



**GREPECAS Programmes and Projects Committee (PPRC) Third Virtual Meeting
 (ePPRC/03)
 Online, 22 – 23 July 2021**

Agenda Item 2: Follow-up on GREPECAS Programmes and Projects

2.1 Reviewed GREPECAS Programmes and Projects

MET ACTIVITIES FOLLOW UP

(Presented by Secretariat)

EXECUTIVE SUMMARY	
<p>This Working paper refers to the activities in the area of aeronautical meteorology services implemented to follow up on the GREPECAS MET Projects and the implementations of the requirements of ICAO Annex 3</p>	
<i>Action:</i>	<p>Promote recommendation and action planning to accelerate the process of implementation of the requirements of ICAO Annex 3 as well as the improvements of MET services to comply with the Basic Building Blocks (BBBs) of the MET area.</p>
<i>Strategic Objectives:</i>	<ul style="list-style-type: none"> • Air Navigation Capacity and Efficiency
<i>References:</i>	<ul style="list-style-type: none"> • Annex 3 - Meteorological Services for International Air Navigation • Doc. 9750 - Global Air Navigation Plan - GANP • Doc. 8896 - Aeronautical Meteorological Methods Manual • Doc. 10003 - Manual on Digital Exchange of Aeronautical Meteorological Information • Minutes of the Second Meeting of the CRPP in online mode (ePPRC/02)

1. Introduction

1.1 Amendments 77, part B, to ICAO Annex 3 introduced changes to adapt it to the use of a global reporting format to assess and report surface status.

1.2 Amendment 78 and 79, to the same Annex, introduced the advisory service on Space Weather and the OPMET information exchange in IWXXM format, respectively.

1.3 Amendment 80 to Annex 3 postponed the entry into force of Amendment 77-B, to November 4, 2021, due to the context of the COVID-19 pandemic.

1.4 The concept of BBBs is introduced by the GANP in the fifth edition.

1.5 The eCRPP / 2 had considered, reviewed the Projects in the MET area, and issued recommendations for their follow-up.

2. Analysis

CAR Region

Systemic Assistance Program (SAP) of the ICAO NACC Regional Office

2.1 The SAP has established itself as one of the primary mechanisms to provide the assistance required by the States of the North American, Central American and Caribbean regions, assigned to the ICAO NACC Regional Office. The SAP has created the structure to facilitate the delivery of assistance directly to States by promoting the effective implementation of ICAO Standards and Recommended Practices (SARPs), specifically those corresponding to the Meteorological Service for international air navigation.

2.2 States that have received direct assistance through video calls, teleconferences and other electronic mechanisms in recent months include, among others: Barbados, Costa Rica, Dominican Republic, Honduras, Mexico and Trinidad and Tobago. Through the SAP, the assistance provided is configured in accordance with the issues of particular interest of each State given the diversity of needs and priorities that concern each administration. The topics that have been addressed and present successful results cover the following topics:

- OPMET exchange and implementation of the ICAO Weather Information Exchange Model (IWXXM) format.
- Implementation of qualification requirements and competencies of Aeronautical Meteorology personnel in accordance with the provisions of Annex 1 and the requirements of the World Meteorological Organization (WMO).
- Implementation of the Quality Management System (QMS) in accordance with the provisions of Annex 3.
- Implementation of the provisions related to the Aeronautical Meteorological Authority, quality assurance and the responsibilities and functions of safety oversight in the provision of MET Services.
- Specific operating regulations in accordance with ICAO Annex 3.
- Review of the validity of the deficiencies included in the GREPECAS Air Navigation Deficiencies Database (GANDD).

2.3 The Regional Office will continue to implement the SAP to meet the priority needs of the States and provide assistance in the effective implementation of ICAO Annex 3 SARPs.

La Soufriere volcanic eruption in Saint Vincent and the Grenadines

2.4 The “La Soufrière” volcano, prior to the explosive events, had been having continuous effusive eruptions starting on December 2020. The volcano erupted explosively on 9 April 2021, and has had several explosive events since the initial eruption. Currently, the seismic activity has remained low since the tremor associated with the explosion and ash venting on 22 April 2021. The University of the West Indies Seismic Research Centre (UWISRC) – Selected State volcano observatory has been notifying significant pre-eruption volcanic activity, volcanic eruptions and on volcanic ash in the atmosphere and advised that explosive events can take place with little or no warning.

