INTERNATIONAL CIVIL AVIATION ORGANIZATION

TWENTY-SECOND MEETING OF THE ASIA/PACIFIC AIR NAVIGATION PLANNING AND IMPLEMENTATION REGIONAL GROUP (APANPIRG/22)

Bangkok, Thailand, 5-9 September 2011

Agenda Item 3: Performance Framework for Regional Air Navigation Planning and Implementation Issues

3.5: Other Air Navigation Matters

TRAFFIC FORECASTS FOR TRANS-PACIFIC AND INTRA-ASIA REGION

(Presented by the Secretariat)

SUMMARY

This paper presents a report on the forecasts produced by the Asia Pacific Area Traffic Forecasting Group (APA TFG) at its 15th meeting held in Bangkok. This report contains both medium and long-term air traffic forecasts in the Trans-Pacific area of the Asia/Pacific region and for selected city-pair markets with a horizon to the year 2030, including a short-term forecast for 2010-2014 and intermediate forecasts for each of the years 2020 and 2030.

The forecasts are provided for total passenger traffic and aircraft movements, and in the case of the aggregate Trans-Pacific market, also for peak hour movements on selected route groups for the year 2014.

This paper also reviews the present scope of the APA TFG activities and a request for new tasks to be included under that scope. Furthermore, it seeks the advice of the Asia-Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG) on the need, if any, for modifications to the scope and working process of the APA TFG and the recognition of the consequent need for additional resources that will have to be provided to the TFG by the States involved, and the ICAO Secretariat.

Action by the APANPIRG is in paragraph 4.

REFERENCES

Asia/Pacific Area Traffic Forecasts 2010-2030 (Doc 9961) ICAO Council Strategy for the Evolution of Regional Traffic Forecasting Activity

1. INTRODUCTION

1.1 The Asia Pacific Area Traffic Forecasting Group (APA TFG), at its fifteenth meeting held in Bangkok from 1 to 8 November 2010 and attended by representatives from Canada, Japan, Singapore and Thailand, updated the traffic forecasts for the Trans-Pacific and Intra Asia/Pacific markets developed during its 14th meeting held in 2008. In updating the forecasts, the Group took into account the impact of the 2008/2009 unprecedented economic recession on air traffic developments and other relevant factors. The forecast time horizon was then extended to 2030. The Group also analyzed Trans-Pacific aircraft records for the period 1 to 7 July 2009 and 2010 provided by the Fukuoka Air Traffic Control Centre. Those analyses were conducted by route and day of the

week, route and aircraft type and for the busiest hour for each route. To meet the requirements of the APANPIRG's CNS/ATM Sub-group, APA TFG also reviewed and analyzed aircraft movement data provided by the Fukuoka, Bangkok and Hong-Kong FIRs for the week of 1 to 7 July 2009 and 2010.

1.2 The report of the 15th APA TFG is available in ICAO Doc 9961 *Asia/Pacific Area Traffic Forecasts 2010-2030* and is posted on the ICAO website at http://www.icao.int/icaonet/.

2. SUMMARY OF THE FORECASTS DEVELOPED BY THE APA TFG AT ITS 15TH MEETING

2.1 The Group developed passenger traffic forecasts and air traffic movement forecasts for both the Trans-Pacific and Intra-Asia/Pacific markets. In Appendix A, Tables 1 and 2 provide, respectively, the passenger traffic and aircraft movement forecasts for Trans-Pacific up to 2030, while in Appendix B, Tables 3 and 4 provide these forecasts for Intra-Asia/Pacific.

2.2 These forecasts indicate that the Trans-Pacific passenger traffic is expected to increase under a "most likely" scenario at an average annual rate of 6.2 per cent for the period 2009-2020, reaching some 53.8 million one-way passengers in the year 2020. Under this scenario, the average annual growth rate of 4.8 per cent is forecast for the remainder of the forecast horizon, resulting in 86.1 million one-way passengers by the year 2030. The most likely average annual growth rate for the period 2009-2030 is forecast to be 5.5 per cent. The low and the high growth rates for the period concerned are projected at 4.3 per cent and 6.9 per cent, respectively, as shown in Table 1.

