



ICAO

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

Thirty Fourth MEVA Technical Management Group Meeting

(MEVA/TMG/34)

Final Report

Miami, United States, 11 – 13 June 2019

The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of ICAO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

List of Contents

Contents	Page
Index	i-1
Historical	ii-1
ii.1 Place and Date of the Meeting.....	ii-1
ii.2 Opening Ceremony.....	ii-1
ii.3 Officers of the Meeting	ii-1
ii.4 Working Languages	ii-1
ii.5 Schedule and Working Arrangements.....	ii-1
ii.6 Agenda	ii-2
ii.7 Attendance	ii-2
ii.8 List of Conclusions	ii-2
ii.9 List of Working and Information Papers and Presentations	ii-3
List of Participants	iii-1
Contact Information	iv-1
Agenda Item 1	1-1
<i>Approval of Meeting Agenda, Work Method and Schedule</i>	
Agenda Item 2	2-1
<i>Operation and Performance of the MEVA III Network</i>	
2.1 <i>MEVA Network operation and performance: 04/2018 - 05/2019</i>	
2.2 <i>MEVA III monitoring and reporting</i>	
2.3 <i>Aeronautical Message Handling System (AMHS) connections</i>	
2.4 <i>Surveillance data sharing</i>	
Agenda Item 3	3-1
<i>Use of Current Aeronautical Frequencies and Their Future</i>	
3.1 <i>ICAO position for the International Telecommunication Union World Radiocommunication Conference 2019 (ITU WRC-19)</i>	
3.2 <i>Update of ICAO Frequency Lists (List 1, 2 and 3)</i>	
3.3 <i>Aeronautical Frequencies Management MEVA/Ad hoc</i>	
Agenda Item 4	4-1
<i>MEVA Phase IV</i>	
4.1 <i>Updating of telecommunications needs by States</i>	
4.2 <i>Strategies about MEVA IV implementation</i>	
4.3 <i>Discourse session</i>	

Contents	Page
Agenda Item 5	5-1
Administration Activities	
5.1 <i>Update Information on administrative issues</i>	
5.2 <i>Others</i>	
Agenda Item 6	6-1
Other Business	

HISTORICAL

ii.1 Place and Date of the Meeting

The Thirty Fourth MEVA Technical Management Group Meeting (MEVA/TMG/34) was held at Miami, United States, from 11 to 13 June 2019.

ii.2 Opening Ceremony

Mr. Joe Knecht, International Deputy Coordinator, officially opened the meeting on behalf of the United States' Federal Aviation Administration (FAA). He welcomed the participants, highlighting the importance of the MEVA work during these years and the benefits for the region.

Mrs. Mayda Ávila, ICAO NACC Communications, Navigation and Surveillance (CNS) Regional Officer, thanked the United States FAA for hosting this meeting and invited all the participants to work closely and to improve the MEVA communication network to support all challenges that the region have now and for the future.

Ms. Dulce Rosés, MEVA/TMG Coordinator, United States FAA, thanked the support of the MEVA/TMG Members in the development of the MEVA work and also for all the work done to complete Aeronautical message handling system (AMHS) implementation.

ii.3 Officers of the Meeting

The MEVA/TMG Coordinator, Ms. Dulce Roses, chaired the MEVA/TMG/34 Meeting plenary. Mrs. Mayda Ávila of the ICAO NACC Regional Office served as Secretary of the Meeting.

ii.4 Working Languages

The working language of the Meeting was English and working papers, information papers and draft report of the meeting were available to participants in said language.

ii.5 Schedule and Working Arrangements

It was agreed that the working hours for the sessions of the meeting were from 09:00 to 15:30 hours daily with adequate breaks. Ad hoc Groups were created during the Meeting to do further work on specific items of the Agenda.

ii.6 Agenda

Agenda Item 1: Approval of Meeting Agenda, Work Method and Schedule

Agenda Item 2: Operation and Performance of the MEVA III Network

- 2.1 MEVA Network operation and performance: 04/2018 - 05/2019
- 2.2 MEVA III monitoring and reporting
- 2.3 Aeronautical Message Handling System (AMHS) connections
- 2.4 Surveillance data sharing

Agenda Item 3: Use of Current Aeronautical Frequencies and Their Future

- 3.1 ICAO position for the International Telecommunication Union World Radiocommunication Conference 2019 (ITU WRC-19)
- 3.2 Update of ICAO Frequency Lists (List 1, 2 and 3).
- 3.3 Aeronautical Frequencies Management MEVA/Ad hoc

Agenda Item 4: MEVA Phase IV

- 4.1 Updating of telecommunications needs by States
- 4.2 Strategies about MEVA IV implementation
- 4.3 Discourse session

Agenda Item 5: Administration Activities

- 5.1 Update Information on administrative issues
- 5.2 Others

Agenda Item 6: Other Business

ii.7 Attendance

The Meeting was attended by 10 States/Territories from the NAM/CAR Regions, two International Organizations and Industry, totalling 28 delegates as indicated in the list of participants.

ii.8 List of Conclusions

An executive summary of these conclusions is presented in **Appendix A** to this report.

ii.9 List of Working and Information Papers and Presentations

Refer to the Meeting web page:

<https://www.icao.int/NACC/Pages/meetings-2019-mevatmg34.aspx>

The final list of documentation will be included in the final version of the Report.

WORKING PAPERS

Number	Agenda Item	Title	Date	Prepared and Presented by
WP/01	1	Approval of Meeting Agenda, Work Method and Schedule	03/06/19	Secretariat
WP/02	2	Review of conclusions and actions from previous MEVA/TMG meetings, NACC/WG meetings and from ANI/WG meetings	11/06/19	Secretariat
WP/03	3.2	Need of updated information for the correct frequency assignment in the CAR region	10/06/19	Secretariat
WP/04	3.1	Activities carried up by ICAO before the ITU Conference 2019 on November 2019	07/06/19	Secretariat
WP/05	3.2	Aeronautical Frequencies Management MEVA/Ad hoc	30/05/19	Haiti
WP/06	2.3	FAA transitions to AMHS	04/16/19	United States
WP/07	2.3	Decommissioning of FAA x.25 Network	05/16/19	United States
WP/08	4	Space-Based ADS-B Progress Update	10/06/19	AIREON
WP/09	6	MEVA III Technical Management Group Terms of Reference	11/06/19	TMG Coordinator

INFORMATION PAPERS

Number	Agenda Item	Title	Date	Prepared and Presented by
IP/01	---	List of Working, Information Papers and Presentations	11/06/19	Secretariat
IP/02	2.4	Review of node performance radar data sharing and VHF communication with PTT services	29/05/19	Jamaica
IP/03	4.2	Technical exploration and phases	07/06/19	COCESNA
IP/04	3.3	Radar Data Sharing and VHF Communication with PTT Services	10/06/19	TF Rapporteur

PRESENTATIONS

Number	Agenda Item	Title	Presented by
1	2.1	Operation and performance of the MEVA III Network	Frequentis
2	5.1	Update Information on Administrative Issues	Frequentis
3	4.1	MEVA III (Phase IV) options	COCESNA
4	4.2	Satellite ADS-B Curacao Implementation	AIREON

ORDER OF THE AGENDA ITEMS

General	
Agenda Item 1	WP/01, WP/02 (Secretariat)
Agenda Item 2	P/01 (Frequentis), WP/06, WP/07 (United States), IP/02 (Jamaica)
Agenda Item 3	WP/03, WP/04, WP/09 (Secretariat); WP/05 (Haiti); IP/04 (TF Rapporteur)
Agenda Item 4	WP/08, IP/04 (AIREON), P/03, P/03 (COCESNA),
Agenda Item 5	WP/09 (TMG Coordinator), P/02 (Frequentis)

