



International Civil Aviation Organization

**THE SECOND MEETING OF ASIA/PACIFIC METEOROLOGICAL
ADVISORIES AND WARNINGS IMPLEMENTATION TASK FORCE
(METWARN/I TF/2)**

Bangkok, Thailand, 19 – 20 April 2012

Agenda Item 1b: Review of the TORs and follow-up action on the TF/1 meeting and relevant APANPIRG/22 Conclusions

REVIEW OF METWARN/I TF/1 MEETING AND ACTION ITEMS

(Presented by the Secretariat)

SUMMARY

A review of the METWARN/I TF/1 meeting is presented as well as the follow-up action items list for input by the group.

This paper relates to:

Strategic Objectives:

- A. Safety
- B. Sustainability

Global Plan Initiatives:

- GPI-18 Aeronautical Information
- GPI-19 Meteorological Systems

1. INTRODUCTION

1.1 The first meeting of the Meteorological Advisories and Warnings Implementation Task Force (METWARN/I TF/1) was held in Bangkok, Thailand from 23-25 March 2011 for which the full report may be accessed at http://www.bangkok.icao.int/cns/meeting.do?method=MeetingDetail&meeting_id=34. A summary of the METWARN/I TF/1 meeting was provided to the CNS/MET SG/15 meeting as working paper 9 and is provided here in **Attachment 1**. Follow-up action to METWARN/I TF/1 meeting is provided in **Attachment 2**.

2. ACTION ITEMS LIST REVIEW

2.1 The meeting may review **Attachment 1** to recall the highlights of the previous METWARN/I TF/1 meeting. Updates on action items listed in **Attachment 2** may be provided by the meeting. **Note: Attachment 2 updated 31 May 2012, further to discussions in the METWARN/I TF/2 meeting; agenda item 1 (1.2).**

2.2 The attributes of all MET related task forces have been standardized and can be accessed by following the links at the following website: http://www.bangkok.icao.int/apanpirg_sg.html. The standardized form contains activities to achieve milestones that may be updated by the relevant group.

3. ACTION BY THE MEETING

3.1 The meeting is invited to update the OPMET exchange action items list.



International Civil Aviation Organization

**FIFTEENTH MEETING OF THE
COMMUNICATIONS/NAVIGATION/SURVEILLANCE AND
METEOROLOGY SUB-GROUP (CNS/MET SG/15) OF APANPIRG**

Bangkok, Thailand 25 – 29 July 2011

Agenda Item 11: Regional Implementation of SIGMET and warnings

REVIEW OF METWARN/I TF/1 MEETING

(Presented by the Secretariat)

SUMMARY

This paper provides a summary of the First Meeting of the Meteorological Advisories and Warnings Implementation Task Force (METWARN/I TF) held in Bangkok, Thailand from 23-24 March 2011.

This paper relates to

Strategic Objectives:

- A. Safety
- C. Sustainability

Global Plan Initiatives:

- GPI-18 Aeronautical information
- GPI-19 Meteorological Systems

1. Introduction

1.1 The First Meeting of the Meteorological Advisories and Warnings Task Force (METWARN/I TF/1) held in Bangkok, Thailand from 23-24 March 2011 was attended by 45 participants from 12 States and ICAO. The meeting overlapped with the Ninth Meeting of the OPMET Management Task Force (OPMET/M TF/9) on the 23rd of March to review SIGMET issues.

2. Discussion

2.1 The executive summary of the METWARN/I TF/1 meeting is provided in the **Attachment 1**. The full report may be accessed at the following website: http://www.bangkok.icao.int:8080/cns/meeting.do?method=MeetingDetail&meeting_id=34.

2.2 General topics of discussion provided in the Attachment include issues related to radioactive cloud including the issuance of SIGMET and gaps identified in formulating accurate SIGMET given the current information provided by Regional Specialized Meteorological Centres (RSMCs), issues related to aerodrome warnings on Tsunami in that clarity is needed on what, how and

who to provide information on Tsunami for aviation purposes, the need for clarity on the use of color code on eruptions in volcanic ash advisories, results of SIGMET tests, status of the SIGMET advisory trial by the host State in the APAC Region (China), development of a framework on regional contingency plans as well as the current contingency arrangement between Indonesia and Singapore for volcanic ash events, lastly and wind shear and AIREP issues. Actions agreed by the meeting are provided in the **Attachment 2** for the meeting to review and provide comments and progress.

