International Civil Aviation Organization

MIDANPIRG STEERING GROUP

Fourth Meeting (MSG/4)
(Cairo, Egypt, 24 – 26 November 2014)

Agenda Item 4:   **MID Region Air Navigation Planning**

ESTABLISHMENT OF THE MID REGIONAL OPMET CENTRE

(Presented by the Secretariat)

SUMMARY

This paper presents outcomes from the ICAO Regional OPMET Centre (ROC) Workshop held in Jeddah, Saudi Arabia, 31 August – 1 September 2014 and from the Inter-regional OPMET Data Exchange Workshop held in Vienna, Austria, 23 – 24 October 2014 that addressed the establishment of a ROC in Jeddah and a backup ROC in Bahrain. In addition, this paper discusses the future need to improve communications between MID and EUR Regions in order to accommodate the future exchange of OPMET in digital form.

Action by the meeting is at paragraph 3.

REFERENCES

- CNS SG/6
- ICAO Regional OPMET Centre (ROC) Workshop
- Inter-regional OPMET Data Exchange Workshop
- MET SG/5
- MIDANPIRG/14

1. INTRODUCTION

1.1   International exchange of OPMET data is used extensively for flight planning and at times tactical decision making by airlines. The timely availability of OPMET data from the MID Region is essential to safety and efficiency of flight. In order to assure required OPMET data as per the Regional Air Navigation Plan is efficiently exchanged in the MID Region and with other Regions, MIDANPIRG/14 Conclusion 14/30 called for the establishment of a MID Regional OPMET Centre in Saudi Arabia (Bahrain as backup) in coordination with ICAO in the first half of 2015. To support this mandate, two workshops were recently held; their outcomes are described herafter.

1.2   The ICAO Regional OPMET Centre (ROC) Workshop was held in Jeddah, Saudi Arabia from 31 August to 1 September 2014 and attended by a total of thirty nine (39) participants, from four (4) States (Austria, Kuwait, Saudi Arabia and Sudan). The Inter-regional OPMET Data Exchange Workshop

was held from 23 to 24 October 2014 in Vienna, Austria and attended by a total of ten (10) participants, from three States (Austria, Bahrain and Saudi Arabia).

1.3   In general, the two Workshops produced and refined an implementation plan for the establishment of a ROC in the MID Region as well as additional steps on how to achieve the milestones listed in the plan.

2.   DISCUSSION

Outcomes of ROC implementation workshop

2.1   The ROC implementation workshop agreed to nine (9) actions related to an implementation plan of establishing a ROC in the MID Region as provided at **Appendix A**. These actions addressed communication and hardware requirements, MID data collection and distribution, MID data distribution to EUR and EUR data distribution to MID, implementation goals and timelines, and progress of implementation.

Outcomes from the Inter-regional OPMET Data Exchange Workshop

2.2   The Inter-regional OPMET Data Exchange Workshop agreed to ten (10) actions as provided at **Appendix B**. These actions addressed current communication capabilities in view of what is needed in the future, determining AFTN collective addresses to be used by the ROC and back-up ROC, emphasizing implementation by the Gulf States by the end of 2014, communicating to other States on implementation during the first week of December 2014, development of a draft ROC back-up plan, and assistance by Austro Control in developing training for ROC operators by April 2015.

2.3   In addition, the implementation plan developed at the Workshop in Jeddah was adjusted and provided in **Appendix C**, which provides more details on actions with responsible parties as well as time to complete the respective tasks.

Future Communications to support OPMET exchange in digital form

2.4   The MET SG/5 noted issues associated with AFS communication requirements for the exchange of OPMET information between two Regions. The current AFTN/CIDIN communication paths from Jeddah (primary ROC) and Bahrain (planned backup ROC) to Vienna support the OPMET data exchange in Traditional Alphanumeric Code (TAC) format.

2.5   However, the communication paths are limited to 9.6 kilobits per second bandwidth and exclude an Aeronautical Message Handling System (AMHS) path. OPMET data in digital form cannot be transported by AFTN/CIDIN. Currently, no AMHS communication path between the two Regions exists. Given the fact that the data volume would increase between 25 (compressed) and 100 (uncompressed) times from TAC to digital form, the workshop noted that a bandwidth of 150 kilobits per second to 600 kilobits per second would be needed for exchanging OPMET data in digital form. The exchange of OPMET data in digital form for METAR/SPECI, TAF and SIGMET will be recommended in 2016 and required in 2019 as per Annex 3 provisions. As a result, the workshop agreed that AMHS communication paths should be implemented in a feasible way between Jeddah and Vienna as well as Bahrain and Vienna in preparation for the exchange of OPMET data in digital form. Given the above information, the MET SG/5 requested the MIDANPIRG CNS Sub-Group to consider developing a plan to implement AMHS communication paths between Jeddah, Bahrain and Vienna in order to enable the exchange of OPMET data in digital form between MID and EUR Regions (MET SG/5 Draft Conclusion 5/3 refers).