LIST OF PARTICIPANTS

ARUBA

1. Joselito Correia de Andrade

BAHAMAS

2. Roscoe Perpall
3. Earl A. Rahming

CAYMAN ISLANDS

4. Wendell Prout

CUBA

5. Jorge Luis Castellanos
6. Ruslán Segredo Subit

CURAÇAO

7. Jean B. J. Getrouw

DOMINICAN REPUBLIC

8. José A. Aquino Lebron
9. Juan Ramón Cabrera
10. Elvis A. Collado

HAITI

11. Emmanuel Jacques
12. Yves André Cesar

JAMAICA

13. Derrick Grant
14. Rowell Hall

TRINIDAD AND TOBAGO

15. Veronica Ramdath

UNITED STATES

16. Dulce Maria Rosés
17. Albert O'Neill
18. Tayloe Lewis
19. Nigel Simmons
20. Scott Leis

AIREON

21. Ana Persiani
22. Keith Fenton

FREQUENTIS

23. Markus Tenbeck
24. Stefan J. Galler
25. Adriana Candez

COCESNA

26. Moises Isaac Cukier Moran
27. Roger Alberto Perez Serrano

ICAO

28. Mayda Avila

CONTACT INFORMATION

LIST OF PARTICIPANTS

Name / Position	Administration / Organization	Telephone / E-mail
Aruba		
Joselito Correia de Andrade Manager CNS/ATM Systems	Air Navigation Services	Tel. +1 297 5282700 E-mail: Joselito.correideandrade@ansa.aw
Bahamas		
Roscoe Perpall Supervisor-Air Traffic Controllers	Civil Aviation Authority	Tel. + 1 242 3974 700 EXT 4770 E-mail: kerline@octave.bansd.gov.bs ; roscoe.perpall@bansd.gov.bs ; rperpall@gmail.com
Earl A. Rahming Chief CNS Officer	Civil Aviation Authority	Tel. + 1242 3974 700 EXT 4770 E-mail kerline.octave@bansd.gov.bs ; earl.rahming@bansd.gov.bs ; rahmingearl@gmail.com ;
Cayman Islands		
Wendell Prout Electronics Engineering Officer	Airports Authority	Tel. + 1-345-928-5830 E-maill: wendell.prout@caymanairports.com ; prout.ciaa@gmail.com
Cuba		
Jorge Luis Castellanos Air Radiocommunications Manager	Empresa Cubana de Navegación Aérea (ECNA)	Tel. 537 266 4424 E-mail: jorge.castellanos@aeronav.avianet.cu
Ruslán Segredo Subit Air Radiocommunications Manager	Empresa Cubana de Navegación Aérea (ECNA)	Tel. 537 266 4424 E-mail: Ruslan.segredo@aeronav.avianet.cu
Curaçao		
Jean B. J. Getrouw CNS Manager	DC-ANSP	Tel. 5999-8393515 E-mail; j.getrouw@dc-ansp.org
Dominican Republic		
José A. Aquino Lebron ATN Manager	Instituto Dominicano de Aviación Civil	Tel. +1 809-274-4322 ext. 2200 E-mail: Jose.aquino@idac.gov.do

MEVA/TMG/34
List of Participants – Contact Information

iv – 2

Name / Position	Administration / Organization	Telephone / E-mail
Juan Ramón Cabrera CNS Manager	Instituto Dominicano de Aviación Civil	Tel. +1 809-274-4322 ext 2101 E-mail: jcabrera@idac.gov.do
Elvis A. Collado Communication Manager	Instituto Dominicano de Aviación Civil	Tel. +1 809-274-4322 ext 2288 E-mail: ecollado@idac.gov.do
Haiti		
Emmanuel Jacques CNS Engineer	OFNAC	Tel. +1 (509)46206540 E-mail: emmanueljacques@gmail.com
Yves André Cesar CNS Technical Adviser	OFNAC	Tel. +1 (509)44940018 E-mail: yacesar@hotmail.com
Jamaica		
Derrick Grant Director, Communication, Navigation & Surveillance	Jamaica Civil Aviation Authority	Tel. +1 876-960-3948 E-mail: derrick.grant@jcaa.gov.jm
Rowell Hall Regional Operations Manager	Jamaica Civil Aviation Authority	Tel. +1 876-9784037 E-mail: rhall@aerotel-jm.com
Trinidad and Tobago		
Veronica Ramdath Manager Communication Navigation Surveillance	Trinidad and Tobago Civil Aviation Authority	Tel. +1 868 669 4806 E-mail: vramdath@caa.gov.tt
United States		
Dulce Maria Rosés International Telecommunications Lead	Federal Aviation Administration	Tel. +1 305 716 1830 E-mail: dulce.roses@faa.gov
Albert O'Neill Program Management Organization	Federal Aviation Administration	Tel. + 1 404 474 5169 E-mail: al.o'neill@faa.gov
Tayloe Lewis Principal Systems Engineer	Federal Aviation Administration	Tel. +1 703-593-3597 E-mail: tayloe.ctr.lewis@faa.gov
Nigel Simmons Sr. Engineer	Federal Aviation Administration	Tel. +1-301-760-7648 E-mail: Nigel.ctr.Simmons@faa.gov
Scott leis International Program Officer	Federal Aviation Administration	Tel. +1 202-267-3641 E-mail: Scott.leis@faa.gov

MEVA/TMG/34
List of Participants – Contact Information

iv – 3

Name / Position	Administration / Organization	Telephone / E-mail
AIREON		
Ana Persiani Regional Director, Latin America and Caribbean	AIREON	Tel. + 1 480 427 5658 E-mail: ana.persiani@aireon.com
Keith Fenton Systems Engineer and Implementation Lead	AIREON	Tel. +1 571-230-6946 E-mail: keith.fenton@aireon.com
FREQUENTIS		
Markus Tenbeck Solutions Architect	FREQUENTIS	Tel. + 49 170 916 0277 E-mail: markus.tenbeck@frequentis.com
Stefan J. Galler Director Air Traffic Management Networks	FREQUENTIS	Tel. + 43 1 81150 3837 E-mail: Stefan.Galler@frequentis.com
Adriana Candez Sales manager	FREQUENTIS	Tel. + 43 1 81150 3837 E-mail: Adriana.candez@frequentis.com
COCESNA		
Moises Isaac Cukier Moran CNS Specialist	COCESNA	Tel. +504 2275 7090 E-mail: moises.cukier@cocesna.org
Roger Alberto Perez Serrano Technical Manager	COCESNA	Tel. + 504 2275 7090 E-mail: roger.perez@cocesna.org
ICAO		
Mayda Avila Regional Officer, Communications, Navigation and Surveillance	North American, Central American and Caribbean (NACC) Office	Tel. +52 55 5250 3211 E-mail: mavila@icao.int

Agenda Item 1 Approval of Meeting Agenda, Work Method and Schedule

1.1 Under WP/01, the Meeting agreed on the Meeting Agenda, work schedule and the Meeting Schedule.

Agenda Item 2 Operation and Performance of the MEVA III Network

2.1 MEVA Network operation and performance: 04/2018 - 05/2019

Review of conclusions and actions from previous MEVA/TMG Meetings, NACC/WG Meetings and from ANI/WG Meetings

2.1.1 Under WP/02, the Secretariat presented a follow-up and summary concerning the conclusions from MEVA/TMG/32, MEVA/TMG/33 Meetings and from the NACC/WG/5, ANI/WG/4 and ANI/WG/5 Meetings.

Meeting	Valid Conclusion
MEVA/TMG/32	3
MEVA/TMG/33	7
NACC/WG/5	2
ANI/WG/4	3
ANI/WG/5	1

2.1.2 The Secretariat shared its concerns because some of the conclusions have more than four years without any information update and actions by States.

2.1.2 In this regard, ICAO proposed to find a better follow-up mechanism for all the conclusions that are still valid and future activities with the aim to close them on time, with quality and efficiency.

2.1.3 Regarding conclusions review, 7 were completed and 3 were superseded and 2 conclusion still valid. Because the actions to be executed have been replaced by other appropriate activities.

2.1.4 The Conclusion Status is presented in the **Appendix B** to this Agenda Item.

Operation and performance of the MEVA III Network

2.1.5 Under P/01, MEVA Network Service Provider presented the MEVA network operational status and performance. It was shown that MEVA Network Service Provider delivers ongoing reporting on a monthly basis. The network had during the period 99.6% availability for redundancy sites and 99.0% for non-redundancy channel, with periodical high-volume traffic FXS line blocking rate (maximum 5%) always below maximum > additional bandwidth.

2.1.6 MEVA Network Service Provider concluded that all the related network and operations status were within expected parameters.

2.2 Aeronautical Message Handling System (AMHS) connections

2.3 FAA transitions to AMHS

2.3.1 Under WP/06 the progress of FAA transitions from AFTN to AMHS was presented.

2.3.2 Since the MEVA/TMG/33 Meeting held in Curaçao in 2018, MEVA members Panama and Curaçao have transitioned to AMHS, but the FAA has devoted effort to mitigate the sun-setting of time division multiplex (TDM) circuits with four countries being migrated to an Asia-Pacific Multi-protocol label Switching (MPLS) network. FAA has transitioned eighteen countries to AMHS. Of the six remaining, three are in testing and the remaining three executing Technical Letters to begin the process.

2.3.3 With the last countries now starting AMHS transition activities, the FAA can anticipate achieving the goal of complete transition from aeronautical fixed telecommunication network (AFTN) to AMHS possibly within the next year's timeframe, achieving an ICAO NAM/CAR goal.

2.4 Decommissioning of FAA x.25 Network

2.4.1 Under WP/07, the progress in decommissioning the FAA X.25 network was presented and the support for remaining legacy X.25 AFTN connections was discussed.

2.4.2 This working paper reported that the FAA is in the final phases of decommissioning its X.25 network. Four remaining users will be migrated to a Commercial off the shelf equipment (COTS) solution: Bahamas, Haiti, Peru and Venezuela. The FAA will originate and maintain persistent X.25 SVCs to these users.

