International Civil Aviation Organization SAM/IG/24-WP/5.7
South American Regional Office 15/10/2019
Twenty-Fourth Workshop/Meeting of the SAM Implementation Group (SAM/IG/24) - Regional Project RLA/06/901
(Lima, Peru, 4 to 8 November 2019)

Agenda Item 5: Operational implementation of new ATM automated systems and integration of existing systems

FOLLOW-UP TO AMHS INTERCONNECTION

(Presented by Uruguay)

SUMMARY

This working paper presents the activities carried out for the interconnection of adjacent and non-adjacent MTAs of the CAR/SAM Regions for the exchange of AMHS aeronautical messages.

References:

- Regional Project RLA/06/901 (Lima, Peru, 19-23 November 2018).
- -Twenty-second workshop/meeting of the SAM Implementation Group (SAM/IG/22).
- -Twenty-third workshop/meeting of the SAM Implementation Group (SAM/IG/23).

1. Background

1.1 Pursuant to the Declaration of Bogota, which calls for 100% AMHS interconnection, work was undertaken to link SUMU SAEZ and SUMU SBBR.

1.2 In February 2014, Uruguay installed a Frequentis aeronautical messaging system and conducted MTA connection trials with both adjacent countries, with negative results.

1.3 In December 2016, a P1 connection was established with SAEZ. During preliminary tests, messages were sent from SUMU to SAEZ and *vice versa*. Messages originating in SAEZ presented some problems and failed the tests of the EURO 020-400 manual.

1.4 On 12 and 16 November 2018, a technical meeting was held in Montevideo, in which it was agreed to seek a joint solution to existing issues.

1.5 In October 2016, work on the interconnection with SBBR started, resulting in a successful P1 connection between MTAs in November 2016. In December 2016, messages were exchanged over the X400 platform. All tests of the EURO 020-400 manual were successful. It should be noted that Uruguay does not have a traffic simulator as Brazil does. Therefore, all tests must be conducted under real traffic conditions, thus exposing the system to a possible message saturation failure. Accordingly, all safety criteria must be strengthened to address possible problems.

1.6 Once the exchange between the SUMU – SBBR MTAs was established, an incorrect AFTN message arriving through Brazil caused saturation in the SUMU MTA. It was agreed to wait for the manufacturer to find a solution to the problem.

1.7 Given this scenario and the lack of connection between Uruguay and Argentina, there is interest in having a third MTA in order to have double triangulation for traffic redundancy and safety. A connection with the LIMA MTA is being considered.

1.8 Uruguay is in the process of updating the system at the MTAs, and migrating all UAs to AMHS to meet IWXXM meteorological information exchange requirements. This migration is foreseen for 2020.

2. **Analysis**

2.1 Once the interconnection with Argentina is achieved, it is expected that the interconnection with Brazil will be achieved, based on AFTN/AMHS requirements for alternates or diversions.

2.2 Uruguay will have its new AMHS system in 2020. Therefore, it expects to be able to establish the interconnection with Argentina and Brazil. The intention is to add Peru as a new point in the interconnection, as agreed at the SAM/IG/23 meeting. Consultations were held in this regard at the SAM/IG/22 meeting, and in the absence of technical obstacles, it only requires coordination between the aeronautical authorities of Peru and Uruguay.

2.3 Furthermore, there are plans to certify the connection of the respective channels to the MTAs connected to SAEZ- SBBR- SPIM through saturation tests.

3. **Suggested action**

3.1 The Meeting is invited to:

a) take steps to include the connection with Lima, thus strengthening the structure of the regional exchange network, and allowing for two message exchange triangles; and

b) start working on coordination and interconnection with Argentina, Brazil and Peru as soon as the date of installation of the new system in Uruguay is defined.

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