



**INTERNATIONAL CIVIL AVIATION ORGANIZATION
ASIA AND PACIFIC OFFICE**

REPORT OF

**THE FIFTH MEETING OF ASIA/PACIFIC METEOROLOGICAL
HAZARDS TASK FORCE (MET/H TF/5) OF THE ASIA/PACIFIC AIR NAVIGATION
PLANNING AND IMPLEMENTATION REGIONAL GROUP (APANPIRG)**

**18 – 20 March 2015
Seoul, Republic of Korea**

The views expressed in this Report should be taken as those of
the Meeting and not the Organization.

Approved by the Meeting
and published by the ICAO Asia and Pacific Office, Bangkok

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1. Introduction

1.1 The Fifth Meeting of the Meteorological Hazards Task Force (MET/H TF/5) was hosted by the Korea Aviation Meteorological Agency (KAMA)/Korea Meteorological Administration (KMA), at the GLAD Hotel, Seoul, Republic of Korea, from 18 to 20 March 2015.

1.2 The meeting commenced with a conjoint session of MET/H TF/5 and the Thirteenth Meeting of the Asia/Pacific Regional OPMET¹ Bulletin Exchange Working Group (ROBEX WG/13) to discuss items of interest to both groups on 18 March 2015. Outcomes from the conjoint session of ROBEX WG/13 and MET/H TF/5 are covered in a separate report.

2. Attendance

2.1 The meeting was attended by 40 experts from Australia, Bangladesh, Bhutan, Cambodia, China, Hong Kong China, Indonesia, Japan, Malaysia, Philippines, Republic of Korea, Singapore, Thailand, Viet Nam, the International Air Transport Association (IATA), the International Federation of Air Line Pilot's Associations (IFALPA) and the International Civil Aviation Organization (ICAO). The List of Participants is provided in **Appendix A** to this Report.

3. Officer and Secretariat

3.1 Mr. P.W. Chan presided as Chair of the meeting.

3.2 Mr. Peter Dunda, Regional Officer Aeronautical Meteorology, ICAO Asia and Pacific Office, acted as the Secretariat for the meeting.

4. Language and Documentation

4.1 The MET/H TF/5 met as a plenary throughout the meeting. The working language of the meeting was English inclusive of all documentation and this Report. A total of nine (9) Working Papers (WPs) and six (6) Information Papers (IPs) were considered by the meeting. The list of WPs/IPs is attached at **Appendix B** to this Report.

5. Draft Conclusions, Draft Decisions and Decisions of the MET/H TF – Definition

5.1 The MET/H TF recorded the outcomes of its discussions in the form of Draft Conclusions, Draft Decisions and Decisions within the following definitions:

- a) **Draft Conclusions** (for further consideration and action by APANPIRG) deal with matters that, according to APANPIRG terms of reference, require the attention of States, or action by the ICAO in accordance with established procedures;
- b) **Draft Decisions** (for further consideration and action by APANPIRG) deal with the matters of concern only to APANPIRG and its contributory bodies; and
- c) **Decisions** of the MET/H TF relate solely to matters dealing with the internal working arrangements of the MET/H TF.

5.2 List of Draft Conclusions and Decisions

List of MET/H TF/5 Draft Conclusions

¹ Operational meteorological (information)

There were no Draft Conclusions recorded by MET/H TF/5.

List of MET/H TF/5 Draft Decisions

There were no Draft Decisions recorded by MET/H TF/5.

List of MET/H TF/5 Decisions

Decision 5/1 – Regional guidance material: SIGMET pamphlets

That, in order to enhance the guidance available to States for the production of SIGMET:

- a) The draft pamphlets presented in WP/4, intended as a quick reference guide for the preparation of [WC and WS] SIGMET, be further developed and a new draft pamphlet be developed for [WV] SIGMET and promulgated through the MET SG to APANPIRG, ICAO HQ and WMO for final review and further action;
- b) Arrangements be proposed for the appropriate publication/distribution of the (approved) SIGMET pamphlets in electronic form; and
- c) Future revisions are to be developed to realign all the SIGMET pamphlets with Amendment 77 to ICAO Annex 3 for final review and approval in time for applicability in November 2016.

