



International Civil Aviation Organization

**Thirteenth Meeting of the APANPIRG ATS/AIS/SAR Sub-Group
(ATS/AIS/SAR/SG/13)**

Bangkok, Thailand, 23 – 27 June 2003

Agenda Item 3: Review and progress the tasks assigned to the ATS/AIS/SAR/SG by APANPIRG

Agenda Item 6: Deficiencies in the Air Navigation Field

MONITOR AND FACILITATE THE TRANSITION TO WGS-84

(Presented by the Secretariat)

SUMMARY

This working paper presents to the meeting a brief review of the status of WGS-84 implementation in the Asia/Pacific Region, and the table of WGS-84 Implementation updated at APANPIRG/13 for review by the meeting.

1. INTRODUCTION

1.1 Under Task No. 11 the ATS/AIS/SAR/SG is required to facilitate and monitor the implementation of WGS-84 in the Asia/Pacific Region. The non-implementation of WGS-84 is included on the list of Air Navigation Deficiencies in the Asia/Pacific Region.

1.2 APANPIRG/13 reiterated that due to the importance in facilitating the world-wide implementation of WGS-84, States should supply the necessary data in an official correspondence to the ICAO Regional Office so that an accurate record of implementation can be established.

2. DISCUSSION

2.1 At APANPIRG/13, twelve States were on the list of Air Navigation Deficiencies in the ATS/AIS/SAR Fields in the Asia/Pacific Region as not having completed WGS-84 surveys. Eight States had partially implemented and are in the process of carry out the necessary work, and four States had not implemented. Since APANPIRG/13, the Asia/Pacific Office has not been notified by the States concerned of their status on WGS-84, and a reminder has been sent to States.

2.2 The table of WGS-84 implementation status in the standard reporting format is at Appendix A for updating by States. The list of deficiencies is contained in Appendix A to WP/9.

2.3 It should be noted that considerable progress has been made by States in the Asia/Pacific Region to meet the Annex 15 requirement to publish geographical coordinates indicating latitude and longitude expressed in terms of WGS-84 geodetic reference datum. Those States who have not fully implemented WGS-84 should be urged to complete WGS-84 surveys and publish the information as soon as practicable. Further, States should be reminded that they are required to notify ICAO of differences in their national regulations and practices in respect to WGS-84 and the

corresponding International Standards and Recommended Practices in accordance with Article 38 of the Convention on International Civil Aviation and the Council of ICAO's resolution of 21 November 1950.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) review the status of WGS-84 implementation;
- b) obtain up-to-date information from those States who have not reported on their WGS-84 implementation status since APANPIRG/13, and to remind States to notify ICAO of differences with Annex 15; and
- c) consider appropriate action to facilitate the implementation of WGS-84 by those States who have not implemented.

STATUS OF WGS-84 IMPLEMENTATION

EXPLANATION OF THE TABLE

Column

- 1 Name of the State, territory or aerodrome for which WGS-84 coordinates are required with the designation of the aerodrome use:
 - RS - international scheduled air transport, regular use
 - RNS - international non-scheduled air transport, regular use
 - RG - international general aviation, regular use
 - AS - international scheduled air transport, alternate use
- 2 Runway designation numbers
- 3 Type of each of the runways to be provided. The types of runways, as defined in Annex 14, Volume I, Chapter 1, are:
 - NINST - non-instrument runway;
 - NPA - non-precision approach runway;
 - PA1 - precision approach runway, Category I;
 - PA2 - precision approach runway, Category II;
 - PA3 - precision approach runway, Category III.
- 4 Requirement for the WGS-84 coordinates for FIR, indicated by the expected date of implementation or an "X" if already implemented.
- 5 Requirement for the WGS-84 coordinates for Enroute points, indicated by the expected date of implementation or an "X" if already implemented.
- 6 Requirement for the WGS-84 coordinates for the Terminal Area, indicated by the expected date of implementation or an "X" if already implemented.
- 7 Requirement for the WGS-84 coordinates for the Approach points, indicated by the expected date of implementation or an "X" if already implemented.
- 8 Requirement for the WGS-84 coordinates for runways, indicated by the expected date of implementation or an "X" if already implemented.
- 9 Requirement for the WGS-84 coordinates for Aerodrome/Heliport points (e.g. aerodrome/heliport reference point, taxiway, parking position, etc.), indicated by the expected date of implementation or an "X" if already implemented.
- 10 Requirement for geoid undulation indicated by the expected date of implementation or an "X" if already implemented.
- 11 Requirement for the WGS-84 Quality System, indicated by the expected date of implementation or an "X" if already implemented.
- 12 Requirement for publication of WGS-84 coordinates in the AIP indicated by the expected date of publication or an "X" if already published.
- 13 Remarks

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STATUS OF WGS-84 IMPLEMENTATION

STATE, TERRITORY OR AERODROME FOR WHICH WGS-84 IS REQUIRED			WGS-84 IMPLEMENTATION									REMARKS
CITY/AERODROME	RWY No	RWY TYPE	FIR	ENR	TMA/CTA/CTZ	APP	RWY	AD/HEL	GUND	QUALITY SYSTEM	AIP	
1	2	3	4	5	6	7	8	9	10	11	12	13
AUSTRALIA			X	X						X	X	
YPAD ADELAIDE/												
Adelaide	05	NPA			X	X	X	X				
RS	23	PA1				X	X	X				
	12	NPA				X	X	X				
	30	NPA				X	X	X				
YBBN BRISBANE/					X			X				
Brisbane	1	PA1				X	X					
RS	19	PA1				X	X					
	14	NPA				X	X					
	32	NPA				X	X					
YBCS CAIRNS/					X			X				
Cairns	12	NPA				X	X					
RS	30	NPA				X	X					
	15	PA1				X	X					
	33	NPA				X	X					
YPDN DARWIN/					X			X				
Darwin	11	NPA				X	X					
RS	29	PA1				X	X					
	18	NINST				X	X					
	36	NPA				X	X					
YMML MELBOURNE/					X			X				
Melbourne	09	NPA				X	X					
RS	27	PA1				X	X					
	16	PA1				X	X					
	34	NPA				X	X					
YPPH PERTH/					X			X				
Perth Intl	03	NPA				X	X					
RS	21	PA1				X	X					
	06	NPA				X	X					
	24	PA1				X	X					
	11	NPA				X	X					
	29	NPA				X	X					
YSSY SYDNEY/					X			X				
Kingsford Smith Intl	07	PA1				X	X					
RS	25	NPA				X	X					
	16L	PA1				X	X					
	34R	PA1				X	X					
	16R	PA1				X	X					
	34L	PA1				X	X					
YMAV AVALON/					X			X				
Avalon	18	PA1				X	X					
AS	36	NPA				X	X					
YBRM BROOME/					X			X				
Broome	10	NPA				X	X					
RS	28	NPA				X	X					