2.3 Trans-Pacific passenger aircraft movements are forecast to grow at an average annual rate of 4.2 per cent for the period 2009-2030. Accordingly, they will increase from 114.7 thousand in 2009 to some 270.8 thousand in 2030. The intermediate forecasts for the periods 2009-2020 and 2020-2030 are projected to be around that rate as well, with a marginal decrease to 3.8 per cent for the latter time period. The Trans-Pacific aircraft movements for the period 2009-2030 are projected to increase at a most likely average annual growth rate of 4.1 per cent, with a range from a low of 3.1per cent to a high of 5.2 per cent as detailed in Table 2.

2.4 Intra-Asia/Pacific passenger traffic is expected to increase under a "most likely" scenario at an average annual rate of 6.9 per cent during 2009 to 2020, reaching close to 211 million passengers in the year 2020. The average annual growth rate of 5.4 per cent, shown in Table 3, is forecast to result for the period 2020-2030 in some 356.2 million passengers by the year 2030.

2.5 As provided in Table 4, the Intra-Asia/Pacific passenger aircraft movements for the period 2009-2030 are expected to increase at a most likely average annual growth rate of 5.1 per cent, slightly higher than Trans-Pacific, and anticipated to reach some 2.9 million movements by 2030. Intra-Asia/Pacific passenger aircraft movements are forecast to increase from 1 013.2 thousand in 2009 to some 1 853.6 thousand in 2020, at an average annual growth rate of 5.6 per cent. For the period 2009 to 2030, aircraft movements are forecast to increase at an average annual growth rate of 5.1 per cent and reach some 2 889.3 thousand by 2030.

2.6 The selected top 45 city pairs in terms of numbers of passengers in the Asia/Pacific and Trans-Pacific are expected to show traffic increases in aggregate terms of passenger flow at an average annual growth rate of 4.7 per cent from 2009 to 2014. This growth will result in an increase in passenger traffic on the routes concerned from some 51 million passengers in 2009 to some 64.3 million passengers in the year 2014.

3. REVIEW OF THE PRESENT SCOPE AND WORKING PROCESS OF THE APA TFG WORK AND REQUESTED NEW TASKS

3.1 The mandate of the activities of the five ICAO regional traffic forecasting groups, including the APA TFG, was initially established by the ICAO Council in its strategy for the evolution of regional traffic forecasting activity to support more widely the planning and implementation of air navigation systems. This was subsequently expanded following the All Planning and Implementation Regional Group (ALLPIRG) recommendations. The objective of the strategy is to ensure that all ICAO regions are provided with the en-route traffic forecasts required by the planning and implementation regional groups. The groups are tasked with:

a) development of methodologies to prepare forecasts of aircraft movements for major route groups including forecast movements in peak or busy periods for areas of high density;

b) preparation of aggregated forecasts for key route groups, progressively building up to forecasts for country-pairs and major city-pairs and eventually peak-period forecasts using data collected by Area Control Centres or Flight Information Centres;

c) periodical updating of the forecasts;

d) assistance in the development of cost-benefit analysis and business cases for the implementation of CNS/ATM systems, as required.

It is noteworthy that task (d) is now closed, as it has been achieved through the development by the ICAO Secretariat, of software programs that can be used as needed by the bodies responsible for the planning and implementation of the CNS/ATM systems.

3.2 To meet the requirements of the strategy defined by the Council, the APA TFG:

a) developed the methodologies for the development of forecasts and analyses it has been conducting (paras 3.4 and 4.3 of Doc 9961 refer);

b) developed and periodically (every two years or as often as needed) updates short-, medium, and long-term passenger and aircraft movement forecasts for the Trans-Pacific (paras 3.6 and 3.7 of Doc 9961 refer) and Intra-Asia/Pacific (paras 4.5 and 4.6 of Doc 9961 refer) markets;

c) conducted analyses of the busiest hour for each route of the Trans-Pacific market (para 3.8 and Appendix B of Doc 9961 refer);

d) conducted analyses of sample week traffic based on flight information region (FIR) data (para 6 of Doc 9961 refers); and

e) developed medium-term passenger traffic forecasts for selected major city-pairs within the Trans-Pacific and Intra-Asia/Pacific markets to meet the requirements of Recommendation 14/5 of the Asia/Pacific/RAN3 meeting (para 5 of Doc 9961 refers).

