International Civil Aviation Organization

MIDANPIRG CNS/ATM/IC Sub-Group (CNS/ATM/IC SG)

Sixth Meeting
(Cairo, Egypt, 31 January – 02 February 2012)

Agenda Item 4: MID Region Air navigation performance based approach

AMENDMENT TO THE HOMOGENEOUS ATM AND MAJOR TRAFFIC FLOWS/ROUTING AREAS IN GLOBAL AIR NAVIGATION PLAN (GANP)

(Presented by the Secretariat)

SUMMARY

This paper presents the amendment to the Global Air Navigation Plan (Doc 9750), Appendix I – Homogeneous ATM and major traffic flows/routing areas.

Action by the meeting is at paragraph 3.

REFERENCES

- DOC 9750

1. INTRODUCTION

1.1 The 37th Session of the Assembly requested ICAO to review the Global Air Navigation Plan (GANP) (Resolutions A37/4 and A37/12 refer). The GANP document was last updated in 2005.

1.2 *Global framework*: ICAO strives to achieve the goal of a safe and orderly development of civil aviation through cooperation among Contracting States and other stakeholders. Recognizing the importance of a global framework to support ICAO's Strategic Objectives for the safety and sustainability of the air transportation system, the Organization developed the Global Air Navigation Plan (GANP) in 2006.

2. DISCUSSION

2.1 The GANP which was accepted by the Council in November 2006 has been successful as a high level strategic document and has guided the efforts of States, planning and implementation regional groups (PIRGs) and international organizations in enhancing the efficiency of air navigation systems. The Global Plan contains near- and medium-term guidance on air navigation system improvements necessary to support a uniform transition to the global air traffic management (ATM) system envisioned in the operational concept the *Global Air Traffic Management Operational Concept* (Doc 9854). The long term initiatives of the operational concept, however, are maturing and the Global Plan needs to be updated to be relevant to the user community.

2.2 The 37th Session of the Assembly (Resolutions A37-4 and A37-12 refer) instructed the Council to ensure that, in light of further operational and technical developments, the GANP is continuously maintained up to date in close collaboration with States and other stakeholders. The Assembly also directed the Council to update the GANP reflecting a globally harmonized series of operational upgrades. The intended timeframe to deliver the revised GANP, with the roadmaps incorporated, is the Twelfth Air Navigation Conference (AN-Conf/12) planned to be held in Montréal in November 2012.

2.3 Based on the above, all Regions were requested to revise the Homogenous ATM Areas and major traffic flows/routing areas (existing in Appendix I) to the GANP. Accordingly, ICAO MID Regional Office reviewed and updated the major traffic flows related to the MID Region as at **Appendix A** to this working paper.

3. ACTION BY THE MEETING

3.1 The meeting is invited to review and comment on the updates to the Homogenous ATM Areas and major traffic flows/routing areas for the MID Region as at **Appendix A** to this working paper.

APPENDIX I

Homogeneous ATM areas and major traffic flows/routing areas

Areas (AR)	*Homogeneous ATM areas and major traffic flows/routing areas*	*FIRs involved*	*Type of area covered*	*Remarks*
Africa-Indian Ocean (AFI) Region				
AR1	Europe — South America (EUR/SAM) (oceanic)	Atlantico [1], Canarias, Casablanca, Dakar Oceanic, Recife, Sal Oceanic	Oceanic en route low density in southern part and oceanic high density in northern part	Major traffic flow EUR/SAM
AR2	Atlantic Ocean interface between the AFI, NAT and SAM Regions	Accra, Dakar, Johannesburg Oceanic, Luanda, Sal	Oceanic en route low density	Homogeneous ATM area AFI/NAT/SAM
AR3	Europe — Eastern Africa routes including the area of the Indian Ocean	Addis Ababa, Antananarivo, Asmara, Cairo, Dar es-Salaam, Entebbe, Khartoum, Mauritius, Mogadishu, Nairobi, Seychelles, Tripoli	Continental en route/ oceanic low density	Major traffic flow AFI/EUR
AR4	Europe to Southern Africa	Algiers, Beira, Brazzaville, Cape Town, Gaborone, Harare, Johannesburg, Kano, Kinshasa, Lilongwe, Luanda, Lusaka, N'Djamena, Niamey, Tripoli,Tunis, Windhoek	Continental en route low density	Major traffic flow AFI/EUR
AR5	Continental Western Africa including coastal areas	Accra, Dakar, Kano, Ndjamena, Niamey, Roberts	Continental/oceanic low density	Homogeneous area AFI
AR6	Trans-Indian	Antananarivo, Bombay [1], Johannesburg Oceanic, Male [1], Mauritius, Melbourne [1], Seychelles	Oceanic high density	Homogeneous ATM area AFI/ASIA
Asia/Pacific (ASIA/PAC) Regions				
AR1	Asia/Australia and Africa	Bangkok, Chennai, Colombo, Jakarta, Kuala Lumpur, Malé, Melbourne, Mumbai, Singapore, Yangon [and African FIR/UIRs]	Oceanic low density	Major traffic flow AFI/ASIA/MID

