



International Civil Aviation Organization

CAR/SAM REGIONAL PLANNING IMPLEMENTATION GROUP (GREPECAS)

**Fifth Meeting of the GREPECAS Aerodromes and Ground Aids /
Aerodrome Operational Planning Subgroup (AGA/AOP/SG/5)**

Montevideo, Uruguay, 20 to 24 November 2006

AGA/AOP/SG/5-WP/17

6/11/06

Agenda Item 5: Review of Task Force activities
5.3 Demand/Capacity Task Force Report

REPORT OF THE AIRPORT DEMAND/CAPACITY TASK FORCE

(Presented by the Rapporteur)

SUMMARY

This working paper contains information on the progress made in the activities assigned to the Airport Demand/Capacity Task Force.

References:

- ICAO Circular 305 AN/177 dated June 2004
- Report of the 4th Meeting of the GREPECAS AGA/AOP/SG (Mexico City, Mexico, 15-18 November 2004)
- ICAO Circular 301 AN/174 dated December 2005
- Report of the 13th Meeting of GREPECAS (Santiago, Chile, 14-19 November 2005)
- Report of the 2nd Meeting of the CAR/SAM Air Traffic Flow Management Task Force of the ATM Committee of the GREPECAS ATM/CNS Subgroup (6-8 July 2006)

1. Introduction

1.1 The 4th Meeting of the GREPECAS AGA/AOP/SG agreed that the Task Force should continue at the disposal of the States and Territories for the analysis of cases that are submitted to it, pursuant to Conclusion 12/76 of the GREPECAS/12 meeting. It also agreed to include in the terms of reference of the task force the study of the impact of the forthcoming start-up of operations of NLA's in CAR/SAM airports, and their potential operation in other airports.

1.2 Taking into consideration that, from the capacity viewpoint, the air transport system is made up by airlines, air traffic and airports, we should insist on the advisability of having a joint integrated flow management, especially in those airports that have a single runway, so that departure or arrival itineraries will not be scheduled at the same time, which would inevitably cause delays. In this regard, we should recall the main aspects for a management that balances airport and air traffic service (ATS) capacity:

1.2.1 Regarding airport capacity, the development and establishment of a master plan that seeks to optimise the available airport capacity should be fostered, and future service requirements studied in relation to the following aspects:

- Runways and taxiways
- Airport capacity (runway, taxiway and apron utilisation times), delays, restrictions, SLOTS, etc.
- Airport acceptance regime, considering additional apron, migration, customs and other related services, for both IFR and VFR operations.

1.2.2 Regarding ATS capacity, the following aspects should be analysed in order to maximise efficiency:

- Route and airspace structure,
- Upper and lower sectors, TASSs, restrictions, etc.
- Available infrastructure and navigation precision of user aircraft in the airspace and en route, in relation to agreed regional air navigation requirements
- Meteorological aspects

1.3 To date, no CAR/SAM State or Territory has submitted cases to the working group for its analysis.

2. Latest developments in capacity management

2.1 During this period, some measures have been taken to improve capacity management, both in the area of air navigation and in airport infrastructure, mainly:

- Implementation of Reduced Vertical Separation Minima in the CAR/SAM Regions, starting on 20 January 2005;
- Implementation of new RNAV routes and arrival and departure procedures at the international airports of the CAR/SAM Regions;
- Implementation by some States of air traffic flow management (ATFM) in airspaces where air traffic demand currently exceeds or is expected to exceed the stated capacity of the air traffic control services involved. This implementation shall be based on regional or multilateral agreements.
- Implementation of practices for demand and capacity balancing management, in order to pave the way to a seamless, harmonised and inter-functional global air traffic management (ATM) system. This will contribute to enhance economic benefits, improve safety, increase system capacity, and have efficient air operations.
- Drafting of document “CAR/SAM Air Traffic Flow Management Operational Concept” (CAR/SAM ATFM CONOPS) by the ATFM Task Force of the ATM Committee of GREPECAS ATM/CNS Subgroup.
- Increase of air traffic radar control capability, both en route as well as on the ground;
- Improvement of airport capacity, through the construction of new airports to replace those that are obsolete, expansion and/or construction of runways, expansion of aprons, construction of new passenger terminals, remodelling and expansion of existing passenger terminals, and implementation of new radio and visual aids that reduce meteorological minima for operational purposes;

2.2 All of the above has implied great effort by both the States and airport operators, due to the significant investment made in infrastructure, technical equipment, and training of the personnel involved, resulting in an increase in airspace and airport capacity, which makes it possible to provide a faster services without affecting safety.

