



FINAL REPORT

**Incident on separation breakdown between Emirates Airline flights
UAE 359 bearing aircraft registration no. A6-EGI, Boeing 77W
and UAE 5CL bearing aircraft registration no. A6-EVG, Airbus
380, Over Colombo Oceanic Control Area on 31st May 2023**

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GLOSSARY OF ABBREVIATIONS USED IN THIS REPORT

AASL	Airport and Aviation Services (Sri Lanka) (Private) Limited
ACC	Area Control Centre
ADS	Automatic Dependent Surveillance
ALK	Sri Lankan Airlines Limited
ATCO	Air Traffic Controller Officer
CAASL	Civil Aviation Authority Sri Lanka
CPDLC	Controller Pilot Datalink Communication
DGCA	Director General Civil Aviation
FIR	Flight Information Region
FL	Flight Leave
HF	High Frequency
IFR	Instrument Flight Rules
IS	Implementing Standards
LT	Local Time
OCP	Oceanic Controller Position
SLMATS	Sri Lanka Manual of Air Traffic Services
TMA	Colombo Terminal Area
UAE	United Arab Emirates Airline
UTC	Coordinated Universal Time
UOI	Unit Operational Instructions



INTRODUCTION

The incident was notified to the Civil Aviation Authority of Sri Lanka (herein after refers as “Authority”) by the ATCO involved in the incident through the safety reporting framework established via a Mandatory occurrence report.

The Authority appointed a team to investigate this incident with a view to prevent the recurrence of similar events. The incident was notified to the General Civil Aviation Authority of United Arab Emirates being the State of Registry and State of Operator.

SYNOPSIS

On 31st May 2023, around 2000 UTC, Emirates Airline flight, EK413 (callsign UAE5CL) was en-route to Dubai International Airport UAE, from Sydney International Airport Australia, on the Air Route L896, maintaining FL360, entered Colombo Flight Information Region (FIR) via the reporting point NISOK. Emirates Airline flight UAE359, which was en-route to Dubai International Airport from Jakarta Indonesia, following the same Air route L896, maintaining FL340 entered Colombo Flight Information via the reporting point NISOK around 2003UTC.

At time 2021UTC, when both the aircraft were flying relative to each other maintaining minimum standard vertical separation of 2000ft, UAE359 had requested to climb to higher Level FL360, to the same Flight Level that UAE5CL, the preceding aircraft was maintaining. ATCO had granted the Flight Level requested by UAE359, cleared the aircraft to climb to FL360 deviating the minimum vertical separation standard to be existed between aircraft, when any other form of i.e lateral or Longitudinal minimum separation does not exist causing a breach of minimum standard separation between two aircraft operating under Instrument Flight Rules (IFR), within a controlled airspace flying under Air traffic Control clearances.

Objective

The objective of this investigation is to prevent the recurrence of similar incidents.



1. FACTUAL INFORMATION

1.1 History of the flights

Emirates Airline, flight EK413 (callsign UAE 5CL), aircraft type Airbus A380 was en-route from Sydney Australia to Dubai International Airport United Arab Emirates. Emirates Airline flight UAE359, aircraft type/Boeing 77W was en-route from Jakarta Indonesia to Dubai International Airport United Arab Emirates.

Both the aircraft were overflying the Colombo FIR on Air Route L896 entering from Jakarta FIR via the way point NISOK on route to exit via the way point DUGOS to Chennai FIR. The first aircraft, UAE 5CL entered Colombo airspace at time 2000 (UTC) at FL360 followed by UAE359 at time 2003 (UTC) at FL340 respectively.

At the time of the incident the aircraft were operating in the Oceanic Airspace of Colombo FIR within the Controlling jurisdiction of North Sector of the Oceanic Control of the Colombo ACC.

At time 2021 UTC UAE359 had requested to climb flight level 360 via CPDLC. Few minutes later, the duty Air Traffic Controllers had approved the climb request, and the aircraft acknowledged and climbed to FL360.



