

Part III

AERODROME OPERATIONAL PLANNING (AOP)

INTRODUCTION

1. This part of the Asia and Pacific (ASIA/PAC) Basic Air Navigation Plan contains elements of the existing planning system and introduces the basic planning principles, operational requirements and planning criteria related to aerodrome operational planning (AOP) as developed for the ASIA/PAC regions.

2. As a complement to the Statement of Basic Operational Requirements and Planning Criteria (BORPC) set out in Part I, Part III constitutes the stable guidance material considered to be the minimum necessary for effective planning of AOP facilities and services in the ASIA/PAC regions. A detailed description/list of the facilities and/or services to be provided by States in order to fulfil the requirements of the plan is contained in the ASIA/PAC Facilities and Services Implementation Document (FASID). During the transition and pending full implementation of the future communications, navigation and surveillance/air traffic management (CNS/ATM) system, it is expected that the existing requirements will gradually be replaced by new CNS/ATM system-related requirements. Further, it is expected that some elements of CNS/ATM system will be subject to amendment, as necessary, on the basis of experience gained in their implementation.

3. The Standards, Recommended Practices and Procedures to be applied and related guidance material are contained in:

- a) Annex 14 — *Aerodromes*, Volumes I and II;
- b) Annex 10 — *Aeronautical Telecommunications* — Volume I;
- c) *Aerodrome Design Manual* (Doc 9157);
- d) *Airport Planning Manual* (Doc 9184);

e) *Airport Services Manual* (Doc 9137).

4. Background information of importance in the understanding and effective application of this part of the plan is contained in the *Report of the Third Asia/Pacific Regional Air Navigation Meeting* (Doc 9614, ASIA/PAC/3 (1993)) on Agenda Items 2, 3 and 4.

5. A regional air navigation meeting recommendation or conclusion shown in brackets below a heading indicates the origin of all the paragraphs following that heading.

AERODROME OPERATIONAL PLANNING (AOP)

General (FASID Table AOP 1) [ASIA/PAC/3, Recs. 2/2 and 3/1]

6. A basic list of aerodromes (including their designations) required in the ASIA/PAC regions to serve international civil aviation operations is given in the Appendix to this part. The list of regular and alternate aerodromes required for international scheduled air transport, non-scheduled air transport and general aviation operations as agreed in the ASIA/PAC/3 RAN Meeting is given in Table AOP 1 of the FASID.

Runway friction measurements [ASIA/PAC/3, Rec. 4/2]

7. States should procure the necessary equipment and carry out periodic measurements of runway friction characteristics and take remedial action as necessary.

Removal of disabled aircraft

[ASIA/PAC/3, Rec. 4/3]

8. States should ensure that adequate coordination between airline operators and airport administrations exists to plan for the removal of disabled aircraft on or adjacent to movement areas, and that information concerning the capability for such aircraft removal is included in Aeronautical Information Publications.

Creation of bird control units

[ASIA/PAC/3, Rec. 4/6]

9. States should encourage airport authorities to create a bird control unit responsible for reducing bird hazards to aviation on each airport and to submit bird strike reports to ICAO to facilitate the effective use of the ICAO Bird Strike Information System (IBIS).

Closure of regular aerodromes

[ASIA/PAC/3, Conc. 2/3]

10. When a regular aerodrome is to be closed, States should ensure that sufficient alternate aerodromes remain open to provide for the safety and efficiency of aircraft approaching the regular aerodrome that may be required to divert to an alternate.

Scheduling aerodrome maintenance

[ASIA/PAC/3, Rec. 4/8]

11. States, when planning major runway maintenance work that would affect the regularity of international aircraft operations, should consider the need to notify aircraft operators sufficiently in advance prior to undertaking the scheduled work.

Aerodrome equipment, installations and services

[ASIA/PAC/3, Rec. 4/10]

12. For the general improvement of the safety, efficiency and regularity of aircraft operations, States should, with a degree of urgency, take appropriate action to provide and maintain the equipment, installations and services specified in the related Annex 14, Volume I specifications.

