



International Civil Aviation Organization

The Second Meeting of Future Air Navigation Interoperability Team-Asia (FIT-Asia/2)

Bangkok, Thailand, 29 March 2013

Agenda Item 3: Review of ADS/CPDLC Operations

**ADS-C/CPDLC AND AIDC OPERATION AND DATA LINK PERFORMANCE
WITHIN UJUNG PANDANG FIR**

(Presented by INDONESIA)

SUMMARY

This paper presents information regarding ADS-C/CPDLC and AIDC operation and data link performance within UJUNG PANDANG FIR.

This paper relates to –

Strategic Objectives:

A: *Safety – Enhance global civil aviation safety*

C: *Environmental Protection and Sustainable Development of Air Transport – Foster harmonized and economically viable development of international civil aviation that does not unduly harm the environment*

Global Plan Initiatives:

GPI-8 Collaborative airspace design and management

GPI-9 Situational awareness

GPI-16 Decision support systems and alerting systems

GPI-17 Data link applications

GPI-21 Navigation systems

GPI-22 Communication infrastructure

1. INTRODUCTION

1.1 Officially Indonesia has been implementing ADS-C/CPDLC within Ujung Pandang FIR since September 2010 and benefited by ADS-C/CPDLC implementation considering the vast airspace and remote area covered by Ujung Pandang Sectors.

1.2 AIDC trial has been conducting between Makassar and Brisbane since March 2008. The aim of this program is to reduce controller workload on voice coordination and also to increase level of safety between both air traffic services units.

1.3 Data link networks used in Ujung Pandang FIR is provided by SITA.

2. DISCUSSION

ADS-C/CPDLC in Ujung Pandang FIR

2.1 Tabel 1 below shows the number of aircraft having ADS-C/CPDLC connection with Ujung Pandang for the last three months:

MONTH	Number of Aircraft
January 2013	4674
February 2013	4097
March 2013*	634

**March 5th, 2013*

Table 1. Monthly Number of Aircraft ADS-C/CPDLC Connected

2.2 In average as many as 150 aircraft connected to ADS-C/CPDLC in Ujung Pandang FIR every day. This figure represents about 60% of Ujung Pandang daily international flights.

2.3 ADS-C/CPDLC becoming essential in eastern region of Ujung Pandang FIR in which the coverage of VHF-ERs and RADARs are limited.

2.4 In general ADS-C/CPDLC implementation in Ujung Pandang FIR is running as required and expected.

AIDC Operation in Ujung Pandang FIR

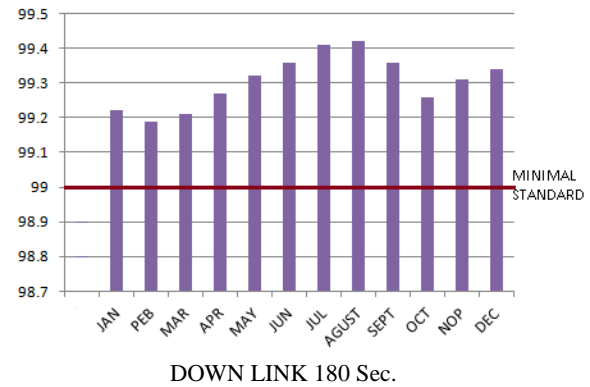
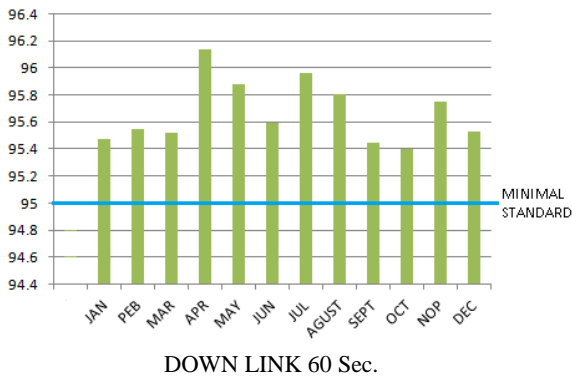
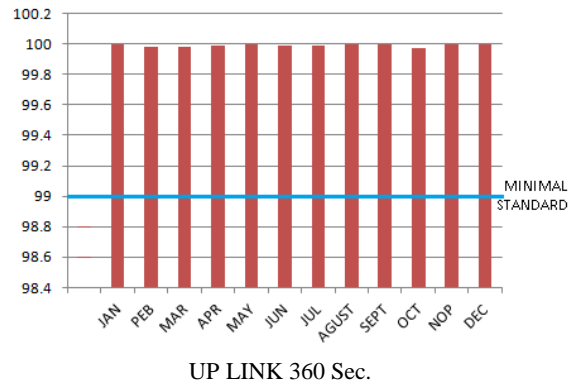
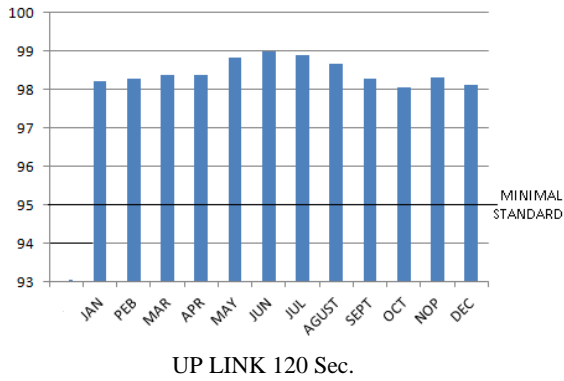
2.5 AIDC operational trial that is started on 2008 limited only for accept of control (AOC) and transfer of control (TOC) message due to limited capacity and feature of AMSC system in Makassar. DGCA has already upgraded the AMSC system in MATSC on 2012 as a solution of that problem.