Figure 1: Air Situation Display Screen Shot

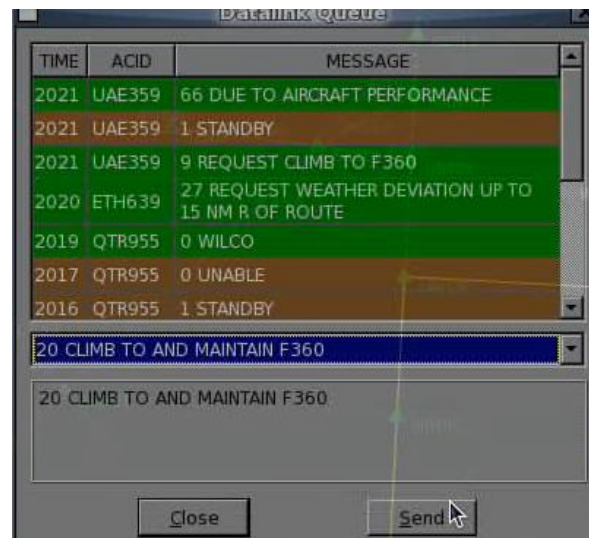


Figure 2: CPDLC Data Link Queue

Approximately about 11 minutes later with the ADS update the Controller had noticed that both aircraft were maintaining the same flight level without the adequate longitudinal separation, which should have been 50 nautical miles. The Controller on realising this, had descended UAE359 to FL340 once more to establish vertical separation.



1.2 Injuries to persons

There were no injuries.

1.3 Damage to aircraft

Not applicable

1.4 Other damages

Not applicable

1.5 Personnel information

1.5.1 Air Traffic Controller

Licence No : ATC/143 issued by the Director General of Civil Aviation - Sri Lanka
Age : 39 Years

Licence Details

Initial Issue : 12/08/2009
Validity : from 10/07/2021 to 24/02/2024
Last Medical Date : 12/02/2020, valid for 04 years
ELPC Level : 06
Limitations : Nil
ATC Ratings :

Rating		Validity
Aerodrome Control Rating		
(a) I	Katunayake	05/04/2023 to 16/03/2024
(a) II	Ratmalana	05/04/2023 to 16/03/2024
(a) III	Mattala	05/04/2023 to 16/03/2024
Approach Control Procedure Rating		
(b) I	Katunayake	05/04/2023 to 16/03/2024
(b) II	Mattala	05/04/2023 to 16/03/2024
Area Control Procedure Rating		
(c)	Area Control Procedure Rating	05/04/2023 to 16/03/2024

Table 1- ATC Ratings

1.6 Aircraft information

Aircraft 1: Emirates Airline Flight (callsign UAE5CL), Airbus 380

Aircraft 2: Emirates Airline Flight (call sign UAE 359) Boeing 77W



1.7 Meteorological information

No SIGMETS had been issued. Existence of weather was reported by aircraft, which was observed by the weather deviations requested via CPDLC and HF report.

1.8 Aids to Navigation

Aircraft was flying in oceanic airspace.

1.9 Communications

- Primary mode: CPDLC
- Secondary: HF with Colombo Radio Primary frequency 11285KHz and Secondary frequency 5670KHz

1.10 Aerodrome information

Not Applicable

1.11 Organizational and Management Information

Aircraft Operator: Emirates Airline of United Arab Emirates

Air Navigation Service Provider: Airport and Aviation Services (Sri Lanka) (Private) Limited

1.12 Additional information

None

1.13 Useful or effective investigation techniques

Investigations conducted as per the procedures and techniques laid down in manual of Aircraft Accident and Incident Investigation Procedures.

2 ANALYSIS

2.1 Description of the incident.

The duty Controller had cleared UAE359 to climb to FL360 resulting in an infringement of Minimum longitudinal separation Standard with preceding aircraft, UAE5CL which was flying at FL360, 15 to 18 nautical miles ahead. The required separation minima as promulgated in the approved Manual of Air Traffic Services of Sri Lanka in the Oceanic airspace of Colombo is 50 nautical miles (Chapter 6.4.5 of SLMATS) when flying on same route at same levels.

