that the duty air traffic controller and the pilot from CSC 603 were carelessly listening to their conversation in their radio communication especially **aircraft Call Sign**.
- b) The radar coverage on air route A599 between LSO and LINSO was not good enough for radar operation at the time of occurrence.
- c) Both the duty air traffic controller and the pilot from CSC 603 did not strictly follow the radio telephony procedures in the communication.
- d) Both the duty air traffic controller and the pilot from CSC 603 did not send the notification of that occurrence to Myanmar Accident Investigation Bureau.

3.2 Primary Cause

- a) The duty air traffic controller and the pilot from CSC 603 listened carelessly to their conversation in their radio communication especially not concentrating on aircraft Call Sign.


3.3 Contributing Factors

- a) The radar coverage on air route A599 between LSO and LINSO was not intermittently working properly and not good enough for radar operation **around the time of occurrence**.

4 SAFETY RECOMMENDATIONS

To reduce and eliminate of accidents and serious incidents, MAIB recommended the followings:

- 4.1 Duty air traffic controllers should be more careful to and concentrate on the read back of pilots and then acknowledge by using standard radio telephony procedures.
- 4.2 The pilots should listen more carefully to and concentrate on the call sign of their own aircraft and follow the ATC instructions accordingly (**when in doubt ask again**) by using standard radio telephony procedures.
- 4.3 The radar coverage between **air route A599** between LSO and LINSO should be upgraded and enhanced.
- 4.4 Area Control Surveillance Training Course should be given to the duty controller.
- 4.5 Air Traffic Controllers and pilots should send the notification of accident and incident to Myanmar Accident Investigation Bureau with a minimum delay and by the most suitable and quickest means available.

A handwritten signature in blue ink, consisting of a stylized 'J' followed by 'ma' and a large flourish extending to the right.

Investigator -in -charge