International Civil Aviation Organization
CAR/SAM Regional Planning and Implementation Group (GREPECAS)
Seventeenth Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/17)
(Cochabamba, Bolivia (Plurinational State of), 21 to 25 July 2014)

Agenda Item 4: **Regional Air Navigation Planning and Implementation Performance Framework: Review of Programmes and Projects**
4.7 Aeronautical MET Programme Projects

MET PROGRAMME PROJECTS – CAR REGION

(Presented by the Secretariat)

SUMMARY

This working paper presents the current status of the Aeronautical Meteorology Programme regional implementation activities and related projects approved by the Eleventh Aeronautical Meteorology Subgroup (AERMETSG/11) Meeting.

References

- Report of the Sixteenth Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/16), Punta Cana, Dominican Republic, 28 March to 1 April 2011
- Report of the Eleventh Meeting of the Aeronautical Meteorology Subgroup (AERMETSG/11), Lima, Peru, 28 to 30 November 2011
- Report of the First GREPECAS Programmes and Projects Review Committee (PPRC/1) Meeting, Mexico City, Mexico, 25 to 27 April 2012
- Report of the Second GREPECAS Programmes and Projects Review Committee (PPRC/2) Meeting, Lima, Peru, 16 to 18 July 2013
- ICAO Twelfth Air Navigation Conference (AN-Conf/12), Montreal, Canada, 19 to 30 November 2012

ICAO Strategic Objectives:	• Safety • Economic Development of Air Transport • Environmental Protection

1. Introduction

1.1 The Sixteenth CAR/SAM Regional Planning and Implementation Group (GREPECAS/16) Meeting approved Decision 16/47 whereby AERMET Subgroup work, among others, and its respective task forces were transformed into programmes and projects.

2. Discussion

2.1 In compliance with GREPECAS Decision 16/47, the Eleventh Aeronautical Meteorology Subgroup (AERMETSG/11) Meeting, held from 28 to 30 November 2011, approved Decision 11/06 via the GREPECAS fast track. This Decision transformed the AERMET Subgroup into the Aeronautical MET Programme for the CAR and SAM Regions, which included the following projects for each Region:

a) World Area Forecast System (WAFS) implementation Project
b) International Airways Volcano Watch (IAVW) implementation Project
c) Meteorological/Quality Management System (MET/QMS) implementation Project
d) Optimization of Operational Meteorological (OPMET) Exchange Project, including information concerning en-route weather phenomena that may affect aircraft safety (SIGMET) (WS, WV and WC)

3. Projects under the Aeronautical Meteorology Programme

WAFS Implementation Project (H1) for CAR Region

3.1 During PPRC/2, United States, as WAFS Provider State, informed through their project coordinator that the project had successfully concluded achieving the established goals. The WAFS Internet File Service (WIFS) is the World Area Forecast Centre (WAFC) operational service based in Washington, D.C., that provides access to all WAFS products and OPMET data in accordance with ICAO Annex 3 and Satellite Distribution System (SADIS) for Information related to Air Navigation User Guide (SUG) Annexes 1 and 4. WIFS replaced the International Satellite Communication System (ISCS) on 30 June 2012. Accordingly, the PPRC/2 considered the respective CAR/SAM project activities completed.

CAR Region IAVW Implementation Project (H2)

3.2 The PPRC/2 was informed on the difficulties with appointing an IAVW project coordinator in the CAR Region. This situation has hindered the expected results. Therefore, the PPRC/2 deemed that the project be cancelled until it obtains the required experts. CAR Region States were urged to support the project with experts that could complete the reflected activities.

CAR Region MET/QMS Implementation Project (H3)

3.3 The CAR Region Meteorological/Quality Management System (MET/QMS) Implementation Project initially presented obstacles when no responses from States were received.

3.4 During official technical assistance missions performed in several CAR Region States, and later with the assistance information provided by the World Meteorological Organization (WMO), valuable information was collected, which made it possible to determine the MET/QMS implementation progress established by most States. Based on the information, it was determined that most CAR Region States had implemented MET/QMS and the PPRC/2 considered the project completed.

CAR Region Optimization of OPMET Exchange Project (H4) including SIGMETs (WS, WV and WC)

3.5 One of the Global Air Navigation Plan main meteorological objectives is to ensure immediate and high-quality OPMET data availability (Aviation Routine Weather Report/Aviation Selected Special Weather Report (METAR/SPECI), Terminal Area Forecast (TAF), SIGMET, etc.) to

support Air Traffic Management (ATM) and international air navigation operations, which is the main goal of this project.

3.6 The PPRC/2 was informed that over 90% of the CAR Region foremost aerodromes have METAR/SPECI and TAF reports available. The Meeting was also informed that all CAR Region Meteorological Watch Offices (MWOs) were preparing and broadcasting SIGMET messages; however, it was informed that when volcanic eruptions occurred during the night (for example, January 2013) the corresponding SIGMET could not be issued due to some volcanic observatories budget restrictions affecting their ability to work 24 hours/day. Therefore, this project remains valid.

3.7 A description of this project (H4) is presented at **Appendix A**, including CAR MET Programme SIGMETs (WS, WV, and WC). GREPECAS follow-up on AN-Conf/12 Recommendations assigned to MET is provided at **Appendix B**, in accordance with PPRC Conclusion 2/5 and included at Appendix B to its report. The *Project Management* format of the Optimization of OPMET Exchange is included at **Appendix C**.