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STATE, TERRITORY OR AERODROME FOR WHICH WGS-84 IS REQUIRED			WGS-84 IMPLEMENTATION									REMARKS
CITY/AERODROME	RWY No	RWY TYPE	FIR	ENR	TMA/ CTA/ CTZ	APP	RWY	AD/HEL	GUND	QUALITY SYSTEM	AIP	
1	2	3	4	5	6	7	8	9	10	11	12	13
YSCB CANBERRA/					X			X				
Canberra	12	NPA				X	X					
AS	30	NPA				X	X					
	17	NPA				X	X					
	35	PA1				X	X					
YSCH COFFS HARBOUR/					X			X				
Coffs Harbour	03	NPA				X	X					
AS	21	NPA				X	X					
	10	NPA				X	X					
	28	NPA				X	X					
YBCG COOLANGATTA/					X			X				
Coolangatta	14	NPA				X	X					
AS	32	NPA				X	X					
	17	NPA				X	X					
	35	NPA				X	X					
YMHB HOBART/					X			X				
Hobart	12	PA1				X	X					
RS	30	NPA				X	X					
					X			X				
Learmonth	18	NPA				X	X					
AS	36	NPA				X	X					
YLHI LORD HOWE ISLAND/					X			X				
Lord Howe Island	10	NPA				X	X					
RS	28	NPA				X	X					
YPPD PORT HEDLAND					X			X				
Port Hedland	14	NPA				X	X					
AS	32	NPA				X	X					
	18	NPA				X	X					
	36	NPA				X	X					
YBTL TOWNSVILLE/					X			X				
Townsville	01	PA1				X	X					
AS	19	NPA				X	X					
	07	NPA				X	X					
	25	NPA				X	X					
YBAS ALICE SPRINGS/					X			X				
Alice Springs	06	NPA				X	X					
AS	24	NPA				X	X					
	12	PA1				X	X					
	30	NPA				X	X					
	17	NPA				X	X					
	35	NPA				X	X					
YSDU DUBBO/					X			X				
Dubbo	05	NPA				X	X					
AS	23	NPA				X	X					
	11	NPA				X	X					
	29	NPA				X	X					

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1	2	3	4	5	6	7	8	9	10	11	12	13
YPKG KALGOOLIE/					X			X				
Kalgoorlie	11	NPA				X	X					
AS	29	NPA				X	X					
	18	NPA				X	X					
	36	NPA				X	X					
YMLT LAUNCETON/					X			X				
Launceston	14L	ninst				X	X					
AS	32R	ninst				X	X					
	14R	NPA				X	X					
	32L	PA1				X	X					
	18	ninst				X	X					
	36	ninst				X	X					
YBRK ROCKHAMPTON/					X			X				
Rockhampton	04	NPA				X	X					
AS	22	NPA				X	X					
	15	NPA				X	X					
	33	NPA				X	X					
YPTN TINDAL/					X			X				
Katherine	14	NPA				X	X					
AS	32	NPA				X	X					
YHID HORN ISLAND/					X			X				
Horn Island	08	NPA				X	X					
RGS	26	NPA				X	X					
	14	NPA				X	X					
	32	NPA				X	X					
YSNF NORFOLK ISLAND/					X			X				NZZO FIR
Norfolk Island	04	PA1				X	X					
RS	22	NPA				X	X					
	11	PA1				X	X					
	29	PA1				X	X					
YPMX CHRISTMAS ISLAND/					X			X				
Christmas Island	18	NPA				X	X					
RS	36	NPA				X	X					
YPCC KEELING/					X			X				
Cocos Island Intl	15	NPA				X	X					
RS	33	NPA				X	X					
BANGLADESH			X	X						X	X	
VGZR DHAKA/					X			X				
Zia Int'l	14	PAI				X	X		*			* Not yet decided
RS	32	NPA				X	X					
VGEG CHITTAGONG/					X			X				
M.A. Hannan Intl	05	NPA				X			*			* Not yet decided
RS	23	PA1				X	X					
VGSY SYLHET/					X			X				
Osmani Intl	11	PA1				X	X		*			* Not yet decided
RS	29	NPA				X	X					

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CITY/AERODROME	RWY No	RWY TYPE	FIR	ENR	TMA/ CTA/ CTZ	APP	RWY	AD/HEL	GUND	QUALITY SYSTEM	AIP	
1	2	3	4	5	6	7	8	9	10	11	12	13
BHUTAN												
BRUNEI DARUSSALAM												
WBSB BRUNEI/					X			X			X	
Brunei Intl	03	PA1				X	X					
	21	PA1				X	X					
CAMBODIA												
CHINA												
			X	X								Sanya AOR only
HONG KONG, China												
			X	X						X	X	
VHHH HONG KONG/					X			X	X			
Hong Kong Intl	07L	PA2				X	X		X			
RS	07R	PA2				X	X		X			
	25L	PA2				X	X		X			
	25R	PA3				X	X		X			
MACAO, China												
VMMC MACAU/					X			X			X	
Macau Intl	16	NPA				X	X		X			
	34	PA2				X	X		X			
COOK ISLANDS												
DPR KOREA												
FIJI												
			X	X						X	X	
NFFN NADI/					X			X				
Nadi Intl	02	PA1				X	X		X			
RS	20	PA1				X	X		X			
	09	NINST				X	X		X			
	27	NINST				X	X		X			
NFSU SUVA/												
Nausori Intl	10	NPA				X	X		X			
RS	28	NPA				X	X		X			
FRENCH POLYNESIA (FRANCE)			2003	2003						2003	2003	
NTAA TAHITI/								X				