Areas (AR)	*Homogeneous ATM areas and major traffic flows/routing areas*	*FIRs involved*	*Type of area covered*	*Remarks*
AR2	Asia (Indonesia north to China, Japan and the Republic of Korea), Australia/New Zealand	Auckland, Bangkok, Beijing, Brisbane, Fukuoka, Guangzhou, Hanoi, Ho-Chi-Minh, Hong Kong, Honiara, Incheon, Jakarta, Kota Kinabulu, Kuala Lumpur, Manila, Melbourne, Nadi, Nauru, Oakland, Phnom-Penh, Port Moresby, Shanghai, Singapore, Taibei, Ujung Pandang, Vientiane, Wuhan, Yangon	Oceanic high density	Major traffic flow ASIA/PAC
AR3	Asia and Europe via north of the Himalayas	Almaty, Bangkok, Beijing, Fukuoka, Guangzhou, Hanoi, Ho-Chi-Minh, Hong Kong, Incheon, Kathmandu, Kunming, Lanzhou, Phnom-Penh, Pyongyang, Shanghai, Shenyang, ,Taibei, Ulaanbaatar, Urumqi, Vientiane, Wuhan, Yangon [and Russian Federation FIRs, and European FIRs]	Continental high density/continental low density	Major traffic flow ASIA/EUR/MID
AR4	Asia and Europe via south of the Himalayas	Bangkok, Colombo, Delhi, Dhaka, Hanoi, Ho-Chi-Minh, Hong Kong, Jakarta, Karachi, Kathmandu, Kota Kinabulu, Kolkata, Kuala Lumpur, Kunming, Lahore, Chennai, Manila, Mumbai, Phnom-Penh, Singapore, Ujung Pandang, Vientiane, Yangon [and Middle East/European FIR/UIRs]	Continental high density/oceanic high density	Major traffic flow ASIA/EUR/MID
AR5	Asia and North America via the Russian Far East and the Polar Tracks via the Arctic Ocean and Siberia	Anchorage, Beijing, Canadian FIRs, Fukuoka, Guangzhou, Hong Kong, Incheon, Pyongyang, Russian Far East of 80E, Shanghai, Shenyang, Wuhan and Ulaanbaatar	Continental low density/continental high density	Major traffic flow ASIA/EUR/NAM/NAT
AR6	Asia and North America (including Hawaii) via the Central and North Pacific	Anchorage, Fukuoka, Hong Kong and Manila, Oakland (at and north of a line drawn by LAX-HNL-Guam-MNL), Taibei, Vancouver	Oceanic low density	Major traffic flow ASIA/NAM/PAC
AR7	New Zealand/Australia and South America	Auckland, Brisbane, Nadi, Tahiti [and South America FIR/UIRs]	Oceanic low density	Major traffic flow ASIA/PAC/SAM
AR8	Australia/New Zealand, the South Pacific Islands and North America	Auckland, Brisbane and Port Moresby, Honiara, Nadi, Nauru, Oakland (southern region), Tahiti	Oceanic low density	Major traffic flow ASIA/NAM/PAC