Decision 5/2 – Regional guidance material: aerodrome tsunami warning

That, in order to progress the development of regional guidance material on the issuance of aerodrome tsunami warning information:

- a) Additional comments be sought from the MET/H TF with respect to the draft tsunami warning guidance provided in WP/5 before submission of the guidance to MET SG/19 for review and consideration of further action; and
- b) End user consultation is to be included as a key recommendation in the guidance material, especially with respect to the integration of an aerodrome tsunami warning service into a national tsunami warning system.

Decision 5/3 – Regional guidance material: SIGMET for radioactive clouds

That, in order to enhance the regional guidance material on SIGMET for radioactive clouds, additional comments be sought from the MET/H TF with respect to the draft guidance material provided in IP/3, and the draft guidance be revised and developed further as necessary, before submission for review by MET SG/19 and consideration of further action.

Decision 5/4 – MET/H TF membership details

That, the current details of members of the MET/H TF, as listed in the work programme, be confirmed and IATA and IFALPA be invited to nominate experts for membership on MET/H TF.

Agenda Item 1: Organizational matters

Opening

1.1 On behalf of Mr. Arun Mishra, Regional Director of the ICAO Asia and Pacific Office, Mr. Peter Dunda opened the meeting.

Adoption of agenda

1.2 The meeting adopted the agenda as presented in WP/1.

Agenda Item 2: Review of follow-up from previous meetings

Action arising from MET/H TF/4

2.1 The meeting reviewed the follow-up to the agreed action from the fourth meeting of the Meteorological Hazards Task Force (MET/H TF/4), held in Beijing, China, from 19 to 21 March 2014, and noted that in most cases the action was in progress or completed. A table detailing the status of follow-up to the agreed action items is contained in WP/2 presented by the Secretariat.

2.2 The meeting noted progress on the regional initiative to investigate and implement measures to improve the availability of SIGMET information in the Pacific Region. Further details are provided in IP/2.

2.3 With respect to the developments reported in IP/2, the meeting noted progress made in Papua New Guinea and Solomon Islands, which resulted in participation, for the first time, of those States in the Asia/Pacific SIGMET tests (in 2014). This was also discussed in the Report of the conjoint session of ROBEX WG/13 and MET/H TF/5; in paragraphs 2.3, 2.4 and 2.5.

2.4 The meeting also noted the possibility of a SIGMET workshop to be hosted by Japan in 2016, which would support the objectives of the initiatives discussed in IP/2. This issue was also discussed in the Report of the conjoint session of ROBEX WG/13 and MET/H TF/5; in paragraph 2.8.

Agenda Item 3: Guidance material

SIGMET pamphlets

3.1 The meeting reviewed the [WS and WC] SIGMET pamphlets developed as guidance for States in the production of SIGMET, which was part of the follow-up to MET/H TF/4 agreed action 4/12 done by the ad-hoc group comprising Australia, Hong Kong-China and New Zealand (Rapporteur) that was tasked to review and update the (previously developed, but now outdated) SIGMET posters to realign with Amendment 76 to Annex 3 – *Meteorological Service for International Air Navigation*. Further details are provided in WP/4 prepared by New Zealand (and presented by Australia).

3.2 Following discussion on the above, the meeting agreed that the pamphlets should be progressed through to APANPIRG for adoption and also for review by ICAO headquarters and the World Meteorological Organization (WMO) and, once approved, arrangements be made for appropriate publication/distribution of the pamphlets in electronic form. The meeting also agreed that the ad-hoc group should continue with development of a draft [WV] SIGMET pamphlet for review by the Meteorology Sub-Group (MET SG) meeting in August 2015 and future work should include the

review of all the pamphlets again in July 2016 (when Amendment 77 to ICAO Annex 3 is published) to realign and approve the pamphlets in time for the applicability of Amendment 77 to Annex 3 in November 2016. In view of the preceding agreements, the meeting formulated the following Decision:

Decision 5/1 – Regional guidance material: SIGMET pamphlets

That, in order to enhance the guidance available to States for the production of SIGMET:

- a) The draft pamphlets presented in WP/4, intended as a quick reference guide for the preparation of [WC and WS] SIGMET, be further developed and a new draft pamphlet be developed for [WV] SIGMET and promulgated through the MET SG to APANPIRG, ICAO headquarters and WMO for final review and further action;
- b) Arrangements be proposed for the appropriate publication/distribution of the (approved) SIGMET pamphlets in electronic form; and
- c) Future revisions are to be developed to realign all the SIGMET pamphlets with Amendment 77 to ICAO Annex 3 for final review and approval in time for applicability in November 2016.

