

**REGIONAL ASSOCIATION II (ASIA)**

**MEETING OF THE  
EXPERT GROUP ON AERONAUTICAL METEOROLOGICAL  
SERVICES DELIVERY (EG-AeM)**

**HONG KONG, CHINA  
10-12 NOVEMBER 2014**

**FINAL REPORT**



**WORLD METEOROLOGICAL ORGANIZATION**



## **GENERAL SUMMARY**

### **1. ORGANIZATION OF THE MEETING**

#### **1.1 Opening of the meeting**

1.1.1 The meeting of the Regional Association (RA) II Expert Group on Aeronautical Meteorological Weather Services Delivery (EG-AeM) was held from 10 to 12 November 2014 in Hong Kong, China. The list of participants is given in Annex I.

1.1.2 Mr. Chi-ming Shun, Permanent Representative of Hong Kong, China with WMO and President of the Commission for Aeronautical Meteorology, welcomed all the participants to Hong Kong. He recalled the sentiment and outcomes of the Conjoint ICAO MET Divisional Meeting / WMO CAeM-15 Session (the "Conjoint Meeting") in Montreal last July, that the drive for change to Aeronautical Meteorological Services, was loud and clear. To move forward and to get prepared for the changes, it would be necessary for Members to engage partnership swiftly, not only with aviation users and stakeholders but among Members, to take on challenges, mitigate the risks and sort out the unknown. Apart from being ready technology-wise, Members should also consider service innovation. Mr. Shun mentioned that CAeM had a new structure with newly formed Expert Teams and the RA II EG-AeM was the first regional AeM expert group to meet after the Conjoint Meeting. He looked forward to the active engagement of RA II EG-AeM with the CAeM Expert Teams to reach out to Members and respond to their requests for support.

1.1.3 On behalf of the Secretary-General of WMO, Mr. Dimitar Ivanov welcomed all the participants to the meeting and expressed his gratitude to Hong Kong, China for the successful organization of the meeting with just a short lead time. He reminded that this region had the fastest developing aviation business in the world, yet some management of aviation meteorological services had little knowledge on the new Air Navigation Plan, not to say making responses to the upcoming challenges. Mr. Ivanov pointed out that EG-AeM was the exact domain to assist Members, in particular raising the awareness in RA II to the outcomes of the Conjoint Meeting.

#### **1.2 Adoption of the agenda**

1.2.1 The meeting adopted the agenda as given in Annex II.

#### **1.3 Working arrangements**

1.3.1 The meeting agreed on its working hours and other practical arrangements for the meeting. It also agreed that all documents submitted for and presentations delivered at the meeting would be posted on the WMO website at <http://www.wmo.int/pages/prog/dra/rap/meetings/EGAE.html>

### **2. Review of the outcome of the Conjoint ICAO Meteorological Divisional Meeting / Fifteenth Session of the WMO Commission for Aeronautical Meteorology (2014)**

2.1 Mr. Dimitar Ivanov briefed the participants about the main outcomes of the Conjoint Meeting. The meeting noted that 29 recommendations had been made during the meeting and most of them would be followed by ICAO in close coordination with WMO. These recommendations covered institutional changes, technology developments, service enhancements and regulatory framework developments of the future aeronautical MET services. It was also confirmed that a MET Panel would be established under the Air Navigation Commission (ANC) as the main ICAO body to deal with meteorological matters. Future development of meteorological services would be fully aligned and integrated into the future ATM system as part of the Global Air Navigation Plan (GANP) in accordance with the Aviation System Block Upgrade (ASBU) methodology and timeline. The meeting was made aware of some trends including a shift of user's

representation from pilot to air traffic management, the recognition of future role of private sector providers and the need for appropriate ICAO and WMO bodies to determine how to achieve the intended targets in the ASBU. The meeting noted the new CAeM MG structure to align with the need to follow up the outcomes.

2.2 Ms Marina Petrova recapped in further details the major outcomes of the Conjoint Meeting and briefed the meeting about expected improvements to be made under the ASBU methodology, in particular the development of the WAFS, the development of IAVW, the development of provisions for information concerning space weather, the development of provisions for information on the release of radioactive material into the atmosphere, implementation of RHWACs and development of MSTA. The meeting noted some current state-of-the-art activities being conducted by NMHSs and institutions in RA II which could contribute to the development in the above areas.

