International Civil Aviation Organization
North American, Central American and Caribbean Office

WORKING PAPER

GREPECAS/MET — WP/02
27/02/18

CAR/SAM Planning and Implementation Regional Group (GREPECAS)
MET Programme Projects Meeting (GREPECAS/MET)
Mexico City, Mexico, 28 February to 2 March 2018

Agenda Item 2: **Review of the Project H2 – Implementation of the International Airways Volcano Watch (IAVW)**

ANALYSIS OF THE IAVW IMPLEMENTATION IN THE CAR REGION

(Presented by Secretariat)

EXECUTIVE SUMMARY

This working paper presents the implementation status of IAVW in the CAR Region describing background information and relevant developed activities and propose the activity plan for H2 project in the CAR Region, putting into consideration the need to carry out Volcanic ash exercises on a regional basis in order to practice and develop inter-agency response to volcanic activity in order to maintain safety, regularity and efficiency of aviation. In addition the paper presents the update and optimization of the project.

Action:	Suggested in Section 4
Strategic Objectives:	• Safety • Air Navigation Capacity and Efficiency • Environmental Protection
References:	• Reports of the Sixteenth and Seventeenth Meetings of the CAR/SAM Regional Planning and Implementation Group (GREPECAS) • Report of the Second, Third and Fourth Meetings of the Programmes and Projects Review Committee (PPRC) • Regional Performance-Based Air Navigation Implementation Plan (RPBANIP) • Doc 9766 Handbook on the International Airways Volcano Watch (IAVW). • GREPECAS MET Programme Projects Meeting, Lima, Peru, 18 to 22 September 2017

1. Introduction

1.1 PPRC/2 meeting was informed about the difficulties encountered with the designation of a project coordinator, which had hindered achievement of results. In this regard, the Meeting considered that the project should be cancelled until the required experts were obtained and urged CAR States to support the project with experts to perform such activities.

1.2 PPRC/4 meeting approved the reactivation of Project H2 and recognized as a difficulty encountered for the development of MET projects, scarce availability of experts from CAR States which might hinder the reactivation of the Projects

2. Discussion

2.1 In accordance with the Regional Performance-Based Air Navigation Implementation Plan (RPBANIP) and the objectives formulated for the implementation of the IAVW procedures, NACC Region achieved an implementation rate of 77.8% exceeding the agreed target. https://www.icao.int/NACC/Pages/Implementation-Targets.aspx

2.2 During 2016 and 2017 as part of the NACC Regional Office No Country Left Behind strategy – NCLB, several NACC States received assistance to enhance the action plans for the improvement of the Universal Safety Oversight Audit Programme (USOAP) Effective Implementation (EI) status; The missions and the teleconferences evidence two common findings associated with the IAVW programme: the lag of provisions related with the special air-reports for volcanic ash and the issuance of SIGMET messages for volcanic ash; in addition the ATS/MET coordination agreements not include procedures related to the radioactive material in the atmosphere, radioactive clouds, or toxic clouds.

2.3 Upon request of the NACC Office and in coordination with the SAM Office, the Washington VAAC, launched two periodic tests on volcanic ash SIGMETs namely FICTITUS exercise on 12 and 13 December 2015 and 16 December 2016; In compliance with the Conclusion 3/9 PPRC/3, NACC and SAM Regional Offices reviewed the protocols resulting in a test carried out during a period of 12 hours between 15 and 22 December 2016.

2.4 The December 2015 exercise had the participation of eight States (Argentina, Chile, Cuba, Honduras, Jamaica, Mexico, United States, and Uruguay); The December 2016 exercise had the participation of 17 States (Argentina, Brazil, Colombia, Chile, Cuba, Dominican Republic, Ecuador, Honduras, Jamaica, México, Panama, Peru, Surinam, Trinidad y Tobago, United States, Uruguay, Venezuela)

2.5 Both exercises showed active participation of the Argentina and Washington VAACs, as well as the NOTAM and MWO Offices of the involved States were observed; the involved units generated volcanic ash advisories, NOTAM-ASHTAM and SIGMET respectively, the most significant findings were: mistakes in headers and numeration, intermittence in AMHS terminals, omission in coordination procedures and communication failures.

2.6 The recurring volcanic ash tests allowed the verification of the communication channels and the suitability of the information, its frequency, format, and content, however, the present design of the exercise does not review the preparation and the operative response in terms of planning, processes, and procedures of the operators and air traffic services, as the objectives and concepts formulated in Doc 9766 Handbook on the International Airways Volcano Watch (IAVW).

2.7 In accordance with ICAO Doc 9766, Handbook on the International Airways Volcano Watch (IAVW), Appendix F – Guidance for conducting volcanic ash exercises in ICAO Regions, volcanic ash exercises should be conducted by ICAO on a regional basis in order to practice and develop interagency response to volcanic activity, in order to maintain safety, regularity and efficiency of aviation in the event of a volcanic eruption. The frequency and scope of volcanic ash exercises is the responsibility of the ICAO region concerned. Where frequent volcanic activity results in adequate information about system performance, exercises may be omitted or constrained to infrequent, extraordinary situations or be held only to test revised procedures.

2.8 A volcanic ash exercises steering group may be established by an ICAO Planning and Implementation Regional Group (PIRG) to coordinate all aspects of the organization and conduct of the exercises. The steering group should have representatives from, as a minimum, the volcanic ash advisory centres (VAACs) concerned, air navigation service providers (ANSPs), airspace users and regulators.