2.3 The meeting review the terms of reference and related performance frame work form and proposed the inclusion of Singapore as a member (TORs) and the removal of global references in the development of regional contingency plans (PFF) as provided in the **Attachment 3**. The PFF will be addressed in a separate paper; however, the meeting is invited to adopt the following Decision on TORs of the METWARN/I TF.

Decision 15/x – TORs of the METWARN/I TF

That, Singapore be included as a member of the METWARN/I TF and reflect the change in the TORs.

3. Action required by the Meeting

3.1 The meeting is invited to:

- a) note the information in this paper and the executive summary in the first Attachment, and
- b) provide updates to the actions agreed by the METWARN/I TF/1 meeting in the second attachment, and
- c) provide further inputs to the TORs and consider the adoption of the Decision to modify the TORs to include Singapore as a member of the METWARN/I TF.

EXECUTIVE SUMMARY

The first meeting of the Meteorological Advisories and Warnings Task Force (METWARN/I TF/1) was held in Bangkok, Thailand from 23-24 March 2011. The meeting was attended by forty-five participants from 12 States, and ICAO. This task force was established by the CNS/MET SG/14 meeting to address regional implementation issues associated with meteorological advisories and warnings and to develop a framework of contingency plans related to volcanic ash, tropical cyclone, radioactive material and Tsunami. This meeting was quite timely in light of recent disasters in the Asia/Pacific Region such as the earthquake, tsunami, and accidental release of radioactive material in Japan, earthquake in New Zealand, historic floods and major tropical cyclone landfall in Australia, volcano eruptions in Indonesia as well as other States in the Region. Fifteen action items were agreed upon by the group that address implementation issues and longer term needs such as the development of guidance material for the issuance of aerodrome warnings for Tsunami and issuance of SIGMET on radioactive material that were tied into global groups already addressing these longer term issues. Highlights of the actions agreed are provided here within.

Radioactive cloud

In light of the recent accidental release of radioactive material associated with the Fukushima nuclear power plant, issues related to the issuance of SIGMET and NOTAM on radioactive material such as SIGMET compliance with Annex 3 is necessary for ingest systems used for flight briefings. Classification of airspace used in NOTAMs was also discussed and compliance to definitions provided in Annex 15 supported by the group. Assuring 8-character AFTN addresses for ACCs used in the notification of the release of radioactive material was also supported by the group. As a result, the meeting agreed that the Regional Office consider informing States to issue SIGMET in compliance with Annex 3, utilize airspace definitions in Annex 15 in formulating NOTAMs and assuring the 8-character AFTN addresses for ACCs are provided and updated for the notification of radioactive release by VAAC London (**Action Agreed 1/8**).

The meeting noted the difficulties in issuing SIGMET on radioactive cloud noting the uncertainty of defining what levels of radioactive material constitutes a hazard to aviation. Furthermore, measurements in the vertical are limited and determining a height of SIGMET deemed difficult. In addition, further guidance is needed on how to utilize information on radioactive material transport and dispersion products provided by Regional Specialized Meteorological Centres (RSMCs) noting that different RSMCs can have different priorities in modeling (e.g. Australia focuses on deposition versus dispersion). Members of the International Airways Volcano Watch Operations Group (IAVWOPSG) agreed to assist in determining current capabilities on the issuance of SIGMET on radioactive cloud in the APAC Region via a survey and report directly to the IAVWOPSG/6 meeting in September 2011 as well as forward the METWARN/I TF report to the Secretariat of IAVWOPSG for consideration in the IAVWOPSG/6 meeting (**Actions Agreed 1/9 and 1/10**).

Tsunami

Likewise, issues related to the issuance of aerodrome warnings on Tsunami were discussed such as which aerodromes should receive this warning information, how is that information provided, who it is provided to and what is done with this information. Members of the

Meteorological Warnings Study Group (METWSG) agreed to assist in determining current capabilities on the issuance of aerodrome warnings on Tsunami in the APAC Region via a survey and report directly to the METWSG/4 meeting in May 2012 as well as forward the METWARN/I TF report to the Secretariat of METWSG for consideration in the METWSG/4 meeting in May 2012 (**Action Agreed 1/11 and 1/12**).