2.3 Mr. C.M. Shun re-iterated that the concept of big data had made the value of data and value-added services to diverge further, and this could have a significant impact on cost recovery of developing countries which might not be able to provide these value-added services. This would be further complicated by concepts like the removal of Meteorological Authority being considered by European Members. He highlighted that cooperation among NMHSs through bilateral or multi-lateral agreements could enhance the capability of individual NMHS to better serve the global needs of airlines and other aviation stakeholders.

2.4 The meeting was aware of the wide range of capabilities of NMHSs in RA II; some of them were having exciting developments on the one hand but some others were still having deficiencies in the provision of basic services like METAR, TAF and SIGMET on the other hand. The meeting considered that it was good to have an inventory showing existing collaborations among NMHSs in RA II, like those among the CIS and GCC countries, so that Members could have a better idea how partnership was evolving. The meeting also noted that a roadmap to encompass high-level institutional issues, technological developments and impacts was being developed by CAeM to facilitate the follow-up to the Conjoint Meeting, and be presented to the Congress next year.

### **3. Status of implementation (including deficiencies) in RA II**

#### **3.1. Quality Management System**

3.1.1 Mr. Dimitar Ivanov presented the status of implementation of QMS in RA II. The meeting noted the progress made by RA II Members in implementing quality management system (QMS) for aeronautical meteorological services. It was recalled that the ICAO and WMO requirement for ISO 9000 certification was a recommended practice, thus not necessitating a formal notification of non-compliance as per Article 9 b) of the Convention. Nevertheless, it has been proven that the ISO certification was the best practice that ensures credibility and confidence with the aviation users

3.1.2 The meeting noted that in RA II 15 (out of 35) Members implemented QMS with ISO 9001:2008 certification, which is about 40% level of compliance for the region as a whole (see Appendix 1). The meeting noted further that the situation was similar or worse in most of the other WMO regions, except RA VI (Europe) where the level of implementation is above 90%.

3.1.3 Dr. Zhong-feng Zhang, on behalf of the Theme Leader on QMS Implementation and Maintenance, presented China's work on stimulating the progress of QMS implementation and maintenance in RA II. The meeting noted China's twining activities with Cambodia including the offering of assistance on the establishment, implementation and maintenance of a QMS. The meeting was further aware of China's development and implementation of a system known as QSMS which combined QMS and SMS (Safety Management System).

3.1.4 Mr. Somchai Yimsricharoenkit presented the status of implementation of the QMS in Thailand. The meeting noted the progress they had made and the issues they encountered so far.

3.1.5 The meeting agreed that efforts should be undertaken to improve the level of compliance with regard to QMS. It was proposed to identify regional resource persons, and also national focal points (including NMHS and service provider (if available)) of those Members who had not yet started to implement QMS and send them letters to enquire their latest situations. Depending on the response, further assistance from regional resource persons including twining/mentoring should be developed, and where required the Secretariat might consider conducting a country visit to find out their real needs. The meeting requested the Theme Leader on QMS Implementation and Maintenance to modify the action plan to incorporate these decisions, and make better use of available resources like the Guide to the Implementation of a QMS for NMHSs (WMO No.1100) developed by TT-QMS. Noting the successful deployment of QSMS, the meeting also invited China to share their experience with other Members.

3.1.6 The meeting noted further that the ISO 9001 Standard would be revised in 2015 with some fundamental changes, including a focus on leadership and risk management. Therefore, EC-66 requested the president of CAeM to ensure that the current TT-QMS would continue working until the end of the current WMO financial period and support the transition to a new QMF structure to be decided by Cg-17.

## 3.2 Competency

3.2.1 Mr. Dimitar Ivanov presented the status of implementation of competency standards of AMP in RA II which was very slow based on official replies from Members. It was recalled that the provisions concerning the required competencies for aeronautical meteorological personnel (AMP), including aeronautical meteorological forecasters (AMF) and aeronautical meteorological observers (AMO), included in the WMO Technical Regulations (WMO-No. 49, Volume I, Chapter 5), became standard practices as of 1 December 2013. Therefore, all Members were expected to undertake the necessary measures to ensure compliance with those standards and inform the Secretariat thereof. Noting that the preparation for the implementation of the competency requirements had been initiated by the CAeM Expert Team on Education, Training and Competencies (ET-ETC) well before the target date, the Executive Council appreciated the ample guidance developed and made available, including on-line resources (<http://www.caem.wmo.int/moodle/>), to assist Members in the competency assessment of their AMP. Training workshops on competency assessment had been carried out in almost all Regions with the remaining one for Region III scheduled for November 2014 in Buenos Aires, Argentina.