2.9 The GREPECAS MET Programme Projects Meeting in September 2017, taking into account the items proposed in the amendment 78 to Annex 3, considered that the issues related to SIGMET improvement, tropical cyclones and the release of radioactive material should be included in the H2 Project, thus, the name of the Project should be modified to extend its scope to all types of SIGMET. The new name assigned to the Project H2 is "implementation of Meteorological Watch for the monitoring of en-route severe phenomena, volcanic ash, tropical cyclones and the release of radioactive material" and the activity plan is presented for consideration and improvement as Appendix A.

2.10 The meeting should note the necessity to update the CAR/SAM SIGMET Guide 2010 9th Edition to provide guidance for standardization and harmonization of the procedures and formats related to the preparation and issuance of aeronautical meteorological information pertaining to specified en-route hazardous weather, and other phenomena in the atmosphere, which may affect aviation safety.

3. Conclusion

Analyzing the working paper the meeting could consider the following conclusion:

That given the severity, persistence and increased frequency of en-route hazardous weather and other phenomena in the atmosphere, which may affect aviation safety, it is necessary to extend the scope of H2 Project in order to include SIGMET messages.

4. Suggested action

4.1 The Meeting is invited to:

a) note of the information contained in this working paper and review the H2 project activity plan presented as Appendix A,

b) designate experts to develop the H2 project activity plan,

c) recommend additional actions as deemed appropriate regarding the discussion in numerals 2.6 to 2.8.

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PROJECT H2 "IMPLEMENTATION OF METEOROLOGICAL WATCH FOR THE MONITORING OF EN-ROUTE SEVERE PHENOMENA, VOLCANIC ASH, TROPICAL CYCLONES AND THE RELEASE OF RADIOACTIVE MATERIAL"

CAR Region	**PROJECT DESCRIPTION (DP)**	**DP N° H2**	
Programme	**Project Title**	**Starting date**	**Ending Date**
Aeronautical Meteorology *Programme Coordinator:* *Luis Raúl Sánchez Vargas*	IMPLEMENTATION OF THE INTERNATIONAL AIRWAYS VOLCANO WATCH (IAVW) *Project Coordinator: To be determine* *Experts contributing to the project:* ***Carlos Fornés Valdés (Cuba)*** *To be determine*	*To be determine*	*To be determine*
Objective	Ensure that States in the implementing the IAVW and the standards and recommended practices of Annex 3 and the CAR/SAM electronic Air Navigation Plan (replaces Doc 8733 Basic), concerning the issuance and distribution of the reports of en-route weather phenomena and the release of radioactive material likely to affect the safety of aircraft operations, and the evolution of such phenomena in time and space (SIGMET WV).		
Scope	The project will comprise all meteorological watch offices (MWO) of the CAR Region listed in the CAR/SAM eANP, in coordination with the ACCs/FICs/NOFs, and Volcanic Ash Advisory Centres (VAAC) Buenos Aires and Wellington (New Zealand). Procedures for the issuance of reports and coordination among the affected areas should be defined, as well as transfer of responsibilities between MWOs. Procedures will be defined for the transfer of responsibilities and assistance among the CMRE and the MWOs.		
Metrics	Testing of volcanic ash SIGMETs shall result in continuous improvements once project deliverables are available to the States. Number of States that have established national responsibility procedures and assistance among the civil aviation authorities, the national nuclear authority and the WMO.		
Strategy	All tasks will be carried out by experts nominated by CAR States participating in the project, led by the Project Coordinator and under the supervision of the MET Programme Coordinator through the "GoToMeeting". Upon completion of the tasks, the results will be sent to the MET Programme Coordinator as a final document for submission to, and if necessary approval by, the GREPECAS PPRC through the GREPECAS fast-track procedure. For the purpose of collaborative decision-making, meetings will be held with the areas involved.		
Goals	a) 100% of acceptance of SIGMET tests, regarding transmission and reception of SIGMET WV and ASHTAM; b) full availability of the information to avoid aircraft encounters with volcanic ash clouds in the SAM Region; and c) 100% of States with national responsibility procedures and assistance among the civil aviation authorities, the nuclear authority and the MET service provider.		

Rationale	The severity, persistence and increased frequency of volcanic activity events with ash dispersion in the CAR Region and their consequent impact on the provision of air navigation services lead to the need to provide all the necessary tools to the personnel involved in the different areas of air navigation receive, give proper use and disseminate quality information related to these events. Likewise, it is necessary to have contingency plans not only for this kind of events but also for radioactive clouds, when they affect one or more of the FIRs in the region
Related Projects	➢ Optimisation of the en-route airspace structure ➢ Implementation of ATFM

Project Deliverables	**Relation with RPBANIP**	**Responsible Party**	**Status of Implementation**[1]	**Delivery Date**	**Comments**
SIGMET guide revised and updated and aligned to the template provided by ICAO		MET programme coordinator and project coordinator			
Development of SIGMET exercises		Project coordinator and States			Exercises performed 2016 2017
Development of Protocols for cases of release of radioactive material in the FIRs		MET programme coordinator			Teleconference to share the Protocol.
Development of workshops and courses on Radioactive Material		Project coordinator			Development of workshops for the creation of technical capacities in the States to respond in cases of release of Radioactive or toxic Material into the atmosphere.
Development of exercises for the release of radioactive material in the FIRs		Project coordinator and States			Preparation of protocols and assessment of the results of the exercises.
Final Report of the Project		MET programme coordinator and project coordinator			
Resources	*To be determine*				

1 *Grey Task not started yet*
Green Activity being implemented as scheduled
Yellow Activity started with some delay, but will be implemented on time
Red Activity not implemented on time; mitigation measures are required

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