



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 11: Progress plans for deployment and further updates to regional plan
and FASID**

**STATUS OF REGIONAL PLAN FOR CNS/ATM SYSTEM AND
FURTHER UPDATES TO CNS TABLE 4 OF FASID**

(Presented by the Secretariat)

SUMMARY

This paper reviews the status of regional plan for the new CNS/ATM systems and presents the updated version of draft amendment to the CNS Table 4 of FASID for review by the meeting.

1. INTRODUCTION

1.1 APANPIRG/16 under Decision 16/58 approved the draft amendment proposal developed by the ADS-B SITF to the ASIA/PAC Regional Plan for CNS/ATM System to include ADS-B. The amended plan is posted on ICAO APAC website as Issue 7: <http://www.icao.int/apac/edocs/index.html>

1.2 APANPIRG/16 also approved that the updated draft of FASID Table CNS 4 - Surveillance Systems to be amended in accordance with the established procedure.

2. DISCUSSION

Amendment to Regional Plan for the CNS/ATM System to include ADS-B

2.1 The Issue 7 of the ASIA/PAC Regional Plan for CNS/ATM System included ADS-B related ADS-B related planning and description materials. The changes are contained in the Chapter 3, 5, 6 and Chapter 9. The updated time lines of trials and implementation activities of surveillance systems updated by CNS/MET SG/9 Meeting was also reflected in the Table 9-1 of the Plan.

Restructure of the Regional Plan for the New CNS/ATM System

2.2 In conducting the review of the bar chart timelines table for surveillance system in the Asia/Pacific Regional Plan for the New CNS/ATM, APANPIRG/16 noted that the plan was in need of significant revision. Considering the need to achieve alignment with the Global Plan and that the information provided in the plan is being transferred into the FASID, the extensive revision to the ASIA/PAC Regional Plan for the new CNS/ATM system was considered necessary. The most appropriate action considered was to eliminate the Regional Plan and to capture any specific regional information in a Supplement to the Global Plan for the CNS/ATM Systems. Implementation status and plans will be reflected in the relevant FASID Tables using the nomenclature available in the

tables. Recognizing that the new edition of Global Plan is still to be finalized and would be available only after June 2006, the APANPIRG/16 formulated the following Decision.

Decision 16/59 - Review of the Regional Plan for the New CNS/ATM System

That, the CNS/MET, ATM/AIS /SAR Sub-groups and RASMAG be tasked to review the Global Air Navigation Plan for the CNS/ATM System and the ASIA/PAC Regional Plan for the New CNS/ATM system with a view to avoiding any duplication with the updated Global Plan. The work should commence immediately after issuance of new edition of the Global Plan.

2.3 The meeting is invited to note that the Secretariat would finalize and present the second amendment to the Global Plan to the Commission for its initial review during its session of October-December 2005. Subsequently, States will be consulted through established process and the same proposed amendment will be presented to ALLPIRG/5 (5-7 December 2005) for their views. Consequent to this coordination process and taking into account comments received from States and ALLPIRG, the second amendment will be presented to the Commission for its final review during its Jan-March 2006 session followed by final acceptance by the Council in May-June 2006. It should be noted that the Global Plan will continue to be the primary element of the regional planning framework for a coordinated implementation of a harmonized and seamless global ATM system. In view of the foregoing, it is suggested **that no further amendment** to the Regional Plan for the New CNS/ATM System should be proposed by ADS-B SITF.

FASID Table CNS 4 –Surveillance Systems

2.4 The APANPIRG/16 reviewed the updated information contained in the Table CNS 4 of the ASIA/PAC Air Navigation Plan FASID. It was noted that ADS-B was marked as emerging technology and listed as one system in the table. The meeting suggested that such remark should be removed as ADS-B has been identified by APANPIRG as one enabler for new ATM concept and system. It was also proposed to add a new column called A-SMGCS to reflect the current requirement. Considering that States were encouraged by APANPIRG to implement ADS-B at sub-regional bases with target date commencing from 2006 and information contained in the Regional Plan for the CNS/ATM System needs to be gradually transferred into the tables of FASID, APANPIRG/16 adopted following Conclusion formulated by the ADS-B SITF.