Volcanic Ash

Issues such as timeliness of volcanic ash advisories shortly after an eruption for one event in the Region were discussed. In addition, clarification on the use of color-code for eruptions in volcanic ash advisories was deemed necessary since this information is provided by volcano observatories and if no notice is provided this field is NIL even though volcanic ash is present. Users including ATM may find this information conflicting and the meeting agreed that a member of the IAVWOPSG provide a working paper addressing this issue to the IAVWOPSG/6 meeting in September 2011 (**Action Agreed 1/15**).

Regional Contingency Plans

A framework of contingency plans that addresses the needs of the region was developed by an ad-hoc group that will be circulated to States for comment. Furthermore, current arrangements by States (e.g. Singapore-Indonesia) will be requested by the Secretariat to determine a common thread amongst sub-regional plans in formulating contingency plans being developed by the APANPIRG Regional Contingency Plan Task Force (**Action Agreed 1/13 and 1/14**). One topic of interest in sub regional arrangements included the use of collaborative decision making via sharing information and teleconferences that now include Singapore, Indonesia, Thailand, Malaysia, and the Philippines.

SIGMET tests and SIGMET advisory trial

SIGMET tests were reviewed and the meeting noted a drop in participation in the November 2010 SIGMET tests. The use of Z99 as a designator in the SIGMET test to avoid overwriting a valid SIGMET and remove the need to reissue a valid SIGMET after a test SIGMET message is issued was determined too risky based on varied practices in States (2 or 4 characters are used in some States). Further testing is needed for determination by the CNS/MET SG/15 meeting (**Action Agreed 1/5**).

The SIGMET advisory trial, a global initiative to determine the feasibility of issuing SIGMET advisories to improve the issuance of SIGMET by Meteorological Watch Offices, will take place from May – July 2011 in the APAC Region. SIGMET advisories will be issued by the host State, China, for 9 APAC States in S, SE and E Asia. Hong Kong - China will receive SIGMET from 3 Regional OPMET Data Banks (RODBs) (Bangkok, Singapore, Tokyo) from the end of March to the end of July 2011 (**Action Agreed 1/6**) to assist in the analysis of the issuance of SIGMET by participating States in this trial. The meeting noted that the designator to use in the WMO heading should be FX (miscellaneous forecast) and not FR (aviation route forecast) to mitigate complications that arise at the RODBs in reading the information. The Secretariat informed the Secretariat of METWSG of this issue to relay this information to the AFI Region which will begin the SIGMET advisory trial in April 2011 (**Action Agreed 1/7**).

Wind shear

The meeting was apprised of a brief summary on the wind shear systems acquisition workshop held in Bangkok, Thailand from 1-3 December 2010. Global developments on determining wind shear phraseology and the possible use of expected and reported for semi-automated systems versus fully automated systems currently in Annex 3 is being investigated by the METWSG.

TORs and PFFs

Proposed changes to the Terms of Reference were limited to the inclusion of Singapore as a member of the METWARN/I TF (**Action Agreed 1/1**). Proposed changes to the Performance Framework Form included the removal of global references in the development of regional contingency plans (**Action Agreed 1/2**).