2.6 MATSC and TAATS have already reformed the agreement on AIDC operational trial on early 2013, the result are as follows:

- AIDC limited trial on Estimate (EST) message has been done on 12 – 18 February 2013 and the result was good.
- AIDC full trial on Estimate (EST) message has been started on 7 March 2013 up to now.

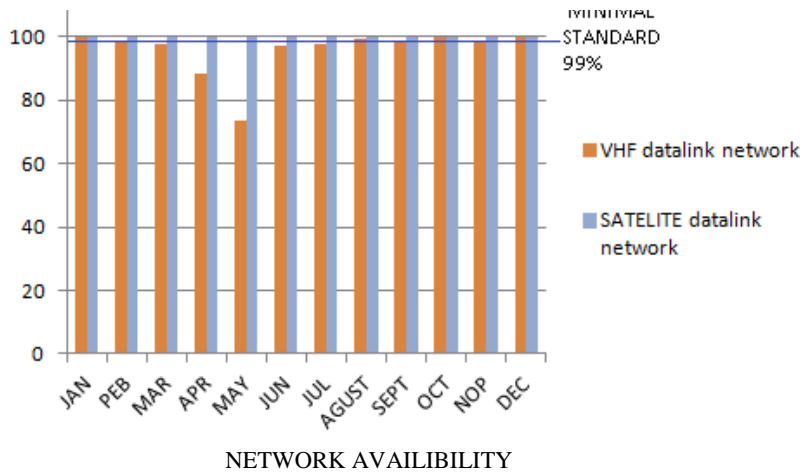
Data link Performance in Ujung Pandang FIR

2.7 The measurement of data link performance during 2012 in Ujung Pandang FIR based on FANS documents has been done, the results are as follows:

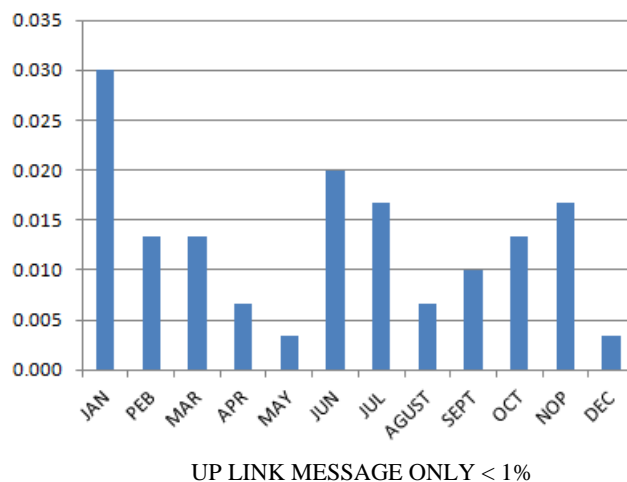


DOWN LINK 60 Sec.

DOWN LINK 180 Sec.



NETWORK AVAILABILITY



UP LINK MESSAGE ONLY < 1%

2.8 Based on the graphic above the data link performance has already fulfilled the minimum standards as required in the FANS document.

2.9 An issued related to the operation of data link networks in Ujung Pandang FIR is the replacement of network protocol X-25 to Internet Protocol (IP) that is done by SITA this year.

2.10 To resolve that issue, it will be used Cisco XOT interface as a converter of X-25 and will be planned to upgrade the ATC system interface in MATSC as the main solution.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper; and
- b) discuss any relevant matters appropriately.

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