Conclusion 16/37 –Amendment to Table CNS-4–Surveillance System

That, the existing Table CNS-4 – Surveillance System provided in ASIA/PAC FASID, Part IV CNS be replaced with an updated Table in accordance with established procedure.

2.5 The updated information contained in the Table CNS 4 - Surveillance System of the ASIA/PAC Air Navigation Plan FASID is provided in the Attachment to this paper for review.

3. ACTION BY THE MEETING

3.1 The meeting is invited to note the information in this paper. The meeting is also invited to verify and further update the information in the attached Table.

TABLE CNS-4 – SURVEILLANCE SYSTEMS

Explanation of the TableColumn

- 1 Name of country and location of the facility of FIR.
- 2 Air Traffic Services Unit served by the facility or FIR.
- 3 PSR – Primary Surveillance Radar.
- 4 Coverage of Primary Surveillance Radar in nautical miles.
- 5 SSR – Secondary Surveillance Radar and Modes implemented will be indicated within Brackets, namely Mode A, C & S.
- 6 Coverage of Secondary Surveillance Radar in nautical miles.
- 7 ADS-B Automatic Dependent Surveillance Broadcast.
- 8 ADS-C Automatic Dependent Surveillance Contract.
- 9 SMR – Surface Movement Radar.
- 10 A-SMGCS – Advanced Surface Movement Guidance and Control System
- 11 Remarks

Note:

I – Required and implemented. For column 5.
 I stands for implementation using conventional SSR while MI stands for implementation using Monopulse SSR.
 X – Required but not implemented status not determined
 N – Required but not implemented
 A – Existing facility provided to supplement or substitute the requirement
 F – Future Plan
 < - Year planned commissioning year to be used as appropriate in conjunction with 'F' & 'N'
 > - Year planned decommissioning year to be used as appropriate in conjunction with 'A' & 'I'

Country/Location	ATS Units Served	PSR	Coverage of PSR (NM)	SSR(A/C/S)	Coverage of SSR/ADS-B (NM)	ADS-B	ADS-C	SMR	A-SMGCS	PAR	Remarks
1	2	3	4	5	6	7	8	9	10	11	12
AUSTRALIA											
Hans Tableland	Cairns ACC Cairns APP Cairns TWR			I(A/C)	250						
Redden Creek	Cairns ACC Cairns APP Cairns TWR	I	50	I(A/C)	250						
Tabletop	Brisbane ACC			I(A/C)	250						
Swampy Ridge	Brisbane ACC			I(A/C)	250						
Mount Alma	Brisbane ACC			I(A/C)	250						
Mount Hardgrave	Brisbane ACC Coolangatta APP Coolangatta TWR			I(A/C)	250						
Brisbane airport	Brisbane APP Brisbane TWR	I	50	I(A/C)	250						
Mount Sommersville	Coolangatta APP Coolangatta TWR	I	50	I(A/C)	250						
Round Mountain	Brisbane ACC Sydney APP			I(A/C)	250						
Mount Boyce	Melbourne ACC Sydney APP Brisbane ACC Melbourne ACC			I(A/C)	250						
Sydney airport	Sydney APP Sydney TWR	I	50	I(A/C)	250			I			
Mount Majura	Canberra APP (in Melbourne) Canberra TWR	I	50	I(A/C)	250						
Mount Bobbara	Melbourne ACC (in Melbourne) Canberra APP Canberra TWR			I(A/C)	250						
Mount Macedon	Melbourne ACC Melbourne APP Melbourne TWR			I(A/C)	250						
Gellibrand Hill	Melbourne ACC Melbourne APP Melbourne TWR	I	50	I(A/C)	250						
Summertown	Adelaide ACC Adelaide APP Adelaide TWR Melbourne ACC			I(A/C)	250						