Areas (AR)	*Homogeneous ATM areas and major traffic flows/routing areas*	*FIRs involved*	*Type of area covered*	*Remarks*
AR9	South-East Asia and China, Republic of Korea, and Japan	Bangkok, Beijing, Fukuoka, Guangzhou, Hanoi, Ho-Chi-Minh, Hong Kong, Jakarta, Kota Kinabulu, Kuala Lumpur, Kunming, Manila, Phnom-Penh, Pyongyang, Shanghai, Shenyang, Singapore, Incheon, Taibei, Ujung Pandang, Vientiane, Wuhan, Yangon	Oceanic high density	Major traffic flow ASIA
Caribbean/South American (CAR/SAM) Regions				
AR1	Buenos Aires — Santiago de Chile	Ezeiza, Mendoza, Santiago	Continental low density	SAM intraregional major traffic flow
	Buenos Aires — São Paulo/ Rio de Janeiro	Ezeiza, Montevideo, Curitiba, Brasilia	Continental low density	SAM intraregional major traffic flow
	Santiago de Chile — São Paulo/Rio de Janeiro	Santiago, Mendoza, Cordoba, Resistencia, Asunción, Curitiba, Brasilia	Continental low density	SAM intraregional major traffic flow
	São Paulo/Rio de Janeiro Europe	Brasilia, Recife	Continental/oceanic low density	SAM/AFI/EUR interregional major traffic flow
AR2	São Paulo/Rio de Janeiro Miami	Brasilia, Manaus, Maiquetía, Curaçao, Kingston, Santo Domingo, Port-au-Prince, Havana, Miami	Continental/oceanic low density	CAR/SAM/NAM inter- and intraregional major traffic flow
	São Paulo/Rio de Janeiro New York	Brasilia, Belem, Paramaribo, Georgetown, Piarco, Rochambeau, San Juan (New York)	Continental/oceanic low density	CAR/SAM/NAM/NAT inter- and intraregional major traffic flow
AR3	São Paulo/Rio de Janeiro — Lima	Brasilia, Curitiba, La Paz, Lima	Continental low density	SAM intraregional major traffic flow
	São Paulo/Rio de Janeiro — Los Angeles	Brasilia, Porto Velho, Bogotá, Barranquilla, Panama, Central America, México, Mazatlan (Los Angeles)	Continental low density	CAR/SAM/NAM Inter- and interregional major traffic flow
	Mexico — North America	Mexico, Houston, Miami	Continental/oceanic high density	CAR/NAM interregional major traffic flow
AR4	Santiago — Lima — Miami	Ezeza, Resistencia, Cordoba, La Paz, Porto Velho, Bogotá, Barranquilla, Kingston, Havana, Miami	Continental/oceanic low density	CAR/SAM/NAM Inter- and intraregional major traffic flow
	Buenos Aires — New York	Ezeiza, Resistencia, Asunción, La Paz, Porto Velho, Manaus, Maiquetía, Curaçao, Santo Domingo, Miami (New York)	Continental/oceanic low density	CAR/SAM/NAM/NAT Inter- and intraregional major traffic flow
	Buenos Aires — Miami	Ezeza, Resistencia, Cordoba, La Paz, Porto Velho, Bogotá, Barranquilla, Kingston, Havana, Miami	Continental/oceanic low density	CAR/SAM/NAM Intra- and interregional major traffic flow
AR5	North of South America — Europe	Guayaquil, Bogotá, Maiquetía, Piarco (NATEUR)	Continental/oceanic low density	SAM/NAT/EUR interregional major traffic flow

Areas (AR)	*Homogeneous ATM areas and major traffic flows/routing areas*	*FIRs involved*	*Type of area covered*	*Remarks*
AR6	Mexico — Europe	México, Havana, Miami (NATEUR)	Continental/oceanic high density	CAR/NAM/NAT/EUR interregional major traffic flow
	Central America — Europe	Central America, Panama, Kingston, Port-au-Prince, Curaçao, Santo Domingo, San Juan (EUR)	Oceanic high density	CAR/NAT/EUR Intra- and interregional major traffic flow
AR7	Santiago — Lima — Los Angeles	Santiago, Antofagasta, Lima, Guayaquil, Central America, México, Mazatlan	Oceanic low density	CAR/SAM/NAM Intra- and interregional major traffic flow
AR8	South America — South Africa	Ezeiza, Montevideo, Brasilia, Johannesburg (AFI)	Oceanic low density	SAM/AFI interregional major traffic flow
	Santiago de Chile — Easter Island — Papeete (PAC)	Santiago, Easter, Tahiti	Oceanic low density	SAM/PAC interregional major traffic flow
European (EUR) Region				
AR1	Within Western Europe	Wien, Bruxelles, Paris, Marseille, Reims, Bremen, Dusseldorf, Frankfurt, München, Milano, Genève, Zurich, London, Amsterdam	Continental very high density	Core area, homogeneous ATM area EUR
AR2	Western and Central Europe	ECAC States	Continental high density	Homogeneous ATM area
AR2	Europe to North America	Europe (TBD), UK (London, Scottish), Ireland (Shannon), France (Paris, Reims, Brest)	Continental high density	Major traffic flow linking Europe to North America via North Atlantic
AR3	Western Europe to Far East Asia via transpolar transit routes	Core Area, Norway (Bodø, Oslo, Stavenger, Trondheim), Finland (Tampere, Rovaniemi), Russian Federation (TBD), Japan	Continental high density/continental low density	Major traffic flow via ATS route A333 and all routes north of it
AR4	Western Europe to Far East Asia via trans-Siberian transit routes	Core Area, Poland (Warszawa), Baltic States (Tallinn, Riga, Vilnius), Finland (Tampere, Rovaniemi), Russian Federation (TBD), Japan	Continental high density/continental low density	Major traffic flow via ATS routes south of A333 (excluding), up to and including the ATS route R211
AR5	North America to Eastern Europe and Asia via cross-polar transit routes	Denmark (Søndrestrøm), Russian Federation (TBD), USA, Canada, Mongolia, China	Continental low density/oceanic low density	Major traffic flow via ATS routes linking North America with Eastern Europe and Asia through the airspace of the Russian Federation east of the ATS routes G476 and A74 up to the ATS route A218 (excluding)
AR6	North America to Southeast Asia via transeastern transit routes	Russian Federation (TBD), USA, Canada, China	Continental low density/oceanic low density	Major traffic flow via ATS routes linking North America with Southeast Asia through the airspace of the Russian Federation including ATS route A218 and all routes east of it

