

1 **ATC Near-miss Incident Investigation Report.**

1.1. Date of Occurrence Approx- 09.30 L.T on 17th April 1998

1.2 Location Colombo TMA. [Terminal control Area]
On ATS Route G-465 [Colombo- Male]

1.3 Aircraft involved. (a) Airbus 320 out bound to Maldives on the climb
(b) DH-8 inbound to Colombo descending from
flight Level 230 [FL 230]

1.4. **Investigation**

1.4.1 Data utilized:-

- (a) voice recordings of communications
between Pilot and Controller, at Area Control
and Approach Radar
- (b) intercommunication and coordinating freq.
Voice communications recording scripts
[information reclaimed from tape recordings, with time
base information]
- (c) flight progress strips used in area control
and approach radar operating positions [containing
written records of instructions issued, using standard
abbreviations & symbols]
- (d) Personal interviews with
CATC,
SATC, Rma.
SATC Katunayaka, Approach Radar
persons involved
ATC Radar Controller
ATCs at Area Control Ratmalana)
On procedures used and phrases interchanged between
ATC personal and aircraft on this occasion.

1.4.2 The performance of Air-ground and surface Radio Communication, Radar
Equipment, and displays; Navigational Equipment, were reported to
have been satisfactory during the incident.

1.4.3 Air Traffic services Units Involved in the incident

1.4.3.1. Approach Control Radar Unit at BLA - Primary Radar only. No Secondary radar capability

Services Provided

This unit located at BLA provides Approach Radar services which includes separation between traffic, terrain clearance and directional guidance to Inbound and departing traffic within the airspace under radar coverage. and released to it by Area control and the control tower

Service Range – 80 nm radius of BLA subject to limits of coverage, and range of identification

Service Provided on freq: 132.4 mhz. **Operational Hours-** H 24.

Number of Radar tube displays - two

Manned by – 3 rated controllers per shift (controllers are expected to swap duties in order to ensure rest & avoid fatigue.

1.4.3.2 Area Control / Airways Control Centre.

Services Provided –

- (a) - Terminal Area Control-** ***Procedural control*** provided over VHF 124.9 Mhz within the Terminal Control Area (TMA)
- (b) - Airways Control** for traffic along controlled airways
- (c) – Flight Information Service** for traffic within ColomboFIR.

Transfer and acceptance of Arriving and Departing traffic between Approach Radar for the provision of Terminal Area, and Airways Control Services

SSR Radar200 n.m.radius: ***not operational;***(SSR not commissioned)

Number of displays - 2

No. of operating positions-2

2. Analysis.

2.1 The culmination of the events that led to the incident between the two aircraft involved was studied on the scene recreated with the script of the recordings

The study and analysis reveal that -

Procedures. & Coordination

- (a) there appears to be a gross deviation from accepted methods of coordination, in the "mode of transfer and acceptance of control" of traffic between two ATS units, [viz. between Area Control (Ratmalana) and Approach Radar at BIA]. Incorrect level information passed on to approach radar at the time of transfer could have resulted in an accident
- (b) The incorrect information passed over the coordination frequency stating that Air Maldives was maintaining had created certain miss-conceptions of the traffic situation by the approach radar controller. However she was quick enough to realize the situation when Air Maldives reported on the Approach Radar frequency having left FL230 the prompt action taken by diverting the traffic on radar avoided a possible disaster.

(The inbound aircraft, Air Maldives, in communication with and under the control of *area controller* was instructed to **commence** descent from FL230 to FL150 from a distance of 70 n.m from BIA. When the aircraft was on the verge of commencement of descent the aircraft was **instructed by the Area Controller to contact Approach Radar**, informing the latter, that the aircraft was maintaining FL230 whereas the aircraft was about to commence descent as instructed within a matter of one minute. At this time the Air Lanka flight departing for Male was climbing out and listening on a different frequency and in contact with Approach Radar with instructions issued by Area Controller – through Kaunayake Radar – "to climb to 220")

- (c) In issuing the "inbound release", the phraseology used, and content were nonstandard as the transfer point should have been **only one** of either *time*, *level*, or *position* and not "70 / 150" as given by the *area controller* to radar. This was a wrong assessment as aircraft could not be at 70 n.m. at FL150 (Doc 4444/RAC/501Part X page 10-22). In this instance the information passed in the "inbound release" was incorrect and no proper amendment had been passed on to Approach Radar.

Area Controller does not seem to be familiar with the importance of the conditions of an "inbound release" and of the significance of the items therein and its format.

*E.g. (acft ident) released at (time or level or point)
.....contacting you at(time).].*

(d) It is also noted that the controllers assisting the active controllers at Ratmalana and at Katunayke had apparently failed to communicate certain information exchanged between the two units, to the active controllers at either end. This resulted in the delay in assessments of the situation regarding the transferred traffic.

The Area Controller had made several errors in the co-ordination and transfer and acceptance of inbound and outbound traffic in the terms and conditions of an inbound release

The Controller at Area Control Centre had failed in her assessment of the time of the top of descent which should have been based on the Air Maldives position report made at 03 42 42 and evaluated the transfer as maintaining FL230.

Proper co-ordination was lacking. Use of standard formats and procedures, phraseologies was not adhered to and understood.

Co-ordination and supervision by the senior staff was lacking. Probably a casual approach to problems of ATC are envisaged due to care free attitude during non busy periods.

The other points in the **analysis of the CATC's report** in this regard are correct, and no further evaluation is considered necessary in this report.

Conclusions & Recommendations.

1. Refresher training of the Area Controller and other staff at the ATS units on the significance of proper co-ordination and the importance of the use of latest phraseologies should be resorted to.
- 2... Periodical simulator assessment of controllers should be conducted to familiarize themselves with latest procedures., particularly prior to annual assessments for renewal of ratings. This could involve the refresher test on the familiarity of the ATC instructions issued from time to time.
These should be supplemented by on-the-job assessments at live displays and units by very senior staff. This could pay its dividends by incident prevention.

(continued.)

(When reciprocal traffic conflicts are involved, unless proper co-ordination has been affected or facilities for radar transfer are available aircraft should be instructed to climb/descend **and maintain a level** 1000 feet above or below clear of reciprocal traffic during a change over from one ATC unit frequency to another, and further climb or descent authorized once contact with new unit is established and reciprocal traffic have passed on radar display by procedural separation.)

3. Assignment of senior staff for shift duties . There is an acute shortage of ATC staff and it is imperative that the senior staff should be assigned for shift duties with adequate compensation for extra hours performed **till such time adequate staff are trained to man the shifts.**

Fatigue during long hours and Human factors should be given due consideration by giving ATC and Radar controllers breaks during long shifts for rest and relaxation. This would pay its dividends in the light of incidents which could occur due human errors associated with fatigue. This would necessitate rostering of Senior staff, for shifts.