Country/Location	ATS Units Served	PSR	Coverage of PSR (NM)	SSR(A/C/S)	Coverage of SSR/ADS-B (NM)	ADS-B	ADS-C	SMR	A-SMGCS	PAR	Remarks
1	2	3	4	5	6	7	8	9	10	11	12
Adelaide airport	Adelaide ACC	I	50	I(A/C)	250						
	Adelaide APP										
	Adelaide TWR										
Kalamunda	Perth ACC			I(A/C)	250						
	Perth APP										
	Perth TWR										
Perth airport	Perth ACC	I	50	I(A/C)	250						
	Perth APP										
	Perth TWR										
Darwin (military ATC facility)	Brisbane ACC			I(A/C)	160						SSR data only
Tindal (military ATC facility)	Brisbane ACC			I(A/C)	250						SSR data only
Oakey (military ATC facility)	Brisbane ACC			I(A/C)	250						SSR data only
East sale (military ATC facility)	Melbourne ACC			I(A/C)	250						SSR data only
Darwin	Brisbane ACC			F(A/C)	250						
Bundaberg	Brisbane ACC				250	F<2006					
Balgo Hill	Brisbane ACC				250	F<2006					
Caiguna	Melbourne ACC				250	F<2006					
Doongan	Brisbane ACC				250	F<2006					
Esperance	Melbourne ACC				250	F<2006					
Jackson	Brisbane ACC				250	F<2006					
Thursday Island	Brisbane ACC				250	F<2006					
Ayers Rock AP	Melbourne ACC				250	F<2006					
Birdsville	Melbourne ACC				250	F<2006					
Broken Hill	Melbourne ACC				250	F<2006					
Mornington Island	Brisbane ACC				250	F<2006					
West Gap (Alice Springs)	Brisbane ACC				250	F<2006					
Warburton	Melbourne ACC				250	F<2006					
Broome	Brisbane ACC				250	F<2006					
Leonora	Brisbane ACC				250	F<2006					
Longreach	Brisbane ACC				250	F<2006					
Telfer	Brisbane ACC				250	F<2006					
Meekatharra	Brisbane ACC				250	F<2006					
Mt Barrow	Melbourne ACC				250	F<2006					
Mt Isa (DCA Hill)	Brisbane ACC				250	F<2006					
Newman	Brisbane ACC				250	F<2006					

Country/Location	ATS Units Served	PSR	Coverage of PSR (NM)	SSR(A/C/S)	Coverage of SSR/ADS-B (NM)	ADS-B	ADS-C	SMR	A-SMGCS	PAR	Remarks
1	2	3	4	5	6	7	8	9	10	11	12
Oodnadatta	Brisbane ACC				250	F<2006					
Tennant Creek	Brisbane ACC				250	F<2006					
Karratha	Brisbane ACC				250	F<2006					
Mt Oxley	Melbourne ACC				250	F<2006					
Nullabor	Melbourne ACC				250	F<2006					
Woomera	Melbourne ACC				250	F<2006					
Billabong	Melbourne ACC				250	F<2006					
				<1998							
BANGLADESH											
Dhaka	Dhaka APP			I(A/C)	200						
BHUTAN											
BRUNEI DARUS-SALAM											
Brunei airport	Brunei APP	I	80	I(A/C)	250						
CAMBODIA											
CHINA											
Beijing-1	Beijing TWR Beijing APP Beijing ACC			MI(A/C)	200						Mode S when required
Beijing-2	Beijing TWR Beijing APP Beijing ACC	I	60	MI(A/C)	200						
Beijing-3	Beijing TWR Beijing APP Beijing ACC	I	200	MI(A/C)	250						
Tianjin	Tianjin TWR			MI(A/C)	200						
Taiyuan	Taiyuan TWR Taiyuan ACC	I	60	MI(A/C)	200						
Hohhot	Hohhot TWR Hohhot ACC			MI(A/C)	200						