3.2.2 The meeting was informed that the Secretariat had been monitoring the status of implementation of the competency standards through various means and communication channels. However, the rate of response by Members to the circular letters issued by the Secretary-General to collect official information on the implementation was still low. This situation did not allow building a reliable authoritative statistics of the attained compliance at regional and global scale. EC-66 felt that the regional associations through their relevant subsidiary bodies should play a proactive role in monitoring the implementation of the competency standard and identify any needs for assistance to their Members. EC-66 also urged those Members who have not yet informed the Secretariat on the status of implementation to do so as soon as possible.

3.2.3 Mr. B.L. Choy presented the paper on behalf of the Theme Leader on Competency Assessment. The meeting noted the proposed survey to be conducted and the associated work plan.

3.2.4 The meeting discussed measures to improve the compliance with the WMO competency standards and proposed to identify regional resource persons, and also national focal points (including NMHS and service provider (if appropriate)) of those Members who had not yet completed the implementation of their Competency Assessment System and to send them letters to enquire their latest situations. Depending on the response, further assistance from regional

resource persons including twinning/mentoring could be explored. To facilitate referencing, the Secretariat would further enhance the CAeM website to make online guidelines and information on competency assessment more accessible. Further training on gap analysis and auditors within the region would be explored. The meeting requested the Theme Leader on Competency Assessment to modify the action plan to incorporate these decisions.

3.2.5 The meeting further recalled that the qualification requirements for AMF in the WMO Technical Regulations will become a standard practice on 1 December 2016. EC-66 emphasized that the preparation for compliance with those requirements should be initiated in due time to avoid a big lag between the date of coming into force and the actual implementation by Members. The meeting noted that the Executive Council requested the CAeM and its ET-ETC, supported by Secretariat, to provide clear guidance on the necessary steps to be undertaken by Members and relevant training institutions in order to facilitate national implementation actions and resource planning.

### 3.3 Cost-recovery

3.3.1 Ms Marina Petrova presented the paper on cost recovery issues. The meeting noted that costs recovered from the provision of aviation meteorological services continued to contribute a significant portion of the overall funding of meteorological services of quite a number of Members. However, even with the cost recovery mechanism in place, additional government funding had to be sought. Further analysis revealed that the reason for cost-recovery mechanism not working in certain Members could be due to lack of legal/regulatory basis in these countries, or low volumes of traffic that could not provide sufficient revenue from air navigation service charges. The meeting considered that the establishment of appropriate cost-recovery mechanism was primarily a national issue, however, to assist Member to develop those mechanisms, much better and detailed guidance would be necessary. Therefore, the meeting decided to request ET-GOV, as a high priority action, to develop further guidance (e.g. a plan on how to change the cost recovery model) on cost recovery in global scale.

### 3.4. SIGMET

3.4.1 Mr. Jun Ryuzaki presented the paper on implementation of SIGMET and future regional advisory framework for selected en-route hazardous weather. He also gave a presentation "Towards the regional progress on en-route weather information". The meeting was informed of current global/regional discussion on the improvement of SIGMET issuance and future implementation of "phenomenon-based" regional hazardous weather advisory framework. The group agreed that a regional survey would be conducted in 2015 to identify current status of SIGMET implementation and related issues to be addressed.

3.4.2 Dr. Zheng-feng Zhang informed the meeting that under bilateral agreement, China had been providing support to Cambodia to enhance their aviation meteorological services. These included issuance of SIGMET over the Cambodian FIR by China on behalf of Cambodia, training of their aviation forecasters and establishment of a QMS for the aviation meteorological services. Dr. Zhang remarked that according to current progress, Cambodia was likely to be able to issue their own SIGMET by 2016. The meeting was of the view that twinning was an effective way to eliminate deficiencies before the setting up of regional advisory centres.