3.8 AN-Conf/12 recommendations assigned to MET and contained in Appendix B to the PPRC/2 Meeting report are: 1/1, 1/2, 1/3, 1/4, 1/5, 1/15, 1/16, 4/7, 4/8, 6/1, 6/2, 6/3, 6/4, 6/11, 6/12 and 6/13.

4. Conclusion

4.1 In compliance with GREPECAS Conclusion 16/49, the necessary human resources are essential for adequate MET Programme Project development. Therefore, the commitment of project directors and members to develop their activities should be supported by their corresponding Administrations. This implies the capability to support the use of *GoTo Meeting* technology in view of the obstacles to achieve the objective, which has caused two projects to be cancelled.

4.2 Based on paragraphs 3.1 to 3.6 above regarding CAR Region MET Projects current status, the PPRC/2 approved H1 and H3 Project completion and H2 Project cancellation.

5. Action by GREPECAS

The Meeting is invited to:

a) take into account the information presented in this working paper;

b) review the information contained in Appendices A and B; and

c) agree on other actions as deemed necessary.

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**PROJECT FOR OPMET EXCHANGE OPTIMIZATION,
INCLUDING SIGMET (WS, WV AND WC) AND WARNINGS**

CAR Region	PROJECT DESCRIPTION (DP)	DP N° H4	
Programme	**Title of the project**	**Start**	**End**
Aeronautical meteorology *(Programme coordinator: Guillermo Vega)*	*Optimisation of OPMET exchange, including SIGMETs (WS, WV, WC, and WR), warnings and meteorological alerts* *Project Coordinator:* ***Dr. Enrique Camarillo*** *(Mexico)* *Experts contributing to the project:* Werner Stolz (Costa Rica), Danilo Ramírez (El Salvador)	December 2011	December 2014
Objective	Achieve at least 95% efficiency in the preparation and dissemination of OPMET information to CAR States by 31 November 2013. The current achievement is 90%.		
Scope	Correct preparation and timely dissemination of OPMET information involves all MET service units [(EMA(s), OMA(s), MWO(s) and OPMET data banks] of all CAR aerodromes listed in the CAR/SAM ANP.		
Metrics	The percentage of OPMET messages received on time at the Brasilia International OPMET Data Bank (according to Annex 3, Appendix 10, OPMET control considers as messages received those OPMET messages with transit times of 10 minutes) and verification of proper and standard production (quality) of OPMET information at MET services [(EMA(s), OMA(s), and MWO(s)] (Annex 3, in Appendices 3, 4, 5, and 6, contains the (OPMET) message planning tables.		
Goals	a) Reach 85% in the reception of OPMET data of the CAR Region in the Brasilia International OPMET Data Bank on 31/12/12; and 95% on 31/10/13; and b) Reach 85% in the reception of OPMET data in each CAR State on 31/12/12; and 95% on 28/02/2015.		
Strategy	All tasks will be carried out by experts nominated by CAR States (Points of Contact – POC) and by experts contributing to the project, led by the Project Coordinator and under the supervision of the MET Programme Coordinator through State letters sent by the ICAO Mexico Office, by e-mail, and the "GoToMeeting" tool. 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 CRPP through the GREPECAS fast-track procedure. For the purpose of collaborative decision-making, meetings will be held with the areas involved.		
Rationale	More timely meteorological information will optimise flight path planning and prediction, thus improving ATM system safety and efficiency, pursuant to GREPECAS Conclusion 12/64 (CAR/SAM OPMET EXCHANGE CONTROLS). Meteorological information will also minimise the environmental impact of air traffic.		
Related projects	➢ Automation ➢ Implementation of ATFM ➢ Installation of AMHS at MET units having an international OPMET requirement ➢ Implementation of the MET information quality management system (QMS/MET) ➢ Enhanced ATM situational awareness ➢ Implementation of the new flight plan format (FPL)		

Project Deliverables	Relationship with the performance -based regional plan (PFF)[i]	Responsible Party	Status of Implementation [ii]	Date of Delivery	Comments
OPMET guide revised and updated	PFF CAR MET 02	MET programme coordinator and project coordinator		September 2012	The OPMET guide prepared by the SAM Office will include procedures for preparing OPMET data and tables containing the AFTN addresses to which OPMET information must be sent worldwide in accordance with the CAR/SAM FASID, thus facilitating the preparation and issuance of MET messages.
Results of coordinated controls of annual SIGMET WV tests	PFF CAR MET 02	POC and BR OPMET data bank		February 2013	The measurement of SIGMET WV messages received on time at the Brasilia International OPMET Data Bank will give the actual percentage of OPMET data, and the verification of the proper preparation of SIGMET WV messages at MWO(s) will permit an assessment of OPMET information quality.
Results of the analysis of coordinated controls of annual SIGMET WV tests	PFF CAR MET 02	MET programme coordinator and project coordinator		August 2014	The results obtained from the coordinated controls of annual SIGMET WV tests will allow programme and project coordinators to adopt, if necessary, corrective action for subsequent coordinated controls of OPMET information, including SIGMETs (WS, WV, WC, and WR), warnings and meteorological alerts.
Results of coordinated controls of OPMET information, including SIGMETs (WS, WV, WC, and WR), warnings and meteorological alerts	PFF CAR MET 02	POC and BR OPMET data bank		August 2014	Timely measurements at the Brasilia International OPMET data bank will provide the actual percentage of OPMET data received, and the verification of the proper preparation of OPMET information at MET services [(EMA(s), OMA(s), and MWO(s)] will permit to assess the quality of OPMET information.
Results of the analysis of coordinated controls of OPMET information, including SIGMETs (WS, WV, WC, and WR), warnings and meteorological alerts	PFF CAR MET 02	MET programme coordinator and project coordinator		September 2014	The results obtained from coordinated controls of OPMET information, including SIGMETs (WS, WV, WC, and WR), warnings and meteorological alerts will give programme and project coordinators an idea of project results.