2.4.3 Finally, it mentioned that in order to complete decommissioning of its X.25 network, four legacy X.25 AFTN users will be migrated to a Transport control protocol, Internetworking protocol TCP/IP to X.25 conversion capability in the near future.

2.5 Surveillance data sharing

Review of node performance radar data sharing and VHF communication with PTT services

2.5.1 Under IP/02, Jamaica informed that jointly with COCESNA has entered a successful radar data sharing and A-G radio PTT service which has enabled Jamaica to adequately cover the Southwestern section of the Kingston Flight information region (FIR) which was a growing concern to the ICAO and certainly the end users in Jamaica.

2.5.2 Over the period under review an assessment was carried out and it can be reported that there is significantly improved performance in terms of the areas where there was little or no coverage. There is now improved surveillance and coordination performance between Jamaica, Panama and Barranquilla.

2.5.3 The sharing of radar data and other services as described above such as A-G radio PTT services has proven to be a very safe and cost-effective way of leveraging resources to ensure continued

safety in the CAR/SAM Regions. This successful implementation has paved the way for the sharing of future services between States in the CAR/SAM Regions such as the sharing of ADS-B data.

Agenda Item 3 Use of Current Aeronautical Frequencies and Their Future

3.1 ICAO position for the International Telecommunication Union World Radiocommunication Conference 2019 (ITU WRC-19)

Activities carried up by ICAO before the ITU Conference 2019 (November 2019)

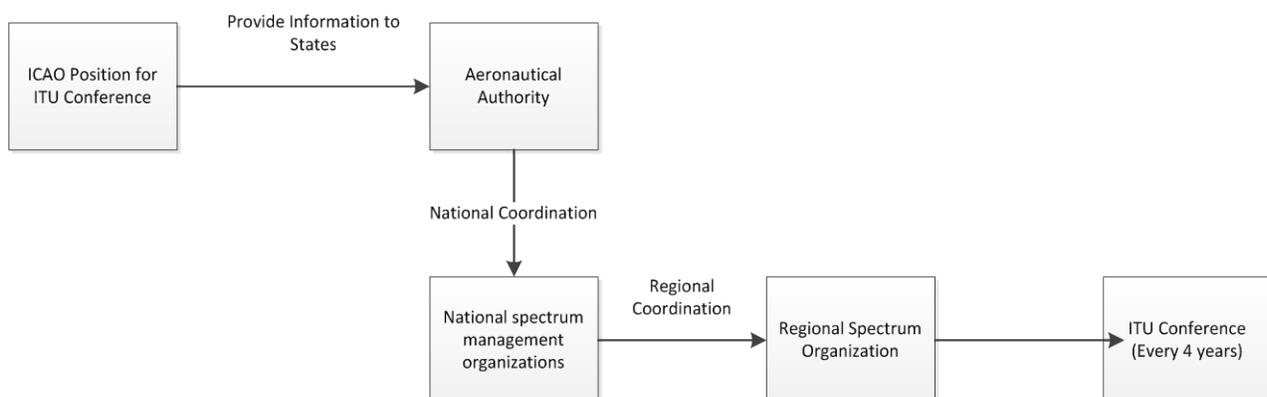
3.1.1 Under WP/04, the Secretariat informed that the radio spectrum is a scarce natural resource with finite capacity for which demand is constantly increasing. Aeronautical radio services are recognized internationally to be prime users of radio frequencies, without which aircraft operation would not be capable of meeting the global demand for safe, efficient and cost-effective transport.

3.1.2 It also commented that ICAO's position aims at protecting aeronautical spectrum for all radiocommunication and radionavigation systems used for ground facilities and on-board aircraft.

3.1.3 The process of international competition between expanding radio services, which takes place in the International Telecommunication Union (ITU), obliges all existing spectrum users, aeronautical and non-aeronautical alike, to continually defend and justify the retention of frequency bands or the addition of new bands to those already allocated to their service.

3.1.4 Civil aviation requirements continue to grow, demanding more navigation and communication facilities, thus creating ever-increasing pressure to an already stretched resource, similarly to other, non-aviation users, with whom aviation shares the frequency spectrum resource.

3.1.5 Accordingly, Civil aviation must develop and present its agreed policies and its quantified and qualified statements of requirement for radio frequency spectrum, so as to ensure continuing availability and access to the frequency spectrum resource and, ultimately, the ongoing viability of air navigation services throughout the world.



3.1.6 Finally, the Meeting agreed that work according with the Ad-Hoc Group's Terms of References approved by ANI/WG/04 that will be carried out through the MEVA.

3.2 Update of ICAO Frequency Lists (List 1, 2 and 3)

Need of information for the accurate updating of frequency assignment in the CAR Region

3.2.1 Under WP/03, the Secretariat explained that the ICAO NACC Regional Office is responsible of CAR States Aeronautical frequencies allocation with the objective to carry out an appropriate management and avoiding duplicity in the frequencies and that the ICAO "Frequency Finder" helps to develop the analysis of frequency usage.

3.2.2 Currently, the Frequency Finder is not updated and there is a need to update this information to provide better results and avoid interference in the frequencies allocation.

3.2.3 It is necessary that every CAR State update their frequency Allocation information (COM Lists 1, 2 and 3) notifying:

1. All the frequencies allocated that are in operation according with their services.
2. All frequencies allocated that are no longer in operation with the aim of de-assigning them from the database.

3.2.4 The Secretariat congratulated Dominican Republic for having finished their updates to the COM Lists and invited CAR States to provide this information as soon as possible. It also informed that the States may find all the related information at: https://www.icao.int/NACC/Pages/ES/frequency_ES.aspx

3.2.5 The Meeting agreed that this activity has to be carried out by MEVA Frequencies Ad-Hoc Group, because it is one of the tasks of its Terms of Reference. The Group must provide this information no later than 30 September 2019.

Aeronautical Frequencies Management MEVA/Ad Hoc

3.2.6 Under WP/05, Haiti informed the Group about the Frequencies Management MEVA Ad Hoc Group and to emphasize the importance for the States to support it.

3.2.7 This Working Paper emphasized to all the States that they must take action to ensure that the radio spectrum used for current and future air navigation services is available. An action plan, related to the objectives of the Ad Hoc Group, was presented. It was also mentioned that a Point of Contact (PoC) should be designated by each State to facilitate and support the task of the MEVA Frequencies Management Ad Hoc Group.

3.2.8 The Meeting agreed the following draft conclusion:

CONCLUSION	
MEVA/TMG/34/01	Aeronautical Frequencies Management MEVA/Ad Hoc Group Follow up
<p>What:</p> <p>That, considering that the radio spectrum is a scarce natural resource with finite capacity for which demand is constantly increasing and that it is necessary that NAM/CAR States analyse and implement mechanisms to ensure the protection of the frequencies required for current and future air navigation services, States:</p> <ul style="list-style-type: none"> a) MEVA/TMG Members support that Haiti as leader of MEVA Ad Hoc Frequencies Group would be represented as observer in the ICAO FSMP in August 2019. b) Designate POCs for each State for Frequency management matters by 30 June 2019. c) Update the COM Lists 1, 2 and 3 of the Frequency Finder database by 30 September 2019. d) To ensure that their POCs support the mechanism of frequencies management for ITU Conference 2023. 	<p>Expected impact:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Operational/Technical
<p>Why:</p> <p>that NAM/CAR States analyse and implement mechanisms to ensure the protection of the frequencies required for current and future air navigation services</p>	
<p>When: MEVA TMG/35</p>	<p>Status: <input checked="" type="checkbox"/> Valid / <input type="checkbox"/> Superseded / <input type="checkbox"/> Completed</p>
<p>Who: <input checked="" type="checkbox"/> States <input type="checkbox"/> ICAO <input type="checkbox"/> Other:</p>	