Aerodrome emergency plan

[ASIA/PAC/3, Conc. 4/4]

13. Each State of the ASIA/PAC region should prepare and keep up to date an appropriate aerodrome emergency plan for each international aerodrome. Guidance material for the preparation of such plans are available in the *Airport Services Manual* (Doc 9137), Part 7.

Appendix

INTERNATIONAL AERODROMES REQUIRED IN THE ASIA/PAC REGIONS

EXPLANATION OF THE LIST

CITY/AERODROME Name of the city and aerodrome, preceded by the location indicator.

DESIGNATION Designation of the aerodrome as:

RS — international scheduled air transport, regular use

RNS — international non-scheduled air transport, regular use

AS — international scheduled air transport, alternate use

Note 1.— When an aerodrome is needed for more than one type of use, normally only the use highest on the above list is shown. An exception is that AS aerodromes are identified even when they are required for regular use by international non-scheduled air transport or international general aviation, as some specifications in Annex 14, Volume I place special requirements on these aerodromes.

Example — An aerodrome required for both RS and AS use would only be shown as RS in the list. However, this table may still show specific requirements for AS use.

Note 2.— When the aerodrome is located on an island and no particular city or town is served by the aerodrome, the name of the island is included instead of the name of a city.

City/Aerodrome/Designation	City/Aerodrome/Designation
AFGHANISTAN	
OAKB KABIL/Kabul Intl RS	YSSY SYDNEY/Kingsford Smith Intl RS
OAKN KANDAHAR/Kandahar Intl AS	YPTN TINDAL/Tindal AS
	YBTL TOWNSVILLE/Townsville RNS
AMERICAN SAMOA (United States)	
NSTU PAGO PAGO/Pago Pago Intl RS	
AUSTRALIA	
YPAD ADELAIDE/Adelaide RS	
YBAS ALICE SPRINGS/Alice Springs AS	
YBBN BRISBANE/Brisbane RS	
YBCS CAIRNS/Cairns RS	
YPXM CHRISTMAS I./Christmas I. RS	
YPCC COCOS I./Cocos I. RS	
YPDN DARWIN/Darwin RS	
YMHB HOBART/Hobart RNS	
YMML MELBOURNE/Melbourne Intl RS	
YSNF NORFOLK I./Norfolk I. RS	
YPPH PERTH/Perth Intl RS	
YPPD PORT HEDLAND/Port Hedland RNS	
YBRK ROCKHAMPTON/Rockhampton AS	
	BANGLADESH
	VGEG CHITTAGONG/Shah Amanat Intl RS
	VGHS DHAKA/Hazrat Shahjalal Intl RS
	BHUTAN
	VQPR PARO/Paro Intl RS
	BRUNEI DARUSSALAM
	WBSB BRUNEI/Brunei Intl RS
	CAMBODIA
	VDPP PHNOM PENH/Phnom Penh RS
	VDSR SIEM REAP/Siem Reap AS
	CANADA¹
	CYXX ABBOTSFORD/Abbotsford AS
	CYYC CALGARY/Calgary Intl RS
	CYQQ COMOX/Comox AS
	CYEG EDMONTON/Edmonton Intl RS
	CYVR VANCOUVER/Vancouver Intl RS

City/Aerodrome/Designation		City/Aerodrome/Designation	
CYYJ	VICTORIA/Victoria Intl RNS	ZSNJ	NANJING/Lukou RS
CHINA		ZGNN	NANNING/Wuxu AS
ZBAA	BEIJING/Capital RS	ZSQD	QINGDAO/Liuting RS
ZGHA	CHANGSHA/Huanghua RS	ZJSY	SANYA/Phoenix RS
ZUUU	CHENGDU/Shuangliu AS	ZSSS	SHANGHAI/Hongqiao RS
ZUCK	CHONGQING/Jiangbei RS	ZSPD	SHANGHAI/Pudong RS
ZYTL	DALIAN/Zhoushuizi RS	ZYTX	SHENYANG/Taoxian RS
ZSFZ	FUZHOU/Changle RS	ZGSZ	SHENZHEN/Bao'an RS
RCKH	GAOXIONG/Gaoxiong RS	RCSS	TAIBEI/Songshan AS
ZGGG	GUANGZHOU/Baiyun RS	RCTP	TAIBEI CITY/Taibei Intl RS
ZGKL	GUILIN/Liangjiang RS	ZBYN	TAIYUAN/Wusu AS
ZSHC	HANGZHOU/Xiaoshan RS	ZBTJ	TIANJIN/Binhai RS
ZYHB	HARBIN/Taiping RS	ZWWW	URUMQI/Diwopu RS
ZSOF	HEFEI/Luogang AS	ZHHH	WUHAN/Tianhe RNS
ZBHH	HOHHOT/Baita RS	ZSAM	XIAMEN/Gaoqi RS
ZSJN	JINAN/Yaoqiang RS	ZLXY	XI'AN/Xianyang RS
ZWSH	KASHI/Kashi AS	ZUXC	XICHANG/Qingshan RNS
ZPPP	KUNMING/Wujiaba RS	COOK IS.	
ZLLL	LANZHOU/Zhongchuan AS	NCRG	RAROTONGA/Rarotonga Intl RS