2.5 The resultant ash clouds and ash fall from each explosive event disrupted traffic flows within the PIARCO UTA/CTA/FIR and some Eastern Caribbean Terminal Control Areas (TMAs). Heavy ash fall resulted in the temporary closures of all the Airports within the territory of Barbados and Saint Vincent and the Grenadines. Ash fall also affected, to a lesser extent, the International Airports in the island of Saint Lucia.

2.6 Trinidad and Tobago’s Air Traffic Flow Management (ATFM) and the contingency process employed by Trinidad and Tobago Civil Aviation Authority provided leadership and guidance, facilitating close coordination between all relevant parties including: UWISRC State volcano observatory, Port of Spain (TTPP) responsible Meteorological Watch Office (MWO), the Washington Volcanic Ash Advisory Centre (VAAC). Such coordination allows the successful deployment of operational procedures as envisaged at the ICAO Doc 9766 Handbook on the International Airways Volcano Watch (IAVW).

2.7 The NAM/CAR Air Navigation Implementation Working Group/Air Traffic Flow Management (ANI/WG/ATFM) implementation Task Force presented the lessons learned, highlighting that: “[...]almost real-time sharing of pertinent and critical information, via the *WhatsApp* platform, proved to be a huge operational benefit to all stakeholders[...]” and also highlighting the need for an official platform to be introduced for the sharing of operational information.

SAM Region

2.8 Concerning follow-up, the Secretariat in the SAM Region conducted two teleconferences during the first quarter of 2021. First, in March 2021, to analyze the results of the volcanic ash exercise and follow-up on some implementations, and the second, in June 2021, to plan activities for 2022. Likewise, I carried out two virtual missions to the states of Argentina and Bolivia.

2.9 Regarding the follow-up, from the ePPRC/2, the secretariat reports the following:

Quality Management System

2.10 Argentina and Brazil have certified, and Bolivia (AASANA) has achieved re-certification. Paraguay had not been able to re-certify it but recovered it in December 2020. Additionally, Panama did not achieve re-certification, but it implemented the recommended procedures to qualify for re-certification at the end of this year.

Volcanic Ash Exercises

2.11 At the end of 2020, the exercise on the emission of SIGMET related to Volcanic Eruptions and Volcanic Ash has been carried out. The States associated with the Buenos Aires VAAC (Argentina, Brazil, Bolivia, Chile, Paraguay, Peru, and Uruguay) participated. Excellent participation and involvement of the Meteorological Surveillance Offices (MWO) in charge of the surveillance of the different FIRs involved have been observed.

2.12 Regarding the Volcanic Ash SIGMETs, a case of displacement of Volcanic ash clouds has been observed from a FIR under the area of responsibility of the VAAC of Washington (Ecuador) on the FIR of Peru (surveillance area under the responsibility of the VAAC of Buenos Aires) in which it is necessary to establish coordination procedures.

OPMET Message Exchange and IWXXM implementation

2.13 The Brasilia OPMET Data Bank has carried out, since eCRPP/2, three controls for the exchange of OPMET messages in the SAM Region. In these controls, it has been possible to detect:

- a) Low efficiency in States of the Region;
- b) Low emission of SIGMET messages in some States that do not agree with the registered phenomena;
- c) Errors in the operating hours of some stations that lead to an erroneous efficiency measurement;
- d) Inclusion of some stations in the controls that do not correspond, especially concerning the SIGMET; y
- e) Error in the Location Indicator of a FIR of a State of the Region

2.14 The Secretariat has taken corrective measures to resolve these situations. Changes in the templates used for Control have been proposed, both to the OPMET Bank of Brasilia and the States, including a proposed amendment (PFA) to the Regional Air Navigation Plan. Additionally, States that have not issued SIGMET have been contacted when it was necessary to publish it to raise awareness about the importance of these alerts for operational safety.