Country/Location	ATS Units Served	PSR	Coverage of PSR (NM)	SSR(A/C/S)	Coverage of SSR/ADS-B (NM)	ADS-B	ADS-C	SMR	A-SMGCS	PAR	Remarks
1	2	3	4	5	6	7	8	9	10	11	12
Guangzhou-1	Guangzhou TWR	I	60	MI(A/C)	200						
	Guangzhou APP										
	Guangzhou ACC										
Guangzhou-2	Guangzhou TWR	I	60	MI(A/C)	200						
	Guangzhou APP										
	Guangzhou ACC										
Shenzhen	Shenzhen TWR	I	60	MI(A/C)	200						
	Guangzhou APP										
	Guangzhou ACC										
Zhuhai	Zhuhai TWR	I	60	MI(A/C)	200						
	Zhuhai APP										
	Zhuhai ACC										
Sanya	Sanya TWR	I	150	MI(A/C)	250						
	Sanya APP										
	Sanya ACC										
Haikou	Haikou TWR	I	60	MI(A/C)	200						
	Haikou ACC										
Changsha	Changsha TWR	I	60	MI(A/C)	200						
	Changsha ACC										
Enshi	Enshi TWR			MI(A/C)	200						
	Wuhan ACC										
Wuhan	Wuhan TWR	I	60	MI(A/C)	200						
	Wuhan ACC										
Zhengzhou-1	Zhengzhou TWR	I	60	I(A/C)	200						
	Zhengzhou ACC										
Zhengzhou-2	Zhengzhou TWR	I	60	MI(A/C)	200						
	Zhengzhou ACC										
Guilin -1	Guilin TWR			I(A/C)	200						
	Guilin ACC										
Guilin - 2	Guilin TWR	I	60	MI(A/C)	200						
	Guilin ACC										
Nanning	Nanning TWR			MI(A/C)	200						
	Nanning ACC										
Zhanjiang	Zhanjiang TWR			F(A/C)<2001	200						
	Zhanjiang ACC										
Shantou	Shantou TWR	I	60	MI(A/C)	200						
	Shantou ACC										
Kunming	Kunming TWR	I	60	I(A/C)	200						
	Kunming ACC							I			
Chengdu	Chengdu TWR	I	60	I(A/C)	200						
	Chengdu ACC							I			
Guiyang - 1	Guiyang TWR			I(A/C)	200						
	Guiyang ACC										
Guiyang - 2	Guiyang TWR	I	60	MI(A/C)	200						
	Guiyang ACC										

Country/Location	ATS Units Served	PSR	Coverage of PSR (NM)	SSR(A/C/S)	Coverage of SSR/ADS-B (NM)	ADS-B	ADS-C	SMR	A-SMGCS	PAR	Remarks
1	2	3	4	5	6	7	8	9	10	11	12
Chongqing	Chongqing TWR	I	60	MI(A/C)	200						
	Chongqing ACC										
Shanghai-1	Shanghai TWR	I	60	MI(A/C)	200						
	Shanghai APP										
Shanghai-2	Shanghai ACC										
	Shanghai TWR	I	60	I(A/C)	200						
	Shanghai APP										
	Shanghai ACC										
Jinan	Jinan TWR			MI(A/C)	200						
	Jinan ACC										
Qingdao	Qingdao TWR			MI(A/C)	200						
	Qingdao ACC										
Hefei	Hefei TWR	I	60	MI(A/C)	200						
	Hefei ACC										
Nanjing	Nanjing TWR	I	60	MI(A/C)	200						
	Nanjing ACC										
Lianyungang	Lianyungang TWR			MI(A/C)	200						
	Lianyungang ACC										
Nanchang	Nanchang TWR	I	60	I(A/C)	200						
	Nanchang ACC										
Fuzhou	Fuzhou TWR	I	60	MI(A/C)	200						
	Fuzhou ACC										
Xiamen	Xiamen TWR	I	60	MI(A/C)	200						
	Xiamen ACC										
Shenyang	Shenyang TWR	I	60	MI(A/C)	200						
	Shenyang ACC										
Dalian	Dalian TWR	I	60	I(A/C)	200						
	Dalian ACC										
Harbin	Harbin TWR	I	60	MI(A/C)	200						
	Harbin ACC										
Xi'an	Xi'an TWR	F<2000	60	I(A/C)	200						
	Xi'an ACC										
Lanzhou	Lanzhou TWR			MI(A/C)	200						
	Lanzhou ACC										
Urumqi	Urumqi TWR	I	60	MI(A/C)	200						
	Urumqi ACC										
HONG KONG, CHINA						F>2008					
Beacon Hill	Hong Kong ACC			MI(A/C)	250						
	Hong Kong APP										
	Hong Kong TWR										
Mount Parker	Hong Kong ACC	I	200	MI(A/C)	250						
	Hong Kong APP										
	Hong Kong TWR										