3.3 The ICAO Bangkok Office put forward for consideration by the 15th meeting of the APA TFG, the possibility that the Group develop both detailed forecasts of aircraft movements by

specific air traffic service (ATS) routes and forecasts of aircraft movements in the Asia/Pacific airports, the latter being by aircraft type.

3.4 With respect to the first request, the Group noted that it is well positioned to develop forecasts for specific ATS routes, provided that States in the Asia/Pacific region ensure adequate resources and information required, as this task is extensive and requires access to appropriate databases. It would therefore not be possible to perform this task without provision of additional resources, unless the scope of work of the Group is revised by eliminating certain current tasks.

3.5 It was therefore suggested that this specific request be submitted to APANPIRG for consideration at its next meeting. Once the new task is approved, the Group would work out a methodology to develop such forecasts and generate them, initially, for a sample of routes for which data would be available. The number of routes would be gradually expanded should the required data become available to the Group.

3.6 Regarding the second request, the meeting noted that bearing in mind the number of airports in the Asia/Pacific region and the complexity of the task, the proposed development of aircraft movements at airports would not be feasible.

3.7 The review of the scope of the present activities of APA TFG (para 3.2 above), as well as the methodology are required, bearing in mind recent indications from some States who have nominated members of the Group that they might not be in a position to continue to provide the same kind and level of support to the Group, as in the past. In this regard, it has been recommended that the next meetings of all TFGs should be conducted at the ICAO Headquarters. Careful consideration should therefore be given to any additional tasks in light of the Secretariat's resource constraints which would adversely impact the level of support that could be provided to the Group.

3.8 Accordingly, APANPIRG, as the major user of the forecasts and analyses developed by the APA TFG, is requested to identify:

a) which of the tasks that are currently being performed by the APA TFG:

   i) are considered to be crucial for the planning and implementation of air navigation systems in the region and, accordingly, should continue to be performed by the Group;

   ii) are not considered as essential for the purposes of the regional planning and implementation and, therefore, might be eliminated from the scope of the APA TFG activities.

b) any new tasks, to be performed by APA TFG, in order to better support regional air navigation system planning.

3.9 In addition, with respect to the specific recommendation related to convening all the TFG meetings at ICAO Headquarters, a position of APANPIRG is sought regarding its implementation.

3.10 In light of the above, should APANPIRG confirm its need for all forecasts and analyses currently developed by the APA TFG, as well as new and additional inputs, it should recommend that States in the APA TFG region provide more support and necessary data to the Group to perform the expanded scope of tasks. The exact level of the additional support would be determined when the Group determines the methodologies needed to conduct any new tasks.

4. ACTION BY THE APANPIRG

4.1 The APANPIRG is invited to:

a) note the passenger traffic and air traffic movement forecasts for the Trans-Pacific and Intra-Asia/Pacific region to 2030;

b) review the present scope of the APA TFG activities and advise on any tasks that it considers might be eliminated;

c) consider the need for the APA TFG to develop aircraft movement forecasts for ATS routes (para 3.5 refers);

d) advise on the need for any new additional tasks, as well as recognize the level of data support and additional resources needed to ensure efficient support from APA TFG to APANPIRG; and

e) advise on the efficiency of a potential implementation of a new working process (para 3.9 refers).

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APPENDIX A

TABLE 1

TRANS-PACIFIC PASSENGER FORECAST
(Thousands of one-way journeys)

Year	Passengers Low	Passengers Most Likely	Passengers High
Historical			
2000		28,428	
2001		25,423	
2002		24,879	
2003		22,288	
2004		26,569	
2005		28,222	
2006		28,529	
2007		29,466	
2008		29,323	
2009		27,730	
Forecasts			
2010	30,983	**31,368**	31,757
2011	31,566	**32,957**	34,397
2012	32,986	**34,835**	36,778
2013	34,472	**36,821**	39,327
2014	36,132	**39,034**	41,175
2020	46 575	**53,838**	62 395
2030	66 620	**86 060**	112 411
Average Annual Percentage Growth Rates (%)			
2009-2020	4.8	**6.2**	7.7
2020-2030	3.6	**4.8**	6.1
2009-2030	4.3	**5.5**	6.9

