

International Civil Aviation Organization



**AUTOMATIC DEPENDENT
SURVEILLANCE – BROADCAST SEMINAR
AND FOURTEENTH MEETING OF
AUTOMATIC DEPENDENT
SURVEILLANCE – BROADCAST (ADS-B)
STUDY AND IMPLEMENTATION TASK
FORCE (ADS-B SITF/14)**



Christchurch, New Zealand, 14 – 17 April 2015

Agenda Item 5: Development of Asia/Pacific Regional ADS-B implementation plan and sub-regional ADS-B implementation plan

ADS-B IN THE SOUTH PACIFIC

(TONGA ON BEHALF OF PACIFIC AVIATION INVESTMENT PROGRAM (PAIP))

SUMMARY

This paper invites meeting participants to note the ADS-B implementation plans of the Governments of the Republic of Kiribati, Tonga, Tuvalu and Samoa (and potentially Vanuatu) under the Pacific Aviation Investment Program (PAIP), a World Bank initiative.

1. INTRODUCTION

1.1 The Governments of the Republic of Kiribati, Tonga, Tuvalu and Samoa are currently undertaking the Pacific Aviation Investment Program (PAIP), supported by the World Bank. PAIP is a regional aviation program with the development objective to provide safe and secure air transport operations and environmentally sustainable and efficient airports. PAIP has commenced implementation of key aviation investments in four (4) Pacific Island countries: Kiribati, Tonga, Tuvalu and Samoa. PAIP was approved by the World Bank Board in December 2011 and is expected to be implemented over a five year period, concluding in December 2016. Tonga Airports Ltd (TAL) is responsible for implementing PAIP, through a Technical and Fiduciary Services Unit (TFSU).

1.2 PAIP is being implemented in recognition of the key place of transport in the economic and social development of each participating country and the need to strengthen the efficiency and viability of this sector. Reviews of the transport sectors in each country point to the need to mainstream disaster risk reduction and climate change adaptation into infrastructure planning and management. Addressing climate change by providing carbon-neutral airport facilities are part of this investment program, as are investments in alternative and sustainable and energy efficient technologies. This will help ensure that the airports are operated in an environmentally sustainable manner.

1.3 Investments under PAIP fall under four main components:-

1.3.1 **Component A: Aviation Infrastructure Improvements:** This component will invest in the aviation infrastructure at the three project airports so that they are able to meet ICAO standards, while preserving and extending the service life of existing airport assets.

1.3.2 **Component B: Aviation Sector Reform:** This component will support aviation sector reform through the provision of support to the Civil Aviation Departments/Authorities of each country. These investments will be targeted to (i) support the strengthening of each State's civil aviation system (through the adoption and implementation of new Civil Aviation Regulations; agreed corrective action plans following ICAO safety and security audits of each State and targeted capacity building and training of each CAA); and (ii) to assist in the capacity and efficiency of the regional safety oversight agency, the Pacific Aviation Safety Office (PASO).

1.3.3 **Component C: Future Investments for Sustainability:** This component will (i) Support to the Technical and Fiduciary Services Unit (TFSU); and, (ii) training program for staff of the MoT and CAD to address needs to carry-out regulatory oversight, and project support as necessary.

1.3.4 **Component D: Program Support and Training:** (i) Support to the Technical and Fiduciary Services Unit (TFSU) to implement the Program and Implementing Agent (Tonga Airports Limited) to support the project as necessary.

2. DISCUSSION

2.1 As part of the Component A, Aviation Infrastructure Improvements, Automatic Dependent Surveillance-Broadcast (ADS-B) is planned to be implemented. It is proposed that this will be accomplished by establishing ADS-B ground stations at the following airports: Tarawa/Bonriki International and Cassidy International Airport, Kiribati; Vava'u Airport and Fua'amotu International Airport, Tonga; and Funafuti International Airport, Tuvalu; Faleolo International Airport, Samoa and potentially Vanuatu. Other infrastructure include upgrading the air traffic services facilities with VSAT point to point aeronautical communications which could be utilised to support ADS-B implementation.

2.2 PAIP commissioned a Technical Review For The Implementation of ADS-B in the region. This review essentially concluded

2.2.1 All the subject airports are viable locations for a 1090 MHz ADS-B ground station

2.2.2 Some of the locations require moderate to extensive FSS repair or new construction prior to an ADS-B installation.

2.2.3 Most of the locations will have viable VSAT

2.2.4 A rollout could begin almost immediately, beginning with the Tonga airports Fua'amotu and Lupepau'u

2.2.5 ADS-B equipage should be made mandatory for all Resident Aircraft

2.3 To ensure a smooth implementation of ADS-B a project implementation consultant has been selected to develop the implementation plan for participating countries, and to review specifications suitable to each airport's requirements in order to enable procurement of the equipment under World Bank guidelines.

2.4 Currently under discussion for agreement with the participating states is a common concept of operations for ADS-B. Ideas being discussed include

- 2.4.1 Enhanced situational awareness,
- 2.4.2 Supply of SAR data to the appropriate RCC
- 2.4.3 The possibility to use ADS-B positional information in the application of procedural separation between aircraft.
- 2.4.4 Latter possibilities include sharing the data with upper airspace ANSP with cost sharing arrangements

3. ACTION BY THE MEETING

- 3.1 The meeting is invited to note the information contained in this paper.