3.4.3. The meeting noticed the activities in RA VI in association with the harmonization of SIGMET across FIR boundaries and invited the Secretariat to provide a contact point from RA VI for experience sharing. The meeting also concurred that it will be useful to hold a SIGMET workshop regarding this issue, in close coordination with the relevant ICAO office(s). The meeting requested the Theme Leader in Meteorological Support to Air Traffic Management and Provision of SIGMETs to contact DRA to confirm funding to initiate the preparation of the SIGMET workshop in Q1 2016 and to consider modifying his action plan to incorporate these decisions.

### 3.5. Meteorological Service for Air Traffic Management

3.5.1 Mr. Jun Ryuzaki presented the paper on implementation and enhancement of MET support to ATM in RA II. The meeting was informed of current global/regional discussion on the implementation of Meteorological Services in support of ATM, including the establishment of meteorological services for the terminal area which will be added to the B1-AMET in the ASBU framework, according to the recommendation agreed at the Conjoint Meeting.

3.5.2 The meeting agreed that the regional survey would be necessarily conducted at some time in 2015 to identify current status of implementation and related issues to be addressed. It also noticed the importance of raising the awareness of NMHSs management in RA II on this initiative, and proposed ET-ISA to prepare a presentation on this topic for the upcoming RA II Session in 2016.

### 3.6. AMDAR

3.6.1 Mr. B.L. Choy presented the paper on the implementation of AMDAR in RA II. The meeting noted the AMDAR related activities in particular: continuous contribution of aircraft observations through individual AMDAR programme in China; Hong Kong, China; Japan and Republic of Korea; the work to develop support for NMHSs in the collection and application of AMDAR data in China; Hong Kong, China and Qatar; and the interest expressed by Oman and Thailand in setting up their own AMDAR programmes.

3.6.2 In the previous work of the AMDAR Panel and ET-ABO on AMDAR Coverage and Targeting, it was noticed there were large areas of the continents that did not get AMDAR coverage while considerable air traffic was known to exist. In RA II, the data sparse regions included mainly Middle East and Central Asia. The group invited participants in those data sparse sub-regions to discuss with their local airlines and consult neighbouring Members on their interest and difficulties in setting up their own AMDAR programmes.

3.6.3 CBS-Ext(14) endorsed the regional approach to the development and enhancement of aircraft-based observations and the AMDAR observing system in collaboration with, and under the leadership of, the WMO Regional Associations. In line with this conclusion, ET-ABO commenced the development of six Aircraft-Based Observations Program (ABOP) Regional Implementation Plans (A-RIPs), expected to eventually be incorporated into the respective Regional WIGOS Implementation Plans. According to ET-ABO, the A-RIPs of all six regions are in various degrees of development, from almost completion (RA III) to advanced drafts (RAs I and IV) to initial/first drafts (RAs II, V and VI). The meeting encouraged further development of the RA II A-RIP to coordinate AMDAR related activities in RA II.

## 4. Proposals for regional follow up actions

### 4.1 Planning for regional activities in support of GANP framework and ASBU methodology

4.1.1 Ms Marina Petrova presented a paper on the planning for regional activities in support of GANP framework and ASBU methodology. The meeting noted the two sets of activities discussed at the Conjoint Meeting in the B0-AMET and B1-AMET timeframes, which included among the others the establishment of Regional Hazardous Weather Advisory Centres, release of radioactive material into the atmosphere in support of international air navigation and space weather, and the development of back-up mechanisms for the current WAFCS. The Secretariat remarked that the MET Panel had yet to be established, and so were the associated ICAO expert teams. In the upcoming CAeM-MG, which was supposed to be held after the establishment of the MET Panel, a master plan on relevant activities would be discussed. He proposed and the meeting agreed to take note of these proposals and discuss again from RA II perspective once the outcome of the upcoming CAeM-MG became available.

## 4.2 SWIM and TBO-related actions

4.2.1 Mr. B.L. Choy presented a paper on digital aeronautical meteorological information which was a major component of SWIM and TBO. He indicated that provisions for the exchange of METAR/SPECI, TAF and SIGMET in eXtensible Markup Language (XML)/Geography Markup Language (GML) form under bilateral agreements between States in a position to do so became effective in Amendment 76 to ICAO Annex 3. The associated code forms described in a new Volume I.3 to WMO No.306 were also approved at WMO CBS-Ext(14). The Conjoint Meeting set subsequent objectives of making the exchange of METAR/SPECI, TAF and SIGMET in XML/GML as Annex 3 recommended practices from November 2016, and as standard practices from 2019 (or 2018 if ICAO changes its regulatory update cycle from three years to two years). Further development in digital aeronautical meteorological information will be conducted, as recommended in the Conjoint Meeting, to support trajectory-based operations (Recommendation 3/1), the future SWIM-enabled environment (Recommendation 3/2) and further development of the SWIM concept relating to meteorology (Recommendation 3/3).