Tsunami warnings

3.3 The meeting reviewed a draft regional guidance material for aerodrome warnings for tsunami, which was prepared by the ad-hoc group comprising Japan and Indonesia tasked by MET/H TF/4 to review the tsunami survey results from 2011 and 2013 and draft appropriate guidance material for the integration of aerodrome warnings for tsunami into national tsunami warning systems for at-risk aerodromes (MET/H TF/4 Action agreed 4/8 refers). Further details are contained in WP/5.

3.4 The meeting noted the draft material discussed in WP/5 provides examples of what is practiced in Japan and Indonesia and agreed that other States' practices could be reflected in the guidance if available. Noting that it would be beneficial to the development of the guidance for the ad-hoc group to receive more feedback from States, the meeting agreed that the Secretariat could assist by distributing the draft to all members of the MET/H TF seeking their comments. The review would need to be done fairly quickly in order for the ad-hoc group to prepare a second draft of the guidance material for final review by MET SG/19 (in August 2015) before possible submission to APANPIRG/26 (September 2015) for adoption and distribution to States.

3.5 Noting that the intention of the guidance material discussed above is to ensure tsunami warnings for aerodromes are integrated into national tsunami warning systems (where available), but that the aerodrome warning is a service particularly targeted for the aviation community, the meeting agreed that States should consult with users of the existing aerodrome tsunami warning service prior to implementing any changes in service to ensure aviation users, in particular those non-local airline operators, are not negatively impacted by the integration of aerodrome tsunami warnings into national tsunami warning systems. In view of the above discussions, the meeting adopted the following Decision:

Decision 5/2 – Regional guidance material: aerodrome tsunami warning

That, in order to progress the development of regional guidance material on the issuance of aerodrome tsunami warning information:

- a) Additional comments be sought from the MET/H TF with respect to the draft tsunami warning guidance provided in WP/5 before submission of the guidance to MET SG/19 for review and consideration of further action; and
- b) End user consultation is to be included as a key recommendation in the guidance material, especially with respect to the integration of an aerodrome tsunami warning service into a national tsunami warning system.

Radioactive clouds

3.6 The meeting also noted draft regional guidance material on the issuance of SIGMET for radioactive clouds prepared by the ad-hoc group comprising China (rapporteur), Hong Kong-China and Japan, which was tasked by MET/H TF/4 to develop guidance for possible inclusion in the Regional SIGMET Guide (MET/H TF/4 agreed action 4/6 refers). Further details are contained in IP/3.

3.7 The meeting agreed that the draft guidance material presented in IP/3 should be further progressed and, as with the previous discussion, requested the Secretariat to assist the ad-hoc group by distributing the draft to all members of the MET/H TF seeking their comments. Again, such review would need to be done fairly quickly in order for the ad-hoc group to prepare a second draft of the guidance material for final review by MET SG/19 (in August 2015) before possible submission to APANPIRG (September 2015) for adoption and distribution for use by States. Accordingly, the meeting formulated the following Decision:

Decision 5/3 – Regional guidance material: SIGMET for radioactive clouds

That, in order to enhance the regional guidance material on SIGMET for radioactive clouds, additional comments be sought from the MET/H TF with respect to the draft guidance material provided in IP/3, and the draft guidance be revised and developed further as necessary, before submission for review by MET SG/19 and consideration of further action.

Turbulence

3.8 The meeting noted information on an improved forecast guidance technique for turbulence over the Korean Peninsula, which is used by forecasters in the issuance of area forecasts and SIGMET information, and which the KMA is planning to develop further as a global turbulence forecast guidance tool to provide end users with useful data on turbulence that may affect flight operations.

Agenda Item 4: Contingency plans

4.1 The meeting reviewed progress on the input of meteorological information (by the MET/H TF) to support the development of air traffic management contingency plans by the Regional Air Traffic Management Contingency Planning Task Force (RACP/TF). Further details are in WP/3 presented by the Secretariat.