City/Aerodrome/Designation	City/Aerodrome/Designation
DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA	
ZKPY SUNAN/Sunan RS	VOCB COIMBATORE/Coimbatore Airport RS
	VEGY GAYA/Gaya Airport RS
EASTER I. (Chile)	VEGT GUWAHATI/Lokpriya Gopinath Bordoloi Airport RS
SCIP ISLA DE PASCUA/Mataveri RS	VOHS HYDERABAD/Rajiv Gandhi International Airport RS
FIJI	VIJP JAIPUR/Jaipur Airport RS
NFFN NADI/Nadi Intl RS	VECC KOLKATA/Netaji Subhash Chandra Bose International Airport RS
NFSU SUVA/Nausori RS	VILK LUCKNOW/Choudhry Charan Singh Airport RS
FRENCH POLYNESIA (France)	VOML MANGALORE/Mangalore Airport RS
NTAA TAHITI/Faaa RS	VABB MUMBAI/Chatrapati Shivaji International Airport RS
GUAM (United States)	VANP NAGPUR/DR Ambedkar Airport RS
PGUA GUAM I./Andersen AFB AS	VIDP NEW DELHI/Indira Gandhi International Airport RS
PGUM GUAM I./Guam Intl RS	VEPT PATNA/Jai Prakash Narayan International Airport RS
HONG KONG, China	VOTR THIRUCIRAPALLI/Thiruchirapalli Airport RS
VHHH HONG KONG/Hong Kong Intl RS	VOTV TRIVANDRUM/Trivandrum International Airport RS
INDIA	VIBN VARANASI/Lal Bahadur Shastri Airport RS
VAAH AHMEDABAD/Sardar Vallabhai Patel International Airport RS	INDONESIA
VIAR AMRITSAR/ Rajasansi Airport RS	WAPP AMBON/Pattimura RNS
VOBL BANGALORE/Bangalore International Airport RS	WADD BALI/Ngurah Rai RS
VOCL CALICUT/ Calicut International Airport RS	WALL BALIKPAPAN/Sepinggan RS
VOMM CHENNAI/Chennai International Airport RS	
VOCI COCHIN/Cochin International Airport RS	

City/Aerodrome/Designation	City/Aerodrome/Designation
WAOO BANJARMASIN/Syamsudin Noor AS	JAPAN
WIDD BATAM/Hang Nadim RS	RJFF FUKUOKA/Fukuoka RS
WABB BIAK/Frans Kaisiepo RS	RJCH HAKODATE/Hakodate AS
WIHH JAKARTA/Halimperdana Kusuma RNS	RJOA HIROSHIMA/Hiroshima RS
WIII JAKARTA/Soekarno Hatta RS	RJFK KAGOSHIMA/Kagoshima RS
WAJJ JAYAPURA/Sentani RS	RJBB KANSAI/Kansai Intl RS
WATT KUPANG/Ei Tari RS	RJFT KUMAMOTO/Kumamoto RS
WAAA MAKASSAR/Sultan Hasanuddin RS	RJFU NAGASAKI/Nagasaki RS
WAMM MANADO/Sam Ratulangi RS	RJGG NAGOYA/Chubu Centrair Intl RS
WIMM MEDAN/Kualanamu RS	ROAH NAHA/Naha RS
WAKK MERAUKE/Mopah RNS	RJSN NIIGATA/Niigata RS
WIPT PADANG/Minangkabau RS	RJFO OITA/Oita RS
WIPP PALEMBANG/Sultan Mahmud Badaruddin II RS	RJOB OKAYAMA/Okayama RS
WIBB PEKANBARU/Sultan Syarif Kasim II RS	RJOO OSAKA/Osaka Intl AS
WIOO PONTIANAK/Supadio RS	RJCC SAPPORO/New Chitose RS
WARR SURABAYA/Juanda RS	RJSS SENDAI/Sendai RNS
WIDN TANJUNG PINANG/Raja Haji Fisabilillah Int'l RNS	RJOT TAKAMATSU/Takamatsu RS
WALR TARAKAN/Juwata RNS	RJAA TOKYO/Narita Intl RS
	RJTT TOKYO/Tokyo Intl AS