The Controller had identified the infringement caused only after, approximately 11 minutes, when he had observed the level change in the Air Situation Display (ADS) with the update of the ADS position report of the aircraft.



On identifying the infringement, the Controller had taken action to verify the difference in level and obtain confirmation from the aircraft. On receipt of level confirmation and recognizing the error caused at the Controller's end, UAE359 was advised to descend to FL340.

2.2 Controller providing unintended instruction to UAE359 whilst momentarily not being aware of providing such.

At the request of higher level FL360 by UAE359, Controller's decision had been to deny the higher level. In order to execute his decision, it was a default one click, to communicate the pilot, the response 'UNABLE'.

On analysing the Video data, it was clearly visible that the Controller had granted the unintended higher climb, after scrolling through the splayed message set that involved more than one action when compared to one click 'UNABLE'.

The circumstances which warranted the denial of the requested FL and the Controller being aware and had intended to communicate denial, sends exactly the opposite, unintended message with relatively more physical toggling involved, resulting the aircraft climbing to the higher level.

In his perceived response, the Controller wanted to send 'UNABLE', which was the right decision. In his actions he had granted the requested FL with more interactions with the keyboard. So, it raises a question as to why such action had taken place and what are the factors that may have had a contribution to this kind of behaviour.

At the same time, considering the delayed responses, the Controller had made for weather deviation requests, mixing of priorities of responding to routine level requests instead of responding to weather deviations, the haste in which the individual continues the clearing of the CPDLC message queue on previous communications, provide indications of momentarily mounting of work action related pressure upon the individual. Moreover, the Controller in his statement accepted that the sending of the response to the higher climb was an inadvertent act and whereas his intension was to respond to weather deviation.

Above indicators provide adequate clues on the losing of the concentration and a momentarily loss of situational awareness of the individual during the period of this occurrence.

Considering the above revelations, in order to check the individual's mental status, a medical evaluation was performed.

2.3 Un-cleared CPDLC message Queue

The Controller had a residual un-cleared CPDLC message queue stemming from 1918UTC at 2023UTC, for which some had been responded and some had not been responded. The Controller seen rushing, clearing those message queue responding to some, observed at the same time new messages were also being received, which required more attention from him rather than clearing of old messages.



The Controller has assumed duties at 2000UTC. When the individual clears CPDLC messages that has been received since 1918UTC during the period of occurrence, it points out to the fact that handing-over Controller at 2000UTC had not cleared CPDLC message queue at the time of handing over and the Controller concerned has accepted control of traffic with the un-cleared residual message set.

The handing-over Controller not clearing the long CPDLC queue associated with ATC duties during his/her duty period, leaving an additional work to the taking-over Controller who has to spend an additional time at the beginning to clear the queue. It is noted that good work ethics and good working practices, like the rules and regulations, equally contribute to a safe working environment.

2.4 Not updating of the flight progress stripe board and not using the flight progress stripe board to make decisions.

2.4.1 Those CPDLC responses the Controller had made were events that he was required, by the approved flight progress stripe marking procedure, to be noted in the flight progress stripe board either as a prerequisite to do an assessment of the situation before granting such request or after granting, recording such to notify the progress of the flight. The Controller has failed to carry out the mandatory actions of noting and updating of the flight progress stripe board and utilizing same to make decisions.

2.4.2 The Controller had not attended to the HF reports that had come from the aircraft that were not capable of ADS/CPDLC during the period of occurrence, resulting in not updating of the Flight Progress stripe board with necessary elements of the flights' progress.

2.4.3 It was revealed that the Controller was subjected to an additional pressure caused by unfinished work such as flight progress stripe removal which points to a possibility that the previous Controller had kept time elapsed flight progress stripes (those stripes that could be removed from the flight progress stripe board once the aircraft reports the next position exiting from the loop of the previous position) on the flight progress stripe board at the point of handing over.

2.5 The Controller has worked exceeding 200hrs per month, which is a non compliance to the prescriptive limitation on IS 096.