4.2 While the meeting noted that detailed requirements from the RACP/TF were still to be obtained with respect to what input this group should provide towards the planning, coordination and implementation of a Regional ATM Contingency Plan, the establishment of the Asia/Pacific volcanic ash exercises steering group and the conducting of volcanic ash exercise/s in 2015 was noted as a significant step that would assist the development of the volcanic ash ATM contingency plan for

the Region, especially in view of the necessary coordination between meteorological service providers, air traffic management, airspace users, regulators and volcano observatories. This initiative was also discussed in the Report of the conjoint session of ROBEX WG/13 and MET/H TF/5 in paragraph 2.19.

Agenda Item 5: Aerodrome warnings

5.1 The meeting noted information on a hazardous weather monitoring system developed recently (January 2015) by the KMA, which is intended to improve the efficiency of weather watch/monitoring, the issuance of warnings and the sharing of relevant information: contributing to the safety of aircraft operations. Further details are provided in IP/5.

5.2 In view of the above, the meeting invited the Republic of Korea to keep the group informed on further progress with the system, especially with respect to any future results showing the level of success of implementation of the system.

Agenda Item 6: Future Work Programme

6.1 The meeting reviewed the work programme of the MET/H TF, including terms of reference, composition and work plan. Further details are provided in WP/6 presented by the Secretariat.

6.2 The meeting provided a number of updates to the various parts of the work programme document and these are recorded in the revised version of the work programme which is included in **Appendix C** to this Report.

6.3 With respect to the composition of the MET/H TF membership, the meeting invited the Secretariat to confirm the membership contact details, by correspondence, with the MET/H TF members listed in the work programme that were not represented at the meeting. Additionally, with the tentative agreement (to join the MET/H TF) from observers from IATA and IFALPA present in the meeting, the meeting also requested that the Secretariat formally invite IATA and IFALPA to nominate relevant experts for membership on MET/H TF and, therefore, adopted the following Decision:

Decision 5/4 – MET/H TF membership details

That, the current details of members of the MET/H TF, as listed in the work programme, be confirmed and IATA and IFALPA be invited to nominate experts for membership on MET/H TF.

Agenda Item 7: Any other business

Icing and special air-reports

7.1 The meeting reviewed WP/09 presented by the Republic of Korea on the icing detection system over the Korean Peninsula and the validation results of the system when compared with special air-reports for icing, which show that the system tends to overestimate aircraft icing. The meeting noted challenges in validating the system's performance in icing detection due to the scarcity of special air-reports of icing that were available during 4 years of analysis over the Korean Peninsula (only nineteen (19) air-reports), which highlighted the value of more in situ measurements for better

validation of the icing detection system. The meeting supported the request from Republic of Korea for enhanced issuance and exchange of special air-reports world-wide and noted that the implementation of special air-reports was also discussed in the Report of the conjoint session of ROBEX WG/13 and MET/H TF/5 in paragraph 2.27.

Meteorological satellite imagery

7.2 The meeting noted information on Japan's next-generation geostationary meteorological satellite, Himawari-8, which was successfully launched on 7 October 2014 and has been generating enhanced satellite imagery that is seen as helpful for monitoring of aviation meteorological hazards and the subsequent issuance of enhanced products and services for aviation users. Further details are provided in WP/7 presented by Japan.

7.3 The meeting noted the three (3) main improvement areas in service from the current, Multifunctional Transport Satellite (MTSAT-2), to the new satellite, Himawari-8, are as follows:

- a) More channels: 16 bands (Himawari-8) vs. ~~6~~ 5 bands² (MTSAT-2);
- b) Higher frequency of images: full-disk image every 10 minutes and rapid-scan image every 2.5 minutes (from Himawari-8); and
- c) Higher horizontal resolution: visible range 0.5 km (Himawari-8) vs. 1 km (MTSAT-2); infrared range 2 km (Himawari-8) vs. 4 km (MTSAT-2).

The meeting also noted that the satellite service improvements would enable improved volcanic ash monitoring, more precise tropical cyclone tracking and enhanced detection of cumulonimbus clouds (which are associated with thunderstorms) by the operational centres designated to provide advisory and SIGMET information on volcanic ash, tropical cyclones and thunderstorms.

Space weather services

7.4 The meeting noted information provided on the current status and the future plan for the provision of space weather services to support air navigation in the Republic of Korea. Further details are provided in IP/6.

