



ICAO

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WORKING PAPER

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NAM/CAR Air Traffic Services Inter-facility Data Communication (AIDC) and North American Interface Control Document (NAM/ICD) Implementation Follow-up Meeting (AIDC/NAM/ICD)
Mexico City, Mexico, from 8 to 11 April 2019

Agenda Item 5: Updating process and Maintenance of the Aeronautical Addressing of the AMHS System

NAM/CAR/SAM REGIONS

(Presented by Cuba)

EXECUTIVE SUMMARY

The purpose of this Working paper is to communicate the lessons learnt on the updating process of addressing ATS Aeronautical message handling systems (AMHS).

Action:	Suggested actions are presented in Section 5.
<i>Strategic Objectives:</i>	<ul style="list-style-type: none">• Air Navigation Capacity and Efficiency
<i>References:</i>	<ul style="list-style-type: none">• ANI/WG/3/ Meeting, held from 4 to 6 April 2016 in Mexico

1. Introduction

1.1 Taking into account the conclusive ANI/WG/03 project related to the AMHS implementation in the CAR region, held from 4 to 6 April 2016.

1.2 Since March 2017, Cuba has implemented the AMHS basic level for the exchange of aeronautical fixed messaging.

1.3 Through the last two years of service there have been difficulties related to the addressing of AMHS messages, having as fundamental cause errors in the conformation of the O/R address of originators and recipients.

1.4 Detected errors had being associated with the AMHS address charts updating. Their identification, in the PRMD=MU domain, has being based on the thorough traffic check once this process is in progress.

1.5 In the middle of AMHS MUHA messages no deliverable reports (NDR) have being received indicating unknown users for O/R addresses belonging to originators, of which the aforementioned centre receives messages frequently.

2. Discussion

2.1 Taking into account the implementation time in Cuba, based on the experiences of our technicians and with the objective to enhance services, we share with the Meeting error events that have impacted messaging traffic:

- a) In the Gateway AMHS-AFTN control and overview positions have being reported traces of error situations indicating asymmetric conversions of the MF address of AMSH messages recipients.

e.g.: O/R address expected in PRMD=MU domain: (correct)
/CN=MUFHZQZX/OU=MUFH/O=MU/PRMD=MU/ADMD=ICAO/C=XX/

O/R address sent in the envelope: (incorrect)
/OU=MUFHZQZX/O=AFTN/PRMD==MU/ADMD=ICAO/C=XX/

- b) In the Gateway AMHS-AFTN control and overview position have being identified NDRs which supplementary information reported for the subject message “unknown O/R originator address”.

e.g.: O/R address expected in the domain that presented a fail updating: (incorrect)
/OU=MUFHZQZX/O=AFTN/PRMD==MU/ADMD=ICAO/C=XX/

O/R address sent in the envelope: (correct)
/CN=MUFHZQZX/OU=MUFH/O=MU/PRMD=MU/ADMD=ICAO/C=XX/

- c) There have being identified NDRs which no deliverable diagnostics reports “unknown O/R recipient address”, however, those O/R addresses belong to originators that customarily send messages to the AMHS MUHA centre.

- d) In the Gateway AMHS-AFTN control and overview position have being identified reports of error situations related with NDRs which no deliverable diagnostics reported “unknown O/R recipient address” for destinations that have being redirected.

2.2 In the aforementioned cases a) and b), the cause was related to the assignment of an incorrect addressing scheme to the PRMD=MU domain. The XF scheme was used for the conformation of the O/R addresses instead of CAAS, which is used for that domain. Both were presented days after new addressing charts came in force accordingly with the AIRAC cycles.

2.3 In the case of c), O/R addresses are related with AFTN addresses used in messages sent from SITA network, signed as AFTN of SITA users. For its solution, this case requires the AFTN address to be rerouted to the SITA network and, once there, to be included in the address conversion charts AFTN TO SITA TYPE B (IXTABLE) and SITA TYPE B TO AFTN ADDRESSES (XATABLE) of that messaging system, in such a way that SITA user that has sent the message is habilitated to send and receive messages from/to the AFS network. Messages in c) have flight plans (FPL) which originators, in the current conditions, do not receive any reply (ACK or REJ).

2.4 The described event in d) is not caused by the AMHS addressing charts updating, however once this kind of NDR is received it is advised to alert the administrator of the domain in question.

2.5 Addressing charts updating require, once executed, particular attention to the reports and errors registered in the domains, than can be related with this process in the domestic centre or, in some cases, with messaging exchange, due that is an update coordinated in the AMHS centres.

2.6 The updating process requires a backup due to the availability of the contact information of the administrators of the AMHS centres, fundamentally those with are carried out the AIDC exchange, so that, once the origin of the error situation is identified by the affected domain, pertinent actions can be taken as soon as possible.

2.7 Is important to monito permanently the traffic, establishing maximum times between consecutive processed messages. This procedure has been the way to work with the AMHS system in Cuba since its entry into operational service, in such a way that, once it is detected by the surveillance applications, which said times have expired, alarms are activated indicating to the technicians that the system should be urgently checked. As a result, time of detection interruption in the messaging system is considerably low

3. Proposals

3.1 Permanently monitoring, in each domain, the no deliverable report (NDR) generated by the messaging systems, is a necessary practice in the AMHS messaging centres. This procedure will warrantee that abnormal situations related, for example, with failed addressing updates or routing problems be detected as soon as possible.

3.2 Once errors are detected and the possible causes are identified, connect immediately with the involved domain administrators providing evidence that allow limiting and solving the situation.

3.3 Each domain must ensure that the AFTN addresses that do not belong to AFS user, but to AFTN signatures of SITA users, be conveniently included in the User Addresses chart in the AMC site, in such a way that messages that contain those recipients to be rerouted to the SITA network. This action must be coordinates with SITA, to that destination to be appropriately updated in its address conversion charts.

3.4 Each domain must keep updated the AMC site, the data that this application allows for consulting on its contacts, mainly those referring to technical personnel in charge of the messaging traffic that concerns them.

4. Conclusions

4.1 All AMHS systems that are operational must comply rigorously with the addressing charts updating, in line with the published in the ATS Messaging Management Centre (AMC) site, accordingly with the AIRAC cycles. No complying with this update affects not only the State in question, but potentially may affect the States which it exchanges messaging.

4.2 That process must have a detailed supervision of the traffic in the AMHS centres, in order to identify, through reports and traces, the possible errors associated with the synchronization of the addressing information.

5. Suggested actions

5.1 The Meeting is invited to:

- a) Review the information provided in this Working paper; and
- b) Adopt other actions that are considered relevant.