Appendix B: Malaysia, India, Myanmar and Indonesia Special Coordination Meeting Summary Report

1. INTRODUCTION

1.1 The Nineteenth Meeting of the Regional Airspace Safety Monitoring Advisory Group (RASMAG/19, Pattaya, Thailand, 27-30 May 2014) noted that the Monitoring Agency for Asia Region (MAAR) had provided the results of the airspace safety oversight for the Reduced Vertical Separation Minimum (RVSM) operation in the Bay of Bengal (BOB). The BOB RVSM airspace overall risk was estimated to be **13.47 x 10^{-9}**, which did not meet the Target Level of Safety (TLS). **Figure 1** presents collision risk estimate trends during the period from January 2013 to December 2013.

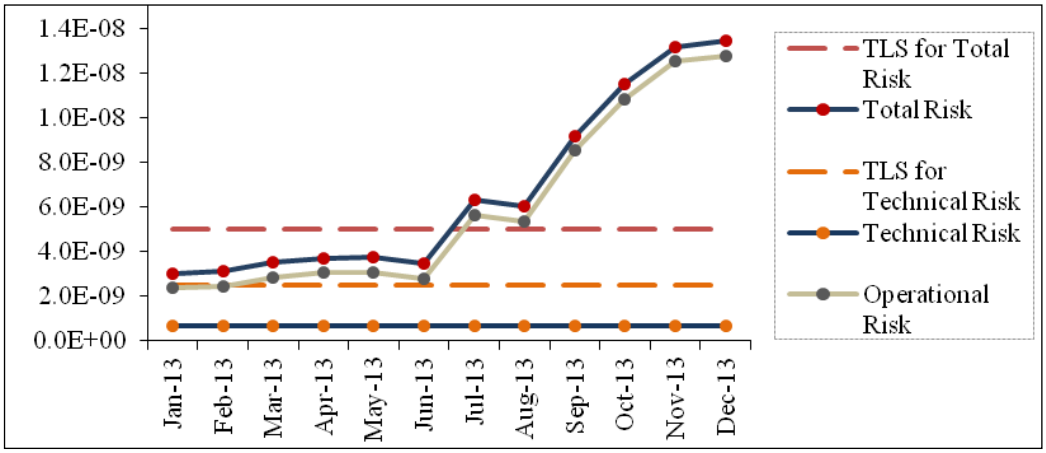

Figure 1: BOB Airspace RVSM Risk Estimate Trends

1.2 The RASMAG/19 meeting noted that the large increase in Category E reports from July 2013 were largely as a result of efforts by India to sensitize controllers as to the importance of reporting; thus the risk levels have not increased dramatically but are now reflecting the true risk in the airspace concerned. **Figure 2** provides the 12-month cumulative operational risk by Large Height Deviation (LHD) category for BOB airspace from January 2013 to December 2013.