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CITY/AERODROME	RWY No	RWY TYPE	FIR	ENR	TMA/CTA/CTZ	APP	RWY	AD/HEL	GUND	QUALITY SYSTEM	AIP	
1	2	3	4	5	6	7	8	9	10	11	12	13
Faaa	04	PA1				2003	X		X			
RS	22	NPA				2003	X	X	X			
NTTB BORA BORA/ Moto-Mute	11	NPA				2003	X	2003	X			
	29	NPA				2003	X	2003	X			
NTTR RAIATEA												
Utoroa	07	NPA				2003	X	2003				
	25	NPA				2003	X	2003				
NTTG RANGIGORA												
Rangigora	09	NPA				2003	X	2003				
AS	27	NPA				2003	X	2003				
NEW CALEDONIA (FRANCE)			X	X						2001	X	NFFF FIR
NWWW Noumea/ La Tontouta	11	PA1			X	X	X		X			
RS	29	NINST				X	X		X			
WALLIS ISLANDS (FRANCE)												NFFF FIR
NLWW Wallis/ Hihifo										2001	X	
RS	08	NPA				X	X					
	26	NPA				X	X					
INDIA			X	X							X	
VIDP DELHI/ Indian Gandhi Intl	09	NPA			X	X	X	X				
RS	27	PA1				X	X					
	10	PA1				X	X					
	28	PA2				X	X					
VABB MUMBAI/ ChhatrapatiShivaji Intl	09	PA1			X	X	X	X				
RS	27	PA1				X	X					
	14	PA1				X	X					
	32	NPA				X	X					
VOMM CHENNAI/ Madras	07	PA1			X	X	X	X				
RS	25	NPA				X	X					
	12	NPA				X	X					
	30	NPA				X	X					
VECC KOLKATA/ Netaji Subash	19L	PA1			X	X	X	X				
Chandra Bose Intl	01R	PA1				X	X					
RS	19R	NPA				X	X					
	01L	NPA				X	X					
VAAH AHMEDABAD/ Sardar VallabhBhai	05	NPA			X	X	X	X				
Patel Intl	23	PA1				X	X					
RS												
VIAR AMRITSAR/					X			X				

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1	2	3	4	5	6	7	8	9	10	11	12	13
Amritsar	16	NPA				X	X					
RS	34	PA1				X	X					
VOBG BANGALORE/					X			X				
Bangalore	09	NPA				X	X					
RS	27	PA1				X	X					
VOCI COCHIN/					X			X				
Cochin Intl	09	NPA				X	X					
RS	27	PA1				X	X					
VAGO GOA/					X							
Goa	08	NPA				X	X					
RS	26	NPA				X	X					
VEGT GUWAHATI/					X			X				
Lokapriya Gopinath	02	PA1				X	X					
Bardoloi Intl	20	NPA				X	X					
RS												
VOHY HYDERABAD/					X			X				
Rajiv Gandhi Intl	09	NPA				X	X					
RS	27	PA1				X	X					
VOTV TRIVANDRUM/					X			X				
Thiruvananthapuram	14	NPA				X	X					
Intl	32	PA1				X	X					
RS												
Note: Transformation into WGS-84 has been done by mathematical means using MADRAN software developed by NIMA (National Imaginary and Mapping Agency), USA												
INDONESIA			2002	X					X	2001		
WAPP AMBON/					2002			X				
Pattimura	04	NPA				X	X					
RNS	22	PA1				X	X					
WRLL BALIKPAPAN/					2002			X				
Sepinggan	07	NPA				X	X					
RS	25	PA1				X	X					
WRBB BANJARMASIN/					2002			X				
Syamsudin Noor	10	PA1				X	X					
AS	28	NPA				X	X					
WIKB BATAM/					2002			X				
Hang Nadim	04	PA1				X	X					
RS	22	NPA				X	X					
WABB BIAK/					2002			X				
Frans Kaisiepo	11	PA1					X					
RS	29	NPA					X					
WRRR DENPASAR/					2002			X				
Ngurah Rai	09	NPA				X	X					
RS	27	PA1				X	X					
WIII JAKARTA/					2002			X				
HalimPerdanakusuma	06	NPA					X					
RNS	24	PA1					X					
WIIH JAKARTA/					2002			X				

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1	2	3	4	5	6	7	8	9	10	11	12	13
Soekarno-Hatta	07L	PA1				X	X					
RS	25L	PA1				X	X					
	07R	PA1				X	X					
	25R	PA1				X	X					
WAJJ JAYAPURA/ Sentani	12	NPA			2002	X	X	X				
RS	30	PA1				X	X					
WRKK KUPANG/ El Tari	07	NPA			2002		X	X				
RS	25	PA1					X					
WAAA MAKASSAR/ Hasanuddin	13	PA1			2002	X	X	X				
RNS	31	NPA				X	X					
WAMM MANADO/ Sam Ratulangi	18	PA1			2002	X	X	X				
RS	36	NPA				X	X					
WIMM MEDAN/ Polonia	05	PA1			2002	X	X	X				
RS	23	NPA				X	X					
WAKK MERAUKE/ Mopah	16	NPA			2002	X	X	X				
RNS	34	NINST				X	X					
WIMG PADANG/ Tabing	16	NINST			2002	X	X	X				
RS	34	NINST				X	X					
WIPP PALEMBANG/ SM Badaruddin II	11	NPA			2002	X	X	X				
RNS	29	PA1				X	X					
WIBB PEKANBARU/ SultanSyarifKasim II	18	NPA			2002	X	X	X				
RNS	34	PA1				X	X					
WIOO PONTIANAK/ Supadio	15	PA1			2002	X	X	X				
RS	33	NPA				X	X					
WRSJ SURABAYA/ Juanda	10	PA1			2002	X	X	X				
RS	28	NPA				X	X					
WIKN TANJUNG PINANG/ Kiang	04	NPA			2002	X	X	X				
RNS	22	NINST				X	X					
WRLR TARAKAN/ Juwata	06	NPA			2002	X	X	X				
RS	24	NINST				X	X					
WABP TIMIKA/ Tembaga Pura	12	NPA			2002		X	X				
RS	30	NPA					X					