2.5.1 The Controller involved had worked 236hrs for the preceding month exceeding the prescriptive limitations. This gives rise to a condition of accumulated fatigue being present on individual at the time of occurrence as per the framework defined by SLCAIS 096. The 8/16 two shift Roster pattern has continued despite the recommendations made by the Authority to implement a duty Roster in compliance with prescriptive limitations. Individual Controllers are duty bound to operate on the Roster prepared by the employer and cannot be held responsible individually for exceeding the limits.

2.6.2 Further Analysis is made on the ATC Roster at the ACC in the month of May 2023 and the duty position allocations, following are the observations.



- I. Total number of 2755.5hrs of Overtime work has been performed by the ATCs at the combined ACC and the Ratmalana Tower Roster. Excessive number of Overtime duties performed by ATCs due to short of staff situation created in the existing working Roster Pattern.
- II. ATC Roster indicates 24 hour duty allocations for Controllers and the Log entries and Duty time allocation sheets indicate Controllers working for 24 hours and duty time allocation sheets indicate the Controllers are performing longer operational duty periods without a prescribed break, both of which are non compliances to requirements stipulated in SLCAIS 096.
- III. Significant number of Controllers are detailed to work only for 5-6 hrs in active ATC work during a 16hr night shift where rest of the time (10hrs) is considered as the break. This provides indication of mismanagement of existing human resource where effective contribution from some of the operational Controllers made as low as 50% or lesser during a duty shift period. Hence the need for extra Controllers to be called in to perform overtime work.

2.6 Lack of Supervision

2.6.1 Investigation revealed that during the tenure of the particular ATC watch which the incident took place, the duty supervisor being stationed within the ACC itself, supposedly had found no time to make specific supervision visits on the work carried out by the fellow Controllers working at the ACC.

2.6.2 At the work position detailing sheet of the shift and as per the signatures placed by individuals on the handing over and taking over of Control duties, the Controller involved with the Incident had been detailed to work on the Oceanic South Sector starting from 0130hrs to 0230hrs Local time and from 0230hrs to 0430hrs Local time in the combined North & South Sector. He had been detailed to relieve the Controller who had worked till 0130hrs at Oceanic South Sector. A third Controller had been de-tailed and had signed for working on the Oceanic North sector from 0030hrs to 0230hrs Local.

2.6.3 However, it was revealed that the Controller who had signed and indicated that she had worked in the Oceanic South Sector till 0130hrs had actually worked in the Oceanic North Sector and the third Controller who had signed and indicated that she had worked on Oceanic North Sector, had actually worked on the Oceanic South Sector.

2.6.4 The Controller involved with the incident had relieved the Controller who had actually worked in the Oceanic North Sector and continued working on the North Sector till 0230hrs at that sector although he had signed and indicated in the detailing sheet that he had worked in the Oceanic South Sector till 0230hrs.



2.6.5 The practice above has provided wrong documented information on the work dis-charged by each ATC at respective work positions. It was noted that the ATCs at the changeover timings relieve the ATC who is available at the working position according to a routine pattern and are less concerned on where they actually are detailed to work at and signs the detailed document as it is. The confusion above indicated the possible lack of adequate supervision at the Area Control Centre

2.6.6 As per the Attachment B to the SLMATS, the Job task of an ATS Watch Manager includes overseeing that the overall standards are maintained at all times under their jurisdiction. They will attend to operational duties as and when necessary in addition to their supervisory and administrative duties in respect of ATS Staff and other supportive staff. Contrary to these approved procedures, investigation has revealed inadequate supervision at ACC giving rise to procedural non-compliances taking place and the development of practices at the Centre which may have safety implications.

2.7 Reporting of the Incident

2.7.1 The Controller Involved with the ATC incident, reported the Incident through an MOR. Although the Controller has not followed the step of notifying the Watch Supervisor of the Incident, he had informed the incident to Senior Manager ATC in Charge of ACC and submitted the MOR as required by IS006.

