

REPORT

SECOND WORKSHOP ON PBN IMPLEMENTATION IN TMAs (PBN/IMP/2)

(Lima, Peru, 12 September 2016)

The Second workshop on PBN implementation in TMAs (PBN/IMP/2) analysed the following scenarios, which were scheduled for implementation during the period 2016-2017. The scenarios under consideration were the PBN SUR Project (Brazil), covering the Curitiba FIR in Brazil, scheduled for implementation on 14 September 2017, as well as the Pampa SUR Project (Chile), covering the southern part of the Santiago TMA in Chile, and taking into account the areas of Temuco, Concepción, and Punta Arenas. This implementation is scheduled for 8 December 2016. An analysis was also made of the Asunción TMA in the Project of Paraguay, scheduled for implementation in June 2017. Information was also provided on the designs being developed for the Carrasco TMA (Uruguay) and the persisting difficulties related to the lack of instrument procedure designers.

Brazil

Regarding the PBN SUR project in Brazil, the following was noted:

- a) The Curitiba FIR had been sectorised, and several arrival scenarios into Sao Paulo had been analysed.
- b) The scenarios had been analysed taking into account controller workload and severity, as part of the safety analysis.
- c) Following validation, scenario number 5 had been selected.
- d) A real-time simulation had been conducted, with 1:30-hr exercises, which demonstrated the feasibility of the scenario.
- e) The PBN Sur project comprises 347 charts (506, including draft simulation charts).
- f) (GEAI – Flight inspection) - (PEA – Quality check).
- g) It is an integrated airspace process (route, approach).
- h) The concept is effective 14 September 2017. Users have already tested it in the simulator.

IATA commented on the advantages of real-time simulation compared to accelerated simulation if States were not familiar with the accelerated simulation tool, which is a complex tool that requires much training.

The Secretariat requests that an action plan adjusted to September 2017, as well as savings estimates, be submitted in an information paper to the SAM/IG/18 meeting. It also requested that an information paper be submitted to the SAM/IG/19 meeting containing the results of the real-time simulation.

Chile

Regarding the Pampa SUR project, the experts of this State pointed out that the following had been taken into account:

- a) Conventional routes were maintained, and a design had been developed to reduce points of conflict. The design considers CCO and CDO techniques; and
- b) GNSS-based navigation was assigned priority in the design.

Santiago terminal area

- a) For the Santiago TMA, two projects had been combined: the Santiago terminal area and the Pampa SUR project, enhanced in 2016 with the introduction of arrival-only and departure-only points.

Regarding traffic on Runway 17, arrival and departure flows were segregated, so vertical windows have also been included in the design. Priority has been assigned to meeting optimum flight profiles, and the design includes an open STAR so that the ATC may assign vectors as necessary.

Regarding traffic on Runway 35, flows were analysed in order to segregate arrivals from departures.

The Pampa SUR project gives priority to GNSS-capable aircraft. Arrival and departure flows at the Concepción and Temuco TMAs have been segregated. Regarding the Punta Arenas TMA, all arrivals are executed through a single point, and STARs are the same, although approach procedures change.

It was noted that there were non-measurable safety benefits to be derived from the implementation of segregated routes.

Savings are obtained in the order of 2,047 tonnes of CO₂, equivalent to 647 tonnes of fuel.

An analysis of weather conditions at the Merino Benitez airport had also been conducted, showing that visibility is more than 5,000 m 84.6% of the time. This analysis was considered of great value and, in this sense, it is recommended that all States conduct an analysis of weather conditions applying the methodology used by Chile and, based on such analysis, calculate VMC and IMC capability.

Chile was asked to submit an information paper on the methodology used for this analysis at the next SAM/IG/18 meeting.

Paraguay

The workshop took note of the progress made in the Asunción TMA project:

- a) The design and basic validation had been completed.
- b) In parallel, progress was being made to update the AIRCOM 2100 radar control automated system.
- c) Seminars for the technical personnel had been conducted.
- d) Implementation tasks had been established.

- e) Implementation was scheduled for 22 June 2017.
- f) A PBN Manual had been completed, containing operational and contingency procedures for ATCOs.
- g) An SMS analysis had been conducted as part of the validation.
- h) Regarding the publication, waypoints were still expressed in alphanumeric terms and would be changed to permanent.

The Secretariat requested Paraguay to submit an information paper to the SAM/IG/18 meeting containing the PBN Manual, as well as the updated implementation plan, and thanked Paraguay for the information on the training courses, which also included a PANS-OPS course.

Uruguay

Regarding the Carrasco TMA, it was noted that it was in a very preliminary phase:

- a) Although it did not have a full designer team, it was working with the available resources to implement its Action Plan by March 2017, following the recommendations of Doc 9613.
- b) It had conducted risk analyses, 3 iterations, radar simulator tests, consultations with ATCOs, airlines and other users, and B737 and A330 simulator tests. It had also used the IFSET tool to calculate fuel and CO₂ savings, which total 6,900 tonnes per year.
- c) It is promoting the drafting of national regulations that contemplate the "ICAO balanced approach" towards the environment and aeronautical noise, especially with respect to constructions in airport surroundings, in order to achieve a sustainable development of civil aviation.
- d) The creation of a team of PANS-OPS experts is required to complete the re-design (other runways, TMA volume/layout, and Baro-VNAV procedures), if possible by 2017.
- e) Instrument procedures have been published in accordance with Circular 336.