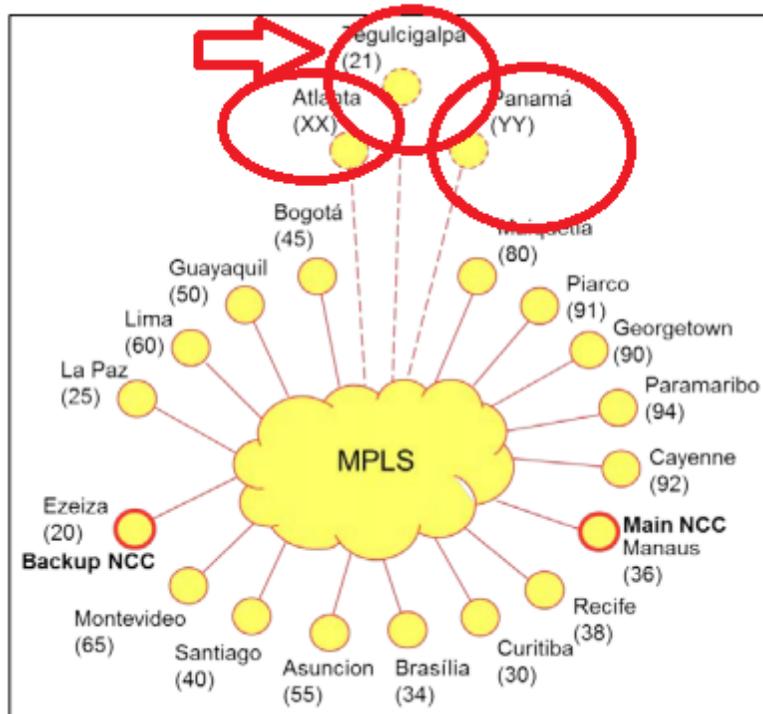
Agenda Item 4 MEVA Phase IV

Technical proposal of redundancy for the MEVA III – REDDIG II interconnection

4.1 The WP/10 presented in the Twenty-Third Workshop/Meeting of the SAM Implementation Group (SAM/IG/23) - Regional Project RLA/06/901, held in Lima, Peru, from 20 to 24 May 2019, was shared with the MEVA/TMG/34 Meeting because of its relevance. This document provided a technical proposal to implement nodes of the REDDIG backup network (MPLS) in some States/Organizations of MEVA III network, that have communication with REDDIG States through a sole existing via, the MEVA III –REDDIG II interconnection.

4.2 The proposal is based on that both two networks deployed in NAM/CAR (MEVA III) and SAM (REDDIG II) have as common characteristic the usage of the same satellite (Intelsat IS 14). This allowed the implementation of an interconnection between the two networks.

4.3 The working paper proposed the extension of the REDDIG terrestrial (MPLS) network to three MEVA sites which implement direct connections to REDDIG: Atlanta (United States), Panama (Panama) and Tegucigalpa (Honduras), as indicated in the following figure:



4-2

4.4 The SAM Working Paper indicated the importance of redundancy and suggested that REDDIG MPLS connections could be a backup to the current MEVA-REDDIG interconnections."

4.5 The Secretariat noted the importance of communication between the CAR and SAM regions and welcomed the opportunity to implement backup communications in the event of failure of the MEVA-REDDIG satellite connections.

4.6 The Meeting suggested that States were free to pursue the SAM offer but noted that the function should be considered for MEVA 4 requirements.

4.7 Finally, Curaçao also indicated the need to establish a technical/operational requirement to integrate Colombia and Venezuela to the next phase of MEVA.

4.8 The Meeting agreed the following conclusion.

CONCLUSION	
MEVA/TMG/34/02	COMMUNICATION REDUNDANCY CHANNEL FOR MEVA III – REDDIG II INTERCONNECTION
<p>What:</p> <p>That, in order to support the terrestrial backup of the SAM REDDIG Network offered to MEVA members having direct connections to REDDIG members, Panama, the United States and COCESNA,</p> <p>a) will move forward in performing the technical, administrative and legal analysis for this terrestrial backup, carried out individually agreement with the REDDIG management, and</p> <p>b) to inform the progress to the MEVA TMG/35 Meeting and ICAO NACC Regional Office.</p>	<p>Expected impact:</p> <p><input type="checkbox"/> Political / Global</p> <p><input checked="" type="checkbox"/> Inter-regional</p> <p><input checked="" type="checkbox"/> Economic</p> <p><input type="checkbox"/> Environmental</p> <p><input checked="" type="checkbox"/> Operational/Technical</p>
Why: Provide a back-up communication between ICAO Regional Networks	
When: MEVA/TMG/35 Meeting.	Status: <input checked="" type="checkbox"/> Valid / <input type="checkbox"/> Superseded / <input type="checkbox"/> Completed
Who: <input type="checkbox"/> States <input checked="" type="checkbox"/> ICAO <input type="checkbox"/> Other:	Panama. United States and COCESNA

Technical Exploration and Phases

4.9 Under IP/03, the steps to update and migrate to the MEVA 4.0 network, before the end of the additional five-year term, were commented.

4.10 In this regard, it was informed that the MEVA III Framework Agreement is currently in its fifth and last year of the original contract term. The term may be extended for additional five (5) years, on a year to year optional period basis. According to past experience, a MEVA network migration

process may take several years, divided into several phases, the first one proposed for this next process would be the Technical Exploration Phase.

4.11 The technical exploration consists of the first phase of the renewal/update process of the current MEVA III network, with the provision of technical information for new technologies and solutions for land and/or satellite-based telecommunication voice and data network services between ATC Centers throughout the geographical sub-region of the Central Caribbean (C/CAR) covering an area bounded to the north by the United States, to the South by Colombia and Venezuela, to the west by Mexico and Central America, and go as far east as Saint Maarten.

4.12 The updated technical solution must include all the possible modern, secure and reliable associated equipment, telecommunication technologies, data technologies available that will serve as a technical base for analysis and drafting of a future RFI.

4.13 COCESNA's task was to present and explain the different phases to the TMG. The following timeline was proposed for the migration process to MEVA 4.0:

Year	Activity
2019-2020	Technical Exploration
2021	Request for Information
2022	Request for Proposal
2023	Implementation & Migration

- a) COCESNA mentioned that in previous processes a Memorandum of Understanding MoU was signed between different States. This is a Document of Agreement signed by all MEVA Members indicating their commitment to transition to the next generation MEVA under the same process and vendor.
- b) The importance of collecting all the States' technical information was emphasized as a starting point for the technical exploration phase.
- c) The following new services were mentioned:
 - Curaçao is looking to implement a new AMHS channel between them and Venezuela.
 - Cuba: new line between Cuba and Unites States is in process.
- d) The TMG Coordinator reminded the group that the actual service provider must be informed with at least six months in advance requesting the service contract extension (deadline September 2019).
- e) Explore to look for the best technology, robust and better equipment to implement.
- f) ICAO explained that the States are working in the service implementation through third party communications companies, but it is necessary to improve a IP network as soon as possible to support the actual and near future implementations.

- g) The following is required as information starting point:
- Current communication needs
 - AMHS Topology
 - ATFM data implementations
 - Search and rescue (SAR) requirements, internal and external connections
 - System wide information management (SWIM) requirements: Flight plan information, meteorological information, Aeronautical information Publication (AIP) electronic information
 - States analysis about: requirements for sharing surveillance data information
 - Backup infrastructure/operational procedure to support damage causes for hurricane, earthquake and volcanic ash
 - Cybersecurity
 - Flexibility and scalability
 - Europe/SAM interconnections
 - Standardization and harmonization
 - Integrate E/CAR region and other States that are not part of MEVA
 - Bandwidth considerations for use of SWIM
 - Analysis about their own performance operations, among others.
- h) MEVA Service Provider suggested the information requirements that help the possible providers according to the communication data collection.
- i) Cuba suggested a full IP network, with hardware standardization, protocols, among others.

4.14 The FAA suggested that legacy ports/services should not be included on the new network. Because of these, it was concluded that:

1. It is urgent and imperative to have all the States' current and near future communication needs identified and collected.
2. A four-year transition/implementation plan must be analysed for efficiency and plan according to time constraints.
3. A flexible, scalable, efficient, robust and resilient network must be designed for the next MEVA 4.0 generation.
4. A technical exploration phase must be completed to present different solution options.

4.15 In accordance with the previous information, the Meeting agreed to implement the following work mechanism for 2019:

- a) COCESNA and the ICAO NACC Regional Office will update a form that allows the States to provide information about their technical and operational requirements. The new form will contain requirements to provide information about current communications channels, backup communications needs, ATFM, SWIM and other services to implement among others.

- b) The MEVA Members States will provide information according with the previous request. This information will be the baseline to develop a Request for Information Draft Document that will provide information about the different solutions and technologies that could be implemented in the MEVA IV Phase.
- c) For this purpose, United States provided the following link, where States may find information about the FAA's NAS Service Registry and Repository (NSRR). This information could support SWIM information requirements: <https://nsrr.faa.gov/>

4.16 The Meeting agreed to create a subgroup under the Ad-Hoc MEVA IV Phase Group to carry out an analysis about technical and operational requirements according with the different areas of implementation.



Item	Area	States Members	Name/responsible
1	SWIM	Jamaica Trinidad and Tobago United States	Albert O'neill
2	Interoperability	Aruba Bahamas ICAO	Earl A. Rahming
3	Voice	Cuba Dominican Republic	Elvis Collado
4	Surveillance	Curaçao Haiti COCESNA	Roger Perez
5	Others	Cayman Islands Mexico Panama	Wendell Prout

4.17 The Meeting agreed to work the RFI according with the previous figure and under the leadership of the different States.