Areas (AR)	*Homogeneous ATM areas and major traffic flows/routing areas*	*FIRs involved*	*Type of area covered*	*Remarks*
AR7	Europe to Central and Southeast Asia via trans-Asian transit routes	Baltic States (Tallinn, Riga, Vilnius), Finland (Tampere, Rovaniemi), Kazakhstan (TBD), Russian Federation (TBD), Mongolia, China	Continental low density	Major traffic flow via ATS routes linking European States with Central and Southeast Asia, aligned south of ATS routes B159, A222, B200 and A310, including ATS route G3
AR8	Europe to Middle Asia via Asian transit routes	Ukraine (TBD), Turkmenistan (TBD), Kazakhstan (TBD), Turkey, Armenia (Yerevan), Georgia (Tbilisi, Sukhumi), Azerbaijan (Baku), Uzbekistan (Samarkand, Tashkent, Nukus), Russian Federation (TBD), Iran, Afghanistan	Continental low density	Major traffic flow via ATS routes linking European States with Middle Asia, south of ATS route G3
North Atlantic (NAT) Region				
ARx	North America — Western/ Central Europe	Bodø, Gander, New York, Reykjavik, Santa Maria, Shanwick, Søndrestrøm	Oceanic high density/continental high density	Major traffic flow EUR/NAM/NAT MNPS airspace
ARx	North America — Caribbean	New York	Oceanic high density	Major traffic flow West Atlantic route system
Middle East (MID) Region				
AR1	Asia and Europe, Asia and the Middle East, Europe and the Middle East, via the northern Arabian Peninsula and Eastern Mediterranean	Amman, ~~Baghdad,~~ Bahrain, Beirut, ~~Cairo,~~ Damascus, Emirates, Jeddah, Kuwait, Muscat, ~~Tel Aviv~~	Continental high density	Mainly intraregional and MID to/from ASIA and EUR. Some overflying EUR/ASIA traffic
AR2	Egypt and the southern Arabian Peninsula to/from Europe, Africa ,Asia and North Africa	Cairo, Bahrain, Emirates, Jeddah, Muscat, Sana'a	Remote continental and oceanic low density (but seasonally high density)	Major traffic flow mainly landing and departing the MID region. Some EUR/AFI traffic and~~.~~ North Africa ~~Seasonal pilgrim flights to and from Africa, Central, South and South East Asia~~
AR3	Asia and Europe, Asia and the Middle East, Europe and the Middle East, north of the Gulf	Teheran, ~~Kabul,~~Emirates	Continental high density	Major traffic flow ASIA/EUR
AR4	Gulf, Asia (Indian subcontinent) to/from North of Europe	Bahrain, Baghdad, Kuwait, Muscat, Emirates	Continental high density	MID to/from Asia and EUR
AR5	Gulf Area to/from Eastern, Central and West Africa	Bahrain, Muscat, Jeddah, Emirates	Continental low density (Seasonal high density)	Traffic flow Intraregional. Seasonal pilgrim flights to/from, East, Central, and West AFI
North America (NAM) Region				