4.2.2 CAeM-15 had asked CBS to support capacity development of Members to allow them to generate and use XML/GML data representations. CBS-Ext(14) considered that introducing XML as a standard practice on the required time scales was a challenging requirement that would need significant resources. Noting that the implementation of AvXML could be a significant challenge to RA II Members, in order to facilitate their preparation for further actions involving the use of XML/GML data representations and in view of the limited time scale for migration, the meeting requested ET-ISA to urgently prepare an FAQ and/or practical guide on the implementation of AvXML. In longer terms, relevant knowledge could be incorporated into the training programs provided by Regional Training Centre so that more comprehensive training could be made available.

## 4.3 Regionalization (RA II perspective) and sub-regional approach in RA II

4.3.1 Recap the discussions in Paras 2.2-2.4, 3.4.3 and 3.6.2, there were already some concrete examples on sub-regional collaboration among the CIS countries, GCC countries and RA VI (on harmonization of SIGMET). The meeting agreed to publicize this to facilitate further partnership as indicated in Para. 2.4.

## 4.4 Space weather (RA II perspective)

4.4.1 Ms Marina Petrova presented a paper on space weather while Dr. Zhong-feng Zhang presented another paper on the China space weather services for civil aviation. The meeting noted the possible impacts during the event of extreme space weather disturbances and the benefits to harmonize the content, format, preparation and transmission of space weather information. Although currently outside the scope of ICAO Annex 3, the meeting also noted the space weather services currently provided by the Regional Warning Center, Russia (Institute of Applied Geophysics) and the National Center for Space Weather in China. With reference to para. 4.1.1, the meeting agreed to take note of the requirements and regional capabilities and discuss once the outcome of the upcoming CAeM-MG became available.

## 4.5 Climate change and aviation (RA II perspective)

4.5.1 The meeting discussed various known long-term impact on aerodrome infrastructure (e.g. Iceland airport) and en-route (more severe turbulence as suggested by UKMO and EUROCONTROL) due to climate change. Dr. Hussain Alsarraf mentioned that some studies were being conducted on long-term changes of convective storms (in terms of frequency, wind speed, etc.) and dust storms (in terms of frequency, height, visibility, etc.). The meeting agreed to gather national experience / examples / studies on the effect of (climate) changes which may affect aviation operation and made them available to ET-ASC for their study.



## **5. Coordination of regional AeM events**

### **5.1 RA II RECO-6 (2014) – presentation of AeM related subject**

5.1.1 The meeting noted that Mr. Ian Lisk would deliver, as Vice-President of CAeM, a keynote speech on future challenges of the provision of aviation meteorological services. Mr. B.L. Choy would also give a presentation on RA II's response to these future challenges. The meeting noted and welcomed the participation of more team members at RECO-6 to demonstrate that it was a collaborative effort of the region instead of a one-man-show.

### **5.2 Regional needs for awareness events on GANP and ASBU**

5.2.1 As discussed previously, the meeting was of the view that NMHSs' top management awareness on future challenges of the provision of aviation meteorological services was important for the successful promotion of subsequent global, regional and sub-regional activities. The Secretariat informed the meeting about the plans to organize regional conferences on aeronautical meteorology as major awareness events. RA III, RA V and RA VI already called for such conferences through resolutions of their sessions. Coordination is being held in RA VI with the aim to organize a European Aviation Conference prior to Cg-17 (the dates and venue discussed are April 2015 in Vienna). The meeting considered the possibility of hosting a similar conference in RA II to discuss regional aviation issues upon relevant approval either in conjunction with the RA II Session or thereafter.. EG-AeM should work on presenting regional views at the conference, including the outcomes of the AvRDP (see para. 6.1 below).

### **5.3 Regional needs for ETR events**

5.3.1 Ms Marina Petrova presented a paper on regional needs for ETR events in the Russian Federation. The meeting noted the approaches taken in Russian Federation, viz the offering of university degree in aeronautical meteorology in accordance with WMO requirements, vocational training for aviation meteorologists, and cooperation of the Russian Federation in aeronautical meteorological education and training with the participating States of the Commonwealth of Independent States.

