International Civil Aviation Organization SAM/IG/22-WP/09
South American Regional Office 19/11/2018
Twenty-Second Workshop/Meeting of the SAM Implementation Group SAM (SAM/IG/22) - Regional Project RLA/06/901
(Lima, Peru, 19 to 23 November 2018)

Agenda Item 3: Implementation of air traffic flow management (ATFM) and improvement of procedures for coordination between agencies.

ACTION TAKEN BY EANA FOR THE IMPLEMENTION OF THE ATFM SERVICE

(Presented by EANA)

SUMMARY

The purpose of this working paper is to inform the States about the action taken by Argentina through the ANSP EANA SE regarding tasks associated to the ATFM service implementation.

References:

- Declaration of Bogota, 6/12/2013
- Guide for the application of a common methodology to estimate airport and ATC sector capacity for the SAM Region
- ICAO Doc 9971
- Manual on collaborative air traffic flow management;
- ICAO Doc 4444 PANS-ATM
- Caribbean/South American air traffic flow management manual
- AIC 05/18 Argentina

1. Introduction

1.1 Since it was created, EANA has a statistics department that uses different databases and indicators to measure the performance of the service provided.

1.2 In order to develop the ATFM service, runway and AC sector capacities have been measured since 2016.

1.3 In 2017, the ATFM operational concept for Argentina was developed.

1.4 During the first quarter of 2018, with the support of CGNA/DECEA, training was provided to ATFM personnel that will be in charge of operations and to the supervisors of all the ACCs of the country.

1.5 In order to develop the ATFM service, demand is calculated through a combination of feasible scenarios authorised by the aeronautical authority and the inferred scenarios for general aviation.

1.6 ATFM service started to be provided in the EZE FIR on 21 May 2018.

1.7 At the RLA/06/901 – ATFM seminar, EANA presented the work carried out from the initial concept up to service implementation.

2. Discussion

2.1 Capacity calculation

2.1.1 EANA is responsible for measuring runway and airspace capacity, which is measured according to manuals developed in-house, based on the common guide developed by ICAO, for the runway, and MCA 100-17, for the airspace.

2.1.2 Runway capacity measurements provide the following indicators:

a) Runway occupancy time at take-off (by aircraft category)
b) Runway occupancy time at arrival (by aircraft category)
c) Final approach time (by aircraft category)
d) Aircraft mix
e) Runway physical, theoretical and declared capacity

2.1.3 Based on these indicators, it is possible to define the percentage of usage of available capacity. Likewise, capacity variations can be defined after some work is done or changes made to aircraft.

2.1.4 Likewise, in case of temporary closure of a taxiway or of any variable affecting runway occupancy times, it serves as input for planning operations.

2.1.5 Sector capacity measures provide the following indicators:

a) Average dwell time in the sector (with standard deviation)
b) Average time in secondary tasks (with standard deviation)
c) Average time in ATC-pilot communications (with standard deviation)
d) Reference number
e) Peak number
f) Sector hourly capacity

2.1.6 Based on these indicators, ATC sector capacity can be defined as well as the variables that define it. Likewise, capacity variations can be measured in case of airspace modification.

2.1.7 For example, in the case of the BAIRES TMA sector, it was noted that in the North wind configuration, capacity drops due to increased dwell time in the sector.

2.1.8 For example, in the case of the Cordoba SUR sector, capacity increased as a result of the implementation of surveillance control service.

2.2 Demand calculation

2.2.1 Demand is calculated through the summation of feasible scenarios approved by the aeronautical authority, with inferred data from general aviation.

2.2.2 This methodology provides an estimate of the operations that will take place on a given day as much in advance as information availability permits.

2.2.3 In the case of general aviation, the proposal is to use the average, the 90 percentile (or special events) or manual input if such information is available.

2.2.4 For a given day and schedule, and for a given airport or group of airports, the following can be estimated:

a) Number of commercial/on-commercial aircraft by time interval
b) Total number of aircraft per day
c) Distribution of point and sector usage

2.3 **Delays**

2.3.1 At present, delays are concentrated at the origin, with airlines themselves informing EANA of delays, in minutes, for each flight, and subsequently analysing them.

2.3.2 Origination delays are reported by the airlines themselves to EANA, in minutes, for each flight, and are subsequently analysed.

2.3.3 Origination delay indicators are shown below, comparing June, July, and August, on an inter-annual basis, in order to assess the impact of ATFM implementation:

1) June 18 *vs* June 17:
   a. Variation in take-offs: +4.7%
   b. Variation in total minutes of delay: +5.4%
   c. Variation in delayed flights: +56%
   d. Variation in average delay: -6%

2) July 18 *vs* July 17:
   a. Variation in take-offs: +3.7%
   b. Variation in total minutes of delay: +4.8%
   c. Variation in delayed flights: +82%
   d. Variation in average delay: -16%

3) August 18 *vs* August 17:
   a. Variation in take-offs: +4.7%
   b. Variation in total minutes of delay: +3.9%
   c. Variation in delayed flights: +75%
   d. Variation in average delay: -15.5%

2.3.4 These results show that traffic increased, the number of delayed minutes slightly increased, the number of delayed flights increased (0’ level) but the average delay per flight decreased.

2.3.5 The reduction in the average delay per flight, with the increase in traffic and minutes shows a more uniform and equitable distribution.

2.4 **Training provided by EANA to new ATFM operators**

2.4.1 New training was provided to ATFM operators on 17-24 September.

2.4.2 Training was based on the operational concept and included the following modules:

a) Regulations

b) Meteorology
c) Aeronautical information
d) Statistics
e) MEIC (Stress management in critical incidents)
f) ATFM

2.4.3 Training emphasised the use of data for decision-making and the generation of indicators, describing current and foreseen work.

2.4.4 A total of 6 representatives of EANA, ANAC, Venezuela and Peru participated in the training.

2.5 **Training provided by EANA to ANS operators**

2.5.1 EANA has developed an Internet platform for digital training of its personnel.

2.5.2 It was developed on the Moodle platform and offers the possibility of remote learning through virtual classrooms.

2.5.3 The course lasts 30 hours, over 21 days, and also includes slides and bibliography, various activities to reinforce content learning, and a forum for queries.

2.5.4 The first 2 ATFM virtual classrooms have provided training for a total of 256 individuals from ATM, AIS, and CNS.

3. **Suggested action**

3.1 The Meeting is invited to:

a) Take note of the information provided in the working paper.
b) Review and propose common indicators for measuring ATF performance.
c) Propose standard ATFM training contents.
d) Analyse the use of virtual training courses.