**FOLLOW-UP OF METWARN/ TF/1
ACTION AGREED**
(adapted from CNS/MET SG/15, Appendix A4 to the Report)

Status on **31 May 2012**

√ = **completed**

No.	Title/Action	Follow-up action (target/completion dates in brackets)
1/1	<p>Proposed updates to TORs</p> <p>That, the Secretariat draft a working paper with the proposed changes to the TORs</p> <ul style="list-style-type: none"> • membership to include Singapore <p>for further consideration by the CNS/MET SG/15 meeting</p>	<p style="text-align: center;">Secretariat</p> <p style="text-align: center;">WP for CNS/MET SG/15</p> <p style="text-align: center;">√</p> <p style="text-align: center;">(WP/9 presented at CNS/MET SG/15, 25-29 July 2011; proposed updates were adopted - Decision 15/30)</p>
1/2	<p>Proposed updates to PFFs</p> <p>That, the Secretariat draft a working paper with the proposed changes to the PFFs (task 5) (APAC Objective 12)</p> <ul style="list-style-type: none"> • to remove reference to global groups in the development of contingency plans <p>for further consideration by the CNS/MET SG/15 meeting</p>	<p style="text-align: center;">Secretariat</p> <p style="text-align: center;">WP for CNS/MET SG/15</p> <p style="text-align: center;">√</p> <p style="text-align: center;">(WP/17 presented at CNS/MET SG/15, 25-29 July 2011; the word “reference” changed to “consideration” (in PFF task 5) in Draft Decision 15/37 - Performance Framework Forms (PFFs); subsequently reviewed by APANPIRG 22)</p>
1/3	<p>Update SIGMET contact list</p> <p>That, the Secretariat update the list of SIGMET contacts to include those participating in the SIGMET advisory trial workshop in China</p>	<p style="text-align: center;">China</p> <p style="text-align: center;">Provide list of participants of SIGMET advisory trial workshop to Secretariat</p> <p style="text-align: center;">√</p> <p style="text-align: center;">Secretariat</p> <p style="text-align: center;">Update SIGMET contact list</p> <p style="text-align: center;">√</p> <p style="text-align: center;">Secretariat</p> <p style="text-align: center;">Distribute SIGMET test invitation letter to the updated SIGMET contact list (Sep 2011)</p> <p style="text-align: center;">√</p>

		(SL T 4/7.5: AP111/11 (MET), 25/08/11 & SL T 4/7.5: AP135/11 (MET), 25/10/11)
1/4	<p>SIGMET test 2010 format errors</p> <p>That, the Secretariat commends States for their participation in the SIGMET test 2010 and inform them of any errors identified as well as their associated remedies.</p>	<p>Secretariat State letter</p> <p>√</p> <p>(SL T 4/7.5: AP-MET0020/11, 29 March 2011)</p>
1/5	<p>Utilize Z99 as sequence number in test SIGMET</p> <p>That, the Secretariat consult States (SIGMET POCs via email) as to whether or not a 3-character sequence number (Z99) would be problematic in issuing a SIGMET test and the feedback be used at the CNS/MET SG/15 meeting as to whether this change to the SIGMET test procedure be made.</p>	<p>Secretariat Email SIGMET POCs (April 2011)</p> <p>(China – test successful; Australia – test successful – need to confirm automated systems at Airservices can accept change; USA – noted that there is a remote possibility of a real Z99 – also noting SIGMET numbering is not compliant with Annex 3)</p> <p>Feedback compiled in WP for CNS/MET SG/15 (June 2011)</p> <p>WP/11 (need to determine risk of changing for 2011 test; WP/11 presented at CNS/MET SG/15, 25-29 July 2011; the meeting endorsed the use of Z99 effective for the November 2011 SIGMET tests, and corresponding SIGMET Guide amendment, July 2011)</p>
1/6	<p>RODB assistance in SIGMET Advisory Trial</p> <p>That, SIGMET received at RODBs Bangkok, Singapore and Tokyo be routed or continue to be routed to VHHHYMYX in preparation for and during the APAC SIGMET Advisory Trial</p>	<p>RODBs Bangkok, Singapore and Tokyo</p> <p>(end of March – July 2011)</p> <p>√</p>
1/7	<p>Designator for SIGMET advisory message</p> <p>That, the Secretariat inform the Secretariat of the METWSG of the potential confusion associated with the use of FR (aviation route forecast) as the designator in the WMO Header for SIGMET advisory message in the upcoming SIGMET advisory trail.</p>	<p>Secretariat</p> <p>√</p> <p>(24 March 2011)</p>

