



Agenda Item 4: Implementation of SIGMET

**FOLLOW-UP TO METWSG/1 AND METWSG/2
CONCLUSIONS**

(Presented by the Secretariat)

1. Introduction

1.1 The First Meeting of the Meteorological Warnings Study Group (METWSG/1) was carried out from 20 to 22 November 2007 in Montreal, Canada.

1.2 The Second Meeting of the Meteorological Warnings Study Group (METWSG/2) was carried out from 19 to 21 May 2009 in Montreal, Canada.

1.1 Complete information on these two meetings can be found in the website of the METWSG: <http://www2.icao.int/en/anb/met-aim/met/metwsg/Lists/Meetings/AllItems.aspx>, available in English only.

2. Implementation status of METWSG/1 and METWSG/2 Meetings conclusions

2.1 Considering that the follow-up information of the conclusions of the first and second meetings of the Meteorological Warnings Study Group is published in English in the above mentioned website, **Appendix A** to this information paper includes the Follow-up Table to the conclusions formulated by this study group in its first meeting and **Appendix B** to this information paper includes the Follow-up Table to the conclusions formulated in its second meeting.

3. Action suggested by the AERMETSG

3.1 The Subgroup is invited to take note of the information provided in this information paper.

APPENDIX A

**FOLLOW-UP OF METWSG/1
ACTION AGREED (AC)**

Status on 02 March 2009

√ = completed

No.	Title/Action	Follow-up action (target/ completion dates in brackets)
1/1 √	<p>Amendment to Annex 3 regarding SIGMET provisions</p> <p>That, the proposal to amend Annex 3 – <i>Meteorological service for International Air Navigation</i> regarding SIGMET provisions given in Appendix C be consolidated with other elements of Amendment 75 to Annex 3 by the Secretary.</p> <p><i>Note. — The Secretary will develop guidance material, for inclusion in regional SIGMET guides, regarding the description of two geographical areas affected by the same meteorological phenomenon in one FIR.</i></p>	<p align="center">Secretary</p> <p align="center">Draft amendment endorsed by the ANC</p> <p align="center">(5 February 2008)</p>
1/2 √	<p>Feasibility studies on the rationalization of the issuance of SIGMET</p> <p>That, an ad hoc working group composed of Nigel and Steve (Co-Rapporteurs), Albert, C.M., Hervé, Herbert, Patrick and Tom be tasked to undertake a feasibility study considering the rationalization and consolidation, of the issuance of SIGMET to selected regional centres to be designated by RAN agreement, in time for the METWSG/2 Meeting.</p> <p><i>Note. — The ad hoc group should also consider the improvement of the existing framework and the development of draft provisions with a view to use regional cooperation, in particular where resources at MWOs are deemed insufficient to cope with the requirements. In addition, the group should consider developing proposals to improve training related to SIGMET, regular testing and real-time monitoring and extend successful measures to all ICAO regions.</i></p>	<p align="center">Ad hoc WG (Nigel and Steve, Co-Rapporteurs)</p> <p align="center">Report for METWSG/2</p> <p align="center">(1 February 2009)</p>
1/3 √	<p>Quantitative criteria for “sandstorm” and “duststorm”</p> <p>That, Herbert, in consultation with Hervé and Tom, be tasked to develop quantitative criteria for “sandstorm” and “duststorm”, to be used for the issuance of SIGMET, in time for the METWSG/2 Meeting.</p>	<p align="center">Herbert</p> <p align="center">Proposal for METWSG/2</p> <p align="center">(1 February 2009)</p>
1/4 √	<p>Description of the area of phenomena in SIGMET/AIRMET</p> <p>That, an ad hoc working group composed by Steve, Patrick, Nigel (Rapporteur) and Tom be tasked to assess the need of changing the method to describe the area of the phenomena in a SIGMET/AIRMET, in time for the METWSG/2 Meeting.</p>	<p align="center">Ad hoc WG Nigel (Rapporteur)</p> <p align="center">Proposal for METWSG/2</p> <p align="center">(1 February 2009)</p>

No.	Title/Action	Follow-up action (target/ completion dates in brackets)
1/5 ✓	<p>Phraseology for the provision of wind shear alerts information</p> <p>That, C. M., and Steve prepare a proposal for standard phraseology to be used by air traffic units for the provision of wind shear alert information to aircraft in approach, take-off or climb-out area.</p> <p><i>Note. — Any proposal should be coordinated with the appropriate ICAO body. In view of the editorial policy of Doc 4444, the proposal should consist of no more than 2 or 3 key standard phraseologies.</i></p>	<p>C.M. and Steve</p> <p>Prepare a proposal for phraseology</p> <p>(1 February 2009)</p>
1/6 ✓	<p>Update of Doc 9817, Manual on Low-Level Wind Shear</p> <p>That, the Secretary include in the next amendment of Doc 9817, <i>Manual on Low-Level Wind Shear</i>, the material included in Appendix D.</p>	<p>Secretary</p> <p>Amendment to Doc 9817 sent for editing</p> <p>(28 April 2008)</p>
1/7 ✓	<p>Update of the ICAO wind shear posters</p> <p>That, the set of three draft new wind shear posters developed by the Hong Kong Observatory in collaboration with WMO and IFALPA, shown in Appendix E be endorsed by ICAO by distributing the posters to ICAO Contracting States through the ICAO regional offices.</p> <p><i>Note. — The three new wind shear posters will replace the existing ICAO posters on wind shear.</i></p>	<p>Posters distributed by Hong Kong, China (on behalf of ICAO)</p> <p>(July 2008)</p>
1/8 ✓	<p>Development of the criteria for the provision of warnings for rotor zones in terminal area</p> <p>That, the sub-task be proposed by the Secretary to the Air Navigation Commission for deletion from the work program of the study group.</p>	<p>Secretary</p> <p>Deletion endorsed by ANC (177-4)</p> <p>(5 February 2008)</p>
1/9 ✓	<p>Provision of information on low-level temperature inversion either in a specific warning or in the supplementary information appended to local reports and METAR/SPECI</p> <p>That, the sub-task be proposed by the Secretary to the Air Navigation Commission for deletion from the work program of the study group.</p>	<p>Secretary</p> <p>Deletion endorsed by ANC (177-4)</p> <p>(5 February 2008)</p>