City/Aerodrome/Designation	City/Aerodrome/Designation
JOHNSTON I. (United States)	VRMM MALE/Ibrahim Nasir Intl
PJON JOHNSTON ATOLL/Johnston I.	RS
RS	
KIRIBATI	MARSHALL IS.
PLCH KIRITIMATI I./Christmas I.	PKMJ MAJURO ATOLL/Marshall Is. Intl
RS	RS
NGTA TARAWA/Bonriki Intl	MICRONESIA (FEDERATED STATES OF)
RS	PTPN POHNPEI I./Pohnpei Intl
	RS
LAO PEOPLE'S DEMOCRATIC REPUBLIC	PTKK WENO I./FM Chuuk Intl
VLVT VIENTIANE/Wattay	RS
RS	PTYA YAP I./Yap Intl
	RS
MACAO, China	MONGOLIA
VMMC MACAO/Macao Intl	ZMUB ULAANBAATAR/Ulaanbaatar
RS	RS
MALAYSIA	MYANMAR
WMKJ JOHOR BAHRU/Sultan Ismail	VYYY YANGON/Yangon Intl
RS	RS
WBKK KOTA KINABALU/Kota Kinabalu Intl	NAURU
RS	AUUU NAURU I./Nauru I.
WBGG KUCHING/Kuching	RS
RS	NEPAL
WMKP PENANG/Penang Intl	VNKT KATHMANDU/Kathmandu
RS	RS
WMKL PULAU LANGKAWI/Pulau Langkawi	NEW CALEDONIA (France)
RS	NWWW NOUMEA/La Tontouta
WMKK SEPANG/KL Intl	RS
RS	NEW ZEALAND
MALDIVES	NZAA AUCKLAND/Auckland Intl
VRMG GAN/Gan International	RS
AS	NZCH CHRISTCHURCH/Christchurch Intl
VRMH HANIMAADHOO/Hanimaadhoo Intl	RS
RS	RS
VRMV MAAMIGILI/Villa Intl	
RS	

City/Aerodrome/Designation	City/Aerodrome/Designation
NZWN WELLINGTON/Wellington Intl RS	RPLI LAOAG/Laoag Intl AS
NIUE (New Zealand)	RPVM LAPU-LAPU/Mactan Cebu RS
NIUE NIUE/Hanan Intl RS	RPLL MANILA/Ninoy Aquino Intl RS
NORTHERN MARIANA IS. (United States)	RPLC PAMPANGA/Clark Intl RNS
PGSN OBYAN/Saipan Intl RS	RPLB SUBIC BAY/Subic Bay Intl RNS
PGRO ROTA I./Rota Intl RS	RPMZ ZAMBOANGA/Zamboanga Intl RNS
PAKISTAN	REPUBLIC OF KOREA
OPGD GWADAR/Gwadar RS	RKTU CHEONGJU/Cheongju Intl RS
OPRN ISLAMABAD/Benazir Bhutto Intl RS	RKTN DAEGU/Daegu Intl RS
OPKC KARACHI/Jinnah Intl RS	RKPK GIMHAE/Gimhae Intl RS
OPLA LAHORE/Allama Iqbal Intl RS	RKSS GIMPO/Gimpo Intl RNS
OPNH NAWABSHAH/Nawabshah AS	RKSI INCHEON/Incheon Intl RS
OPPS PESHAWAR/Peshawar RS	RKPC JEJU/Jeju Intl RS
PALAU	RKNY YANGYANG/Yangyang Intl RS
PTRO BABELTHAUP I./Koror RS	RKJB MUAN/Muan Intl RS
PAPUA NEW GUINEA	SAMOA
AYPY PORT MORESBY/Port Moresby RS	NSFA FALEOLO/Faleolo Intl RS
AYVN VANIMO/Vanimo RS	SINGAPORE
PHILIPPINES	WSAP PAYA LEBAR/Paya Lebar (RSAF) AS
RPMD DAVAO/Francisco Bangoy Intl RNS	