	Note that the meeting suggested the use of FX (forecast miscellaneous) as the designator for SIGMET advisory message in the WMO Header	
1/8	Issuance of radioactive SIGMET and NOTAM That, the Regional Office consider notifying States on the issuance of radioactive SIGMET and NOTAM	RO SL ✓ (SL T 4/7.5:AP072/11 (MET), 10 May 2011)
1/9	Radioactive material release issues That, the Secretariat forward the issues related to information to the release and transport of radioactive material identified by the meeting to the Secretariat of the IAVWOPSG Secretariat	Secretariat Forward report to the Secretariat of IAVWOPSG ✓ (29 March 2011)
1/10	Survey on current capabilities of States in providing information to aviation on radioactive material That, IAVWOPSG ad-hoc members (New Zealand and the United States) develop a survey on current capabilities of APAC States in providing information to aviation on radioactive cloud. The feedback from APAC States be provided to the IAVWOPSG/6 meeting and if available, the CNS/MET SG/15 meeting	New Zealand and United States Develop survey ✓ State letter (Secretariat) ✓ (T 4/7.5:AP064/11 (MET), 25 April) Ad-hoc Feedback in WP to IAVWOPSG/6 and if available to CNS/MET SG/15 ✓ (WP/51 CNS/MET SG/15; the meeting formulated Decision 15/33 – Guidance on Radioactive Cloud. IAVWOPSG/6, September 2011, reviewed procedures and guidance on radioactive material and adopted Conclusion 6/29 — Provision of information on radioactive material released into the atmosphere; and Conclusion 6/30 — Alternative provisions

		<p>for radiological cloud information for international air navigation)</p> <p>(July – September 2011)</p>
1/11	<p>Aerodrome warning on Tsunami</p> <p>That, the Secretariat forward the issues identified with aerodrome warning on Tsunami to the Secretariat of the METWSG</p>	<p>Secretariat</p> <p>Forward report to the Secretariat of METWSG</p> <p>√</p> <p>(29 March 2011)</p>
1/12	<p>Survey on current capabilities of States in providing aerodrome warning on Tsunami</p> <p>That, METWSG ad-hoc members (Australia, New Zealand and the United States) develop a survey on current capabilities of APAC States in providing aerodrome warnings on Tsunami.</p> <p>The feedback from APAC States be provided to the METWSG/4 meeting and if available, the CNS/MET SG/15 meeting</p>	<p>Australia, New Zealand and United States</p> <p>Develop survey</p> <p>√</p> <p>State letter (Secretariat)</p> <p>√</p> <p>(T 4/7.5:AP065/11(MET), 25 April)</p> <p>Ad-hoc Feedback in WP to METWSG/4 meeting and if available to CNS/MET SG/15</p> <p>√</p> <p>(WP/50 CNS/MET SG/15, SN/6 METWSG/4, May 2012; the meeting formulated Action Agreed 4/7 — Tsunami warnings where national public safety plans incorporating the aerodrome exist)</p> <p>(July 2011 – March 2012)</p>
1/13	<p>Review of framework of regional contingency plans</p> <p>That, States review the framework prior to being submitted to the APANPIRG Task Force on Regional Contingency Plans</p>	<p>Secretariat</p> <p>State letter (April 2011)</p> <p>(packaged into paper for ATM/AIS/SAR SG/21 – which created task force to develop regional contingency plans)</p>

		<p>Need to emphasize link between METWARN/I and new TF)</p> <p>Provide consolidated feedback to APANPIRG Task Force (June 2011)</p> <p>(On going – refer to METWARN/I TF/2 Action agreed 2/8 – Ad-hoc group on regional contingency plans)</p>
1/14	<p>Framework of regional contingency plans</p> <p>That, the framework of regional contingency plans on volcanic ash, tropical cyclone, Tsunami and radioactive cloud consider arrangements practiced (e.g. Singapore-Indonesia) by APAC States and that this information feed into the development of regional contingency plans being developed by the APANPIRG Task Force on Regional Contingency Plans</p>	<p>Singapore (rap.), Australia, Indonesia, Malaysia, New Zealand, Philippines, Thailand, United States</p> <p>Determine multi-lateral State practices (Secretariat) (Aug 2011)</p> <p>(same response as 1/13)</p> <p>Develop framework of contingency plans in coordination with the APANPIRG TF (ad-hoc) (2011)</p> <p>(same response as 1/13)</p>
1/15	<p>Volcano eruption color code entry in volcanic ash advisory</p> <p>That, the color code listed in the volcanic ash advisory be further examined by the IAVWOPSG through direct membership</p>	<p>United States</p> <p>WP to IAVWOPSG/6 (Sep 2011)</p> <p>(Ongoing; IAVWOPSG/6 formulated Conclusion 6/18 — Enhancement and improvement of Annex 3, Table A2-1 — Template for advisory message for volcanic ash – to be reported back to IAVWOPSG/7)</p>