Country/Location	ATS Units Served	PSR	Coverage of PSR (NM)	SSR(A/C/S)	Coverage of SSR/ADS-B (NM)	ADS-B	ADS-C	SMR	A-SMGCS	PAR	Remarks
1	2	3	4	5	6	7	8	9	10	11	12
Tai Mo Shan	Hong Kong ACC	I	140	MI(A/C)	250						
	Hong Kong APP										
	Hong Kong TWR										
Sha Chau	Hong Kong APP	I	80	MI(A/C)	250						
	Hong Kong TWR										
Hong Kong Int'l Airport	Hong Kong APP										
	Hong Kong ACC										
	Hong Kong TWR							I	I	I	PRM for Col 11
MACAU, CHINA											
Macau	Macau TWR			MI(A/C)	200						
COOK ISLAND											
DPR KOREA	Pyongyang ACC										
	Pyongyang APP		60	I(A/C)	200						
			60								
FEDERATED STATES OF MICRONESIA											
FIJI						F<2006					
FRENCH POLY- NESIA						F<2009	I<1999				
INDIA											
Ahmadabad		I	60	MI	256						
Trivandrum		I	60	MI	256						
Hyderabad		I	60	MI	256						
Guwahati		I	60	MI	256						
Kolkata		I	60	MI	256		I				
Chennai		I	60	MI	256		I				

Country/Location	ATS Units Served	PSR	Coverage of PSR (NM)	SSR(A/C/S)	Coverage of SSR/ADS-B (NM)	ADS-B	ADS-C	SMR	A-SMGCS	PAR	Remarks
1	2	3	4	5	6	7	8	9	10	11	12
Delhi		I	60/220	MI	256		I	I			RSR=220NM "
Mumbai		I	60/220	MI	256		I	F			
Mangalore				MI	256						
Berhampur				MI	256						
Varanasi				MI	256						
Nagpur				MI	256						
INDONESIA	Medan ACC										ADS-C Trial
Banda Aceh	Jakarta ACC			I(A/C)	240						
	Medan APP			I(A/C)	240						
Medan	Medan ACC	I	90	MI(A/C)	240						
	Jakarta ACC			MI(A/C)	240						
	Jakarta ACC			MI(A/C)	240						
Natuna	Tanjung Pinang APP			I(A/C)	240						
Tanjung Pinang	Jakarta ACC	I	90	I(A/C)	240						
	Pontianak APP			I(A/C)	240						
Pontianak	Jakarta ACC	I	90	I(A/C)	240						
	Pekanbaru APP			I(A/C)	240						
Pekanbaru	Medan ACC	I	90	I(A/C)	240						
	Jakarta ACC			I(A/C)	240						
	Palembang APP			I(A/C)	240						
Palembang	Jakarta ACC	I	90	I(A/C)	240						
	Jakarta APP			I(A/C)	240						
Jakarta/Cengkareng	Jakarta ACC	I	90	MI(A/C)	240	F<2009	X				
	Jakarta ACC			MI(A/C)	240						
Jakarta/Halim	Ujung Pandang ACC			I(A/C)	240						
semarang	Jarkata ACC			I(A/C)	240						
	Ujung Pandang ACC			I(A/C)	240						
Banjarmasin	Balikpapan APP			I(A/C)	240						
Balikpapan	Ujung Pandang ACC	I	90	MI(A/C)	240						
	Yogyakarta APP			MI(A/C)	240						
Yogyakarta	Ujung Pandang ACC	I	90	MI(A/C)	240						
	Jakarta ACC			MI(A/C)	240						
	Surabaya APP			MI(A/C)	240						
Surabaya	Ujung Pandang ACC	I	90	I(A/C)	240						
	Jakarta ACC			I(A/C)	240						
	Bali APP			I(A/C)	240						