4.18 These activities will be carried out through teleconferences and other actions that the different group decide.

4.19 This information will provide the required data to develop the Request for Information Documentation (RFI).

4.20 In this regard, the Meeting agreed in the following conclusion:

CONCLUSION	
MEVA/TMG/34/03	RFI for MEVA IV Network
<p>What: That, in order for the MEVA/TMG develop a Request for Information Document for the MEVA 4 Network, integrating activities led by the different States:</p> <ul style="list-style-type: none"> a) COCESNA and ICAO will update the RFI format that States shall use to provide their communications needs by 30 June 2019. b) MEVA Member States will complete the format and provide their information by 30 September 2019. c) MEVA Ad Hoc communications Group to integrate the information and provide the basic requirements necessary for the development of the MEVA IV phase by 28 February 2020. 	<p>Expected impact:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Political / Global <input checked="" type="checkbox"/> Inter-regional <input checked="" type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Operational/Technical
<p>Why: For the MEVA/TMG develop a Request for Information Document for the MEVA 4 Network</p>	
<p>When: By November 2019</p>	<p>Status: <input checked="" type="checkbox"/> Valid / <input type="checkbox"/> Superseded / <input type="checkbox"/> Completed</p>
<p>Who: <input checked="" type="checkbox"/> States <input checked="" type="checkbox"/> ICAO <input checked="" type="checkbox"/> Other:</p>	<p>MEVA/TMG Coordinator, ICAO and MEVA States Members</p>

Space-based ADS-B deployment

4.21 Under WP/8 AIREON introduced the progress in the implementation of Space-Based ADS-B worldwide and outcomes from the deployment of the system in Curaçao's DC-ANSP and connection using MEVA

4.22 Space-based ADS-B is live since 1 April 2019. The constellation is completed with 66 operational satellites, 9 satellites in orbit for back up and 6 satellites on ground for back up. Nav Canada and UK NATS are the first ANSPs that started using the system in the North Atlantic airspace and using reduced aircraft separation minima of 14 NM or 17 NM, plus 5 NM opposite direction, using CPDLC for communication.

4.23 Aireon indicated the rest of launch customers will be operational between the IIIQ19 and IVQ19, including Curaçao, which is expected to start operations in the IVQ19.

4.24 Aireon receives around 20 billion ADS-B messages monthly. The UI shown for oceanic airspace is average 5 s at 95% with 44 satellites, so it is expected to be better with the full constellation now operational.

4.25 Aireon received EASA certification on 4 June 2018 as an Air Traffic Management (ATM) and Air Navigation Services (ANS) organization for the oceanic environment. The certifications for the en-route and terminal environments are expected in July 2019.

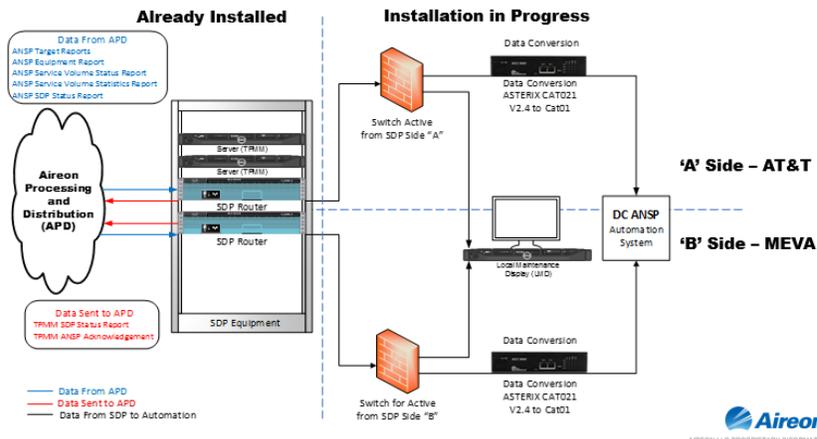
4.26 This EASA certification and Aireon's safety case support each ANSP's own safety case for regulatory approval of the use of the system. Aireon reminded the group that a joint Aireon-EASA WP was presented at the last ADS-B workshop in November 2018 in Mexico, in support to States' regulatory approval process for ADS-B.

4.27 ICAO indicated the initiative from the surveillance TF of the ANI/WG to work jointly with IATA in defining the surveillance gaps currently existing in the region and based on that, to request a quote to Aireon to cover those gaps and implement a regional surveillance solution, where MEVA would be used to distribute the data.

4.28 In reference to surveillance data exchange among ANSPs with the use of space-based ADS-B, Aireon indicated ANSPs need to be space-based ADS-B users and have an agreement in place to share their data, for Aireon to be able to deploy it to the ANSPs that are including in the data exchange agreement.

Space-based ADS-B implementation in Curaçao

4.29 Space-based ADS-B is in the process of being implemented in Curaçao, Aireon's launch customer in the Caribbean region. The architecture for connecting DC-ANSP to Aireon's processing centre in Virginia includes the use of the MEVA network as is as follows:



4.30 Aireon established the 'A' side, MPLS connection in Curaçao during the week of 27 May 2019. The integration entailed activating Aireon data delivery through the AT&T MPLS line, converting ASTERIX data to a message format that will be accepted by Curaçao's Automation platform, and validating target update and positional accuracy in the TCNF FIR. Aireon, in partnership with Curaçao, successfully integrated Space-Based ADS-B data on their test platform on 30 May 2019. In partnership with Frequentis, Aireon has established all connections for the 'B' side, MEVA connection and is expected to be activated 13 June 2019.

4.31 Latency and availability are exceeding expectations, beating the industry standards. The average bandwidth usage at peak times is 56 kbps, close from the initial estimation of 66 kbps introduced at the last TMG33 Meeting.

4.32 Curaçao indicated the system is working very well and they are awaiting the results from the MEVA connection as they see MEVA as a tool that will significantly reduce Telco costs.

4.33 ICAO expressed the importance of showing MEVA performance metrics in order to determine the feasibility to continue its usage for distribution of surveillance data, as it can be helpful to other States.

4.34 United States indicated they are conducting testing of space-based ADS-B in the Caribbean airspace under their responsibility and they can share this information to other States.

4.35 COCESNA indicated they are close from signing an agreement with Aireon and they will be looking at the MEVA option for connection.

4.36 Jamaica indicated they are evaluating the space-based ADS-B system and considering the use of MEVA.

4.37 The Meeting agreed the following conclusion

DECISION	
MEVA/TMG/34/04	FOLLOW UP ON SPACE-BASED ADS-B PERFORMANCE WITH MEVA CONNECTION
<p>What:</p> <p>That, in order to follow up on space-based ADS-B performance with MEVA connection, MEVA/TMG creates an Ad-Hoc Group (Curaçao, Dominican Republic, Jamaica and COCESNA) with the aim to following up on the performance of MEVA for the distribution of space-based ADS-B data and system's implementation in Curaçao and report on its progress by MEVA TMG/35 Meeting</p>	<p>Expected impact:</p> <p><input type="checkbox"/> Political / Global <input checked="" type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Operational/Technical</p>
<p>Why:</p> <p>The use of MEVA could reduce Telco costs for States who are interested in implementing space-based ADS-B. Therefore, it is important to determine the level of performance it has to make sure of its feasibility to be used to distribute surveillance data as ADS-B for potential future use for local and regional levels</p>	
<p>When: MEVA TMG/35 Meeting</p>	<p>Status: <input checked="" type="checkbox"/> Valid / <input type="checkbox"/> Superseded / <input type="checkbox"/> Completed</p>
<p>Who: <input checked="" type="checkbox"/> States <input type="checkbox"/> ICAO <input type="checkbox"/> Other:</p>	<p>Curaçao, Dominican Republic, Jamaica and COCESNA</p>

Agenda Item 5 Administration Activities

5.1 Under P/02, Update Information on Administrative Issues, presented by MEVA Service Provider, the MEVA Provider informed that The MEVA III contract will end by 31 March 2020.

5.2 According to the general contract the term may be extended for additional twenty four (24) month periods after the Termination Date (“Renewal Terms”), provided that the parties agree in writing to any new or modified terms and conditions for the Services for such Renewal Terms within ninety (90) days prior to the termination of the preceding term.

5.3 MEVA Service Provider indicated that it is necessary to have a confirmation by the use 90 days before the ends of the contract because the used space segment on Intelsat 14 is highly occupied and already requested by others, MEVA Service Provider sub-contracts with Teleport provider are bound to MEVA contract with fixed ending and the same applies to T1 lines between TP Miami and FAA Miami.

5.4 The MEVA/TMG Meeting agreed that the new MEVA IV Phase Network will not be available in the coming months and that it is necessary to continue with the services provided through the current MEVA network.