(Derided from METWARN/I TF/1 Appendix A to the Report)

ICAO APANPIRG CNS/MET METEOROLOGICAL ADVISORIES and WARNINGS IMPLEMENTATION TASK FORCE (METWARN I/TF)

1. TASK TEAM		
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CNS/MET SG/15 – WP/9
Attachment 3

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CNS/MET SG/15 – WP/9
Attachment 3

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2. DESCRIPTION	
Objective	Improve the quality of meteorological advisories and warnings and implement the International Airways Volcano Watch (IAVW) and International Tropical Cyclone Watch (ITCW).
Benefits	<p>Improve in-flight safety by providing information on volcanic ash, tropical cyclone and other hazardous weather.</p> <p>Improve pre-flight planning by optimizing flight routes with respect to volcanic ash, tropical cyclone and other hazardous weather phenomena.</p>
Terms of Reference	<p>Under guidance from ICAO Secretariat:</p> <p>Maintain awareness of current and future requirements with respect to the issuance of meteorological advisories and warnings;</p> <p>Maintain awareness of the implementation of meteorological advisories and warnings within the ASIA/PAC Region and any deficiencies;</p> <p>Continually seek ways to improve the operational effectiveness of the meteorological advisory and warning system;</p> <p>Provide advice to the CNS/MET Sub-group on the above issues.</p>
Work Program	<p>The work to be addressed by the ASIA/PAC METWARN/I TF includes:</p> <p>Review procedures for the issuance of meteorological advisories and warnings in the region and propose actions for their improvement to related performance objectives;</p> <p>In conjunction with OPMET Management Task Force, investigate the deficiencies in the format and dissemination of meteorological advisories and warnings (e.g. conducting routine SIGMET tests) and propose remediation plans;</p> <p>Respond to the needs of the States for guidance and/or training related to the implementation of meteorological advisories and warnings, including the SIGMET Guide;</p> <p>In conjunction with MET/ATM TF, provide meteorological input for contingency planning for specific phenomenon including Volcanic Ash, Radioactive Cloud, Tropical Cyclone and Tsunami;</p> <p>Follow the developments in the States related to the improvement of meteorological advisories and warnings and provide regional input on these matters to relevant ICAO and WMO groups;</p> <p>Report on its work to the CNS/MET Sub-group of APANPIRG.</p>

3. COMMUNICATION STRATEGIES				
Description	Target Audience	Delivery Method	Frequency / Date	Responsibility
Work Plan	Task Force Members	Document via email and posted on ICAO Bangkok website	As required but reviewed at least quarterly	Co-Chairs
General correspondence	Task Force Members	Email	As required	Task Force Members
Task Force Meeting	Task Team Members	Meeting in conjunction with OPMET M/TF	Yearly in March	Co-Chairs
Status & Milestone Reports	ICAO Secretariat and Task Team Members	Report via email	Quarterly	Co-Chairs
Task Force Report	METWARN I/TF and OPMET M/TF	Working Paper	Yearly	Co-Chairs
Task Force Report	APANPIRG CNS/MET SG	Working Paper	Yearly	Secretariat

4. PERFORMANCE FRAMEWORK FORM (PFF)				
Tasks	Time Frame	Responsibility	Status	Milestone
Task 1: Monitor and provide assistance to the regional implementation of meteorological warnings and advisories that include volcanic ash (VA) and tropical cyclone (TC) advisories and meteorological warnings and advisories based on current and future requirements	2010-2015	METWARN/I TF	In progress	1
Task 2: Track and investigate deficiencies in the format and dissemination of meteorological advisories and warnings and propose remediation plans and provide information to ICAO and WMO groups for possible assistance	2010-2015	METWARN/I TF OPMET/M TF	In progress	3, 4
Task 3: Conduct periodic tests for SIGMET on VA, TC, and phenomena other than VA and TC in view of assessing improvements in their implementation	2010-2015	METWARN/I TF RODB VAACs TCACs OPMET/M TF	In progress	1, 3
Task 4: Provide guidance and/or training related to the implementation of meteorological advisories and warnings, including the Regional SIGMET Guide as they relate to the Annex 3 amendment cycle	2010, 2013	METWARN/I TF OPMET/M TF RO	In progress	1
Task 5: Develop framework for emergency plan for specific phenomenon including VA, radioactive cloud, TC and Tsunami. with reference to developments made by the IVATF and WMO scientific steering committee	2010-2011	METWARN/I TF MET/ATM TF	To begin	2