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1	2	3	4	5	6	7	8	9	10	11	12	13
WIJJ YOGYAKARTA/					2002			X				
Adi Sucipto	09	NPA					X					
RNS	27						X					
	* The WGS-84 was implemented in almost all International Airport in Indonesia including the NPA with overlay ** The Ground Undulation (Difference between Mean Sea Level and Ellipsoid) will be started in the Year 2002											
JAPAN			X	X							X	
RJFF FUKUOKA/					X			X				
Fukuoka	16	PA1				X	X					
RS	34	NPA				X	X					
RJCH HAKODATE/					X			X				
Hakodate	12	PA1				X	X					
RS	30	NPA				X	X					
RJFK KAGOSHIMA/					X			X				
Kagoshima	16	NPA				X	X					
RS	34	PA1				X	X					
RJBB OSAKA/					X			X				
Kansai Intl	06	PA2				X	X					
RS	24	NPA				X	X					
RJFT KUMAMOTO/					X			X				
Kumamoto	07	PA3				X	X					
RS	25	NPA				X	X					
RJFU NAGASAKI/					X			X				
Nagasaki	14	NPA				X	X					
RS	32	PA1				X	X					
	18	NPA				X	X					
	36	NPA				X	X					
RJNN NAGOYA/					X			X				
Nagoya	16	NPA				X	X					
RS	34	PA1				X	X					
ROAH NAHA/					X			X				
Naha	18	NPA				X	X					
RS	36	PA1				X	X					
RJCC SAPPORO/					X			X				
New Chitose	01L	PA1				X	X					
RS	19R	NPA				X	X					
	01R	PA1				X	X					
	19L	NPA				X	X					
RJAA NARITA/					X			X				
New Tokyo Intl	16	PA3				X	X					
RS	34	NPA				X	X					
RJSN NIIGATA					X			X				
Niigata	04	NPA				X	X					
RS	22	NPA				X	X					
	10	NPA				X	X					
	28	PA1				X	X					
RJOO OSAKA/					X			X				
Osaka Intl	14R	NPA				X	X					

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1	2	3	4	5	6	7	8	9	10	11	12	13
RS	32L	PA1				X	X					
	14L	NPA				X	X					
	32R	NPA				X	X					
RJSS SENDAI/ Sendai	09	NPA			X	X	X	X				
RS	27	PA1				X	X					
	12	NPA				X	X					
	30	NPA				X	X					
RJTT TOKYO/ Tokyo Intl	16L	NPA			X	X	X	X				
RS	34R	PA2				X	X					
	16R	NPA				X	X					
	34L	PA1				X	X					
	04	NPA				X	X					
	22	PA1				X	X					
KIRIBATI												NFFF FIR
LAO PDR												
MALAYSIA			X	X							X	
WMKA ALOR SETAR/ Sultan Abdul Halim	04	NPA			X		X	X				
RS	22	NINST					X					
WMKB BUTTERWORTH/ Butterworth	18	NPA			X		X	X				
RS	36	NPA					X					
WMKC KOTA BHARU/ Sultan Ismail Petra	10	NPA			X		X	X				
RS	28	NPA					X					
WMKD KUANTAN/ Kuantan	18	NPA			X		X	X				
RS	36	PA1					X					
WMKE KERTEH/ Kerteh	16	NPA			X		X	X				
RS	34	NPA					X					
WMKF KUALA LUMPUR/ Simpang	04	NINST			X		X	X				
RS	22	NINST					X					
WMKI IPOH/ Sultan Azlan Shah	04	PA1			X		X	X				

STATUS OF WGS-84 IMPLEMENTATION

STATE, TERRITORY OR AERODROME FOR WHICH WGS-84 IS REQUIRED			WGS-84 IMPLEMENTATION									REMARKS
CITY/AERODROME	RWY No	RWY TYPE	FIR	ENR	TMA/CTA/CTZ	APP	RWY	AD/HEL	GUND	QUALITY SYSTEM	AIP	
1	2	3	4	5	6	7	8	9	10	11	12	13
RS	22	NINST					X					
WMKJ JOHOR BAHRU/ Sultan Ismail	16	PA1			X		X	X				
RS	34	NPA					X					
WMKK KUALA LUMPUR/ Sepang Intl	14R	PA1			X		X	X				
RS	32L	PA1					X	X				
	14L	PA1					X	X				
	32R	PA1					X	X				
WMKL LANGKAWI/ Langkawi Intl	03	PA1			X		X	X				
RS	21						X					
WMKM MALACCA/ Malacca	03	NPA			X		X	X				
RS	21	NPA					X					
WMKN KUALA TERENGGANU/ Sultan Mahmud Shah	04	NPA			X		X	X				
RS	22	NPA					X					
WMKP PENANG/ Penang Intl	04	PA1			X		X	X				
RS	22	NPA					X					
WMSA KUALA LUMPUR/ Sultan AbdulAziz Shah	15	PA1			X		X	X				
RS	33	PA1					X					
WMBT PULAU TIOMAN/ Pulau Tioman	02						X	X				
RS	20	NINST					X					
WMPA PULAU PANGKOR/ Pulau Pangkor	04						X	X				
RS	22	NINST					X					
WMAP KLUANG/ Kluang	05	NINST						X				
RS	23	NINST										
WBGB BINTULU/ Bintulu	12	NPA			X		X	X				
RS	30	NINST					X					
WBGK KUCHING/ Kuching Intl	07	NPA			X		X	X				
RS	25	PA1					X					
WBGR MIRI/ Miri	02	PA1			X		X	X				
RS	20	NPA					X					
WBGs SIBU/ Sibu	13	PA1			X		X	X				
RS	31	NPA					X					
WBKD LAHAD DATU/					X			X				