Project Deliverables	Relationship with the performance-based regional plan (PFF)[i]	Responsible Party	Status of Implementation [ii]	Date of Delivery	Comments
Final project report	PFF CAR MET 02	MET programme coordinator and project coordinator		February 2015	The purpose of the final project report to be submitted by the programme coordinator is to enable the NACC Office, Mexico to check the achievements of the project and propose to the States future measures to maintain the level attained through OPMET controls.
Resources needed	Funds for meetings with project members in order to assess the results and propose corrective actions. States could use their human resources to conduct the foreseen OPMET tests and controls, and, if necessary, cover the financial costs, since the experience gained will result in an improvement of their own systems. Likewise, participants must be given facilities to participate in GoToMeeting.				

[i] Air navigation system Performance-Based Implementation Plan for the CAR Region

[ii]
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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APPENDIX B

ACTIONS ASSIGNED TO MET TAKEN FOR AN-CONF/12 RECOMMENDATIONS

Recommendations adopted by AN-CONF/12	Action taken by ICAO NACC RO/MET or comments for its implementation
Recommendation 1/1 – The draft Fourth Edition of the Global Air Navigation Plan (Doc 9750, GANP) That States: a) agree in-principle, with the replacement of the introduction by the high level policy principles as shown in the appendix and inclusion of other proposed improvements made at this Conference, into the updated draft Fourth Edition of the GANP; b) should have the opportunity to provide any final comments on the updated draft GANP to ICAO before it is considered by the ICAO Assembly in 2013. That ICAO: c) include the key air navigation policy principles presented in the appendix under "Global Air Navigation Plan" into the Fourth Edition of the *Global Air Navigation Plan* (Doc 9750, GANP); d) develop financial policies which support efficient acquisition and implementation of global air navigation services infrastructure and aircraft equipage; e) taking a total systems and performance-based approach, create a Standards and Recommended Practices development plan for the aviation system block upgrades including the establishment of agreed global priorities between the different blocks and modules; f) define a stable and efficient process for endorsement by the 38th Session of the ICAO Assembly, for updating the GANP that ensures stability in module timelines for any future updates; g) ensure that the nature and status of the planning information in the various documents pertaining to the GANP are consistent and complete and allow due account to be taken of the inputs from ATM research, development and deployment programmes.	a) Completed b) Completed c) to g) Note
Recommendation 1/2 – Implementation That ICAO: a) through its regional offices, provide guidance and practical assistance to States and regions and subregions when they decide to implement individual blocks or modules of the aviation system block upgrades; b) establish a group and improved mechanism for interregional cooperation to ensure harmonization of air traffic management; c) assist States and regions in training and capacity-building towards implementation of the relevant modules of the aviation system block upgrades.	a) to c) Note
Recommendation 1/3 – Guidance on business cases That ICAO complete development of guidance material on business case analysis, adopting such appropriate guidance material that may be already available or under development.	Note
Recommendation 1/4 – Architecture That ICAO: a) develop, for inclusion in the first update of the GANP after the 38th Session of the ICAO Assembly, a global ATM logical architecture representation in support of the GANP and planning work by States and regions; b) develop a breakdown of the logical architecture of the ground system to the level needed to best address the global interoperability issues.	a) and b) Note
Recommendation 1/5 – Time reference accuracy That ICAO define the accuracy requirements for the future use of a time reference and to prepare the necessary amendments to Standards and Recommended Practices.	Note

Recommendations adopted by AN-CONF/12	Action taken by ICAO NACC RO/MET or comments for its implementation
Recommendation 1/15 – Performance monitoring and measurement of air navigation systems That ICAO: a) establish a set of common air navigation service performance metrics supported by guidance material, building on existing ICAO documentation (e.g. Manual on Global Performance of the Air Navigation System (Doc 9883) and the Manual on Air Navigation Services Economics (Doc 9161)); b) promote the development and use of "leading safety indicators" to complement existing "lagging safety indicators" as an integral and key component to drive improvement in performance and in the achieved management of risk; c) encourage the early and close involvement of the regulator and oversight bodies in the development, proving of concepts and implementation of the aviation system block upgrades and regional programmes.	a) and c) Note
Recommendation 1/16 – Access and equity considerations That States: a) ensure, as part of the aviation system block upgrade implementation, the principles of access and equity are included in all airspace modernization and redesign efforts; b) detail how they will monitor the service providers to ensure that they are providing fair, equitable, and efficient access to all aviation services including general aviation.	a) and b) Included in methodology and activities
Recommendation 4/7 – ICAO aviation system block upgrades relating to meteorological information That the Conference: a) endorse the aviation system block upgrade module relating to meteorological information included in Block 1, including the addition of the provision of information on space weather, and recommend that ICAO uses it as the basis of its work programme on the subject; b) agree in principle the aviation system block upgrade module relating to meteorological information included in Block 3 as the strategic direction for this subject. That ICAO: c) include, following further development and editorial review, the aviation system block upgrade modules relating to meteorological information in the draft Fourth edition of the *Global Air Navigation Plan* (Doc 9750, GANP); d) undertake the development of the air traffic management meteorological information integration plan and an associated roadmap by a cross-disciplinary group of experts; e) work on defining the meteorological information exchange model as an enabler for system-wide information management; f) invite the next Meteorology Divisional Meeting, held in coordination with the World Meteorological Organization, to develop initial provisions in Annex 3 — *Meteorological Service for International Air Navigation* relating to the aviation system block upgrade modules concerning meteorological information and f) above, and to develop a long-term strategy to support their further development and full implementation. That States: g) according to their operational needs, to implement the aviation system block upgrade module relating to meteorological information included in Block 0, including the addition of the provision of OPMET information; h) work together in the implementation of the aviation system block upgrades relating to meteorological information and to increase investment in education and training.	c) to f) Note g) to h) Included in the ASBU
Recommendation 4/8 – Crisis coordination arrangements and contingency plans That ICAO: a) consider how crisis coordination arrangements for potentially disruptive events, similar to that used for volcanic eruptions, could be established on a regional basis; b) and regional offices continue to support the development, promulgation, maintenance of contingency plans, including the holding of practical exercises, in preparedness for potentially disruptive events, including those events that may adversely impact aviation safety.	a) Note b) Exercises are made annually with the Meteorological Watch Office (MWO) in coordination with the Volcanic Ash Advisory Centre (VAAC)