2.7.2 Watch Supervisor has confirmed that the concerned incident was not reported to him.

2.8 Analysis made on a greater population of the worked flight progress stripes beyond the scope of the duration of the incident referred.

Considering the number of incomplete flight progress stripes found in the sample of flight progress stripes inspected on assessing the occurrence, investigations were focused on to a wide-spread analysis using flight progress stripe samples from oceanic Control Sector pertaining to each different work shift of ACC, Ratmalana. Stated below are the revelations of non-compliances taking place and also include observations of Controller/s interviewed in the process.

Compliance requirement as referred in SLMATS in regard to maintaining flight progress stripes.

QUOTE:

3.2.2 Oceanic Control Position (OCP)

3.2.2.3 Duties & Functions to be performed by OCP Controller

The following duties and functions shall be performed by OCP Controller conforming with the procedures and practices prescribed hereunder:

vii. Scrutinize Aircrafts' Position Reports on HF received on A/G OCP Tele-printer promptly, mark every safety element such as level, time, deviation, level change request etc.; with a Tick (✓),



place individual initials for responsibility/accountability after marking all relevant data on the corresponding Flight Progress Strip.

- viii. Monitor the Position Reports, weather deviations, level change requests or any other pertinent information appeared on ADS/CPDLC necessary for the progression of the flight and the corresponding Flight Progress Strip shall be updated accordingly. The FPS shall be cocked (pulled out) or any other safety best practices such as Label modification with a different colour or note, use of different symbols may be used in the event of further attention is needed.
- x. Prior to making any level changes to traffic with OCP, the TMA controller must be coordinated.
- xi. Pass a Release message to TMA Controller via hot-link or using the estimate recording form in respect of all aircraft who have reported on HF or ADS/CPDLC passing the last Reporting Point prior to entering Colombo TMA and update flight data with any subsequent revisions. Ensure the disconnection of both ADS and CPDLC connection prior to the transfer of the Label to TMA.

UNQUOTE

2.8.1 In many occasions most of those Controllers who had worked on those stripes have failed to update the Stripes with actual checked time, estimate of the next position, climb or descent shown by the climb/descent symbols.

2.8.2 In significant number of occasions, those Controllers who have worked on those stripes did not mark the safety elements of Position Reports received to the OCP Tele-printer from the HF operator.

2.8.3 In significant number of occasions, Flight Progress Stripes had not been updated on weather deviation or level change requests by those Controllers who have worked on those stripes.

2.8.4 As per Chapter 4, Paragraph 4.20 of SLMATS on Strip Marking Procedures, Blue or Black indelible ink pens, either ball point or felt/nylon tipped, should be used for recording entries at all times and should not use red ink for strip marking at any time.

It was observed at times RED pens have been used to mark the checked times in Flight progress Stripes.

2.8.5 It was revealed that some of the Controllers have resorted to non-marking of the flight progress stripes due to traffic situation display provided by the ADS-C/CPDLC system.

Further, it was revealed that some of the Controllers have done away with the practice of marking the flight progress stripes especially after COVID-19, era where less number of traffic was observed.

Furthermore, it was also noted during the investigation that some of the Controllers were engaging on the remote monitoring of the Oceanic traffic situation (not from the established Oceanic Control Sector where the flight progress stripe board and other necessary infrastructure is present) without marking flight progress stripes.



2.9 Controller change over taking place amidst of the peak traffic Scenario or during the immediate preceding time period of the peak traffic scenario

The change over time as recorded at the position detailing sheets of the ATCs at ACC on 31st May 2023 was 0130hrs (LT), i.e. Controller A, assume duties at 2200hrs (LT) and hands over the position to Controller B at 0130 hrs.

The peak traffic occurrence at ACC under normal circumstance begins around 0100hrs and the introduction of an ATC during the period of the peak was a safety concern that had been pointed out by CAASL in previous occasions when investigating incidents that had occurred during the peak traffic, via Letters dated 19/05/2016 AS/19/02/02, Letter dated 23/08/2022 AU/5/47(CA/22/296). It is evident that the ATC Management had not implemented these repeated recommendations made and the changing over of Controllers continues to be taking place amidst peak traffic Scenario. The fact has statistically proven being a contributory factor to causing incidents.