STATUS OF WGS-84 IMPLEMENTATION

STATE, TERRITORY OR AERODROME FOR WHICH WGS-84 IS REQUIRED			WGS-84 IMPLEMENTATION									REMARKS
CITY/AERODROME	RWY No	RWY TYPE	FIR	ENR	TMA/CTA/CTZ	APP	RWY	AD/HEL	GUND	QUALITY SYSTEM	AIP	
1	2	3	4	5	6	7	8	9	10	11	12	13
Lahad Datu	11	NINST					X					
RS	29	NPA					X					
WBKK KOTA KINABALU/					X			X				
Kota Kinabalu Intl	02	PA1					X					
RS	20	NPA					X					
WBKL LABUAN/					X			X				
Labuan	14	NPA					X					
RS	32	NPA					X					
WBKS SANDAKAN/					X			X				
Sandakan	08	PA1					X					
RS	26	NPA					X					
WBKW TAWAU/					X			X				
Tawau	17	NINST					X					
RS	35	NPA					X					
MALDIVES			X	X						X		
VRMM MALE/					X			X				
Male Intl	18	PA1				X	X		X			
RS	36	NPA					X					
MARSHALL IS.												KZOK FIR
MICRONESIA, FS												KZOK FIR
MONGOLIA			X	X						2002	X	
ZMUB ULAN BATOR/					X			X				
Byant-Ukkaa	14	NPA				X	X					
	32	NPA				X	X					
RS												
MYANMAR												
NAURU												
NEPAL				X						X	X	
VNKT KATHMANDU					X			X				
Tribhuvan Intl	02	NPA				X	X					

STATUS OF WGS-84 IMPLEMENTATION

STATE, TERRITORY OR AERODROME FOR WHICH WGS-84 IS REQUIRED			WGS-84 IMPLEMENTATION									REMARKS
CITY/AERODROME	RWY No	RWY TYPE	FIR	ENR	TMA/CTA/CTZ	APP	RWY	AD/HEL	GUND	QUALITY SYSTEM	AIP	
1	2	3	4	5	6	7	8	9	10	11	12	13
RS	20	NINST					X					
NEW ZEALAND			X	X						X	X	
NZAA AUCKLAND/					X			X				
Auckland Intl	05	PA1				X	X		X			
RS	23	PA1			X	X	X		X			
NZWN WELLINGTON/					X			X				
Wellington	16	PA1				X	X		X			
RS	34	PA1				X	X		X			
ZCH CHRISTCHURCH/					X			X				
Christchurch	02	PA1				X	X		X			
RS	20	PA1				X	X		X			
NZNS NELSON/					X			X				
Nelson	02	NPA				X	X		X			
RS	20	NPA				X	X		X			
NZDN DUNEDIN/					X			X				
Dunedin	03	PA1				X	X		X			
RS	21	PA1				X	X		X			
NAPM PALMERSTON/					X			X				
Palmerston North	07	NPA				X	X		X			
RNS	25	NPA				X	X		X			
NZHN HAMILTON/					X			X				
Hamilton	18	NPA				X	X		X			
RNS	36	NPA				X	X		X			
IZQN QUEENSTOWN/					X			X				
Queenstown	05	NPA				X	X		X			
RNS	23	NPA				X	X		X			
NZWP WHENUAPAI/					X			X				
Whenuapai (Mil)	03	PA1				X	X		X			
RNS	21	PA1				X	X		X			
NZOH OHAKEA					X			X				
Ohakea (Mil)	09	PA1				X	X		X			
AS	27	PA1				X	X		X			
NIUE ISLAND (New Zealand)												NZZO FIR
NIUE ALOF/												
Niue Intl												
RS												
PAKISTAN			X	X						X	X	
OPFA FAISALABAD/					X			X				
Faisalabad	03	PA1				X	X		X			
RS	21	NPA										
OPGD GWADAR/					X			X				
Gwadar	06	NINST				X	X		X			
RS	24	NPA										
OPRN ISLAMABAD/					X			X				
Chaklala	12	NINST				X	X		X			
RS	30	PA1										

STATUS OF WGS-84 IMPLEMENTATION

STATE, TERRITORY OR AERODROME FOR WHICH WGS-84 IS REQUIRED			WGS-84 IMPLEMENTATION									REMARKS
CITY/AERODROME	RWY No	RWY TYPE	FIR	ENR	TMA/CTA/CTZ	APP	RWY	AD/HEL	GUND	QUALITY SYSTEM	AIP	
1	2	3	4	5	6	7	8	9	10	11	12	13
OPKC KARACHI/					X			X				
Quaid-e-Azam Intl	07	NINST				X	X		X			
RS	25	PA1										
OPLA LAHORE/					X			X				
Lahore	18	NPA				X	X		X			
RS	36	PA2										
OPMT MULTAN/					X			X				
Multan	18	NPA				X	X		X			
RS	36	PA1										
OPNH NAWABSHAH/					X			X				
Nawabshah	02	NPA				X	X		X			
AS	20	NPA										
OPPS PESHAWAR/					X			X				
Peshawar	17	NPA				X	X		X			
RS	35	NPA										
OPTU TURBAT/					X			X				
Turbat	08	NPA				X	X		X			
RS	26	NPA										
PALAU												KZOK FIR
PAPUA NEW GUINEA												
Note: All Nav aids coordinates using WGS-84 datum FLT SUP COM 2-1 to 2-7												
PHILIPPINES			X	X							X	Calculated
RPLL MANILA/					X	X					X	Calculated
Ninoy Aquino Intl	06	PA1					X	X	07/2002		X	ATO-NIMA survey
RS	24	PA1					X	X	07/2002		X	
	13	NINST					X	X	07/2002		X	
	31	NINST					X	X	07/2002		X	
RPLB SUBIC BAY/					X	X					X	Calculated
Subic Bay Intl	07R	NPA					X	X	07/2002		X	ATO-NIMA survey
RS	25L	(S Cat1)					X	X	07/2002		X	
	07L	NINST					X	X	07/2002		X	
	25R	NINST					X	X	07/2002		X	
RPMD DAVAO/					X	X					X	Calculated
Francisco Bangol Intl	05	NPA					X	X	07/2002		X	** Old co-ordinates converted
AS	23	NPA					X	X	07/2002		X	
RPLI LAOAG/					X	X					X	Calculated
Laoag Intl	01	NPA					X	X	07/2002		X	* Old co-ordinates converted
AS	19	NPA					X	X	07/2002		X	
RPVM LAPU-LAPU/					X	X					X	ATO-NIMA survey
Mactan Cebu Intl	04	PA1					X	X	07/2002		X	
RS	22	PA1					X	X	07/2002		X	
RPLC PAMPANGA/					X	X					X	Calculated