Recommendations adopted by AN-CONF/12	Action taken by ICAO NACC RO/MET or comments for its implementation
Recommendation 6/1 – Regional performance framework – planning methodologies and tools That States and PIRGs: a) finalize the alignment of regional air navigation plans with the Fourth Edition of the *Global Air Navigation Plan* (Doc 9750, GANP) by May 2014; b) focus on implementing aviation system block upgrade Block 0 Modules according to their operational needs, recognizing that these modules are ready for deployment; c) use the electronic regional air navigation plans as the primary tool to assist in the implementation of the agreed regional planning framework for air navigation services and facilities; d) involve regulatory and industry personnel during all stages of planning and implementation of aviation system block upgrade modules; e) develop action plans to address the identified impediments to air traffic management modernization as part of aviation system block upgrade planning and implementation activities. That ICAO: f) considers how the continuous monitoring approach to safety oversight maps to the evaluation of Member States' safety oversight capabilities concerning aviation system block upgrades; g) review the current amendment process to the Regional Air Navigation Plans (ANPs) and recommend improvements to increase efficiencies related to the approval and maintenance of the data in the regional ANPs; h) develop guidance material, on the basis of best practices employed worldwide, for the regional/local deployment of new ATM technologies, required procedures, operational approvals and continue to support States in the implementation of the aviation system block upgrades; i) identify the issues, funding, training and resource requirements necessary to support a safety framework that would lay the foundation for successful implementation the aviation system block upgrades; j) develop, together with industry and stakeholders, an engagement strategy to address the economic and institutional impediments to implementation of the aviation system block upgrades; k) develop a mechanism for sharing of best practices for the aviation system block upgrade implementation; l) define a methodology to ensure interregional and global harmonization of air navigation services through ANRF reporting in an effective and timely manner, and consider the employment of interregional and multi-regional fora.	a) States and PIRGs finalize the alignment of regional air navigation plans with the Fourth Edition of the *Global Air Navigation Plan* (Doc 9750, GANP) by May 2014 b) States and PIRGs focus on implementing ASBU Block 0 Modules according to their operational needs c) States, PIRGs, IOs, use the electronic regional air navigation plans as the primary tool to assist in the implementation of the agreed regional planning framework for air navigation services and facilities d) States and PIRGs involve regulatory and industry personnel during all stages of planning and implementation of ASBU modules e) States and PIRGs develop action plans to address the identified impediments to air traffic management modernization as part of aviation system block upgrade planning and implementation activities f) to l) Note j) Note
Recommendation 6/2 – Guidelines on service priority That: a) ICAO develop an appropriate set of operational and economic incentive principles to allow early benefits of new technologies and procedures, as described in the aviation system block upgrade modules, to support operational improvements, while maximizing safety, capacity and overall system efficiency; b) States and international organizations contribute to this work.	a) and b) Note
Recommendation 6/3 – Assessment of economic, financial and social implications of air traffic management modernization and aviation system block upgrades deployment That ICAO: a) undertake work toward developing a network-wide operational improvement level assessment for global use, which should include the development of standard values and processes for economic evaluations; b) take the relevant conclusions from the AN-Conf/12, regarding economic, financial and social aspects of the aviation system block upgrades, to the Sixth Air Transport Conference with the aim of developing solutions which would support a safe and sustainable air navigation system. That States: c) conduct their economic, financial and social analyses in a closely coordinated manner with relevant ATM stakeholders in view of their diverse position of involvement in the implementation of aeronautical systems.	a) and b) Note c) States conduct their economic, financial and social analyses in a closely coordinated manner with relevant ATM stakeholders in view of their diverse position of involvement in the implementation of aeronautical systems