Task List

7.5 The meeting agreed to the MET/H TF/5 task list included as **Appendix D** to this Report.

Next Meeting

7.6 Noting the tentative schedule adopted in APANPIRG/25 WP/12, which took into consideration the need to advance the schedule for APANPIRG/26 (to July 2016) and its Sub-Group meetings (before June 2016) to accommodate States' preparations for the ICAO Assembly in 2016, the next meeting, MET/H TF/6, was tentatively agreed to be held during the week commencing 7 March 2016, back-to-back with, and including a conjoint session with ROBEX WG/14.

² Corrected 22/05/2015

**Thirteenth Meeting of the Asia/Pacific Regional OPMET Bulletin Exchange Working Group
(ROBEX WG/13) and Fifth Meeting of the Asia/Pacific
Meteorological Hazards Task Force (MET/H TF/5)**

(Seoul, Republic of Korea, 16 – 20 March 2015)

Appendix A to the Report

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International Civil Aviation Organization

**FIFTH MEETING OF THE ASIA/PACIFIC METEOROLOGICAL
HAZARDS TASK FORCE (MET/H TF/5)**

Seoul, Republic of Korea, 18 – 20 March 2015

LIST OF WORKING AND INFORMATION PAPERS

WP/IP No.	Agenda Item	Subject	Presented by
WP/1	-	Provisional Agenda	Secretariat
WP/2	2	Follow-up to Action Arising from MET/H TF/4	Secretariat
WP/3	4	Review Progress on Input of Meteorological Information for contingency plans	Secretariat
WP/4	3	SIGMET Pamphlets	Ad Hoc Group New Zealand (Rapporteur), Australia and Hong Kong, China
WP/5	5	The Asia/Pacific Regional Guidance on Aerodrome Tsunami Warnings	Japan and Indonesia
WP/6	6	Review MET/H TF Terms of Reference and Work Programme	Secretariat
WP/7	7	Up-to-Date Information on Himawari-8 and its Operational Use for Monitoring of Aviation Meteorological Hazards	Japan
WP/8			
WP/9	7	Introduction of the COMS based Aircraft Icing Detection	National Meteorological Satellite Center (NMSC), Republic of Korea

LIST OF INFORMATION PAPERS

IP/1	-	Meeting Bulletin	
IP/2	2	Improvement of SIGMET Availability in the APAC Region	Rapporteur, MET/H TF, Ad Hoc Group, SIGMET Deficiencies

WP/IP No.	Agenda Item	Subject	Presented by
IP/3	3	The Asia/Pacific Regional Guidance on the Issuance of SIGMET for Radioactive Cloud	Rapporteur, MET/H TF, Ad Hoc Group
IP/4	3	Use and Upgrade of Korea Turbulence Guidance	Republic of Korea
IP/5	5	Use and Development of Monitoring System for Aviation Weather Hazards	Republic of Korea
IP/6	7	Space Weather Activities for Aviation in Republic of Korea	Republic of Korea



ICAO APAC METEOROLOGICAL HAZARDS TASK FORCE (MET/H TF) WORKPLAN

Appendix C to the Report

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2.DESCRPTION	
Objective	Improve the quality of meteorological advisories and warnings and implement the International Airways Volcano Watch (IAVW) and International Tropical Cyclone Watch (ITCW) in support of the Global Air Navigation Plan framework and the aviation system block upgrade (ASBUs) methodology.

Benefits	<ul style="list-style-type: none"> • Improve in flight safety by providing information on volcanic ash, tropical cyclone and other hazardous weather. • Improve pre flight planning by optimizing flight routes with respect to volcanic ash, tropical cyclone and other hazardous weather. • Improve the safety and efficiency of flight and ground operations with respect to volcanic ash, tropical cyclone and other hazardous weather [review the wording for consistency with other ICAO definitions].
Terms of Reference	<p>Under guidance from ICAO Secretariat:</p> <ul style="list-style-type: none"> • Maintain awareness of current and future requirements with respect to the issuance of meteorological advisories and warnings in support of the aviation system block upgrades (ASBUs); • Maintain awareness of the implementation of meteorological advisories and warnings within the ASIA/PAC Region and any deficiencies; • Continually seek ways to improve the operational effectiveness of the meteorological advisory and warning system; and • Provide advice to the MET Sub-group on the above issues.
Work Program	<p>The work to be addressed by the ASIA/PAC MET/H TF includes:</p> <ul style="list-style-type: none"> • Review procedures for the issuance of meteorological advisories and warnings in the region and propose actions for their improvement to related performance objectives; • In conjunction with ROBEX WG, investigate the deficiencies in the format and dissemination of meteorological advisories and warnings and propose remediation plans; • Respond to the needs of the States for guidance and/or training related to the implementation of meteorological advisories and warnings and inform ROBEX WG of changes required to the SIGMET guide; • In conjunction with MET/R TF and in support of the ASBUs, provide meteorological input for operational planning for specific phenomenon including Volcanic Ash, Radioactive Cloud, Tropical Cyclone, Tsunami and Space Weather; • 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 and to gather user requirements from ANSPs, IATA, IFATCA and IFALPA; • Investigate options for removal of SIGMET deficiencies in APAC States; • Provide support for the APAC Volcanic Ash Exercises; • Report on its work to the MET Sub-group of APANPIRG; and • Maintain a link to the Regional ATM Contingency Plan Task Force (RACP/TF).