Country/Location	ATS Units Served	PSR	Coverage of PSR (NM)	SSR(A/C/S)	Coverage of SSR/ADS-B (NM)	ADS-B	ADS-C	SMR	A-SMGCS	PAR	Remarks
1	2	3	4	5	6	7	8	9	10	11	12
Bali	Ujung Pandang ACC	I	90	MI(A/C)	240						
	Ujung Pandang ACC			MI(A/C)	240						
Waingapu	Ujung Pandang APP			I(A/C)	240						
Ujung Pandang	Ujung Pandang ACC	I	90	I(A/C)	240	F<2009	X				ADS-C Trial
	Ujung Pandang ACC			I(A/C)	240						
Manado	Ujung Pandang ACC			I(A/C)	240						
Ambon	Ujung Pandang ACC			I(A/C)	240						
Kendari				I(A/C)	240						
JAPAN	Narita TWR										
Narita airport	Haneda TWR					F<2009		I			
Haneda airport	Nagoya TWR							I			
Nagoya airport	Osaka TWR							I			
Osaka airport	Kansai TWR							I			
Kansai airport	Naha TWR							I			
Naha airport	Naha APP							I			
	Hakodate APP	I	60	I(A/C)	60						
Hakodate airport	Sendai APP	I	60	I(A/C)	60						
Sendai airport	Narita APP	I	60	I(A/C)	60						
Narita airport-1	Narita APP	I	60	I(A/C)	60						
Narita airport-2	Tokyo APP	I	60	I(A/C)	60						
Handeda airport-1	Tokyo APP	I	60	I(A/C)	60						
Handeda airport-2	Niigata APP	I	60	I(A/C)	60						
Niigata airport	Nagoya APP	I	60	I(A/C)	60						
Nagoya airport-1	Nagoya APP	I	60	I(A/C)	60						
Nagoya airport-2	Chubu APP	I	60	I(A/C)	60						
Chubu-1 Airport	Chubu APP	I	80	I(A/C)	80						
Chubu-2 Airport	Osaka APP	I	80	I(A/C)	80						
Osaka airport-1	Osaka APP	I	80	I(A/C)	80						
Osaka airport-2	Kansai APP	I	80	I(A/C)	80						
Kansai airport-1	Kansai APP	I	80	I(A/C)	80						
Kansai airport-2	Hiroshima APP	I	80	I(A/C)	80						
Hiroshima airport	Takamatsu APP	I	60	I(A/C)	60						
Takamatsu air- port	Kouchi APP	I	60	I(A/C)	60						
Kouchi airport	Fukuoka APP	I	60	I(A/C)	60						
Fukuoka airport-1	Fukuoka APP	I	60	I(A/C)	60						
Fukuoka airport-2	Nagasaki APP	I	60	I(A/C)	60						
Nagasaki airport	Oita APP	I	60	I(A/C)	60						
Oita airport	Kumamoto APP	I	60	I(A/C)	60						
Kumamoto airport	Miyazaki APP	I	60	I(A/C)	60						
Miyazaki airport	Kagoshima APP	I	60	I(A/C)	60						
Kagoshima airport-1	Kagoshima APP	I	60	I(A/C)	60						
Kagoshima airport-2	Naha APP	I	60	I(A/C)	60						
Naha airport	Shimajiri APP	I	60	I(A/C)	60						
Shimajiri airport	Sapporo ACC	I	60	I(A/C)	60						
Kushiro	Sapporo ACC		200	I(A/C)	200						