Recommendations adopted by AN-CONF/12	Action taken by ICAO NACC RO/MET or comments for its implementation
Recommendation 6/4 – Human performance That ICAO: a) integrate human performance as an essential element for the implementation of ASBU modules for considerations in the planning and design phase of new systems and technologies, as well as at the implementation phase, as part of a safety management approach. This includes a strategy for change management and the clarification of the roles, responsibilities and accountabilities of the aviation professionals involved; b) develop guidance principles, guidance material and provisions, including SARPs as necessary, on ATM personnel training and licensing including instructors and assessors, and on the use of synthetic training devices, with a view to promoting harmonization, and consider leading this effort with the support of States and industry; c) develop guidance material on using field experience and scientific knowledge in human performance approaches through the identification of human-centred operational and regulatory processes to address both current safety priorities and the challenges of future systems and technologies; d) assess the impact of new technologies on competencies of existing aviation personnel, and prioritize and develop competency-based provisions for training and licensing to attain global harmonization; e) establish provisions for fatigue risk management for safety within air traffic services operations; f) develop guidance material on different categories of synthetic training devices and their respective usage. That States: g) provide human performance data, information and examples of operational and regulatory developments to ICAO for the benefit of the global aviation community; h) support all ICAO activities in the human performance field through the contribution of human performance expertise and resources; i) adopt airspace procedures, aircraft systems, and space-based/ground-based systems that take into account human capabilities and limitations and that identify when human intervention is required to maintain optimum safety and efficiency; j) investigate methods to encourage adequate numbers of high quality aviation professionals of the future and ensure training programmes are in line with the skills and knowledge necessary to undertake their roles within a changing industry.	a) to f) Note g): States provide human performance data, information and examples of operational and regulatory developments to ICAO h) States support all ICAO activities in the human performance field through the contribution of human performance expertise and resources i) States adopt airspace procedures, aircraft systems, and space-based/ground-based systems that take into account human capabilities and limitations and that identify when human intervention is required j) States investigate methods to encourage adequate numbers of high quality aviation professionals of the future and ensure training programmes are in line with the skills and knowledge necessary
Recommendation 6/11 – Regional performance framework – alignment of air navigation plans and regional supplementary procedures That ICAO initiate a formal amendment process in accordance with normal procedures to align the areas of applicability of the air navigation plans and the regional supplementary procedures, observing the following principles: 1) there will be no change to the current accreditation of the ICAO regional offices to Contracting States; 2) there will be no change to the obligation of individual States to provide services in accordance with ICAO Annex 11 — *Air Traffic Services*, 2.1; 3) there will be no change to the governance responsibilities of the ICAO Council, including approval of amendments to air navigation plans and regional supplementary procedures; 4) there will be no change to the current requirements for services and facilities and or to the current supplementary procedures for a given airspace as listed in current air navigation plans and regional supplementary procedures; 5) there will be no change to the principle that a planning and implementation regional group is composed of the Contracting States providing air navigation service in the air navigation region and that other Contracting States can participate in the activities with observer status; 6) there will be no change to ICAO's assistance to planning and implementation regional groups from the regional offices; 7) the responsibilities of the performance framework management for an air navigation region will now be integrated and will rest with the planning and implementation regional group established for the region; 8) to the extent possible, the main traffic flows will be accommodated within homogeneous airspaces in order to minimize changes between different air navigation systems and different operational procedures during flight.	Note

Recommendations adopted by AN-CONF/12	Action taken by ICAO NACC RO/MET or comments for its implementation
Recommendation 6/12 – Prioritization and categorization of block upgrade modules That States and PIRGs: a) continue to take a coordinated approach among air traffic management stakeholders to encourage effective investment into airborne equipment and ground facilities; b) take a considerate approach when mandating avionics equipage in its own jurisdiction of air navigation service provision, taking into account of burdens on operators including foreign registry and the need for consequential regional/global harmonization. That ICAO: c) continue to work on guidance material for the categorization of block upgrade modules for implementation priority and provide guidance as necessary to planning and implementation regional groups and States; d) modify the block upgrade module naming and numbering system using, as a basis, the intuitive samples agreed by the Conference; e) identify modules in Block 1 considered to be essential for implementation at a global level in terms of the minimum path to global interoperability and safety with due regard to regional diversity for further consideration by States.	Already adopted a) States, PIRGS and IOs continue to take a coordinated approach among air traffic management stakeholders to encourage effective investment into airborne equipment and ground facilities b) States, PIRGs and IOs take a measured approach when mandating avionics equipage in its own jurisdiction of air navigation service provision, taking into account of burdens on operators including foreign registry and the need for consequential regional/global harmonization c) Note d) Note e) Note
Recommendation 6/13 – Development of Standards and Recommended Practices, procedures and guidance material That ICAO: a) improve its project management and coordination of contributing ICAO panels, study groups and other expert groups, including task forces and other specialized teams tasked with the development of ICAO provisions and related work, through: 1) consistent application of the *Directives for Panels of the Air Navigation Commission* (Doc 7984); 2) receiving regular reports from the expert groups against agreed terms of reference and work programmes; 3) mandating strong coordination between all expert groups developing ICAO provisions to ensure efficient management of issues and avoidance of duplication; 4) application of the principles of accountability, geographical representation, focus, efficiency, consistency, transparency and integrated planning to the operation of all the expert groups; 5) developing documented procedures for other expert groups, including task forces and other specialized teams as well; 6) better use of today's communication media and internet to facilitate virtual meetings, thereby increasing participation and reducing costs to States and ICAO; b) continue to coordinate with the other recognized standards-making organizations (Assembly Resolution A37-15 refers) in order to make the best use of the capabilities of these other recognized standards-making organizations and to make reference to their material, where appropriate; c) initiate studies to improve the verification and validation process required within ICAO before material developed by recognized standards-making organizations can be referenced in ICAO documentation; d) consider a methodology by which ICAO can capture the regional implementation and challenges, and to reflect them in a standardized process to effectively support the aviation system block upgrade deployment.	a) to d) Note
Recommendation 6/14 – Guidelines for conducting aeronautical studies to assess permissible penetration of obstacle limitation surfaces That ICAO develop comprehensive guidelines for States in the uniform application in conducting aeronautical studies to assess the permissible penetration of obstacle limitation surfaces (OLS).	Note