2.15 The Secretariat, with the support of the Brasilia International OPMET Data Bank (IODB), conducted two seminars/workshops on:

- a) NACC/SAM Workshop on the operation of the IODB and its new functionalities;
- b) SAM Workshop on Infrastructures and necessary training for the OPMET Exchange in IWXXM format;

2.16 The workshops were attended by many delegates from the States, from the MET, CNS, AIM, and even ATM areas. Additionally, they issued recommendations to achieve the implementation of the OPMET exchange in IWXXM format.

2.17 The secretariat, in collaboration with the IODB, has promoted the testing of the exchange of OPMET messages in IWXXM format with the States of Argentina, Ecuador, Paraguay, and the OPMET Banks. Additionally, an Interface Control Document (ICD) of version 3.0 of Brasilia Regional OPMET Data Bank has been presented.

2.18 Regarding the same issue, the secretariat is preparing the IWXXM Regional Implementation Guide, in addition to reviewing and updating the Data Catalog of the International OPMET Data Bank of Brasilia.

Training at the MET

2.19 The SAM Region, with the support of the Regional Project, has promoted a training course in the MET area to create capacities in the States for Aeronautical Information Management gradually. The courses contracted for this year are:

- QMS Lead Auditors Course: For 22 delegates, with the support of Project RLA / 06/901;
- Indicator Formulation Workshop: Three workshops have been developed. It was not exclusive to MET professionals, but delegates from this area have participated in these workshops;
- SIGMET workshop scheduled for November 2021; and
- Coordination exercise between the MWOs for the issuance of continuous and homogeneous SIGMET

2.20 Additionally, the SAM Region is preparing a Training Guide for the AIM area, with the support of the Regional Project RLA/06/901.

Virtual Missions to the States

2.21 The Secretariat, to verify the MET services provided and the infrastructure, instruments, and equipment of the MET services to support air navigation, has carried out virtual missions to Argentina and Bolivia. Additionally, it plans to carry out these missions in three other states this year.

2.22 The virtual missions are carried out using a checklist prepared based on Annex 3, other ICAO documentation referring to the MET area and the BBBs of the MET area of the GANP.

2.23 The secretariat subsequently sends a report of the Virtual Mission to the State involved and issues a series of recommendations on the opportunities for improvements.

Support for the implementation of the new GRF format

2.24 The new GRF format implies changes that affect the AGA, AIS / AIM, ATM, and MET areas. As of November 4, 2021, the MET area will no longer include the runway status in the OPMET message report.

2.25 The MET area continues to be part of the national teams in charge of implementing the new GRF format. The MET area should establish procedures to advance information on the occurrence of meteorological phenomena very shortly (2 hours) that could generate contaminants on the runway, which are considered in the scope of the runway condition reports (RCR).

3. Conclusion

3.1 The States, to implement elements of the BBBs of the MET area, should consider accelerating the processes of completion and implementation of several elements:

- a) QMS / MET;
- b) Training of MET personnel (Consider what is indicated by Publication 1083 of the World Meteorological Organization);
- c) Exchange of OPMET Messages in IWXXM format;
- d) Review of procedure for cases of volcanic ash and release of radioactive material;
- e) Review of the procedures for issuing messages SIGMETs, AIRMETs, Aerodrome Warnings, Wind Shear Warnings; and
- f) SIGMET issuance procedures, including coordination procedures with LMOs of adjacent FIRs

3.2 States should accelerate implementing the exchange of OPMET messages in IWXXM format since a delay in its implementation impacts the implementation of SWIM. To achieve this point, States should make the following available to MET Offices:

- a) connection to the AMHS system;
- b) establish interconnection in AMHS between States;
- c) That the AMHS terminal installed in the MET Offices can translate OPMET messages from the alphanumeric format (TAC) to the IWXXM format; and
- d) The AMHS terminals installed in the MET Offices can attach the messages in IWXXM format to the OPMET message in TAC format.

4. Suggested Actions

4.1 The meeting is invited to:

- a) Take note of the content of this study note;
- b) Encourage the States to carry out the actions requested in paragraphs 3.1 and 3.2, if they have not yet done so; and
- c) Consider other actions that they deem necessary