2.10 Not following the published means of communication for transfer control of aircraft and coordination within the center.

Most of the time, it was clear that the hot-link was not utilized for transmitting and receiving release messages to and from the TMA Controller. The Estimate Recording Form, considered an alternative method for assuming responsibility of aircraft during transfers according to SLMATS UOI-ACC was not retained at the centre.

3 CONCLUSIONS

3.1 Findings

- I. The Controller had cleared UAE359 to the level that UAE5CL was maintaining, without the required Standard longitudinal separation causing a separation breakdown where UAE359 and UAE5CL were maintaining the same level for a period of 11 minutes approximately.
- II. In discharging ATC services, the Controller had experienced a monetarily loss of situational awareness causing delayed responses to aircraft, mixing up of priorities in responding and inadvertent erroneous responses to the aircraft request.
- III. The aeromedical evaluation on the present status of the Controller involved with the occurrence has found no evidence of abnormality in individual's physical & psychological domains. Which points out the fact that the Momentary Loss of concentration has caused loss of situational awareness.
- IV. The handing-over Controller at the concern period has not cleared the CPDLC message queue associated with ATC duties during her duty period and has failed to remove the time-elapsed flight progress stripes, leaving an additional work to the duty taking-over Controller.



- V. The Controller concerned has accepted control with an un-cleared residual CPDLC message and time-elapsed flight progress stripes being present at the flight progress stripe board. This condition had caused additional work pressure on the individual in managing the CPDLC responses and in managing the flight progress stripe board during the period of occurrence.
- VI. The Controller had not managed and utilized the flight progress stripe board for decision making.
- VII. The Controller had not completed the safety critical element of Flight Progress Stripes (*viz.* weather deviations, level change requests, actual checked time over previous positions, Pilot's estimate for next positions etc.) as required by Part 3 of Unit Operational Instructions (UOI) – ACC of Sri Lanka Manual of Air Traffic Services.
- VIII. The Controller had not marked the safety elements of position reports received from HF via OCP Printer to indicate read and actioned, update relevant data on the corresponding Flight Progress Stripes, and place individual initials in the HF report as required by Part 3 of UOI – ACC of SLMATS.
- IX. In many occasions Controllers worked at the Oceanic Control Sector have not updated the Flight Progress Stripes with actual checked time, estimate of the next position, climb or descent shown by the climb/descent symbols.
- X. In significant number of occasions, Controllers have not marked the safety elements of Position Reports received at the OCP Tele-printer from the HF operator at the Oceanic Control Sector.
- XI. In significant number of occasions Flight Progress Stripes have not been updated on weather deviation or level change requests, by the Controllers at the Oceanic Control Sector.
- XII. It was found, at times RED pens have been used to mark the checked times in Flight progress stripes which is explicitly prohibited at the Flight Progress Stripe marking procedure available in SLMATS.
- XIII. It was revealed that some of the Controllers have resorted to non-marking of the Flight Progress Stripes due to air situation display provided by the ADS-C/CPDLC monitor at the Oceanic Control Position.
- XIV. It was revealed that some of the Controllers were engaging on the remote monitoring of the Oceanic traffic situation (not from the established Oceanic Control Sector where the flight



progress stripe board and other necessary infrastructure is present) without marking Flight Progress Stripes.

