



International Civil Aviation Organization

The Sixth Meeting of the Bay of Bengal Reduced Horizontal Separation Implementation Task Force (BOB-RHS/TF/6) and the First Meeting of the South Asia/Indian Ocean ATM Coordination Group (SAIOACG/1)

Bangkok, Thailand, 19 – 23 September 2011

Agenda No 3: Operational Issues

System Performance On Malaysia's ADSC/CPDLC and Readiness for Phase 2 Reduced Horizontal Separation on RNAV route N571 and P628/L510 within the Kuala Lumpur FIR

(Presented by Malaysia)

SUMMARY

This WP paper presents Kuala Lumpur FIR's ADSC/CPDLC system performance and the volume analysis on the RNAV route N571 and P628/L510 and P574 from 1st Aug 2011– 31 August 2011 for the implementation of reduced horizontal separation

1. INTRODUCTION

- 1.1 The meeting would recall the Phase 1 implementation of reduced horizontal separation from 10 minutes to 50NM (RNP 10) scheduled for 30th June 2011 within routes N571/P628 and L510 in Kuala Lumpur FIR was deferred due to system deficiencies at Kuala Lumpur ACC.

2. BACKGROUND.

- 2.1 The CPDLC system at Kuala Lumpur ACC was installed in 2008. The site acceptance tests were concluded satisfactorily. Trials were performed initially on limited time window from 1500UTC-1900 UTC in July 2008
- 2.2 A joint system test with Boeing Lab and Chennai ACC was done on the 29th April 2010 and a system test with live aircraft was done with Malaysia Airlines on 27th and 29th April 2010. The ADS/CPDLC system worked satisfactorily.
- 2.3 A System upgrade at the Kuala Lumpur ACC was started in May 2010 and included enhancements to the system features in order to suit the needs of the overall operation.
- 2.4 24H hour operational trial was initiated in January 2011. A few problems were detected and one was related to downlink messages. The ground system was unable to read downlinked position report messages from Airbus aircraft. After some trouble-shooting by the vendor, the problem was resolved.

- 2.5 To facilitate robust data collection, the trials were continued until March 2011. Malaysia was optimistic then of the system being fully functional and decided to inform ICAO at the RHS Taskforce 5 that Kuala Lumpur ACC will be ready for the Phase 1 Reduced Horizontal Separation implementation.
- 2.6 However in April 2011; the system performance started declining with some aircraft being unable to log in to Kuala Lumpur ACC. A new round of trouble shooting was initiated and this placed additional workload on ATCOs and pilots. Malaysia would like to record its highest gratitude to the airlines that assisted KL ACC during these trials.
- 2.7 Despite the collective efforts of all parties involved, Malaysia felt that the system performance is not acceptable for the implementation RHS within the Kuala Lumpur FIR on 30th June 2011.

3. VOLUME TRAFFIC ANALYSIS

3.1 Volume analysis on RNAV route N571, P628/L510 and P574:

- a) The data collection was done from 1st Aug 2011 to 31st August 2011 on 3 major RNAV routes, namely N571, P628/L510 AND P574
- b) Total of 1407 flights were recorded using these routes between 0000-2359UTC from 1st Aug 11- 31 Aug 2011. From the analysis 68.3% flights recorded were on N571, 13 % on P628, 10.1 % on L510 and 8.6% from P574.

MONTH	N571	P628	L510	P574
AUGUST	962	183	142	120

4. PERFORMANCE

- 4.1 After extensive troubleshooting and fixing of software bugs; the system was declared ready to undergo stability performance trials in late May 2011. Robust, real time testing has been ongoing since then. Data collected as at end August 2011 was used to conduct qualitative and quantitative safety assessment.
- 4.2 In view of positive progress of the system performance, Malaysia is ready to implement ADS-C /CPDLC on RNAV routes N571/L510 and P628 by Nov AIRAC Cycle. Malaysia plans to discuss with Chennai in a side meeting with regards to the amendment of OLOA for reduced horizontal separation on routes involving both ACCs within Bay of Bengal.
- 4.3 SITA has provided the AIRCOM ATS-62 Traffic Performance Report and Service Level Report. The performance success rate of messages is as per table below for month of July and August 2011.

Month	Downlink <120 sec	Downlink <360 sec	Uplink <120 sec	Uplink >360 sec	Undelivered
Jul 2011	98.82	99.84	99.55	99.87	0.04
Aug 2011	98.76	99.84	99.05	99.90	0.00

5. TRAINING

- 5.1 CPDLC courses have been conducted for 85 % of air traffic controller officers (ATCOs). Sufficient ATCOs had already been trained in the first quarter of 2011 to support the phase 1 Reduced Horizontal Separation 50/50 implementation. Training for the remaining staff is expected to be completed by end of October 2011.
- 5.2 Malaysia sent 5 of its CPDLC instructors on an educational visit to Singapore ACC to understudy the implementation of CPDLC and RHS. Malaysia would like to register its appreciation to CAAS for their support.

6 DISCUSSION

- 6.1 The deficiencies in the Kuala Lumpur ACC ADS/CPDLC system have been addressed. Daily system performance monitoring has shown significant improvement and many of the recent issues of aircraft being unable to log on CPDLC and ADS auto disconnection has been corrected. However, we will continue to monitor the system stability and performance in the lead-up to the implementation of RHS in Kuala Lumpur FIR.
- 6.2 Malaysia is taking all necessary action to ensure that the system will be fully operational before the Phase 2 implementation date. Based on the current system performance; Malaysia is optimistic there will no last minute glitches this time.

7 ACTION BY THE MEETING

- 7.1 The meeting is invited to note:
- a) information contained in this paper;
 - b) Malaysia proposes to implement Reduced Horizontal Separation 50/50 within RNAV routes N571/P628 and L510 only in accordance to applicable conditions.
 - c) Malaysia supports IATA's proposals that the RHS Phase 2 start on the 15 Dec 2011 AIRAC cycle; considering the implementation of RVSM in the Northwestern nations of Asia needing to undergo a stability period before implementation of Phase 2 RHS.
 - d) Reduced Horizontal Separation on P574 shall not be implemented until discussions between Indonesia and Malaysia take place. This issue will be discussed in the next Bilateral meeting between Indonesia and Malaysia, expected to be held in the near term.

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