Areas (AR)	*Homogeneous ATM areas and major traffic flows/routing areas*	*FIRs involved*	*Type of area covered*	*Remarks*
NA-14	North America/ polar tracks	Domestic US FIRs (Chicago, Seattle, Cleveland, New York, Boston, Minneapolis, Salt Lake), Canadian FIRs (Montreal, Toronto, Winnipeg, Edmonton, Vancouver), Anchorage, Arctic, Anchorage Continental, Beijing, Guangzhou, Hong Kong, Pyongyang, Russian Far East FIRs, Shanghai, Shenyang, Taegu, Tokyo, Wuhan and Ulaanbaatar	Continental/oceanic low density Major traffic flow	One-directional flow ASIA/EUR/NAM/NAT
NA-15	Toronto — Cleveland, Chicago	Toronto, Cleveland, Chicago	Continental high density Major traffic flow	CAN-US East-west route
	Toronto — New York, Philadelphia, Washington	Toronto, Cleveland, New York, Washington	Continental high density Major traffic flow	CAN-US North-south route
	Montreal — New York	Montreal, Boston, New York	Continental high density Major traffic flow	CAN-US North-south route
	Anchorage, Vancouver Seattle — San Francisco — Los Angeles	Anchorage, Vancouver, Seattle, Oakland, Los Angeles	Continental high density Major traffic flow	CAN-US North-south route
NA-16 Canada East-west flows	Toronto — Winnipeg — Calgary — Regina — Vancouver	Winnipeg, Edmonton, Vancouver	Continental high density Major traffic flow	Major traffic flows in Canadian southern domestic airspace
	Toronto — Ottawa — Montreal — Halifax	Toronto, Montreal, Moncton	Continental high density Major traffic flow	Major traffic flows in Canadian southern domestic airspace
	Vancouver — Edmonton	Vancouver, Edmonton	Continental high density Major traffic flow	Major traffic flows in Canadian southern domestic airspace
	Edmonton — Calgary	Edmonton	Continental high density Major traffic flow	Major traffic flows in Canadian southern domestic airspace
	Winnipeg — Regina	Winnipeg	Continental high density Major traffic flow	Major traffic flows in Canadian southern domestic airspace
NA-17 US East-west flows	Boston/New York/Chicago Seattle	Boston, New York, Cleveland, Indianapolis, Chicago, Minneapolis, Salt Lake, Seattle	Continental high density Major traffic flow	Major traffic flows in domestic US airspace
	Boston/New York/Washington DC/Denver — San Francisco	Boston, New York, Cleveland, Indianapolis, Chicago, Kansas City, Salt Lake, Oakland	Continental high density Major traffic flow	Major traffic flows in US southern domestic airspace
	Boston/New York/Washington DC/Denver — Los Angeles	Boston, New York, Cleveland, Indianapolis, Chicago, Kansas City, Albuquerque, Los Angeles	Continental high density Major traffic flow	Major traffic flows in US southern domestic airspace
	Atlanta/Dallas/Phoenix — Los Angeles	Atlanta, Memphis, Fort Worth, Albuquerque, Los Angeles	Continental high density Major traffic flow	Major traffic flows in US southern domestic airspace
NA-17 US East-west flows	Atlanta/Dallas/Phoenix — San Diego	Atlanta, Memphis, Fort Worth, Albuquerque, Los Angeles	Continental high density Major traffic flow	Major traffic flows in US southern domestic airspace

Areas (AR)	*Homogeneous ATM areas and major traffic flows/routing areas*	*FIRs involved*	*Type of area covered*	*Remarks*
	Miami/Houston/Dallas/ Phoenix — San Diego	Miami, Houston, Fort Worth, Albuquerque, Los Angeles	Continental high density Major traffic flow	Major traffic flows in US southern domestic airspace
	Miami/Houston/Dallas/ Phoenix — Los Angeles	Miami, Houston, Dallas, Albuquerque, Los Angeles	Continental high density Major traffic flow	Major traffic flows in US southern domestic airspace
GM-1	Mexico — North America	Mexico, Houston, Miami; Albuquerque; Los Angeles	Continental/oceanic high density Major traffic flow	CAR/NAM interregional traffic flow
GM-2	Mexico — Europe	Mexico, Havana, Miami (NAT-EUR)	Continental/oceanic high density Major traffic flow	CAR/NAM/NAT/EUR interregional traffic flow

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