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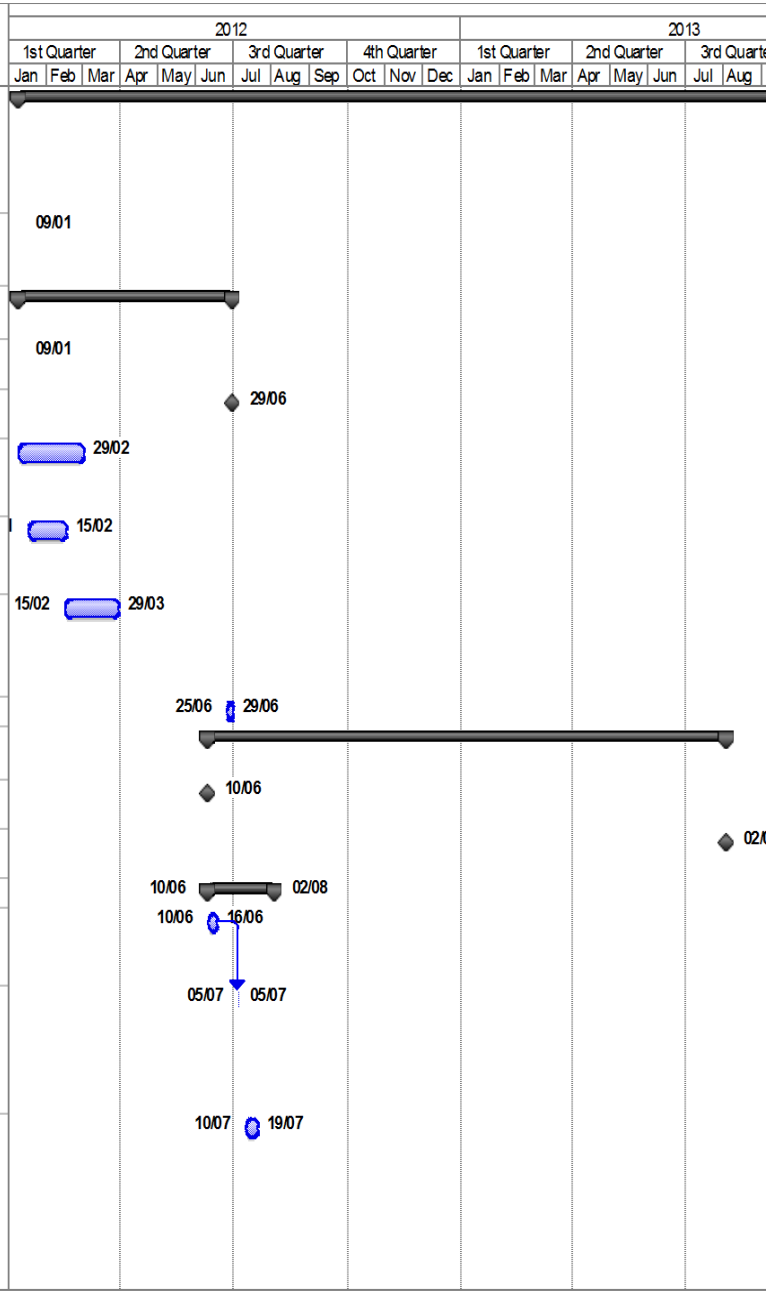
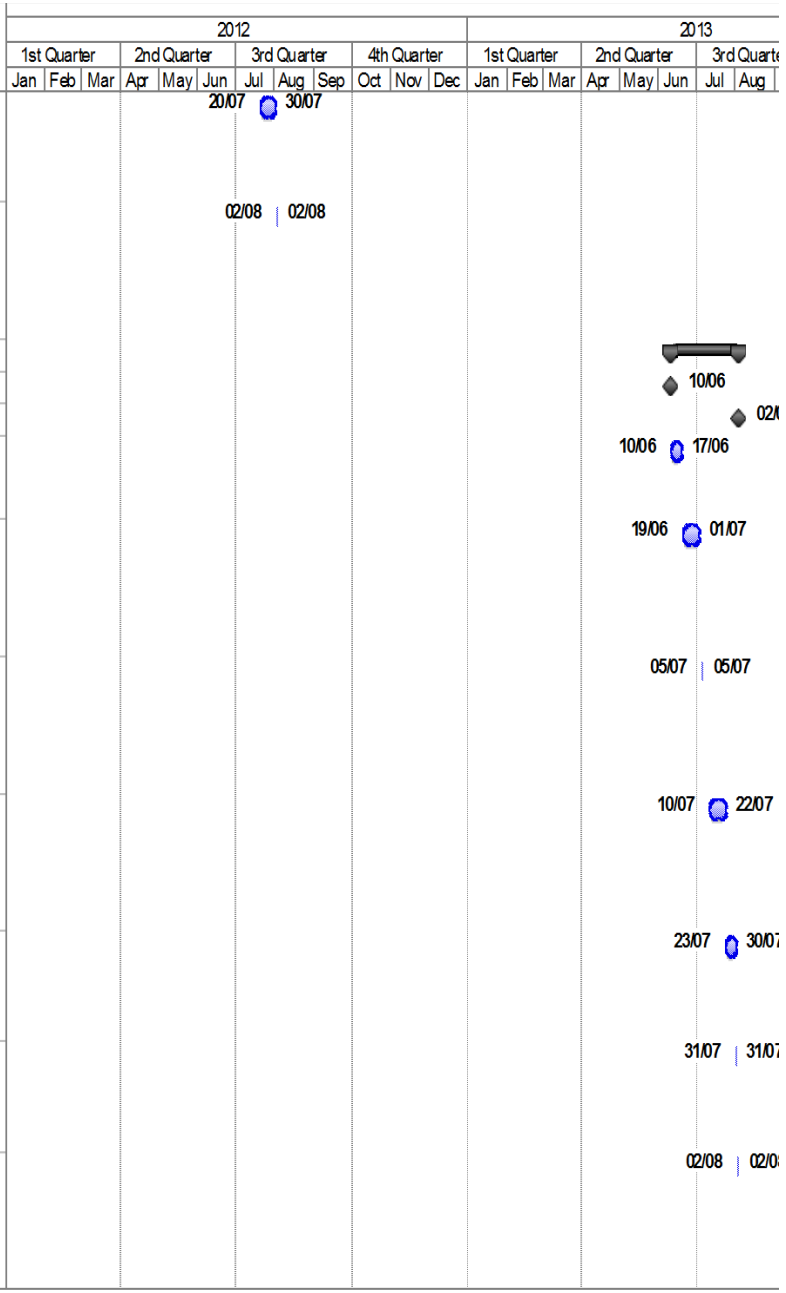
OPMET EXCHANGE OPTIMIZATION PROJECT, INCLUDING SIGMET (WS, WV AND WC) AND WARNINGS