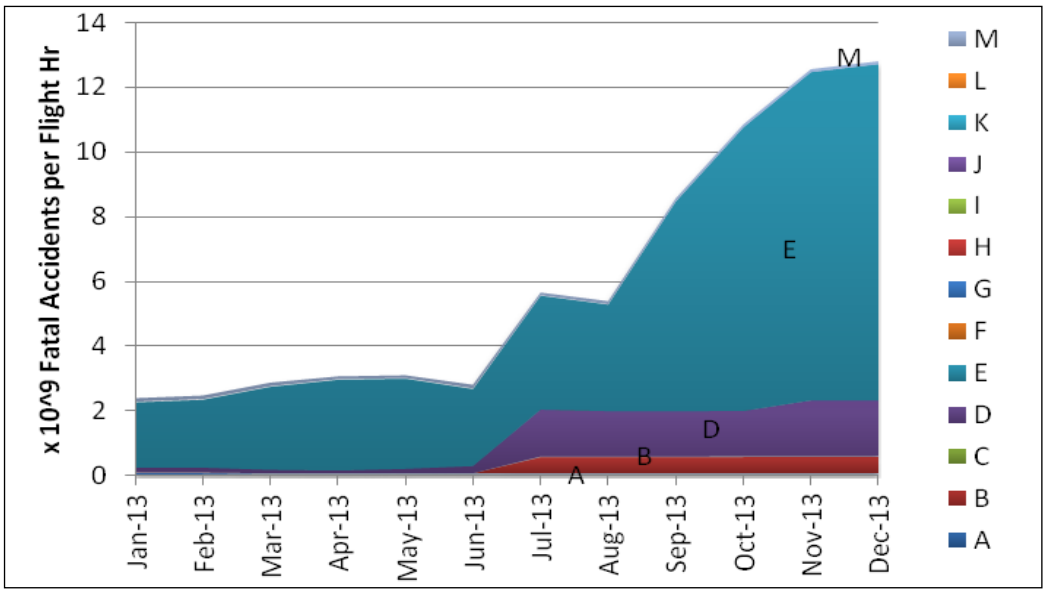

Figure 2: Trends of Operational Risk by LHD Category for BOB Airspace

1.3 MAAR noted that the hot spots were Transfer of Control (ToC) points between Indian FIRs and Myanmar and Malaysian FIRs. There were 15 occurrences (totalling 152 minutes) that the transferring Area Control Centre (ACC) investigated and claimed that they already sent the transfer messages and the necessary time or flight level revisions. For some occurrences, the aircraft did not change flight levels and stayed at the transferred flight levels throughout the FIR. Moreover, they noted that deficiencies in communication and surveillance services (**Figure 3**) may also be a factor that contributed to the duration of LHDs (see Figure 3 regarding Very High Frequency (VHF) communications and Secondary Surveillance Radar (SSR).

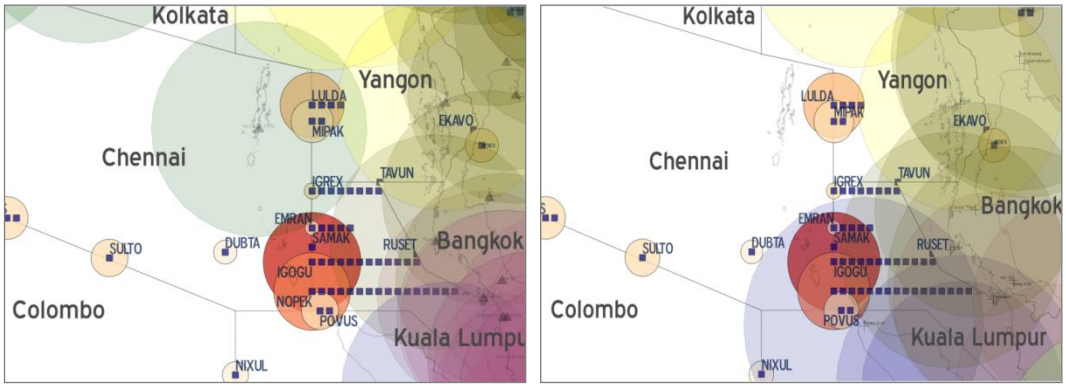

Figure 3: VHF and SSR coverage, BOB Hot Spot Analysis

1.4 MAAR provided the RASMAG/19 meeting with a number of recommendations regarding operational risk mitigation measures, including ATC-to-ATC communication, ATS surveillance, Automatic Dependent Surveillance-Contract/Controller Pilot Data Link Communications (ADS-C/CPDLC), reporting procedures for flight crews prior to entering Flight Information Regions (FIRs), and ATC automation systems, especially in the areas of the human-machine interface and electronic flight progress strips. The meeting acknowledged the excellent analysis work by MAAR, noting that the recommendations were consistent with the Seamless ATM Plan, except that early reporting before entry FIRs may be problematic. IATA particularly thanked MAAR for its proactive work and coordination with airlines.