5.3.2 The meeting noted the information by Mr Ivanov concerning his visit to Thailand prior to this meeting. Mr Ivanov was of the view that countries in particular in SE Asia need more training on the implementation of the competency standards. This should cover those States that have not yet started the competency assessment efforts, like Cambodia, Lao PDR, Vietnam and Myanmar. EG-AEM supported this idea and requested Secretariat to be proactive in identifying the needs of the Members in order to boost the overall compliance with the ICAO and WMO standards.

5.3.3 The meeting specifically requested Mr Ivanov as head of the WDS/AEM Division to try and visit the countries in SE Asia in order to discuss with local authorities on the need for raising the quality and the status of the aeronautical meteorological services. It was acknowledged that in some of these countries aeronautical MET services are not provided by NMHSs and there was poor communication between the NMHSs and the CAAs and ANSPs. Joint mission of WMO and ICAO in those countries would be very beneficial in establishing better working arrangements between the NMHSs and the CAAs.

### **5.4 AMDAR pilot project**

5.4.1 Mr. B.L. Choy informed the meeting that CMA, CAAC and HKO had jointly coordinated a RA II Pilot Project to Develop Support for NMHSs in the Collection and Application of Aircraft Meteorological Data Relay Data (AMDAR). The main activity to be conducted would be a training workshop to be held in Beijing in the first half of 2015. Meanwhile, Qatar was also planning to host an AMDAR workshop for countries in the Gulf region. The meeting invited participants to encourage their neighbouring NMHSs to attend the workshops to share the knowledge and

experience on collecting and using AMDAR data, particularly for those who would like to set up their own AMDAR projects.

## **6. Other Business**

### **6.1 AvRDP**

6.1.1 Mr. Jun Ryuzaki gave a brief introduction of AvRDP and Mr. B.L. Choy gave a brief account of the project on behalf of Dr. P.W. Li who took lead in the project. It was appreciated that two airports in RA II, Hong Kong and Shanghai will be engaged in the project and the Hong Kong Observatory will continue to play a major coordinating role. A kick-off meeting of the AvRDP is planned for March 2015 in Shanghai.

### **6.2 Review of the Terms of Reference of EG-AeM**

6.2.1 The meeting recapped the decisions of Paras 4.1.1 and 4.4.1 that further discussions on these topics would be conducted after the outcome of the CAeM-MG became available. It was anticipated that there would be a noticeable change in activities to be handled by EG-AeM, and hence the review of the Terms of Reference of EG-AeM would be postponed until then.

## **7. Closure of the meeting**

7.1 The Meeting was closed at noon on 12 Nov 2014. The list of agreed action items is attached as Annex III to this report.

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**EXPERT GROUP ON AERONAUTICAL METEOROLOGICAL  
SERVICES DELIVERY (EG-AEM) MEETING  
(Hong Kong, China, 10-12 November 2014)**

**LIST OF PARTICIPANTS**

**1. Members of EG-AeM**

Mr Boon-Leung Choy Co-coordinator	Hong Kong, China	blchoy@hko.gov.hk
Ms Marina Petrova Co-coordinator	Russian Federation	aviamarina.petrova@mail.ru
Mr Jun Ryuzaki Theme Leader in Meteorological Support to Air Traffic Management and Provision of SIGMETs	Japan	jryuzaki@met.kishou.go.jp
Dr Zhong-feng Zhang On behalf of the Theme Leader in QMS Implementation and Maintenance	China	mazzf@vip.sina.com

**2. Invited Experts**

Dr Hussain Alsarraf	Kuwait	minnesota@yahoo.com
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Ms Sharon Lau	Hong Kong, China	sylau@hko.gov.hk
Mr Somchai Yimsricharoenkit	Thailand	somchai_yim@tmd.go.th

**3. WMO CAeM**

Mr Chi-ming Shun President of CAeM	Hong Kong, China	cmshun@hko.gov.hk
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**4. WMO Secretariat**

Mr Dimitar Ivanov Chief, Aeronautical Meteorology Division WDS Department		divanov@wmo.int
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**EXPERT GROUP ON AERONAUTICAL METEOROLOGICAL  
SERVICES DELIVERY (EG-AEM) MEETING  
(Hong Kong, China, 10-12 November 2014)**