STATUS OF WGS-84 IMPLEMENTATION

STATE, TERRITORY OR AERODROME FOR WHICH WGS-84 IS REQUIRED			WGS-84 IMPLEMENTATION									REMARKS
CITY/AERODROME	RWY No	RWY TYPE	FIR	ENR	TMA/CTA/CTZ	APP	RWY	AD/HEL	GUND	QUALITY SYSTEM	AIP	
1	2	3	4	5	6	7	8	9	10	11	12	13
Clark Intl	02R	PA1					X	X	07/2002		X	ATO-NIMA survey
RS	20L	PA1					X	X	07/2002		X	
	02L	NINST					X	X	07/2002		X	
	20R	NINST					X	X	07/2002		X	
RPMZ ZAMBOANGA/					X	X					X	Calculated
Zamboanga Intl	09	PA1					X	X	07/2002		X	* Old co-ordinates converted
AS	27	PA1					X	X	07/2002		X	
Note: * ATO-NIMA survey final report to be incorporated in the AIP Amendment #2 dated 11 July 2002												
** ATO-NIMA survey final report to be incorporated in the AIP Amendment #3												
REP OF KOREA			X	X						X	X	
RKSI INCHEON/					X			X				
Incheon Intl	15R	PA3				X	X		X			
RS	15L	PA3				X	X		X			
	33R	PA3				X	X		X			
	33L	PA3				X	X		X			
RKSS GIMPO/					X			X				
Gimpo Intl	14R	PA2				X	X		X			
RS	32L	NPA				X	X		X			
	14L	PA1				X	X		X			
	32R	PA1				X	X		X			
RKPK BUSAN/					X			X				
Gimhae Intl	18L	NPA				X	X		X			
RS	36R	PA1				X	X		X			
	18R	NPA				X	X		X			
	36L	PA1				X	X		X			
RKPC JEJU/					X			X				
Jeju Intl	6	PA1				X	X		X			
RS	24	PA1				X	X		X			
	31	NINST				X	X		X			
	13	NINST				X	X		X			
RKTU CHEONG/					X			X				
Cheongju	06L	PA1				X	X		X			
RNS/AS	24R	PA1				X	X		X			
	06R	NINST				X	X		X			
	24L	NINST				X	X		X			
RKJJ GWANGJU/					X			X				
Gwangju	4	PA1				X	X		X			
RNS/AS	22	NPA				X	X		X			
RKTN DAEGU/					X			X				
Daegu	31	PA1				X	X		X			
RNS/AS	13	NPA				X	X		X			
RKNN GANGNEUNG/					X			X				
Gangneung	26	NPA				X	X		X			
RNS/AS	8	NINST				X	X		X			
RKTH POHANG/					X			X				
Pohang	10	NPA				X	X		X			

STATUS OF WGS-84 IMPLEMENTATION

STATE, TERRITORY OR AERODROME FOR WHICH WGS-84 IS REQUIRED			WGS-84 IMPLEMENTATION									REMARKS
CITY/AERODROME	RWY No	RWY TYPE	FIR	ENR	TMA/CTA/CTZ	APP	RWY	AD/HEL	GUND	QUALITY SYSTEM	AIP	
1	2	3	4	5	6	7	8	9	10	11	12	13
AS	28	NPA				X	X		X			
RKTY YEcheon/					X			X				
Yecheon	28	PA1				X	X		X			
AS	10	NPA				X	X		X			
SAMOA											X	NFFF FIR
NSFA FALEOLO/					X			X				
Faleolo Intl	08	PA1				X	X			X	X	
RS	26	NPA				X	X			X	X	
NSFI FAGALII/												
Fagalii	10											
RG	28	NINST										
NSMA MAOTA/												
Maota	08											
RG	26	NINST										
NSAU ASAU/												
Asau	08											
RG	26	NINST										
SINGAPORE			X	X						X	X	
WSSS SINGAPORE/					X			X				
Changi Intl	02L	PA2				X	X		X			
RS	20R	PA1				X	X		X			
	02R	PA1				X	X		X			
	20L	PA2				X	X		X			
WSSL SINGAPORE/					X			X			X	
Seletar	03	NINST					X		X			
RG	21	NINST					X		X			
WSAP SINGAPORE/					X			X			X	
Paya Lebar	02	NPA				X	X					
AS	20	NPA				X	X					
SOLOMON ISLANDS												
SRI LANKA			X	X							X	
COLOMBO/												
Bandaranaike Intl	22	PA1			X	X	X			X	X	AIP Supplement
RNS	04	PA1				X					X	
THAILAND			2001	2001							2002	
VTSE CHUMPHON/					2001			X				
Chumphon												
RG	06	NPA					X		X			
	24	NPA					X		X			
VTPH PRACHUAP KHIRI KHAN/								X				
Hua Hin												
RG	16	NPA					X		X			