1.5 MAAR noted that they had observed problems with the voice coordination between India and Myanmar, which resulted in the receiving controller not acknowledging the same information provided by the transferring controller. The meeting noted that this could be due to English proficiency, but MAAR would investigate further to clarify.

2. SPECIAL COORDINATION MEETING

2.1 The Malaysia, India, Myanmar and Indonesia Special Coordination Meeting (MIMI SCM) was held as a separate agenda item at the end of the First Bangladesh, India, Myanmar and Thailand ATM Coordination Meeting (BIMT/1, Bangkok, Thailand, 18-19 August 2014). The MIMI SCM was supported by participants from MAAR and IATA. The meeting was moderated by Mr.Chandan Sen, General Manager (ATM), Kolkata , India, with Secretariat support provided by Mr. Len Wicks, Regional Officer Air Traffic Management, ICAO Asia/Pacific Office. A list of participants is provided at **Appendix A**.

2.2 The MIMI SCM focused on the two LHD ‘hot spots’ that were identified by RASMAG/19, with a view to determining the current status of Air Traffic Services communications (ATS COM), ATS surveillance (SUR) and future planning for ATM improvements in the area. The meeting also discussed any mitigating measures for the safety risks noted by MAAR, including for human performance issues.

2.3 **Table 1** identifies the status and planning for the hot spot near the Andaman Islands, while **Table 2** identifies the status and planning for the hot spot near the Nicobar Islands. If an items was advised as 'operational' or 'operationally capable' this was indicated with an '**O**', or if it was 'planned' then this was indicated with a '**P**', if it was under consideration' then this was indicated with a '**U**' and if it was not being considered or not applicable this was indicated with an '**N**' (note: AIDC = ATS Inter-facility Data Link Communications, and HF = High Frequency).

Andaman Islands	**ATS COM**	**ATS SUR**	**Human Performance**
India	• VHF = **N** • HF = **O** • CPDLC: **O** • Land lines (direct speech circuits) = **O** • AIDC = **O**, Malaysia trial to restart, Myanmar no trials yet • COM data sharing: **UC**, in principle India was already capable	• ADS-B: Port Blair = **O**, a mandate being considered with regulator • ADS-C: = **O** • SSR = **N**, military radar at Port Blair data sharing being pursued by AAI • Data sharing = **O**	• Quality of the landline was not good (loud but not clear). The landline was provided via satellite by local telecom companies • The speed of voice delivery (needs to be slow enough to understand) could be an issue • The ground-ground COM had a high controller workload, MAAR to highlight LHD reports in this area to India/Myanmar for in-depth investigation, education and training, with safety teams • India requested Myanmar to acknowledge the initial AFTN transfer message by AFTN or voice, but Myanmar workload precluded this
Myanmar	• VHF = **N** • HF = **O** • CPDLC = **O** • Land lines = **O** using IDD phone; the direct speech circuit provided by Tata and Myanmar Post and Telecom was frequently out of service; a joint 30 day monitoring was planned; there was a direct line only with Kolkata, not Chennai • AIDC = **O**, but a EUROCAT upgrade is required, trials possible with Chennai before the end of 2014 • Data sharing = U	• ADS-B = **P** (December 2014) ADS-B: Co Co Island and Sitwe coverage by the end of 2014 • ADS-C: **O** • SSR=N • Data sharing = **P,** early 2015 from Co Co Island to Kolkata • Other (MLAT, etc.): FY2014/15 a flight plan conflict probe will be enabled	• Quality of the landline is not good (loud but not clear). The landline is provided by satellite telecoms • Speed of voice delivery is important – voice communication needs to be slow enough to understand • Ground-ground communication with controller workload, MAAR to highlight LHD reports in this area to India/Myanmar for in-depth investigation, education and training, safety teams • Harmonised procedure with controllers using their initials to identify themselves for investigation is a possible issue