5.5 The Meeting agreed the following conclusion:

CONCLUSION	
MEVA/TMG/34/05	Extend current MEVA Network Service contract
<p>What:</p> <p>That, considering that the MEVA/TMG group is working in the development of a new MEVA Network (MEVA IV Network) to provide IP communication to support current and future communications services, but this new phase will not be ready in the next 4 years.:</p> <ul style="list-style-type: none"> a) MEVA/TMG Members to extend the current MEVA III service contract for two more years; b) ICAO NACC Office to explain and communicate to MEVA States this requests; and c) ICAO NACC Office in behalf of the MEVA III Members to communicate to the MEVA Service provider on the 90 days extension before to the end of the contract. 	<p>Expected impact:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Political / Global <input checked="" type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Operational/Technical
<p>Why:</p> <p>To continue with the regional communication service.</p>	
<p>When: By 15 December 2019</p>	<p>Status: <input checked="" type="checkbox"/> Valid / <input type="checkbox"/> Superseded / <input type="checkbox"/> Completed</p>
<p>Who: <input type="checkbox"/> States <input checked="" type="checkbox"/> ICAO <input type="checkbox"/> Other:</p>	

Agenda Item 6 Other Business

MEVA III Technical Management Group Terms of Reference

6.1 Under WP/09 a review of the MEVA Technical Management Group (TMG) Terms of Reference (TOR) and Work Programme was conducted by the .

6.2 The MEVA/TMG Coordinator indicated that Terms of Reference documents was developed, reviewed and approved by all MEVA Members at the time including its Work Programme New Technology and requirements are being implemented and a revision of the TOR must take place to ensure the TMG provides a complete appraisal of existing and future requirements and implementation.

6.3 According with the new requirements and the two new Ad Hoc Group under MEVA TMG is necessary to update the terms of reference adding information about activities to improve XML testing under AMHS system, Item 10 of MEVA TMG Work Programme. Also it is necessary to integrate new activities and responsibilities about Frequencies management carry up by Frequency MEVA Ad Hoc Group.

6.4 The Secretariat explained about the new ANI/WG structure and the integration of the GREPECAS projects activities in the same line with NACC and ANI/WG activities with the aim to align everything under the same programme and same objectives.

6.5 According with the results of the ANI/WG/5 Meeting all task forces have the responsibility to update their actions plan according with the next strategic objectives:

1. Efficiency: Reduce longitudinal distance between operations.
2. Safety: Increase AIM/SWIM implementation according with standards and quality ensure.
3. Reduce CO2 emissions.

6.6 The MEVA Task Force was invited to update their Terms of Reference according with this ANI/WG agreement and provide a new version to incorporate:

1. Alignment with the three ICAO NACC Regional Objectives.
2. To integrate GREPECAS activities of Project C and D.
3. A new draft version of the Terms of Reference by October 2019.
4. Work in a final version of Term of Reference according with ICAO assembly results.

6.7 The Secretariat indicated the importance to find the common activities with the other ANI/WG Task Force and improve a better mechanism of implementation avoiding duplicated activities.

6.8 Another important thing is to measure development and result of the activities.

6.9 The Meeting agreed the following conclusion:

CONCLUSION	
MEVA/TMG/34/06	Update MEVA/TMG Terms of Reference
<p>What:</p> <p>That, in order to update of the MEVA III Terms of Reference to support new challenges in the region, and to integrate activities with ANI/WG the MEVA TMG agreed:</p> <p>a) to review MEVA ToRs considering the GREPECAS Project C and D activities;</p> <p>b) to align ToRs with ICAO regional strategic objectives; and</p> <p>c) provide a draft ToR update by 30 September 2019; and</p> <p>d) Update this draft document according with the ICAO Assembly results by 30 December 2019.</p>	<p>Expected impact:</p> <p><input type="checkbox"/> Political / Global</p> <p><input checked="" type="checkbox"/> Inter-regional</p> <p><input checked="" type="checkbox"/> Economic</p> <p><input type="checkbox"/> Environmental</p> <p><input checked="" type="checkbox"/> Operational/Technical</p>
<p>Why:</p> <p>to update of the MEVA III Terms of Reference to support new challenges in the region, and to integrate activities with ANI/WG</p>	
<p>When: By September 2019</p>	<p>Status: <input checked="" type="checkbox"/> Valid / <input type="checkbox"/> Superseded / <input type="checkbox"/> Completed</p>
<p>Who: <input type="checkbox"/> States <input checked="" type="checkbox"/> ICAO <input checked="" type="checkbox"/> Other:</p>	<p>MEVA/TMG Coordinator, ICAO and MEVA States Members</p>

Next Meeting

6.10 The meeting reviewed the MEVA Meeting rotational scheme that indicated that COCESNA will host the next MEVA/TMG Meeting.

6.11 COCESNA confirmed their willingness to host the 2020 meeting, but Frequentis services provider offered to host the meeting taking into account the MEVA IV Phase process and the necessity of the MEVA Members to know about new technologies and explore the communication network infrastructure that are working around the world; some of them by Frequentis services.

6.12 The Meeting agreed that Frequentis' offer is an excellent opportunity that would help to better develop the new MEVA network phase requirements. The meeting also indicated that accepting this provider offer does not force the region to contract the current service provider for the new MEVA phase.

6.13 The Meeting approved the following MEVA TMG Meeting Rotational scheme:

Year	Meeting hosted by:
2020	Frequentis
2021	COCESNA
2022	Bahamas
2023	Dominican Republic
2024	Cayman Islands

**APPENDIX A
EXECUTIVE LIST OF CONCLUSIONS**

Number	Conclusion	Responsible for action	Deadline
MEVA/TMG/34/01	Aeronautical Frequencies Management MEVA/AD-hoc Group Follow up		
	That, considering that the radio spectrum is a scarce natural resource with finite capacity for which demand is constantly increasing and that it is necessary that NAM/CAR States analyse and implement mechanisms to ensure the protection of the frequencies required for current and future air navigation services, States:		
	a) a) MEVA/TMG Members support that Haiti as leader of MEVA Ad Hoc Frequencies Group would be represented as observer in the ICAO FSMP in August 2019.	States	August 2019
	b) Designate POCs for each State for Frequency management matters by 30 June 2019.	States	30 June 2019.
	c) Update the COM Lists 1, 2 and 3 of the Frequency Finder database by 30 September 2019.	States / ICAO	30 September 2019
	d) To ensure that their POCs support the mechanism of frequencies management for ITU Conference 2023.	States / ICAO	Report results for the next MEVA meeting on June 2020
MEVA/TMG/34/02	Communication Redundancy Channel for MEVA III – REDDIG II Interconnection		
	That, in order to support the terrestrial backup of the SAM REDDIG Network offered to MEVA members having direct connections to REDDIG members, Panama, the United States and COCESNA,	United States, Panama and COCESNA, States SAM Region and ICAO NACC and SAM Office.	
	a) will move forward in performing the technical, administrative and legal analysis for this terrestrial backup, carried out individually agreement with the REDDIG management, and	United States, Panama and COCESNA, States SAM Region and ICAO NACC and SAM Office.	

Number	Conclusion	Responsible for action	Deadline
	b) to inform the progress to the MEVA TMG/35 Meeting and ICAO NACC Regional Office.	United States, Panama and COCESNA	
MEVA/TMG/34/03	RFI for MEVA Phase IV		
	That, in order for the MEVA/TMG develop a Request for Information Document for the MEVA 4 Network, integrating activities led by the different States:		
	a) COCESNA and ICAO will update the RFI format that States shall use to provide their communications needs by 30 June 2019.	COCESNA and ICAO	30 June 2019.
	b) MEVA Member States will complete the format and provide their information by 30 September 2019.	MEVA Member States	30 September 2019
MEVA/TMG/34/04	Follow Up on Space-Based ADS-B Performance with MEVA connection		
	That, in order to follow up on space-based ADS-B performance with MEVA connection, MEVA/TMG creates an Ad-Hoc Group (Curaçao, Dominican Republic, Jamaica and COCESNA) with the aim to following up on the performance of MEVA for the distribution of space-based ADS-B data and system's implementation in Curaçao and report on its progress by MEVA TMG/35 Meeting	Curacao Dominican Republic, Jamaica and COCESNA	Immediate action to be reported in the next MEVA/TMG Meeting
MEVA/TMG/34/05	Extend current MEVA Network Service contract		

Number	Conclusion	Responsible for action	Deadline
	That, considering that the MEVA/TMG group is working in the development of a new MEVA Network (MEVA IV Network) to provide IP communication to support current and future communications services, but this new phase will not be ready in the next 4 years:		
	a) MEVA/TMG Members agreed to approve the service contract extension for two more years.	MEVA/TMG Members	
	b) ICAO explain and communicate to States Aviation Authorities this requests, and;	ICAO	
	c) ICAO NACC Office in behalf of the MEVA III Members to communicate to the MEVA Service provider on the 90 days extension before to the end of the contract	December 15 2019	
MEVA/TMG/34/06	Update MEVA/TMG Terms of Reference		
	That, in order to update of the MEVA III Terms of Reference to support new challenges in the region, and to integrate activities with ANI/WG the MEVA TMG agreed:		
	a) to review MEVA ToRs considering the GREPECAS Project C and D activities;	MEVA/TMG Coordinator, ICAO and MEVA States Members	
	b) Align ToRs with ICAO regional strategic objectives	MEVA/TMG Coordinator, ICAO and MEVA States Members	
	c) Provide a Draft Document by 30 September 2019; and	MEVA/TMG Coordinator, ICAO and MEVA States Members	30 September 2019