- XV. It was concluded that there was a lacking of the operational supervision taking place at the ACC. The ATC supervisors' Job role in terms of overseeing the Controllers during the discharging services, which may include over-the-shoulder supervision of the flight progress stripe board for stripe marking procedural compliance, overseeing the compliance to the ATC procedures during the discharging the services, overseeing the handing over and taking over of duties, etc., have not been defined and there were no explicit instructions for the ATC Supervisors to carry out such actions on a pre-determined periodicity during their tenure at duty.
- XVI. The Controller involved has worked 236hrs for the preceding month exceeding the prescriptive limitations. This gives rise to a condition of accumulated fatigue being present on individual at the time of occurrence as per the framework defined by SLCAIS 096.
- XVII. The 8/16 two shift Roster pattern has continued despite the recommendations made by CAASL to implement a duty Roster in compliance with prescriptive limitations prescribed in SLCAIS 096.
- XVIII. Total number of 2755.5hrs of Overtime work has been performed by the ATCs at the combined ACC and the Ratmalana Tower Roster. Excessive number of Overtime duties performed by controllers due to short of staff situation created in the existing working Roster Pattern.
- XIX. ATC Roster indicates 24 hour duty allocations for Controllers and the Log entries and Duty time allocation sheets indicate Controllers working for 24 hours which is a non-compliance to SLCAIS 096.
- XX. Duty time allocation sheets indicate the Controllers are performing longer operational duty periods without a prescribed break, which is a noncompliance to SLCAIS 096.
- XXI. Significant number of Controllers are detailed to work only for 5-6 hrs in active ATC work during a 16hrs night shift where rest of the time (10hrs) is considered as the break. This provides an indication of mismanagement of existing human resource where effective contribution from some of the operational Controllers made as low as 50% or lesser during a duty shift period. Hence the need for extra Controllers to be called in to perform overtime work.
- XXII. The Controller had not reported to the Watch Manager about the incident which was a mandatory information to be logged in the watch log as Part 11 of UOI – ACC of SLMATS. However, he has reported the incident to CAASL through a Mandatory Occurrence Report.



- XXIII. AASL had not implemented the Safety recommendations made on previous investigations via Letter dated 19/05/2016 AS/19/02/02, Letter dated 23/08/2022 AU/5/47(CA/22/296). The changing over of Controllers continues to be taking place amidst peak traffic Scenario. The fact has now statistically proven being a contributory factor for the incidents.
- XXIV. Non-compliance with instructions published in SLMATS (ACC-UOI) for accepting and releasing aircraft to/from the TMA using the hot-link.

3.2 Causal factor

- Momentarily loss of concentration and the consequent loss of situational awareness by the Controller.

3.2.1 Probable Contributory Factors – Individual (Controller)

- Non-compliance to the Flight progress stripe marking procedures.
- Inadequate vigilance (ex. fatigue)
- Interruptions and distractions
- Task saturation (ex. Weather deviation requests etc.)
- Incorrect management of priorities
- Reduced attention
- Other factors (extended duty times, lengthy operational duty periods, Controllers changing over during heavy traffic periods etc.)

3.2.2 Probable Contributory Factors – Organizational

- Inadequate supervision on to compliance of Standards by ATCs at the time of discharging services
- Extended duty time allocations in ATC Rosters
- Lengthy operational duty periods in duty time allocation
- Controllers changing over during heavy traffic periods.

4 SAFETY ACTIONS AND RECOMMENDATIONS

4.1 Safety Actions

The following trainings were recommended to the concerned Controller as immediate corrective actions.

- I. A 03-day training programme at SLAAA covering all theoretical and practical aspects required to work as an Area Procedure Controller at Colombo Oceanic Airspace.



- II. After completion of the theoretical training referred in (1.), On the Job Training (OJT) at Oceanic Control Position at ACC, during Moderate, Moderate - Heavy traffic times (including both night & day turns) under supervision of a Watch Manager or a Senior Controller covering a minimum of 30 OJT hours.
- III. On completion of above (1) and (2), a final performance check by a suitable panel appointed by the Head of ANS, AASL.

The above records/ results were reviewed by the CAASL prior to detailing the Controller to work at the Oceanic Control Position at ACC.