Table 1: Andaman Islands Hot Spot Analysis

Nicobar Islands	COM	SUR	Human Performance
India	• VHF = **N** • HF = **O** • CPDLC: **O** • Land lines = **O** • AIDC = **O**, Malaysia trial to restart September for two months, and there could be possible AIDC operations in the October/November timeframe • Data sharing: **UC**, in principle India was already capable	• ADS-B and mandates: Port Blair = O, mandate being considered with regulator • ADS-C (integrated): = O • SSR = **N**, military radar at Port Blair data sharing being pursued by AAI, Campbell Bay Island (south of Greta Nicobar) is a possible site for ADS-B/VHF – there is an official meeting with the Indian Navy for ADS-B soon, India to advise outcomes of preliminary discussions • Data sharing = **O**	• Quality of landline is OK • LHDs have been with Malaysia, not so much with Indonesia
Indonesia	• VHF = **O** • HF = **O** • CPDLC = **N** – the system was not integrated into the ATC workstation, but it was not used operationally in this area and it was only relevant for Colombo FIR traffic • Land lines (direct speech circuits) = **O** • AIDC = **P**, 2015 • COM Data collaboration = **O** , this is already enabled with Singapore	• ADS-B (presentation) = **O**, for situational awareness, 2015 for separation • ADS-C = **N** (not integrated) • SSR = **O** (coverage from Aceh) • SUR data = **UC** (collaboration with Australia and Singapore already, with the possibility of adding Malaysia later, and Indonesia will consider data collaboration with India	• No major issues

Nicobar Islands	COM	SUR	Human Performance
Malaysia	• VHF = **N** Malaysia can transmit but not receive at their FIRB so they use HF or CPDLC • HF = **O** • CPDLC = **O** • Land lines = **O** • AIDC = **P**, India trial to restart soon, possible operational capability at the end of 2014 • Data sharing = **N**	• ADS-B = **N** • ADS-C: = **O** • SSR = **N** • Data sharing = **N**	• No major issues identified

Table 2: Nicobar Islands Hot Spot Analysis

3. CONCLUSIONS

3.1 The LHD hot spot near the Andaman Islands was already covered by the surveillance of the new Indian Port Blair ADS-B facility, but this would be enhanced by the advent of Myanmar's Co Co Island ADS-B station and further, by data sharing between the two States.

3.2 The major remaining problem in this area is the poor ground-ground communications facilities, which are apparently frequently out of service and which does not provide clear voice communications. A 30 day monitoring assessment would be conducted shortly, but it may require the intervention of ICAO and the ITU to ensure that the COM systems are sufficient for safety-of-life services. It should be noted that the implementation of AIDC between India and Myanmar after the EUROCAT upgrade at Yangon will also greatly improve the communications risks. In the meantime, the States would emphasize manual checks, emphasis on human factors and the need to provide MAAR with quick responses to LHD occurrences in the Andaman Islands area.

3.3 The LHD hot spot near the Andaman Islands was already partially covered by the surveillance from Indonesia's Aceh ADS-B and SSR facilities, and as the interface issue was mainly between India and Malaysia in this area (not Indonesia), a collaborative arrangement for surveillance data to India and Malaysia was a good safety mitigation strategy. Indonesia was already in discussions with Malaysia, and had existing collaborative arrangements with Australia and Singapore, so an early improvement for this hot spot by the end of 2014 was possible.

3.4 In addition, India was seriously considering the possibility of establishing a new ADS-B site at Campbell Bay on Great Nicobar Island (N 07 00 23, E 93 54 18), which would provide complimentary overlapping SUR coverage with Port Blair (291NM north) and Aceh (124 NM southeast). If this site shared data with Indonesia and Malaysia it would allow significantly improved redundancy, efficiency and safety.

3.5 Regarding communications, this could be improved by the use of VHF data sharing from the potential new site at Campbell Bay to Malaysia and Indonesia, as well as Indonesia having a collaborative arrangement with India and Malaysia for VHF sited at Aceh. The use of AIDC between Malaysia and India is imminent, and was possible between India and Indonesia in 2015 when Jakarta plans this to be implemented.