STATUS OF WGS-84 IMPLEMENTATION

STATE, TERRITORY OR AERODROME FOR WHICH WGS-84 IS REQUIRED			WGS-84 IMPLEMENTATION									REMARKS
CITY/AERODROME	RWY No	RWY TYPE	FIR	ENR	TMA/CTA/CTZ	APP	RWY	AD/HEL	GUND	QUALITY SYSTEM	AIP	
1	2	3	4	5	6	7	8	9	10	11	12	13
	34	NINST					X		X			
VTUK KHON KAEN/								X				
Khon Kaen	03	NPA					X		X			
RNS	21	NPA					X		X			
VTSG KRABI/								X				
RNS	14	NPA					X		X			
	32	NPA					X		X			
VTUQ NAKHON RATCHASIMA/								X				
Nakhon Ratchasima												
RG	06	NPA					X		X			
	24	NPA					X		X			
VTGN NAN/								X				
Nan												
RNS	02	NPA					X		X			
	20	NPA					X		X			
VTSC NARATHIWAT/								X				
Narathiwat												
RG	02	PA1					X		X			
	20	NPA					X		X			
VTSK PATTANI/								X				
Pattani												
RG	08	NPA					X		X			
	26						X		X			
VTTP PHITSANULOK/								X				
Phitsanulok	14	NPA					X		X			
RS	32	PA1					X		X			
VTSR RANONG/								X				
Ranong												
RG	02	PA1					X		X			
	20						X		X			
VTSB SURAT THANI/								X				
Surat Thani	04	NPA					X		X			
RNS	22	PA1					X		X			
VTST TRANG/								X				
Trang												
RG	08	NPA					X		X			
	26						X		X			
VTUU UBON RATCHATHANI/								X				
Ubon Ratchathani	05	NPA					X		X			
RS	23	PA1					X		X			
VTUD UDONTHANI/								X				
Udon Thani												
RNS	12	NPA					X		X			
	30	PA1					X		X			
VTSM SURATHANI/					X			X				
Samui												

STATUS OF WGS-84 IMPLEMENTATION

STATE, TERRITORY OR AERODROME FOR WHICH WGS-84 IS REQUIRED			WGS-84 IMPLEMENTATION									REMARKS
CITY/AERODROME	RWY No	RWY TYPE	FIR	ENR	TMA/CTA/CTZ	APP	RWY	AD/HEL	GUND	QUALITY SYSTEM	AIP	
1	2	3	4	5	6	7	8	9	10	11	12	13
RS	17	NPA				X	X		X		X	
	35	NPA				X	X					
VTPO SUKHOTHAI/					X			X				
Sukhothai												
RS	18	NPA				X	X		X		X	
	36	NPA				X	X					
VTCC CHIANG MAI/												
Chiang Mai Intl	18	NPA			2001	X	X	X				
RS	36	PA1										
VTSS SONG KHLA/												
Hat Yai Intl	08	NPA			2001	X	X	X				
RS	26	PA1										
VTSP PHUKET/	09	NPA			2001	X	X	X				
Phuket												
RS	27	PA1										
VTCT CHIANG RAI/												
Chiangrai Intl	03	PA1			2001	X	X	X				
RS	21	NPA										
VTBU RAYONG/												
Ban U-Taphao	18	PA1			2001	X	X	X				
AS	36	NPA										
VTBD BANGKOK/					2001			X				
Bangkok Intl	03R	NPA				X	X					
RS	03L	PA1				X	X					
	21R	NPA					X		X			
	21L	PA1					X		X			
TONGA			X	X						X	X	NFFF FIR
NFTF FUA'AMOTU/					X			X				
Fua'amotu Intl	11	NPA				X	X		X			
RS	29	NPA				X	X		X			
	17	NINST				X	X		X			
	35	NINST				X	X		X			
TUVALU												NZZO FIR
UNITED STATES			X	X						X	X	
PANC ANCHORAGE/					X			X				
Anchorage Intl	14	PA1				X	X		X			
RS	32	NINST				X	X		X			
	6L	PA1				X	X		X			
	24R	NINST				X	X		X			
	6R	PA3				X	X		X			
	24L	NINST					X		X			
PAED ANCHORAGE/					X			X				
Elmendorf AFB	5	PA1				X	X		X	X	X	
AS	23	NINST										
	15	NINST										
	33	NINST										

STATUS OF WGS-84 IMPLEMENTATION

STATE, TERRITORY OR AERODROME FOR WHICH WGS-84 IS REQUIRED			WGS-84 IMPLEMENTATION									REMARKS
CITY/AERODROME	RWY No	RWY TYPE	FIR	ENR	TMA/CTA/CTZ	APP	RWY	AD/HEL	GUND	QUALITY SYSTEM	AIP	
1	2	3	4	5	6	7	8	9	10	11	12	13
PACD COLD BAY/					X			X				
Coldbay	14	PA1				X	X		X			
AS	32	NPA				X	X		X			
	26	NINST										
KPAE EVERETT/					X			X				
Paine Field	34L	NPA				X	X		X			
AS	16R	PA1				X	X		X			
	11	NINST										
	29	NINST										
	34R	NINST										
	16L	NINST										
PAEI FAIRBANKS/					X			X				
Eielson AFB	13	PA1				X	X		X			
AS	31	PA1				X	X		X			
PAFA FAIRBANKS/					X			X				
Fairbanks Intl	19R	PA1				X	X		X			
RS	01L	PA3				X	X		X			
	19L	NINST										
	01R	NINST										
KFAT FRESNO/					X			X				
Yosemite Intl	29R	PA3				X	X		X			
AS	11L	NPA										
	29L	NINST										
	11R	NINST										
PHTO HILO/					X			X				
General Lyman Field	03	NINST				X	X		X			
AS	21	NINST										
	26	PA1				X	X		X			
	08	NINST										
PHNA HONOLULU/												
Barbers Point	04R	NPA										No WGS-84
AS	22L	NINST										data available