Number	Conclusion	Responsible for action	Deadline
	d) Update this draft document according with the ICAO Assembly results by 30 December 2019.	MEVA/TMG Coordinator, ICAO and MEVA States Members	30 December 2019

APPENDIX B

MEVA/TMG/33

Number	Conclusion/Decision	Responsible for action	Deadline	Status	Observations
CONCLUSION MEVA/TMG/33/1	IMPROVE MAINTENANCE That, in order to improve the quality of MEVA equipment maintenance by the MEVA Member States:	MEVA Member States		Completed	Provider sent information, only two States accepted the OJT
	a) the MEVA Service Provider send a quote to ICAO by the end of July 2018, to be distributed to the MEVA Members, for an optional additional day during the next annual maintenance in order to provide OJT (On Job Training); and	The MEVA Service Provider	end of July 2018		
	b) MEVA Members notify the acceptance of the proposal by September 2018.	MEVA Members	September 2018		
CONCLUSION MEVA/TMG/33/2	GENERAL PROCEDURE TO REQUEST A NEW CHANNEL That, in order for this procedure to be efficient, the Meeting agreed the following:	MEVA/TMG/33 Meeting		Completed	States may ask for a direct new channel to MEVA Provider and inform ICAO. ICAO will update information with the new request. States must coordinate directly with Provider its technical, operational and administrative requirements.
	a) <u>New channel circuit</u> : The MEVA Members will coordinate directly with the MEVA Service Provider for the implementation of new channels and when ready for operation, the MEVA Service Provider will inform ICAO for its records and ICAO will inform the other MEVA Members;	MEVA Members, the MEVA Service Provider and ICAO			

Number	Conclusion/Decision	Responsible for action	Deadline	Status	Observations
	b) In the case that a new channel requires additional satellite bandwidth, the MEVA Service Provider will provide ICAO with details of the increase and the incremental monthly cost to be paid by each State. ICAO will send this information to the States to support their administrative processes in order to proceed with the payment according to the information provided; and	the MEVA Service Provider and ICAO			
	c) MEVA Members will report by 30 July 2018, if this procedure is acceptable or needs to be modified.	MEVA Members	30 July 2018		
CONCLUSION MEVA/TMG/33/3	INCREASE SWITCHED CIRCUIT That, in order to maintain the Service level for switched lines, the MEVA Service Provider make an analysis of the data of the rest of the year 2018, and indicate when it will be necessary to increase the switched circuits again. The result of this analysis will be presented by the MEVA/TMG/34 Meeting.	The MEVA Service Provider	MEVA/TMG/34 Meeting	Completed	Provider presented information in every monthly report. See „ERLANG“ in the reports.
CONCLUSION MEVA/TMG/33/4	MEVA-III DISASTER RECOVERY That, in order to ensure that the MEVA service is restored as soon as possible, in the event that an antenna of any of the Member State suffers hurricane damage, the Meeting agreed the following:	MEVA/TMG/33 Meeting		Completed	MEVA/TMG is going to integrate its technical and operative requirements in the new MEVA phase.

Number	Conclusion/Decision	Responsible for action	Deadline	Status	Observations
	a) The MEVA Service Provider will prepare a quotation, based on the current proposal indicating the monthly cost to be charged to each State for the MEVA Service Provider to assume the responsibility for temporary antenna restoral when required. This information is to be sent to ICAO by 30 June 2018; and	The MEVA Service Provider	30 June 2018		
	b) the MEVA Members to evaluate the quotation and provide an answer by 30 August 2018.	the MEVA Members	30 August 2018		
CONCLUSION MEVA/TMG/33/5	DECOMMISSIONING OF FAA X.25 NETWORK That, in order to ensure continual exchange of aeronautical messages:			Completed	
	a) Bahamas, Curacao and Haiti work directly with United States to agree on an action plan and ensure the availability of aeronautical message exchange before decommissioning of the X.25 network. They will present the action plan to ICAO for follow-up by 30 August 2018; and	Bahamas, Curacao and Haiti work directly with the FAA	30 August 2018	Completed	States worked directly with United States regarding AFTN channels decommission and ICAO report to ICAO SAM Office about it.
	b) that the ICAO NACC Regional Office inform the SAM Region by 30 June 2018 on the impact that this action will have on Brazil, Peru, and Venezuela .	ICAO NACC Regional Office	30 June 2018		

Number	Conclusion/Decision	Responsible for action	Deadline	Status	Observations
CONCLUSION MEVA/TMG/33/6	RADAR DATA SHARING-CUBA INFORMATION That, in order to improve radar data sharing between Cuba and Jamaica, both MEVA Members continue working together and send an update of the status of radar data sharing implementation to ICAO by 30 August 2018.	Cuba and Jamaica	30 Mayo 2020	Valid	States did not report any change. Cuba indicated that their experts are focused in the ATC development software.
CONCLUSION MEVA/TMG/33/7	AMHS SYSTEM TABLE ADDRESSING That, in order to update the AMHS addressing database to avoid problems in sending and receiving aeronautical messages, ICAO provide information on the uses of the ATS Messaging Management Centre (AMC) addressing tables by 15 September 2018.	ICAO	15 September 2018	Completed	ICAO provided information to States; also ICAO NACC Regional Office coordinated with Eurocontrol a training. That training was development in ICAO NACC Office, Mexico to all States with AMHS.
CONCLUSION MEVA/TMG/33/8	ANALYSIS OF NEW MEVA PHASE That, in order to ensure the correct and safe implementation of the new services in the region, the Meeting agreed to:	MEVA/TMG/33 Meeting		Completed	
	15) provide to the MEVA rapporteur with their action plan and status for ATFM, ADS-B satellite and SWIM implementation by 25 June 2018; and	MEVA/TMG/33 Meeting	25 June 2018		

Number	Conclusion/Decision	Responsible for action	Deadline	Status	Observations
	<p>b) create a MEVA Ad hoc Group integrated by Dominican Republic, Trinidad and Tobago, United States and COCESNA with the objective of developing technical/operational requirements for a new platform of IP- communication to support the new services and develop an action plan for execution in the next two years.</p> <ul style="list-style-type: none"> • The Ad hoc Group will be led by COCESNA and supported by ICAO. • It will propose a new phase of MEVA network to support the new communications needs to be presented at the MEVA/TMG/34 Meeting. 	MEVA/TMG/33 Meeting	MEVA/TMG/34 Meeting		
CONCLUSION MEVA/TMG/33/9	<p>PROTECTION OF THE FREQUENCIES NEEDED FOR AVIATION</p> <p>That, in order to establish continuous evaluation of the radio electric spectrum for aviation, the Meeting agreed to create an Ad hoc group, led by Haiti and integrated by Cuba and Dominican Republic, to create and provide guidelines based on ICAO regulations to address actions to be taken by States to guarantee the protection and availability of frequencies for the current and future aviation needs. Their first activity will be to prepare the MEVA Members for the ITU-WRC19 and report in the MEVA/TMG in May 2019.</p>	MEVA/TMG/33 Meeting	MEVA/TMG/34 Meeting	Completed	

Number	Conclusion/Decision	Responsible for	Deadline	Status	Observations
CONCLUSION MEVA/TMG/33/10	INVOICES PAYMENT PROCEDURE That, to improve efficiency through direct communication so that States can make timely payment of invoices, the Meeting agreed the following:	MEVA/TMG/33 Meeting		Completed	CAO and Frequentis will work in to find a way to improve payments given by ICAO
	15) each MEVA Member will provide by 30 June 2018, an administrative Point of Contact (PoC), responsible for making the	Each MEVA Member	30 June 2018		
	b) Frequentis will send, starting July 2018, a copy of the invoice directly to both, the Technical and Administrative Representatives of the State, with the aim that, through direct receipt of information, the corresponding invoice payment can be made on time; and	Frequentis	starting July 2018		
	c) Cuba, Panama and ICAO will implement a mechanism by July 2018, to ensure that the Invoice payments of these States are on time.	Cuba, Panama an ICAO	July 2018		
DECISION MEVA/TMG/33/11	THIRD PARTY PROCEDURE That,				
	15) according to the information provided, the Meeting validated and accepted the Procedure, so that it can be used by a third party to provide services to a MEVA Member according to the requirements, responsibilities stipulated in the	MEVA/TMG/33 Meeting		Completed	Decision is Completed because the deadline passed and no comments were received from the States.
	b) however, the document will remain as an open document and will be evaluated by 15 July 2018 to add any comment proposed by the State; and		15 July 2018		