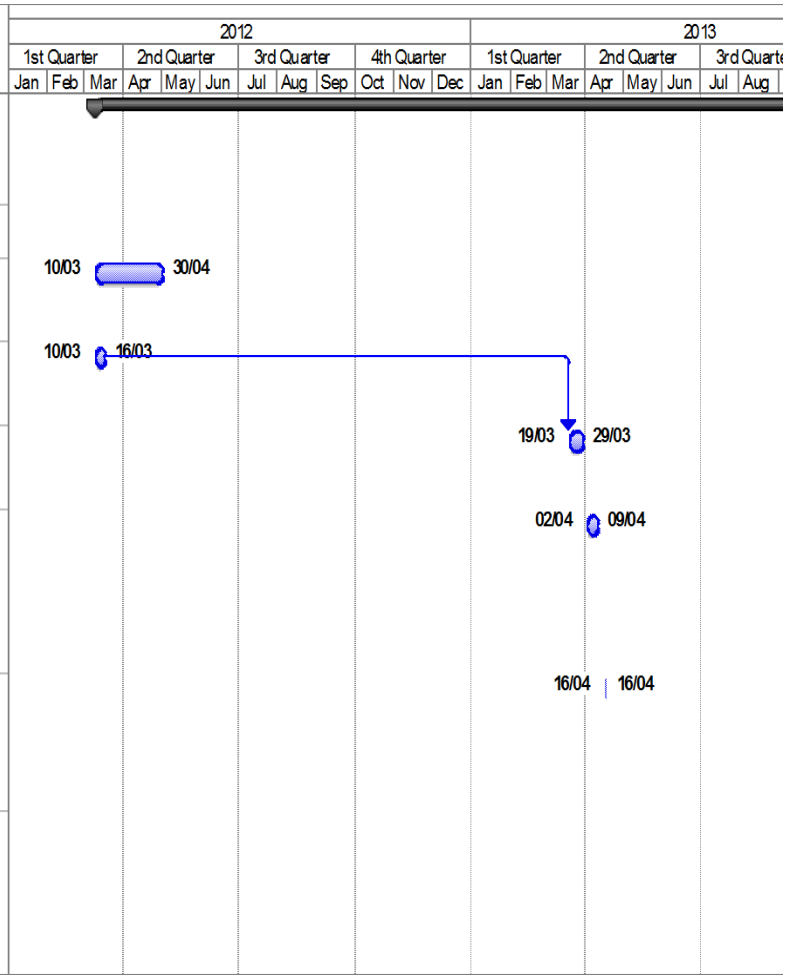
ID	Task Name	Duration	Start	Finish	Predecessors
1	**Optimización del intercambio OPMET, incluyendo SIGMET (WS, WV, WC y WR), avisos y alertas Meteorológicas/Optimization of OPMET exchange, incluidng SIGMETs (WS, WV, WC and WR), meteorological warning and alerts**	**1218 days?**	**Mon 09/01/12**	**Tue 30/08/16**	
2	Optimización del intercambio OPMET, incluyendo SIGMET (WS, WV, WC y WR), avisos y alertas Meteorológicas/Optimization of OPMET exchange, incluidng SIGMETs (WS, WV, WC and WR),	0 days?	Mon 09/01/12	Mon 09/01/12	
3	**Revisar y actualizar la Guía OPMET/Revew and update the OPMET Guide**	**129 days?**	**Mon 09/01/12**	**Fri 29/06/12**	
4	Revisar y actualizar la Guía OPMET/Revew and update the OPMET Guide	0 days?	Mon 09/01/12	Mon 09/01/12	
5	Revisar y actualizar la Guía OPMET/Revew and update the OPMET Guide	0 days?	Fri 29/06/12	Fri 29/06/12	
6	Revisar la Guía OPMET y proponer mejoras de ser necesario/Review the OPMET Guide and propose improvements if necessary	38 days	Mon 09/01/12	Wed 29/02/12	
7	Actualizar la lista de puntos de contacto operativos OPMET (POC)/Update the list of OPMET operational points of contact (POC)	22 days	Tue 17/01/12	Wed 15/02/12	
8	Revisary, de ser necesario, proponer mejoras a la tabla para el control OPMET/Review and, if necessary, propose improvements to the table for OPMET control	33 days	Wed 15/02/12	Thu 29/03/12	
9	Consolidar la Guía/Consolidate the Guide	5 days	Mon 25/06/12	Fri 29/06/12	
10	**Controles de intercambio OPMET de los Estados CAR/CAR States' OPMET exchange controls**	**305 days?**	**Sun 10/06/12**	**Fri 02/08/13**	
11	Controles de intercambio OPMET de los Estados CAR/CAR States' OPMET exchange controls	0 days?	Sun 10/06/12	Sun 10/06/12	
12	Controles de intercambio OPMET de los Estados CAR/CAR States' OPMET exchange controls	0 days?	Fri 02/08/13	Fri 02/08/13	
13	**Control OPMET 2012/OPMET Control 2012**	**43 days**	**Sun 10/06/12**	**Thu 02/08/12**	
14	Los Estados CAR llevan a cabo el control OPMET/CAR States carry out the OPMET control	7 days	Sun 10/06/12	Sat 16/06/12	
15	Cada Estado envía los resultados del control y de la evaluación al director del Proyecto/Each State submits the results of the control and the evaluation to the Project director	1 day	Thu 05/07/12	Thu 05/07/12	14
16	El director del Proyecto analiza y envía al coordinador del Programa MET los resultados del control y de la evaluación/The Project director analyzes and submits to the MET Programme coordinator the results of the control and evaluation	8 days	Tue 10/07/12	Thu 19/07/12	



