



International Civil Aviation Organization

**THE FOURTH MEETING OF ADS-B STUDY AND
IMPLEMENTATION TASK FORCE (ADS-B SITF/4)**

Nadi, Fiji, 26-28 October 2005

Agenda Item 6: Review States' activities on implementation of ADS-B

- b) States to present WP of any significant progress in ADS-B planning or deployment.**

**AUSTRALIAN UPPER AIRSPACE PROJECT: PLANNED USE
OF WAM IN TASMANIA**

(Prepared and Presented by Greg Dunstone, Airservices Australia)

SUMMARY

This discusses the decision to use a wide area multilateration system in tasmania as an ADS-B ground station.

1. BACKGROUND

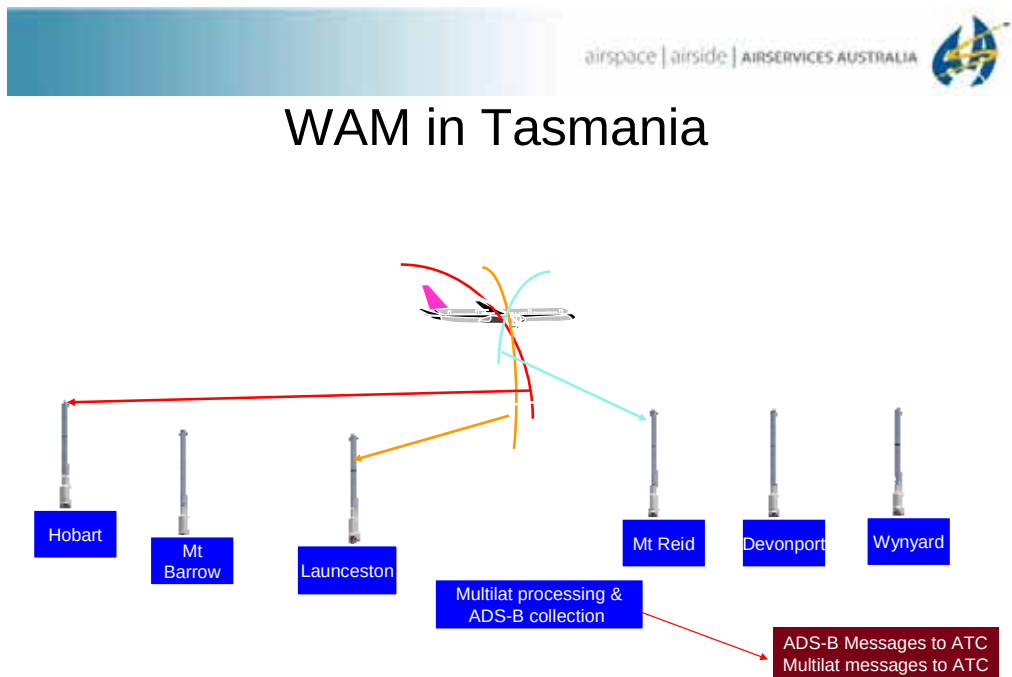
1.1 Airservices Australia has approved a project to install a Wide Area Multilateration (WAM) system in Tasmania to replace the existing transportable radar. Tenders have been called. See http://www.airservicesaustralia.com/tenders/rft_taswam/default.asp

2. MULTILATERATION

2.1 Multilateration is a system whereby multiple ground stations use triangulation to work out the position of an aircraft. At least 3 stations need to receive a signal from the aircraft before a position can be determined. The signal used is the ATC transponder signal (ModeSquitter, ADS-B transmission or mode C reply). Multilateration can provide surveillance on aircraft not equipped with ADS-B. In the short term, before ADS-B equipage, multilateration is an alternative to radar.

2.2 Australia plans to deploy at least 5 ADS-B multilateration sites in Tasmania to support surveillance services before ADS-B aircraft fitment becomes widespread. It is planned to remove a transportable radar from Tasmania and use it for temporary use in locations where new Terminal area radars are to be installed.

2.3 The multilateration system is able to receive and process ADS-B messages from each site.



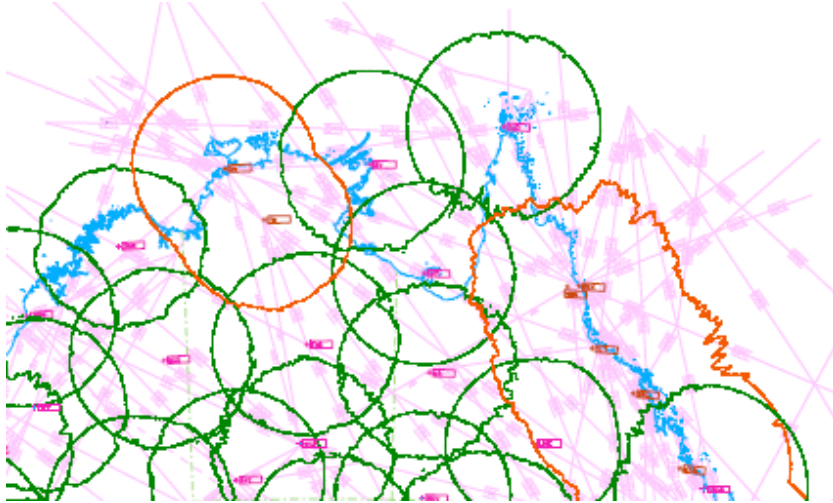
3. DISCUSSION

3.1 It is redundant to install a UAP ADS-B ground station in Tasmania.

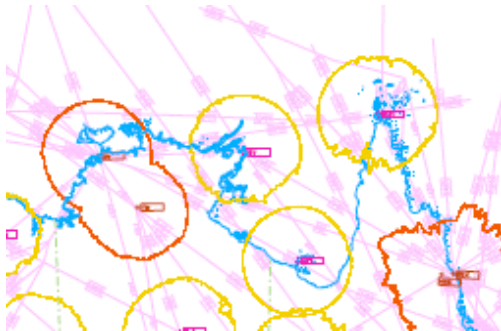
3.2 It has therefore been decided to relocate the Tasmanian ADS-B Ground station destined for Mt Barrow, to Gove Northern Territory. The Gove ADS-B Ground station will be installed at the same time as the Gove VHF replacement mid 2006.

3.2 The Tasmanian ADS-B service provided by the Multilateration system is expected to not be available until 2007. The ADS-B coverage from the multilateration sites will be significantly better than the previously proposed single UAP ground station. The coverage provided by the Gove site is shown below:

At FL300



At FL100



4. RECOMMENDATION

4.1 Members are invited to note that UAP ADS-B coverage will now include Gove and that Tasmanian ADS-B coverage will be provided by a WAM system expected to be deployed operationally in 2007.