3. Study of the impact of the forthcoming start-up of operations of NLAs in CAR/SAM airports.

3.1 On occasion of the introduction of new larger aircraft (NLAs), ICAO published in June 2004, Circular 305 AN/177 “Operation of New Larger Aeroplanes at Existing Aerodromes”, to assist contracting States on various aspects related to the operation of NLAs at existing aerodromes, and draw the attention of States and aerodrome operators to the impact of NLAs, like the Airbus 380, on existing airports. On the other hand, in December 2005, ICAO published Circular 301 AN/174 “New Larger Aeroplanes – Infringement of the Obstacle Free Zone: Operational Measures and Aeronautical Study”, with the purpose of providing operational information to contracting States that wish to introduce NLAs at their aerodromes with precision approaches of categories I, II or III.

3.2 The introduction next year of the Airbus A380-600, the largest commercial aircraft in the world, will require special handling conditions at the airports it will serve, which have had to adjust their infrastructure, both vertical and horizontal, to meet its requirements without problems. The aircraft measures 72,7 m long, 79,6 m of wingspan and 24,1 m high; it can carry 555 passengers in its standard version, and up to 800 passengers in the economical configuration. Its maximum take-off weight is 540 tonnes and its fuselage has two floors throughout its whole length, each with two aisles, connected by two big staircases. This model is designed to meet the market needs of those airlines that operate the main long-haul routes of the world. Delivery of the first units is foreseen for October 2007 and some of the airports that will initially use it will be Heathrow in London, J.F. Kennedy in New York, Frankfurt, Hong Kong, Los Angeles, Seoul, Singapore, Sydney and Tokyo, which have made the necessary infrastructure modifications to receive it.

3.3 Although the operation of this aircraft at CAR/SAM airports has not been considered initially, it is estimated that economic growth in countries like India and China will allow for the opening of new long-haul routes in which some of our countries might be included. This forces us to review the current capacity of those airports in the region in which the A380-600 might operate in the future, and to establish an action plan that will allow us to prepare, in a reasonable time horizon, for the arrival of this aircraft, taking into account the guidelines contained in the circulars mentioned in paragraph 3.1.

3.4 In this respect, it should be recalled that the ICAO category for this aircraft corresponds to the letter F, which means that an aerodrome with a reference code 4F must have wider runways and taxiways, a greater spacing between parallel runways, a greater spacing between runway and taxiway, as compared to the aerodrome with reference code 4E, in addition to having pavements with greater bearing capacity, broader aircraft parking stands, and passenger gangways designed to service two-story aircraft. According to the above, the changes that an airport requires in order to serve NLAs could involve a very large investment for the State or the operator. Therefore, these considerations must be taken into account when drafting the master plan.

3.5 Another factor to consider is the number of passengers that will need to be served at the terminal at any one time, almost twice as many as the largest aircraft now in operation. Consequently, more check-in counters and migration, security and customs control posts should be implemented, equipping them with state-of-the art technology to expedite the passenger control process. Also, more luggage delivery carousels should be made available, which implies using more space of the passenger

terminal for that purpose. All this will permit faster flight dispatch, thus contributing to avoid possible congestion.

3.6 In view of the above, the Working Group considers that it is advisable to prepare a questionnaire that will allow the States and Territories to establish whether their airports are in a position to serve NLA's, according to the standards specified in Annex 14 "Aerodromes", and, on that basis, prepare an action plan to make adjustments to the airport(s) they select to serve these aircraft.

4. Suggested action

4.1 The Meeting is invited to:

- a) take note of the background information provided
- b) urge the States to submit capacity/demand cases to the Working Group for analysis
- c) urge the Working Group to develop the questionnaire mentioned in paragraph 3.5 and to send it to the States and Territories through the Secretariat of the AGA/AOP Subgroup.

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