International Civil Aviation Organization

Automatic Dependent Surveillance – Broadcast (ADS-B)

Study and Implementation Task Force

Brisbane, Australia, 24-26 March 2003

Agenda Item 4: Cost Benefit Studies

b) Identify factors to be considered in the analysis and sources of information.

REMOTE AREA NON ATC ADS-B BENEFITS

SUMMARY

Regional airlines could benefit from ADS-B deployment in a number of ways when operating outside controlled airspace.

(Presented by Australia)

1. Background

1.1 Regional airlines operate outside controlled airspace in some countries. The services provided to regional airlines in such areas could be significantly affected by ADS-B.

2. Assumptions

2.1 This paper examines a number of operational savings that may be possible as a result of ADS -B deployment. The savings would depend on the achievement of a number of changes to the air traffic environment such as:

a) It would be mandatory for almost all aircraft to be equipped and use "ADS-B out" providing an improved service over the use of TCAS. TCAS was intended as a "last ditch" conflict detection tool rather than as a traffic display.

b) Regional airlines would equip with Cockpit display to allow them to identify proximate traffic.

3. Possible Benefits

a) The need for directed traffic services to IFR could be reduced or removed

b) Savings due to reduced procedural manoeuvring and slowing down in the area of remote airports to identify other aircraft and the ability to "self flow" with traffic into remote airports. This would reduce the number of track miles which are imposed by today's procedures. Savings of some many tens of millions of dollars per year have been identified in the Australian environment.

These savings arise due to

i. Reduced fuel cost
ii. Reduced aircraft operating hours and maintenance costs
iii. Reduced pilot hours
iv. Dramatic cockpit workload reduction in trying to identify traffic in a non radar environment. This has an impact on fatigue management impact which in turn can have an impact on allowed pilot hours.

c) Safety benefits to regional airlines due to increased situational awareness
d) Safety benefits to VFR general aviation over "see and avoid" techniques in uncontrolled airspace.

4. Recommendations

4.1 The meeting note the importance and capability of ADS-B CDTI technology to provide safety and economic advantages for regional aviation operating outside controlled airspace providing other aircraft are equipped with "ADS-B out".

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