Country/Location	ATS Units Served	PSR	Coverage of PSR (NM)	SSR(A/C/S)	Coverage of SSR/ADS-B (NM)	ADS-B	ADS-C	SMR	A-SMGCS	PAR	Remarks
1	2	3	4	5	6	7	8	9	10	11	12
Yokotsudake	Sapporo ACC	I	200	MI(A/C)	200						
Hachinohe	Sapporo ACC	I	200	I(A/C)	200						
Jobonzan	Tokyo ACC	I	200	I(A/C)	200						
	Sapporo ACC										
Oginojo	Tokyo ACC	I	200	MI(A/C)	250						
	Tokyo ACC										
Yamada	Tokyo ACC	I	200	I(A/C)	200						
Hakone	Tokyo ACC	I	200	I(A/C)	200						
Mikawa	Tokyo ACC	I	200	I(A/C)	200						
Mikuniyama	Tokyo ACC	I	200	I(A/C)	200						
Hirata	Fukuoka ACC	I	200	I(A/C)	200						
	Tokyo ACC										
Imanoyama	Fukuoka ACC	I	200	I(A/C)	200						
	Fukuoka ACC			MI(A/C)	F(250)						
Kaseda	Naha ACC	I	200	I(A/C)	200						
	Fukuoka ACC										
Sangunzan	Fukuoka ACC	I	200	I(A/C)	200						
Amami	Naha ACC	I	200	I(A/C)	200						
	Naha ACC			MI(A/C)	F(250)						
Miyakojima	Naha ACC	I	200	I(A/C)	200						
Yaedake		I	200	I(A/C)	200						
	Tokyo ACC			MI(A/C)	F(250)						
Iwaki	Tokyo ACC			MI(A/C)	250						
Hachijo	Fukuoka ACC			MI(A/C)	250						
Fukue	TBD			MI(A/C)	250						
Nihonkai				MI(A/C)	F(250)						
KIRIBATI											
LAO PDR	Vientiane APP										
Vientiane	Vientiane ACC	I	80								
Vientiane	Vientiane ACC			MI(A/C)	250						
Savannakhet				MI(A/C)	250						
MALAYSIA											
Langkawi	Langkawi APP	I	60	MI (A/C)	200						
	Kuala Lumpur ACC										
Subang	Langkawi APP	I	60	MI (A/C)	200		F<2007				
	Kuala Lumpur ACC										
Genting Highlands	Kuala Lumpur ACC			MI (A/C)	200						
Johor	Kuala Lumpur ACC	F<2007	60	MI (A/C)	200						
	Johor Bharu APP										
Kota Kinabalu	K. Kinabalu ACC	I	60	MI (A/C)	200						
	K. Kinabalu APP										

Country/Location	ATS Units Served	PSR	Coverage of PSR (NM)	SSR(A/C/S)	Coverage of SSR/ADS-B (NM)	ADS-B	ADS-C	SMR	A-SMGCS	PAR	Remarks
1	2	3	4	5	6	7	8	9	10	11	12
Kuching	Kuching ACC	I	60	MI(A/C)	200						
Kota Bharu	Kuching APP Kuala Lumpur ACC Kota Bharu APP	F<2007	60	F<2007	200						
Kuala Lumpur In't Airport	Kuala Lumpur ACC Kuala Lumpur ACC	I	60	MI (A/C)	200						
Sandakan	Kota Kinabaru ACC			F<2015	200						
Miri	Kota Kinabaru ACC Kuching ACC Miri APP	I	60	MI (A/C)	200						
MALDIVES											
MARSHALL ISLANDS											
MONGOLIA						2009					
MYANMAR	Yangon APP										
Yangon	Yangon ACC Mandalay APP										
Mandalay		I	60	MI(A/C) MI(A/C)	200 200						
NAURU											
NEPAL	Kathmandu APP										
Kathmandu		I	60	I (A/C)	200						
NEW ZEALAND	Auckland ACC										
Auckland	Auckland ACC	I	80								
Ruaotewhenua	Auckland ACC			I(A/C)	250		I				
Teweraiti	Auckland TWR Ohakea ACC			I(A/C)	250			F<2009			
Balance	Christchurch ACC			I(A/C)	250						
Hawkins Hill	Christchurch ACC	I	80	I(A/C)	250						
Mt. Robertson	Christchurch ACC			I(A/C)	250						
Christchurch	Christchurch ACC	I	80								
Cass Peak	Queenstown APP			I(A/C)	250						
Queenstown						F<2006					
PAPUA NEW GUINEA	Jacksons APP										
Jacksons airport	Moresby ACC	I	60	I(A/C)	200						