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	Chair
General correspondence	Task Force Members	Email	As required	Task Force Members
Task Force Meeting	Task Team Members	Meeting in conjunction with ROBEX WG	Yearly in March	Chair
Status & Milestone Reports	ICAO Secretariat and Task Team Members	Report via email	Quarterly	Chair
Task Force Report	MET/H TF and ROBEX WG	Working Paper	Yearly	Chair
Task Force Report	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	2015-2019	MET/H 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	2015-2018	MET/H TF and ROBEX WG	In progress	1,2
Task 3: Review WC, WV & WS SIGMET test results and implement improvements.	2015-2018	MET/H TF	In progress	1
Task 4: Provide guidance and/or training related to the implementation of meteorological advisories and warnings, including input to the Regional SIGMET Guide as they relate to the Annex 3 amendment cycle.	2015-2016	R/O, MET/H TF and ROBEX WG	In progress	1,3
Task 5: Provide input into regional-operational plans as required for specific phenomenon, including VA, radioactive cloud, TC, Tsunami and Space Weather, with consideration to global ICAO groups and WMO developments.	2015-2018	MET/H TF and MET/R TF	In progress	3
Task 6: Investigate, and implement as appropriate, options to assist States in resolving SIGMET deficiencies.	2015-2016	MET/H TF	In progress	4

5. MILESTONES			
Milestone	Accountability	Dates	Status
<i>Milestone 1: Report on SIGMET test results and regional performance-MET SG</i>	Chair	Annually	
<i>Milestone 2: Guidance and educational material available</i>	Chair	Aug 2015-2016	
<i>Milestone 3: MET input provided for ASIA/PAC Regional ATM Contingency Plans</i>	ad-hoc group	Next meeting	
<i>Milestone 4: Reduction in SIGMET deficiencies.</i>	States	2015 ⁶	

6. WORK PLAN				
Task / Milestone	Accountability	Predecessors	Date	Status
Activity 1: SIGMET TESTS				
Task 1.1: Review SIGMET tests (conjoint session with ROBEX WG)	Task force	-	Annually	
Task 1.2: Develop action plan to fix identified deficiencies	Chair in conjunction with the Task Force	conjoint session with ROBEX WG	During meeting	