	<p>c) the MEVA Service Provider will officially inform how the bandwidth that AIREON contracts for the implementation of ADS-B Satellite data will be used, and in how the bandwidth that is not used by AIREON will be used to support other MEVA according with the AIREON propose, the rest of bandwidth could be used to support MEVA services without any additional charges, Frequentis will informed about the use of the bandwidth by December 2018.</p>	<p>The MEVA Service Provider and Frequentis</p>	<p>December 2018</p>		
--	--	---	----------------------	--	--

Other Decisions and Conclusions

Number	Conclusion/Decision	Responsible for	Deadline	Status	Observations												
DECISION MEVA/TMG/33/12	TERMS OF REFERENCE (ToRs) The MEVA TMG Terms of Reference and Work Programme were updated and approved by the Meeting as presented in Appendix C.	MEVA/TMG/33 Meeting.	MEVA/TMG/33 Meeting.	Completed													
CONCLUSION MEVA/TMG/33/13	NEW ROTATION SCHEDULE FOR 2020-2024 That, in order to improve the planning and organization of the MEVA TMG Meetings, taking in consideration the benefits of conducting the meetings in MEVA locations:																
	15) United States confirms that they will host the MEVA/TMG/34 in May 2019; and	United States	MEVA/TMG/34 Meeting in May 2019														
	b) the MEVA Members approve the following MEVA TMG Meeting Rotational scheme; <table border="1" data-bbox="520 898 879 1263" style="margin-left: 40px;"> <thead> <tr> <th>Year</th> <th>Meeting hosted by:</th> </tr> </thead> <tbody> <tr> <td>2020</td> <td>Frequentis</td> </tr> <tr> <td>2021</td> <td>COCESNA</td> </tr> <tr> <td>2022</td> <td>Bahamas</td> </tr> <tr> <td>2023</td> <td>Dominican Republic</td> </tr> <tr> <td>2024</td> <td>Cayman Islands</td> </tr> </tbody> </table>	Year	Meeting hosted by:	2020	Frequentis	2021	COCESNA	2022	Bahamas	2023	Dominican Republic	2024	Cayman Islands	the MEVA Members		Completed	COCESNA confirmed a meeting on Tegucigalpa by 2021. Bahamas will confirm by 2022 and Dominican Republic by 2023.
Year	Meeting hosted by:																
2020	Frequentis																
2021	COCESNA																
2022	Bahamas																
2023	Dominican Republic																
2024	Cayman Islands																
	c) the MEVA Members apply the same rule for the previous rotation schedule, and	the MEVA Members															

	d) the MEVA Members confirm the hosting of MEVA TMG Meetings presented in letter b) by the next MEVA TMG/34 Meeting.	The MEVA Members	MEVA TMG/34 Meeting		
--	--	------------------	---------------------	--	--

FOLLOW UP TO VALID CONCLUSIONS FROM THE MEVA TMG/32 AND NACC/WG/5 MEETINGS NAM/CAR AIR NAVIGATION IMPLEMENTATION

MEVA TMG/32 AND ANI/WG/3 MEETINGS

Conclusions	Description	Remarks	Status
CONCLUSION MEVA TMG/32/2 VOICE AND DATA CHANNEL WITHOUT OPERATION	That , a) States with assigned channels that are not operational promote within their State the use of the same and their commissioning as soon as possible, for this they will forward the implementation plan for the services to the MEVA Coordinator no later than 30 August 2017; and b) States carry on the necessary test and operational agreements to ensure that the channels will be operational by the end of 2017.	It is necessary that States review this Appendix with the objective of reviewing the channels that need to be updated. All according to the needs and real capacity of each State. Each MEVA Member must review the MEVA Service Provider website and provide information regarding the implementation of the channels by 15 June 2018.	Completed
CONCLUSION MEVA TMG/32/3 NON OPERATIONAL CHANNEL	That, if the necessary actions are not taken to carry out the activities under Conclusion MEVA/TMG/32/2, the State analyze if channels are not required and request to the MEVA Coordinator to cancel the channel by 15 December 2017.		Completed

<p>CONCLUSION MEVA TMG/32/4 DEDICATED VOIC E CIRCUITS- HOTLINES/SHOUTLINES/RADAR</p>	<p>That, considering that several dedicated voice circuits are not fully operational in the MEVA Network and to provide the use of these circuits, Aruba, Curacao, Dominican Republic, Jamaica and ICAO review and complete the use of the hotlines/shoutlines that are not in use by August 2017.</p>	<p>Aruba, Curacao Dominican Republic and Jamaica, will provide an action plan to ICAO by 30August 2018.</p>	<p>Valid</p> <p>Jamaica and Aruba have to complete the process and procedure implementation</p> <p>A LOA between Curacao and Aruba for use of the VSD line has been signed and will be in power by 18th of July 2019.</p>
<p>CONCLUSION MEVA TMG/32/11 ACTIONS BEFORE THE ITU WORLD RADIOCOMMUNICATION CONFERENCE 2019 (WRC-19)</p>	<p>That, ICAO and the MEVA TMG carry out an action plan to ensure that States develop the protection of frequencies necessary in their territories to maintain current and future aeronautical services before the ITU World Radiocommunication Conference 2019, to be presented at and followed-up by the MEVA/TMG/33.</p>	<p>Completed</p>	<p>Ad hoc Group was created</p>

**NACC/WG/5
MEETING**

Conclusions	Description	Remarks	Status
<p>CONCLUSION NACC/WG/5/7 RADAR DATA SHARING FOR IMPROVING SAFETY OF OPERATIONS</p>	<p>That, to improve the safety of operations on the safety hot spots identified by the GREPECAS GTE, Curaçao-Dominican Republic-Jamaica, COCESNA-Ecuador, Mexico-Cuba begin to share radar data with the adjacent FIRs as soon as possible providing their action plan for this purpose to the ANI/WG by 31 October 2017.</p>	<p>Jamaica and COCESNA – Completed</p> <p>Curacao and Dominican Republic submit their Action plan by 30 August 2018.</p> <p>Ecuador and COCESNA submit their Action plan by 30 August 2018.</p> <p>ICAO will have an approach with Mexico to coordinate the following teleconferences:</p> <ul style="list-style-type: none"> • between Mexico and Cuba by end of June 2018. • between Curacao and Venezuela by the end of July 2018 	<p style="text-align: center;">Valid</p> <p>Mexico and Cuba are pending</p>
<p>CONCLUSION NACC/WG/5/9 XML TESTING OVER AMHS</p>	<p>That, in order to test the XML capacity of the CAR regional networks, Cuba, Dominican Republic and United States coordinate for XML testing over AMHS reporting their progress by Next MEVA/TMG meeting on 2019.</p>		<p>MEVA/TMG recommended that this conclusion will be Superseded by Conclusion ANI/WG/4/12</p>

Conclusion ANI/WG/4 and ANI/WG/5

Conclusions	Description	Remarks	Status
ANI/WG/4/7	<p>REGIONAL STRATEGY FOR THE MANAGEMENT OF THE RADIOELECTRIC SPECTRUM FOR AERONAUTICAL SERVICES</p> <p>That, the States support the work of the MEVA Ad hoc Group for the management of the information and activities to be developed for a harmonized and regional management of the aeronautical frequencies in the NAM/CAR Regions and provide the names of the persons in each State that will support the tasks of this Ad hoc group.</p>	<p align="center">States</p> <p align="center">30 September 2018</p>	<p>MEVA/TMG recommended that this conclusion will be Superseded by Conclusion MEVA/TMG/34/01</p> <p>Conclusion for this meeting</p>
ANI/WG/4/8	<p>PROVIDE POINT OF CONTACT (POC) RESPONSIBLE FOR MANAGEMENT AND MAINTENANCE OF AMHS OR AFTN.</p> <p>That, the States provide by 30 September 2018, the PoC of their State responsible for the technical management of the AMHS or AFTN system. ICAO will have available this information for use by the States.</p>	<p align="center">States</p> <p align="center">30 September 2018</p>	<p align="center">Completed</p> <p>This conclusion is followed up by the AIDC TF</p>
ANI/WG/4/12	<p>XML TESTS ON THE AMHS Platform</p> <p>That, in order to test the XML capacity of the CAR Regional networks, Cuba, Dominican Republic, Trinidad and Tobago, United States and COCESNA coordinate XML tests.</p> <p>That, for this objective, the following activities are performed, related to AMHS, reporting their progress by 30 December 2017.</p> <p>a) The creation of an Ad hoc Group integrated by States and Organizations listed before and that it is led by Cuba. b) that the Ad hoc Group be part of MEVA/TMG c) that the tests results be reported to States by 30 December 2019.</p>	<p align="center">Cuba, Dominican Republic, Trinidad and Tobago, United States and COCESNA</p> <p align="center">30 december 2019</p>	<p align="center">Valid</p>