2.6   This proposal has been addressed by the Sixth meeting of the MIDANPIRG Communication, Navigation and Surveillance Sub-Group (CNS SG/6) held in Tehran, Islamic Republic of Iran from 9 to 11

September 2014. The CNS SG/6 agreed to develop an implementation plan in this regard and agreed to the following Draft Conclusion:

Why	To enable the exchange of OPMET data in digitial form between the MID and EUR Regions
What	Develop a plan to implement AMHS communication paths between Jeddah-Vienna and Bahrain-Vienna
Who	MID-AMC
When	31 March 2015

DRAFT CONCLUSION 6/4:   *AMHS ROUTING FROM MID TO EUR REGIONS*

That, the MID-AMC develop a plan to implement AMHS communication paths between Jeddah-Vienna, and Bahrain-Vienna before 31 March 2015, to enable the exchange of OPMET data in digital form between the MID and EUR Regions.

3.   ACTION BY THE MEETING

3.1   The meeting is invited to endorse:

a)   the ROC implementation plan at **Appendix C**; and

b)   the Draft Conclusion in paragraph 2.6.

APPENDIX A

Actions related to an implementation plan of establishing a ROC in the MID Region

- current lines of **communication** between Vienna and Jeddah/Bahrain are sufficient for the exchange of OPMET data between the two Regions, however, Aeronautical Message Handling System (AMHS) would be needed between Vienna and Jeddah/Bahrain for the future exchange of OPMET data in digital form (reference MET SG/5 draft Conclusion 5/3 to be considered by MIDANPIRG CNS Sub-group);

- **harware** requirements provided by ROC Vienna would be more than sufficient to support the establishment of a ROC (details provided in Appendix 4.3A to the MET SG/5 Report);

- **MID data collection** – each MID State should route OPMET data as required by MID FASID Table MET 2A as well as SIGMET and special air-reports to OEZZMMIV – AFTN for ROC Jeddah (AFTN for Bahrain will be provided at a later date). ROC Jeddah to monitor the completeness of received OPMET data.

- **MID data distribution** – each MID State should receive a subset of global OPMET data required by each State (typically determined by airlines' routes) by ROC Jeddah/Bahrain. To support this, each MID State will provide a list of OPMET information they need that is listed in the global FASID Table MET 2A. ROC Jeddah will coordinate with the respective data bank outside the MID Region with the assistance of ICAO;

- **MID data distribution to EUR** – ROC Jeddah/Bahrain should forward MID OPMET data required as per MID FASID Table MET 2A as well as SIGMET and special air-reports to Inter-Regional OPMET Gateway (IROG) Vienna at the trial AFTN address of LOZZXMID (to avoid duplication of bulletins during the transition phase). IROG Vienna to monitor the completeness of received MID OPMET data and when successful, other MID States (Bahrain, Egypt, Iran, Lebanon, Iraq and Syria) should stop submitting their OPMET data to the EUR Region and IROG Jeddah will submit all MID data to LOZZMMID;

- **EUR data distribution to MID** – ROC Vienna should forward EUR OPMET data required as per EUR FASID Table MET 2A as well as SIGMET, AIRMET, special air-reports, and volcanic ash advisories to Inter-Regional OPMET Gateway (IROG) Jeddah at the AFTN address OEZZMEUR (AFTN for Bahrain to be provided at a later date). IROG Jeddah to monitor the completeness of received EUR OPMET data and when successful, IROG Vienna will stop sending EUR OPMET data to other MID States (Iran, Kuwait and Yemen) and ROC Jeddah will provide required EUR OPMET data (subset requested) as well as non-routine data mentioned (subset requested) to all MID States;

- **OPMET deficiencies** – each State in the MID Region should follow instructions provided by ICAO (as per Appendices to presentation 2), where applicable, in order to a) eliminate duplicate bulletins, b) eliminate multiple occurrence of OPMET data in multiple bulletins, and c) provide OPMET data as required in MID FASID Table MET 2A;