**AGENDA**

1. Review of the outcome of the Conjoint ICAO MET Divisional Meeting / WMO CAeM-15 Session (2014)
  2. Status of implementation in RA II (including deficiencies):
    - a. QMS
    - b. Competency
    - c. Cost-recovery
    - d. SIGMET
    - e. Met Service for ATM
    - f. AMDAR
  3. Proposals for regional follow up actions
    - a. Planning for regional activities in support of GANP framework and ASBU methodology
    - b. SWIM and TBO-related actions
    - c. Regionalization (RA II perspective) and sub-regional approach in RA II (e.g. twinning, partnership etc)
    - d. Space weather (RA II perspective)
    - e. Climate change and aviation (RA II perspective)
  4. Coordination of regional AeM events
    - a. RA II RECO 2014 – presentation of AeM related subject
    - b. Regional needs for awareness events on GANP and ASBU
    - c. Regional needs for ETR events
    - d. AMDAR pilot project
  5. AOB
    - a. AvRDP
    - b. Review of the ToR of EG-AeM
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**WMO Regional Association II (Asia) Expert Group on Aeronautical Meteorological Services Delivery  
Action Item Log**

<b>First meeting of the WMO RA II EG-AeM (Hong Kong, China, 10-12 November 2014)</b>					
<b>Action Item No.</b>	<b>Action Item</b>	<b>Team Member Responsible</b>	<b>Target Date for Completion</b>	<b>Completed</b>	<b>Comments on Status of Outstanding Action Items</b>
1	Prepare an inventory showing existing collaborations among NMHSs in RA II	All members	On-going	N/A	
2	Revise the work plan of the Theme Leader on QMS	Theme Leader on QMS Co-coordinators EG-AeM	Revision to be completed before RECO-6	Yes	[30 Nov 2014] RA II work plan for 2013-16 updated
3	Secretariat to consider provide assistance including fact finding visits to those (QMS) Group A Members if reliable responses are not available	Secretariat	On-going	N/A	
4	Revise the work plan of the Theme Leader on Competency Assessment	Theme Leader on Competency Assessment Co-coordinators EG-AeM	Revision to be completed before RECO-6	Yes	[30 Nov 2014] RA II work plan for 2013-16 updated
5	Further enhance the CAeM website to make online guidelines and information on competency assessment more accessible	Secretariat	End of 2014		
6	Request CAeM ET-GOV, as a high	Secretariat	TBD		Need to consult Co-Chairs of ET-GOV to

	priority action, to provide some guidance (e.g. a plan on how to change the cost recovery model) on cost recovery in global scale	Co-coordinators of EG-AeM			determine the schedule
7	Revise the work plan of the Theme Leader on SIGMET	Theme Leader on SIGMET Co-coordinators of EG-AeM	Revision to be completed before RECO-6	Yes	[30 Nov 2014] RA II work plan for 2013-16 updated
8	Contact DRA to confirm funding to initiate the preparation SIGMET workshop in Q1 2016	Theme Leader on SIGMET Co-coordinators of EG-AeM	ASAP		
9	Provide a contact point from RA VI for experience sharing on harmonization of SIGMET	Secretariat	ASAP		
10	Request ET-ETC to provide clear guidance on the necessary steps to be undertaken by Members and relevant training institutions to facilitate national implementation actions and resource planning	Co-coordinators of EG-AeM	TBD		Need to consult Co-Chairs of ET-ETC to determine the schedule
11	Follow up with the RA II focal point on the development of AMDAR Regional Implementation Plan (A-RIP)	China Co-coordinators of EG-AeM	ASAP		
12	Collect information on setting up of new / extension of national AMDAR programmes to cover data sparse areas on regional and sub-regional scale	All EG-AeM members	ASAP		
13	Request ET-ISA to prepare an FAQ and/or practical guide on the implementation of AvXML	Co-coordinators of EG-AeM	TBD		Need to consult Co-Chairs of ET-ISA to determine the schedule

14	Gather national experience / examples / studies on effect of (climate) changes which may affect aviation operation and provide to ET-ASC for their study	All EG-AeM members	On-going	N/A	
15	Holding of a conference to raise the awareness of future challenges of aviation meteorological services	RA II MG in coordination with WGWS	Upcoming RA II Session		
16	Hold teleconference on follow up items	All EG-AeM members	On-going	N/A	