CNS/MET SG/15 – WP/9
Attachment 3

5. MILESTONES			
Milestone	Accountability	Dates	Status
<i>Milestone 1a: SIGMET Guide available on web</i>	<i>Secretariat</i>	<i>15/02/11</i>	<i>Complete (note updates are at least annual)</i>
<i>Milestone 1b: Report to METWARN I/TF on outcomes of METWSG/3 *consider the need for additional guidance on interpreting pilot reports into SIGMETs (mod to severe turbulence/icing)</i>	<i>Co-Chairs</i>	<i>01/03/11</i>	
<i>Milestone 2: Report back to CNS/MET 15 on regional performance on the OPMET SIGMET test and action plan to correct identified shortcomings</i>	<i>Co-Chairs</i>	<i>July 2011</i>	
<i>Milestone 3a: SIGMET posters published to web</i>	<i>Secretariat</i>	<i>November 2011</i>	
<i>Milestone 3b: Requirements for education material and training (work with WMO/CAeM) developed</i>	<i>Co-Chairs</i>	<i>April 2011</i>	
<i>Milestone 4: deliver framework for ASIA/PAC VA Contingency plan</i>	<i>Co-Chairs</i>	<i>July 2011</i>	
<i>Milestone 5: Report on the preliminary findings of the SIGMET advisory trial with regard to Asia to CNS/MET 15</i>	<i>Co-Chairs</i>	<i>July 2011</i>	
<i>Milestone 6: Development of regional guidance on Radioactive Cloud SIGMET</i>	<i>Task Force</i>	<i>2013</i>	
<i>Milestone 7a: prepare report for CNS/MET 15 on current status on the aerodrome warnings for Tsunami in the ASIA/PAC</i>	<i>Co-chairs</i>	<i>July 2011</i>	
<i>Milestone 7b: prepare report for METWSG/4 on current status on the aerodrome warnings for Tsunami in the ASIA/PAC</i>	<i>Co-chairs</i>	<i>Jan 2012</i>	

6.1 WORK PLAN				
Task / Milestone	Accountability	Predecessors	Date	Status
Activity 1: SIGMET GUIDE				
Task 1.1: Review amendment 75 to Annex 3 to identify relevant changes	Task Force		01/10/10	Complete (Jun-Aug2010)
Task 1.2: Review SIGMET Guide	Task Force		01/10/10	Complete (Jun-Aug2010)
Task 1.3: Submit SIGMET Guide amendments to Co-chairs	Task Force	1.1 and 1.2	01/11/10	Complete CNS/MET SG/14 review
Task 1.4: Propose updates to the Regional SIGMET Guide to the Secretariat	Co-Chairs	1.3	15/11/10	Complete CNS/MET SG/14 review
Task 1.5: State Letter	Secretariat	1.4	01/12/10	Complete SL sent 9 Sep 2010
Task 1.6: SIGMET Guide updated	Secretariat	1.5	01/02/11	Complete 9 Sep 2010
<i>Milestone 1a: SIGMET Guide available on web</i>	<i>Secretariat</i>	<i>1.6</i>	<i>15/02/11</i>	<i>Complete (noting this is at least an annual update)</i>
<i>Milestone 1b: Report to METWARN I/TF on outcomes of METWSG/3 *consider the need for additional guidance on interpreting pilot reports into SIGMETs (mod to severe turbulence/icing)</i>	<i>Co-Chairs</i>		<i>March 2010</i>	

6.2 WORK PLAN				
Task / Milestone	Accountability	Predecessors	Date	Status
Activity 2: SIGMET TESTS				
Task 2.1: Review OPMET report on Nov 2010 test	Co-Chairs		March 2011	
Task 2.2: Develop action plan to fix identified deficiencies	Task Force	OPMET report	During meeting Mar 2011	
<i>Milestone 2: Report back to CNS/MET 15 on regional performance and action plan</i>	<i>Co Chairs</i>		<i>July 2011</i>	