ID	Task Name	Duration	Start	Finish	Predecessors
17	El coordinador del Programa MET analiza los resultados de las tareas realizadas/The MET Programme coordinator analyzes and results of the tasks performed	7 days	Fri 20/07/12	Mon 30/07/12	16
18	La Oficina CAR envia a los Estados los resultados del control con acciones de mejora, si fuera el caso/CAR Office submits to States the results of the control with improvement actions, if necessary	1 day	Thu 02/08/12	Thu 02/08/12	
19	**Control OPMET 2013/OPMET Control 2013**	**41 days?**	**Mon 10/06/13**	**Fri 02/08/13**	
20	Control OPMET 2013/OPMET Control 2013	0 days?	Mon 10/06/13	Mon 10/06/13	
21	Control OPMET 2013/OPMET Control 2013	0 days?	Fri 02/08/13	Fri 02/08/13	
22	Los Estados CAR llevan a cabo el control OPMET/CAR States carry out the OPMET control	7 days	Mon 10/06/13	Mon 17/06/13	
23	Cada Estado evalúa los resultados del control OPMET y lo envía a los demás Estados/Each State evaluates the results of OPMET control and sends it to the other States	9 days	Wed 19/06/13	Mon 01/07/13	
24	Cada Estado evalúa los resultados del control OPMET y lo envía a los demás Estados/Each State evaluates the results of OPMET control and sends it to the other States	1 day	Fri 05/07/13	Fri 05/07/13	
25	Cada Estado envía los resultados del control y de la evaluación al director del Proyecto/Each State submits the results of the control and the evaluation to the Project director	9 days	Wed 10/07/13	Mon 22/07/13	
26	El coordinador del Programa MET analiza los resultados de las tareas realizadas/The MET Programme coordinator analyzes and results of the tasks performed	6 days	Tue 23/07/13	Tue 30/07/13	
27	GoToMeeting para revisar los resultados generales del control OPMET/GoToMeeting to review general results of OPMET control	1 day	Wed 31/07/13	Wed 31/07/13	
28	La Oficina CAR envia a los Estados los resultados del control con acciones de mejora, si fuera el caso/CAR Office submits to States the results of the control with improvement actions, if necessary	1 day	Fri 02/08/13	Fri 02/08/13	



ID	Task Name	Duration	Start	Finish	Predecessors
29	**Control de datos OPMET recibidos en el Banco internacional de datos OPMET (IODB) de Washington/OPMET Data Control received in the Washington International OPMET databank (IODB)**	**1173 days?**	**Sat 10/03/12**	**Tue 30/08/16**	
30	Control de datos OPMET recibidos en el Banco internacional de datos OPMET (IODB) de Washington/OPMET Data Contrd	0 days?	Tue 30/08/16	Tue 30/08/16	
31	Primer control OPMET del IODB de Washington en 2012/First OPMET control of the Washington IODB in 2012	37 days	Sat 10/03/12	Mon 30/04/12	
32	El Banco lleva a cabo el control de datos OPMET recibidos/The Bank carries out the control of the OPMET data received	6 days	Sat 10/03/12	Fri 16/03/12	
33	El Banco analiza y evalúa el primer control/The Bank analyzes and evaluates the first control	9 days	Tue 19/03/13	Fri 29/03/13	32
34	El director del Proyecto analiza y envía al coordinador del Programa MET los resultados del control y de la evaluación/The Project director analyzes and submits to the MET Programme coordinator the results of the control and evaluation	6 days	Tue 02/04/13	Tue 09/04/13	
35	La Oficina CAR envia a los Estados los resultados del control con acciones de mejora, si fuera el caso/CAR Office submits to States the results of the control with improvement actions, if necessary	1 day	Tue 16/04/13	Tue 16/04/13	
36	Finalización del Proyecto 31 de diciembre de 2014 (Estos controles se realizan anualmente en marzo, junio, septiembre, diciembre)/End of Project 31 December 2014 (These controls are carried out annually in March, June, September & December)	435 days	Wed 31/12/14	Tue 30/08/16	



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