6. WORK PLAN				
Task / Milestone	Accountability	Predecessors	Date	Status
Task 1.3 Report back to MET SG on regional performance and action plan	Chair		Annually	
<i>Milestone 1: Report on SIGMET test results and regional performance to MET SG</i>	Chair	-	Annually	
Activity 2: GUIDANCE AND EDUCATIONAL MATERIAL				
Task 2.1: a) Review current SIGMET poster information b) Publish information in pamphlet form c) Review with future Annex 3 amendments	Australia, Hong Kong, China and New Zealand (Rapporteur) in conjunction with ICAO HQ and WMO	-	a) Apr 2015 b) Aug 2015 c) Aug 2016	
Task 2.2: Review radioactive cloud survey results and develop guidance for inclusion in the SIGMET Guide (2 nd draft of paper for MET SG/18)	China (Rapporteur), Hong Kong, China, Japan	-	Aug 2015	
Task 2.3: Review tsunami survey results and develop guidance in line with proposal for Amendment 77 to Annex 3 (2 nd draft of paper for MET SG/18)	Japan (rapporteur), Indonesia		Aug 2015	
Task 2.4: Forward proposed amendments to the SIGMET Guide template to appropriate expert group determined by MET Panel	Secretariat		TBC	
Task 2.5: Consider the requirement for seminars/workshops (coordinate with Japan concerning possible SIGMET workshop in APAC in 2016)	Secretariat		2015	
<i>Milestone 2: Guidance and educational material available</i>	Chair		2015-2016	
Activity 3: REGIONAL CONTINGENCY PLANS				
Task 3.1: Get a list of requirements from RACP/TF	Secretariat	-	Next RACP/TF	
Task 3.2: Provide information on hazardous meteorological phenomena to ATM group for inclusion in the ATM contingency plan, if required (after outcome of RACPTF is known)	ad-hoc group (TBC)	-	Next meeting	
<i>Milestone 3: MET input provided for ASIA/PAC Regional ATM Contingency Plans</i>	Secretariat ad-hoc group	3.1-3.2	Next meeting	
Activity 4 – SIGMET Deficiencies				
Task 4.1: Investigation options to eliminate SIGMET deficiencies.	ad hoc group New Zealand (rapporteur), Australia, New Zealand, China, Japan, Indonesia		Oct 2014	Complete
Task 4.2: Assist the ICAO Secretariat in the facilitation of discussion of viable options with relevant States.	ad hoc group	4.1	Aug 2015	
Task 4.3: Monitor the implementation of the solution/s to remove deficiencies.	ad hoc group	4.2	Ongoing	

6. WORK PLAN				
Task / Milestone	Accountability	Predecessors	Date	Status
Task 4.4: Monitor global development on the establishment of a regional advisory system for hazardous weather.	ad hoc group		Ongoing	
Task 4.5: Report progress to MET SG	Ad hoc group rapporteur	4.3	Jul 2015	
<i>Milestone 4: Reduction in SIGMET deficiencies.</i>	<i>States</i>		2016	

MET/H TF/5
Task List

Appendix D to the Report

(last updated – 20 March 2015)

ACTION ITEM	DESCRIPTION	TIME FRAME	RESPONSIBLE PARTY	STATUS	REMARKS
5/1	Submit paper including draft [WC and WS] SIGMET pamphlets and a proposal for appropriate publication/distribution of the (approved) pamphlets in electronic form through MET SG/19 to APANPIRG/26 and/or ICAO HQ and WMO for adoption as regional guidance material.	July 2015	Ad-hoc group, comprising Australia, Hong Kong-China and New Zealand (Rapporteur)	In progress	Related to MET/H TF/5 Decision 5/1
5/2	Develop a draft [WV] SIGMET pamphlet for review and approval (include in 5/1 if possible).	July 2015	Ad-hoc group, comprising Australia, Hong Kong-China and New Zealand (Rapporteur)	In progress	Related to MET/H TF/5 Decision 5/1
5/3	Revise all SIGMET pamphlets as necessary, and submit drafts for approval, to align with, in time for the applicability of, Amendment 77 to ICAO Annex 3.	August 2016	Ad-hoc group, comprising Australia, Hong Kong-China and New Zealand (Rapporteur)	To commence	Related to MET/H TF/5 Decision 5/1
5/4	Obtain further comments on the draft tsunami warning guidance in WP/5 and the draft regional guidance material on SIGMET for radioactive clouds in IP/3.	May 2015	Secretariat and MET/H TF	To commence	Related to MET/H TF/5 Decision 5/2 and 5/3
5/5	Revise the draft guidance material on tsunami warning as necessary, and ensure that end user consultation is a key component during the integration of aerodrome tsunami warning service into national tsunami warning systems, and submit a paper to MET SG/19	July 2015	Ad-hoc group comprising Indonesia and Japan	In progress	Related to MET/H TF/5 Decision 5/2
5/6	Revise the draft guidance material on SIGMET for radioactive clouds as necessary and submit a paper to MET SG/19.	July 2015	Ad-hoc group comprising China (rapporteur), Hong Kong-China and Japan	In progress	Related to MET/H TF/5 Decision 5/3
5/7	Confirm the MET/H TF membership contact details and invite IATA and IFALPA to nominate relevant experts for membership.	June 2015	Secretariat	To commence	Related to MET/H TF/5 Decision 5/4