STATUS OF WGS-84 IMPLEMENTATION

STATE, TERRITORY OR AERODROME FOR WHICH WGS-84 IS REQUIRED			WGS-84 IMPLEMENTATION									REMARKS
CITY/AERODROME	RWY No	RWY TYPE	FIR	ENR	TMA/ CTA/ CTZ	APP	RWY	AD/HEL	GUND	QUALITY SYSTEM	AIP	
1	2	3	4	5	6	7	8	9	10	11	12	13
PHNL HONOLULU/					X			X				
Honolulu Intl	8L	PA1				X	X		X			
INTL	26R	NINST					X					
RS	04L	NINST					X					
	22R	NINST					X					
	04R	PA1					X					
	22L	NINST					X					
	26L	PA1				X	X		X			
	8R	NINST					X					
PHOG KAHULUI/					X			X				
Kahului	32	NINST										
AS	02	PA1				X	X		X			
	05	NINST					X					
	20	NPA				X	X		X			
KLAX LOS ANGELES/					X			X				
Los Angeles Intl	06L	PA1				X	X		X			
RS	24R	PA3				X	X		X			
	6R	PA1				X	X		X			
	24L	PA1				X	X		X			
	07L	PA1				X	X		X			
	25R	PA1				X	X		X			
	07R	PA1				X	X		X			
	25L	PA3				X	X		X			
KOAK OAKLAND/					X			X				
Oakland Metropolitan	11	PA1				X	X		X			
AS	29	PA3				X	X		X			
	09R	NPA										
	27L	NPA										
	09L	NPA										
	27R	PA1				X	X		X			
KONT ONTARIO/					X			X				
Ontario Intl	26R	PA1				X	X		X			
AS	08L	PA1				X	X		X			
	26L	PA3				X	X		X			
	08R	NPA				X	X		X			
KPMD PALMDALE/					X			X				
Palmdale	22	NPA				X	X		X			
AS	25	PA1				X	X		X			
	07	NPA				X	X		X			
KPDY PORTLAND/					X			X				
Portland Intl	03	NINST				X	X		X			
AS	21	NPA				X	X		X			
	10R	PA3				X	X		X			
	28L	PA1				X	X		X			
	10L	PA1				X	X		X			
	28R	PA1				X	X		X			

STATUS OF WGS-84 IMPLEMENTATION

STATE, TERRITORY OR AERODROME FOR WHICH WGS-84 IS REQUIRED			WGS-84 IMPLEMENTATION									REMARKS
CITY/AERODROME	RWY No	RWY TYPE	FIR	ENR	TMA/ CTA/ CTZ	APP	RWY	AD/HEL	GUND	QUALITY SYSTEM	AIP	
1	2	3	4	5	6	7	8	9	10	11	12	13
KSMF SACRAMENTO/					X			X				
Metropolitan	16R	PA3				X	X		X			
AS	34L	PA1				X	X		X			
	16L	PA1				X	X		X			
	34R	NPA				X	X		X			
KSFO SANFRANCISCO/					X			X	X			
San Francisco Intl	10L	NINST										
RS	28R	PA3				X	X		X			
	10R	NINST					X					
	28L	PA1				X	X		X			
	01L	NINST					X					
	19R	NINST					X					
	01R	NINST					X					
	19L	PA1				X	X					
KSJC SAN JOSE/					X			X				
San Jose Intl	12R	PA1				X	X		X			
RS	30L	PA1				X	X		X			
	12L	NPA				X	X		X			
	30R	NPA				X	X		X			
	11	NINST					X					
	29	NINST					X					
KBFI SEATTLE/					X			X				
Tacoma Intl	13R	PA1				X	X		X			
RS	31L	PA1				X	X		X			
	13L	NINST				X	X		X			
	31R	NINST										
KGEV SPOKANE/					X			X			X	
Spokane Intl	25	NPA				X	X		X		X	
AS	07	NINST				X	X					
	21	PA2				X	X					
	03	PA3				X	X					
KSCK STOCKTON/					X			X				
Metropolitan	11L	PA1				X	X		X			
AS	29R	NINST				X	X		X			
AMERICAN SAMOA (United States)												NFFF FIR
NSTU PAGO PAGO/					X			X				
Pago Pago Intl	05	PA1				X	X					
RS	23	NINST				X	X					
GUAM ISLAND (United States)												KZOK FIR
PGUM GUAM/					X			X				
Agana	06L	PA1				X	X					
RS	24R	NPA				X	X					
	06R	NINST				X	X					
	24L	NINST				X	X					
PGUA GUAM ISLAND/					X			X				
Andersen	06L	NPA				X	X					

STATUS OF WGS-84 IMPLEMENTATION

STATE, TERRITORY OR AERODROME FOR WHICH WGS-84 IS REQUIRED			WGS-84 IMPLEMENTATION									REMARKS
CITY/AERODROME	RWY No	RWY TYPE	FIR	ENR	TMA/ CTA/ CTZ	APP	RWY	AD/HEL	GUND	QUALITY SYSTEM	AIP	
1	2	3	4	5	6	7	8	9	10	11	12	13
AS	24R	NPA				X	X					
	06R	PA1				X	X					
	24L	NPA				X	X					
JOHNSTON ISLAND (United States)												KZOK FIR
PJON JOHNSTON ISLAND/ Johnston Atoll					X			X				
RS	05	NPA				X	X					
	23	NPA				X	X					
NORTHERN MARIANA ISLANDS (United States)												KZOK FIR
PGSN SAIPAN/ Saipan Intl					X			X				
	07	PA1				X	X					
RS	25	NPA				X	X					
VANUATU												NFFF FIR
VIET NAM			X	X							X	
VVNB HANOI/ Noi Bai Intl					X							
	11	PA1				X	X		X			
RS	29	NPA				X	X		X			
VVDN DANANG/ Da Nang Intl					X							
	17L	NPA				X	X		X			
RS	35R	PA1				X	X		X			
	35L	NPA				X	X		X			
	17R	NPA				X	X		X			
VVTS HO CHI MINH/ Tan Son Nhat Intl					X							
	07R	NPA				X	X		X			
RS	07L	NPA				X	X		X			
	25R	PA1				X	X		X			
	25L	NPA				X	X		X			