TABLE 2

i. TRANS-PACIFIC AIRCRAFT MOVEMENTS FORECAST

Year	Passenger Aircraft Movements			Cargo	Other	Total Movement Forecast		
	Low	**Most Likely**	**High**			**Low**	**Most Likely**	**High**
Historical								
2000		112,283		24,810	8,000		145,093	
2001		107,692		22,857	8,000		138,549	
2002		94,444		25,413	8,000		127,857	
2003		90,762		23,900	8,000		122,662	
2004		103,522		24,736	8,000		136,258	
2005		113,584		26,072	8,000		147,656	
2006		116,420		23,778	8,000		148,198	
2007		120,252		21,780	8,000		150,032	
2008		122 797		20 038	8,000		150 835	
2009		114 748		17, 633	8,000		140 382	
Forecast								
2010	125,541	**127,099**	128,676	20,472	8,000	154,013	**155,571**	157,149
2011	127,610	**133,232**	139,053	24,008	8,000	159,617	**165,239**	171,060
2012	132,464	**139,888**	147,691	25,207	8,000	165,671	**173,095**	180,898
2013	135,287	**144,505**	154,338	26,039	8,000	169,326	**178,543**	188,377
2014	139,539	**150,747**	162,878	27,164	8,000	174,703	**185,911**	198,041
2020	161,647	**186,855**	216,555	33,670	8,000	203,317	**228,525**	258,226
2030	209 619	270 785	353 699	48 794	8,000	266 413	327 579	410 492
Average Annual Percentage Growth Rates (%)								
2009-2020	3.2	**4.5**	5.9	6.1	0.0	3.4	**4.5**	5.7
2020-2030	2.6	**3.8**	5.0	3.8	0.0	2.7	**3.7**	4.7
2009-2030	2.9	**4.2**	5.5	5.0	0.0	3.1	**4.1**	5.2

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APPENDIX B

TABLE 3

ii. INTRA – ASIA/PACIFIC PASSENGER TRAFFIC FORECAST

(Thousands of one-way journeys)

Year	Low	Most Likely	High
Historical			
2000		78,197	
2001		77,102	
2002		83,270	
2003		74,943	
2004		89,857	
2005		97,495	
2006		102,760	
2007		110 980	
2008		108 206	
2009		101 713	
Forecasts			
2010	110,064	**113,832**	115 701
2011	117,101	**120,951**	124 880
2012	123,780	**128,814**	134 000
2013	131,070	**137,428**	144 038
2014	138,921	**146,755**	154 972
2020	191,096	**211,139**	233 292
2030	299 221	**356 168**	424 791
Average Annual Percentage Growth Rates (%)			
2009-2020	5.9	**6.9**	7.8
2020-2030	4.6	**5.4**	6.2
2009-2030	5.3	**6.1**	7.0

TABLE 4

INTRA-ASIA/PACIFIC AIRCRAFT MOVEMENTS FORECAST

Year	Passenger Aircraft Movements		
Historical			
2000	577,819		
2001	633,020		
2002	662,000		
2003	613,338		
2004	750,975		
2005	818,845		
2006	863,021		
2007	950,297		
2008	1010166		
2009	1013197		
	Low	**Most Likely**	**High**
Forecast			
2010	1 065 871	**1 012 358**	1 018 000
2011	1 141 989	**1 179 533**	1 118 000
2012	1 206 702	**1 255 775**	1 181 000
2013	1 270 779	**1 332 424**	1 539 000
2014	1 348 197	**1 424 222**	1 968 000
2020	1 677 684	**1 853 644**	2 048 127
2030	2 427 320	**2 889 285**	3 445 968
Average Annual Percentage Growth Rates (%)			
2009-2020	4.7	**5.6**	6.6
2020-2030	3.8	**4.5**	5.3
2009-2030	4.2	**5.1**	6.0

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