6.3 WORK PLAN				
Task / Milestone	Accountability	Predecessors	Date	Status
Activity 3: EDUCATIONAL MATERIAL				
Task 3.1: Review current SIGMET posters (Amendment 75; result of OPMET test)	Task Force		During meeting Mar 2011	

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Task 3.2: Review educational material requirements in light of OPMET results	Task Force		During meeting Mar 2011	
Task 3.3: Consider options having SIGMET seminars/workshop in consultation with WMO	Keith to assist		April 2011	
<i>Milestone 3a: SIGMET posters published to web</i>	<i>Co- Chairs</i>		<i>July 2011</i>	
<i>Milestone 3b: Requirements for education material and training (work with WMO/CAeM) developed</i>	<i>Co- Chairs</i>		<i>July 2011</i>	

6.4 WORK PLAN				
Task / Milestone	Accountability	Predecessors	Date	Status
Activity 4: REGIONAL VOLCANIC ASH CONTINGENCY PLANS				
Task 4.1: Report on the progress of IVATF to METWARN I/TF	Jun/Shona/ Keith		Mar 2011	
Task 4.2 Report on the progress of WMO Scientific Steering Committee outcomes	Jun/Keith		Mar 2011	
Task 4.3: Considering existing VA procedures and plans in the ASIA/PAC, and in light of the issuance of the EUR/NAT, NAM/SAM contingency plans, consider the appropriateness of an ASIA/PAC contingency plan, and develop possible framework.	Task Force		Meeting Mar 2011	
<i>Milestone 4: deliver framework for ASIA/PAC VA Contingency plan to CNS/MET 15</i>	<i>Co-Chairs</i>		<i>July 2011</i>	

6.5 WORK PLAN				
Task / Milestone	Accountability	Predecessors	Date	Status
Activity 5: SIGMET ADVISORY TRIAL				
Task 5.1: Liaise with METWSG to define any roles/responsibilities of METWARN I/TF in the conduct of the SIGMET Advisory trial (April – July 2011).	Jun/Shona		March 2011	
Task 5.2: Report on the trial of the Regional issue of SIGMET Advisories conducted by METWSG with regard to the Asia Region	Co-Chairs	SIGMET Advisory Trial	Oct 2011*	
Task 5.3: Review action plan for deficiencies of the issuance of SIGMET (Task 2.2) in light of the findings of the SIGMET advisory trial.	Task Force	SIGMET Advisory Trial	Dec 2011*	
<i>Milestone 5: Report on the preliminary findings of the SIGMET advisory trial with regard to Asia to CNS/MET 15</i>	<i>CO-Chairs</i>		<i>July 2011</i>	

* task beyond the current time frame of the METWARN I/TF

6.6 WORK PLAN				
Task / Milestone	Accountability	Predecessors	Date	Status
Activity 6: RADIOACTIVE CLOUD				
Task 6.1: Coordinate the development of Radioactive Cloud SIGMET process/guidance	Task Force	Annex 3 guidance update	2013*	
<i>Milestone 6: Development of regional guidance on Radioactive Cloud SIGMET</i>	<i>Co Chairs</i>		2013	

* task beyond the current time frame of the METWARN I/TF

6.7 WORK PLAN				
Task / Milestone	Accountability	Predecessors	Date	Status
Activity 6: TSUNAMI				
Task 7.1: Report on the progress of topic from METWSG/3 for regional applications	Co-chairs		March 2011	
Task 7.2: Review existing Tsunami Aerodrome Warning procedures in the region	Task Force		At Meeting Mar 2011	
<i>Milestone 7a: prepare report for CNS/MET 15 on current status of tsunami aerodrome warnings in ASIA/PAC</i>	<i>Co-chairs</i>		<i>July 2011</i>	
<i>Milestone 7b: prepare report for METWSG/4 on current status of aerodrome warnings for tsunamis in ASIA/PAC</i>	<i>Co-chairs</i>		<i>Jan 2012</i>	