City/Aerodrome/Designation	City/Aerodrome/Designation
WSSL SELETAR/Seletar RS	VTUU UBON RATCHATHANI/Ubon Ratchathani RS
WSSS SINGAPORE/Changi RS	TONGA
SOLOMON IS.	NFTF FUA'AMOTU/Fua'amotu Intl RS
AGGH HONIARA/Henderson RS	NFTV VAVA'U/Vava'u RS
SRI LANKA	TUVALU
VCBI COLOMBO/Bandaranaike Intl RS	NGFU FUNAFUTI/Funafuti Intl RS
VCRI MATTALA/Mattala Rajapaksa Intl RS	UNITED STATES¹ RS
THAILAND	PANC ANCHORAGE/Anchorage Intl RS
VTBD BANGKOK/Bangkok Intl RS	PAED ANCHORAGE/Elemendorf AFB AS
VTBS BANGKOK/Suvarnabhumi Intl RS	PACD COLD BAY/Cold Bay AS
VTCC CHIANG MAI/Chiang Mai Intl RS	KPAE EVERETT/Snohomish County-Paine Field AS
VTCT CHIANG RAI/ Mae Fah Luang-Chiang Rai Intl RS	PAEI FAIRBANKS/Eielson AFB AS
VTUK KHON KAEN/Khon Kaen RS	PAFA FAIRBANKS/Fairbanks Intl RS
VTSG KRABI/ Krabi RS	KFAT FRESNO/Fresno Air Terminal AS
VTPP PHITSANULOK/Phitsanulok RS	PHTO HILO/Hilo Intl AS
VTSP PHUKET/Phuket Intl RS	PHNL HONOLULU/Oahu Intl RS
VTBU RAYONG/U-Taphao Pattaya Intl RS	PHOG KAHULUI/Kahului AS
VTSS SONGKHLA/Hat Yai Intl RS	PAKN KING SALMON/King Salmon AS
VTSB SURAT THANI/Surat Thani RS	KLAX LOS ANGELES/Los Angeles Intl RS

City/Aerodrome/Designation	City/Aerodrome/Designation
KOAK OAKLAND/Metropolitan Oakland AS	VANUATU
KONT ONTARIO/Ontario Intl AS	NVVV PORT VILA/Bauerfield RS
KPMD PALMDALE/Palmdale P.F.T.I. AS	NVSS SANTO/Pekoa RS
KPDX PORTLAND/Portland Intl AS	VIET NAM
KSMF SACRAMENTO/Metropolitan AS	VVCT CAN THO/Can Tho RS
KSAN SAN DIEGO/San Diego (AFSS) AS	VVDN DA NANG/Da Nang RS
KSFO SAN FRANCISCO/San Francisco Intl RS	VVNB HA NOI/Noi Bai RS
KSJC SAN JOSE/San Jose Intl RS	VVTS HO CHI MINH/Tan Son Nhat RS
KBFI SEATTLE BOEING FIELD/King County Intl AS	VVPB HUE/Phu Bai RS
KSEA SEATTLE/Seattle-Tacoma Intl RS	VVCR KHANH HOA/Cam Ranh RS
KGEG SPOKANE/Spokane Intl AS	VVPQ KIEN GIANG/Phu Quoc RS
KSCK STOCKTON/Metropolitan AS	WALLIS AND FUTUNA IS. (France)
KIAD WASHINGTON/Dulles Intl RS	NLWW WALLIS/Hihifo RS

Note 1.— Outside ASIA/PAC. Indicated for coordination