Country/Location	ATS Units Served	PSR	Coverage of PSR (NM)	SSR(A/C/S)	Coverage of SSR/ADS-B (NM)	ADS-B	ADS-C	SMR	A-SMGCS	PAR	Remarks
1	2	3	4	5	6	7	8	9	10	11	12
PHILIPPINES	Manila APP										
Manila	Manila ACC	I	70	I(A/C)	70						
Tagaytay	Mactan APP	X	250	I(A/C)	250						
Mactan	Subic APP	I	70	I(A/C)	70						
Subic Bay	Manila ACC	I	70	I(A/C)	70						
Laoag	Manila ACC			MI(A/C)	250						
Mt. Majic				MI(A/C)	250						
REPUBLIC OF KOREA	Jeju TWR										
Jeju	Jeju APP	I	60	I(A/C)	200			I			
	CheongjuTWR										
Cheongju	Incheon TWR										
Incheon	Seoul APP				200			I			
	ACC	I	60	I (A/C)	200	F<2008					
	Gimhae TWR		200	I (A/C)	200						
Gimhae	Gimhae APP							I			
	Gimpo TWR	I	60	I(A/C)	200						
Gimpo		I	60	I (A/C)	200			I			
	Yangyang TWR										
Yangyang											
SINGAPORE	Singapore ACC										
Singapore	Singapore APP	I	220	I(A/C)	250	F<2009	I				
ATC Center	Singapore TWR	I	70	I(A/C)	200						
	Singapore APP					F<2007		I	F<2007		
		I	70	I(A/C)	200						
SOLOMON ISLANDS											
SRI LANKA	Colombo APP										
Bandaranaike airport	Colombo ACC	I	90								
Mt. Pidurutalagala				MI(A/C)	200	F<2010	I				ADS-C trial
THAILAND	Bangkok APP										
Bangkok	Bangkok ACC	I	80	I(A/C)	250						
	Bangkok APP			I(A/C)	250	F<2010					
Bangkok/Suvarnabhumi AP	Bangkok ACC	I	80	I(S)	250						
	Bangkok/SVB TWR										
	Chiang Mai APP							I	I		
Chiang Mai	Bangkok ACC	I	60	I(A/C)	250						
	Bangkok ACC										

Country/Location	ATS Units Served	PSR	Coverage of PSR (NM)	SSR(A/C/S)	Coverage of SSR/ADS-B (NM)	ADS-B	ADS-C	SMR	A-SMGCS	PAR	Remarks
1	2	3	4	5	6	7	8	9	10	11	12
Ubon	Bangkok ACC			I(A/C)	250						
Surat	Hat Yai APP			I(A/C)	200						
	Phuket APP										
	Hat Yai APP										
Hat Yai	Phuket APP	I	60								
Phuket	Bangkok TWR	I	60								
Bangkok	Phitsanulok APP										
Phitsanulok	Hua Hin APP	I	60								
Hua Hin	U Taphao	I	60								
U Taphao				I(A/C)	200						
TONGA						F<2010					
UNITED STATES	ACC										
Alaska	ACC					2003	I<2006				
Hilo, Hawaii	APP			I(A/C)	200						
	TWR	I	60								
	ACC										
Honolulu, Hawaii	APP			I(S)							
	TWR	I	60								
	APP										
Kahului, Hawaii	TWR	I	60	I(A/C)							
	ACC										
Kokee, Hawaii	APP	I	200								
Lihue, Hawaii	TWR	I	60	I(A/C)							
	ACC										
Mt. Kaala Hawaii		I	200	I(A/C)							
	ACC										
Pahoa, Hawaii	ACC			I(A/C)							
Kunianiau, Hawaii				I(A/C)							
	ACC										
Guam	APP	I	200	I(A/C)							
Mt.Santa Rosa, Guam	TWR	I	60	I(A/C)							
	ACC										
Mt.Santa Rosa, Guam	ACC	I									
Kona, Hawaii	ACC			F(A/C)	200						
Mt. Kaala, Hawaii	ACC	F	250								
Mt.Santa Rosa, Guam		F<2000	250	F(S)<2000	250						

Country/Location	ATS Units Served	PSR	Coverage of PSR (NM)	SSR(A/C/S)	Coverage of SSR/ADS-B (NM)	ADS-B	ADS-C	SMR	A-SMGCS	PAR	Remarks
1	2	3	4	5	6	7	8	9	10	11	12
VANUATU											
VIET NAM	Hanoi ACC										
Hanoi/Noibai	Hanoi ACC	I	80	MI(A/C)	200						
	Ho Chi Minh ACC			MI (A/C)	250						
Danang/Sontra	Danang APP	I	80	MI (A/C)	250						
	Ho Chi Minh ACC	I	80								
	Ho Chi Minh ACC						F<2006				
Qui Nhon	Hanoi ACC			MI (A/C)	250						
	Ho Chi Minh ACC										
Ca Mau	Hanoi ACC			MI (A/C)	250						
Nghe An/Vinh	Tansan Nhat APP			MI (A/C)	250						
Tansan Nhat	Ho Chi Minh ACC	I	80								
				MI (A/C)	250						