- **Implementation goals** and **timelines** include the following:
  -Sep 2014 – trial implementation form to be used by Sudan in coordination with ICAO and ROC Vienna by 30 September 2014, make corrections if necessary before distributing to other States in first phase
  -Oct 2014 – meeting at ROC Vienna with Saudi Arabia, Bahrain and ICAO where backup procedures should be drafted which may entail a lag in implementation by the backup ROC
  -Dec 2014 – implementation form completed and exectued by Bahrain, Egypt, Kuwait, Oman, Saudi Arabia and Sudan (first phase of implementation)
  -Mar 2015 – implementation form completed and executed by Iran, Jordan, Qatar and United Arab Emirates (second phase of implementation)
  -Apr 2015 – implementation form completed and executed by Iraq, Lebanon, Libya, Syria and Yemen (third phase of implementation)
  -2016 – consider the need of implementing a possible translator from Traditional Alphanumeric Code (TAC) to ICAO Meteorological Information Exchange Model (IWXXM) at ROC and backup ROC; and

- **Progress of implementation** will be provided to MSG/4 (November 2014) as well as MIDANPIRG/15 (June 2015).

APPENDIX B

Actions related to an implementation plan of establishing a ROC in the MID Region

1) The Secretariat would coordinate with the MID CNS SG Secretariat and EUR AFSG Chair on fulfilling MID CNS Sub-Group draft Conclusion 6/4 that tasked the MID AMC to develop a plan to implement **AMHS communication paths** between Jeddah - Vienna and Bahrain – Vienna before 31 March 2015. This would enable the exchange of OPMET data in digital form between the MID and EUR Regions. The Secretariat would emphasize that Nicosia and Athens consider implementation of AMHS capabilities, preferably in 2015. Once that is available, existing CIDIN links could be upgraded to AMHS. A direct AMHS connection between Bahrain and Cairo would also facilitate in the exchange and backup exchange of OPMET data in digital form. Below is a diagram of the current communication capabilities.
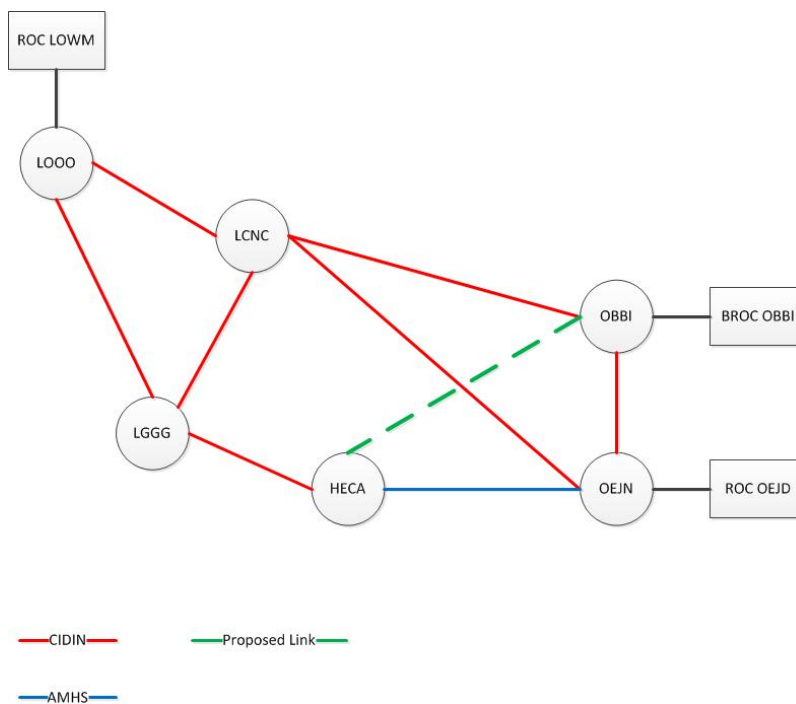
2) Mr. Roland Hochreiter explained the principle and advantages of **Collective Addresses** as used in the EUR region. The advantage is that behind the collective address one or more AFTN-addresses can be defined to route the data to. Those addresses can be easily altered by operators of the COM-centre to facilitate e.g. re-routing in case of an outage. AFTN collective addresses to be used to collect OPMET data within the MID Region and for the exchange of OPMET data inter-regionally were determined as follows:

- OEZZMMID – MID OPMET data sent to Jeddah
- OBZZMMID – MID OPMET data sent to Bahrain
- OEZZMEUR – EUR OPMET data sent to Jeddah from Vienna
- OBZZMEUR – EUR OPMET data sent to Bahrain from Vienna

For other inter-regional exchange, simply replace EUR with ASI (for Asia/Pacific – e.g. OEZZMASI for Asia/Pacific OPMET data sent to Jeddah from Bangkok), NAM (for North America and Caribbean), SAM (for South America) and AFI (for Africa).