4.2 Safety Recommendations

- I. It is recommended that ANSP encourages the Controller to maintain a healthy mental status by engaging regular exercises, sufficient sleep and a balanced diet. Engaging in stress management techniques and fostering social connections can also contribute to his future mental-wellbeing. It is important to monitor any changes in mental health and seek professional help if symptoms of distress arise.
- II. It is recommended to issue a specific staff instruction to be strictly complied by the Controllers assigned to work at Oceanic Control Position to clear up the CPDLC message queue when handing over the control of traffic to the next Controller except for those messages that are pre-negotiated and agreed upon by the incoming Controller to provide responses for.
- III. Considering the significant number of Controllers not adhering to the Flight Progress Stripe Marking procedures, it is recommended a concise (may be one page document) ATC instruction to be issued on the marking of essential elements in Flight Progress Stripes and displayed in the form of a poster at the Oceanic Control Position.
- IV. Considering the importance of the marking and maintaining Flight Progress Stripe board for discharging of safe and efficient ATC service at the Oceanic Control of Colombo FIR, it is recommended that the instructions are issued for ATC Supervisors to do a real time monitoring of the maintenance of flight progress stripe board at an agreed, uniform periodicity within the individual's duty shift. Such monitoring instances are to be recorded at the Position log for further reference.
- V. Considering the importance of the marking and maintaining Flight Progress Stripe board for discharging of safe and efficient ATC service at the Oceanic Control of Colombo FIR, it is



recommended that the ATC management responsible for the administration of ACC is engaged with a follow up oversight activity (form of random sampling and checking for compliance) and also real time random on console supervision to ensure the Controllers working at the Oceanic Control position are adhering to Flight Progress Stripe marking procedures.

- VI. It is recommended that CAASL safety inspectors to inspect random samples of Flight Progress Stripes in order to check the compliance of the flight progress stripe marking procedures during the planned/unplanned surveillance activities.
- VII. It is recommended that the ATC supervisors' Job role is re-defined and documented to include the tasks of overseeing the Controllers during the discharging services, which may include over-the-shoulder supervision of the flight progress stripe board for stripe marking procedural compliance, overseeing the compliance to the ATC procedures during the discharging of services, overseeing the handing over and taking over of procedures during critical times and with any other appropriate tasks that would ensure the assurance of safe and efficient discharging of ATC service.
- VIII. It is recommended to do away with the existing practice of 8/16 two shift Roster System at the earliest and redefine the shift lengths to implement 03 shift Roster System in compliance with SLCAIS 096. *(Note: This recommendation is provided as a repetition for the 02nd time. Previous occasions - Safety Recommendation No: III Safety Investigation Report QTR34U Vs QTR54C dated 22nd May 2022)*
- IX. It is recommended to define and implement the time duration lengths of working slots and respective breaks in complying with SLCAIS 096.
- X. It is recommended to develop methods of identifying fatigue of ATCs by having Fatigue Safety Action Group or merging the fatigue related indicators to the existing Safety Management System. *(Note: This recommendation is provided as a repetition for the 02nd time. Previous occasions- Safety Recommendation No: III Safety Investigation Report QTR34U Vs QTR54C dated 22nd May 2022)*
- XI. It is recommended to re-designate the change over time of ATCs at OCP at the night shift such that an adequate lead time of handling traffic is made available for the incumbent Controller who would be encountering traffic peak to experience the developing traffic scenarios leading to the peak. Appropriately the change over time should not be less than 45 minutes prior to the time the peak traffic is anticipated. *(Note: This recommendation is provided as a*



repetition for the 3rd time, previous two occasions are: Safety Recommendation No: 03, Safety Investigation Report UAE 407 & UAE 435 on 09th November 2016, Safety Recommendation No: XI Safety Investigation Report QTR34U Vs QTR54C 22nd May 2022. Reported previous occurrences on the same time period, Safety investigation SAA287 AND QTR905 28th May 2016)

- XII. It is recommended to ensure strict adherence among all Controllers at ACC to the published instructions in SLMATS (UOI-ACC), which states the utilization of either the hot-link or the estimate recording form during the coordination process for the transfer of control of an aircraft.
- XIII. It is recommended that the estimate recording form be preserved for a period of at least 30 days. This recommendation stems from the recognition of the form's significance as a vital document that could prove essential for investigative purposes. Retaining this document for the specified duration ensures that valuable information related to estimates and aircraft transfers is accessible, providing a reliable resource in the event of inquiries, audits, or investigations.

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