3) **Distribution of data in the Gulf States** may no longer use a collective bulletin provided by Bahrain and each State should send their required OPMET as per FASID Table MET 2A to Jeddah and Bahrain directly using bulletin numbers 01-39 and their respective State designators;

4) During the workshop **Bahrain** completed the **implementation form** as provided at **Appendix C** which revealed the actions (e.g. coordination with MID States and other Regions in order to increase the efficiency of OPMET data exchange) they need to take in support to the implementation of a Regional OPMET Centre in the MID Region;

5) A **subset of first tier implementation States**, Bahrain, Kuwait, Oman, Qatar and United Arab Emirates, were identified to utilize the implementation form such as that completed by Bahrain. These States would provide their **implementation plan, preferably by the beginning of December 2014 (Bahrain end of November 2014);**

6) After 5) has been completed correctly, a **State letter** would be sent to the **remaining States** (Egypt, Iran, Iraq, Jordan, Lebanon, Libya, Syria, Sudan and Yemen) with instructions on providing the first inputs for completing the **implementation plan,** with staggered deadlines as described in the action plan at **Appendix D**;

7) **Draft ROC backup plan was developed** by Saudi Arabia as provided at **Appendix E.** In addition, the draft backup plan for the EUR Region was provided and will be available on the ICAO MID RO website;

8) **Saudi Arabia to revise bulletins** such that OPMET listed in FASID Table MET 2A are provided in bulletins with the series 01-39 (not 40-49, which is used for national and bi-lateral exchange);

9) **ROC Vienna to provide EUR OPMET data to ROC Jeddah and Backup ROC Bahrain** by the end of 2014 noting individual MID States need to communicate to Jeddah what OPMET from EUR they need based on users (part of implementation form);

10) ROC Vienna will support ROC Jeddah and Backup ROC Bahrain in **developing training for ROC operators** as well as **provide a job description for these operators by April 2015;**

APPENDIX C

ROC Implementation Plan

Following is a list of tasks to be fulfilled to progress on the transition
The focal point to take care of below action list and keep track of actions is **Dr. Saad Al Majnooni**

No.	Task	Responsible	Prerequisite	Start Date	Estim. Time	Finish at
1	**Implement Collective Addresses**	**ROC Jeddah & BROC Bahrain**	-	**24.10.2014**	**1week**	
2	**Transition Bahrain**	**ROC Jeddah & BROC Bahrain**	-	**27.10.2014**	**1 month**	
3	**Transition Process with Kuwait**	**ROC Jeddah**	-	**02.11.2014**	**1 month**	
4	**Transition Process with Qatar**	**ROC Jeddah**	-	**02.11.2014**	**1 month**	
5	**Transition Process with Oman**	**ROC Jeddah**	-	**02.11.2014**	**1 month**	
6	**Transition Process with UAE**	**ROC Jeddah**	-	**02.11.2014**	**1 month**	
7	**Send Saudi Arabian Compilations to BROC Bahrain (OBZZMMID)**	**Meteorological Communications Centre (MCC) Jeddah**	**Task No. 1 has to be finished**	**02.11.2014**	**1 day**	
8	**Continue and Finish Transition Sudan**	**ROC Jeddah**	-	**01.09.2014**	**4 months**	
9	**Prepare State Letter to MID-states to facilitate transition**	**ICAO Regional Officer**	**After finishing Tasks 2-7**	**01.12.2014**	**4 days**	
10	**Contact COM Centre Nicosia to coordinate AMHS implementation**	**ROC Jeddah & BROC Bahrain**		**27.10.2014**	**1 month**	
11	**Develop Backup Procedure**	**ROC Jeddah & BROC Bahrain (inform MID-BMG)**		**23.10.2014**	**4 months**	
12	**Develop Regional HB on OPMET Data Exchange**	**ROC Jeddah & BROC Bahrain (inform MID-BMG)**		**24.03.2015**	**3 months**	
13	**Develop first ideas for Training for**	**ROC Vienna**		**27.10.2014**	**2 weeks**	

	operators					
14	**Finalize Training for operators**	**ROC Jeddah & BROC Bahrain & ROC Vienna**	**Finish Task 13**	**10.11.2014**	**April 2015**	
15	**Route Gulf States reports to ROC Jeddah**	**ROC Jeddah & BROC Bahrain**		**27.10.2014**	**1 month**	
16	**Transition Process for Iran, Jordan, Egypt**	**ROC Jeddah & BROC Bahrain**		**16.02.2015**	**2 months**	
17	**Transition Process Iraq, Syria, Lebanon, Libya, Yemen**	**ROC Jeddah & BROC Bahrain**		**16.04.2015**	**2 months**	

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