No.	Title/Action	Follow-up action (target/ completion dates in brackets)
<p>1/10</p> <p>✓</p>	<p>Amendments to Annex 3 and the PANS-ABC (Doc 8400), Procedures for Air Navigation Services — ICAO Abbreviations and Codes to enable the use of “headwind gain” and “headwind loss” in wind shear warnings</p> <p>That,</p> <p>a) the proposal to amend the template for wind shear warnings in Table A6-3 of Annex 3 to enable the inclusion of “headwind gain” and “headwind loss” information detected from automatic aircraft observations or orally reported to ATC, in the form of “nnKMH (or nnKT) GAIN nnKM (or nnNM) FNA RWYnn” and “nnKMH (or nnKT) LOSS nnKM (or nnNM) FNA RWYnn” respectively given in Appendix F be consolidated with other elements of Amendment 75 to Annex 3 by the Secretary; and</p> <p>b) the new abbreviations “GAIN” and “LOSS”, to stand for “headwind gain” and “headwind loss” respectively, be consolidated with other elements of Amendment 30 to the PANS-ABC (Doc 8400), <i>Procedures for Air Navigation Services — ICAO Abbreviations and Codes</i> by the Secretary.</p> <p><i>Note. — “GAIN” and “LOSS” would also replace “ASPEEDG” and “ASPEEDL” and an appropriate explanation would be included in PANS-ABC (Doc 8400), Procedures for Air Navigation Services — ICAO Abbreviations and Codes.</i></p>	<p>Secretary</p> <p>Draft amendment endorsed by the ANC (177-4)</p> <p>(5 February 2008)</p>

APPENDIX B
FOLLOW-UP OF METWSG/2
ACTION AGREED

Status on 29 May 2009

√ = completed

No.	Title/Action	Follow-up action (target/ completion dates in brackets)
2/1	<p>Feasibility study into the issuance of SIGMET advisory information from selected regional centre(s)</p> <p>That an ad hoc group (A) consisting of Albert, Carole, CM (co-rapporteur), Colin, Herbert, Jun, Keith, Patrick (co-rapporteur), Steve, Sue (co-rapporteur), Tom, and Zhang will oversee the planning for, and conduct of a feasibility study into the issuance of SIGMET advisory information from selected regional centre(s) using the work plan in the Appendix C.</p> <p style="text-align: center;"><i>Note. — The feasibility study is expected to be conducted after the METWSG/3 Meeting.</i></p>	<p style="text-align: center;">Ad hoc group (A) (CM, Patrick and Sue – co-rapporteurs)</p> <p style="text-align: center;">Report to METWSG/3</p> <p style="text-align: center;">(July 2010)</p>
2/2	<p>Intensity criteria for sandstorm and duststorm</p> <p>That,</p> <ul style="list-style-type: none"> a) Carole and Tom seek user information regarding sandstorm and duststorm intensity that may assist the modification of the criteria presented below by the end of August 2009; b) all members of the group provide information, as available, to Herbert concerning the forecasting of sandstorm and/or duststorm intensity by May 2010; c) Herbert collate the information received and prepare a report for consideration at the METWSG/3 Meeting; and d) the Secretary prepare a draft amendment to Annex 3, as necessary, in response to c) above. 	<ul style="list-style-type: none"> a) Carole and Tom Information to group (August 2009) b) All members Information to Herbert (May 2010) c) Herbert Report to METWSG/3 (August 2010) d) Secretary Draft Amendment to Annex 3, as necessary (September 2010)

No.	Title/Action	Follow-up action (target/ completion dates in brackets)
2/3	<p>Criteria for the issuance of SIGMET for icing</p> <p>That members of the group provide information, as available, for consideration at the next meeting of the group to assist in the creation of criteria for the issuance of SIGMET for icing.</p> <p><i>Note. — The group may also wish to take into account of numerous events where an engine flame-out had occurred due to ice at cruise altitudes in the vicinity of convection at ambient temperatures at, or lower than, minus forty degrees Celsius.</i></p>	<p>All members</p> <p>Report to METWSG/3 as necessary</p> <p>(August 2010)</p>
2/4	<p>Description of geographical areas of phenomena in SIGMET and AIRMET</p> <p>That,</p> <ul style="list-style-type: none"> a) a draft amendment to Annex 3, Table A6-1 concerning the geographical area of phenomena in SIGMET and AIRMET be developed by the Secretary based on the recommendations (1, 2 and 3) described above given above for the consideration of the group by May 2010; b) members provide feedback on the draft amendment proposal by July 2010; and c) a consolidated amendment proposal be prepared by the Secretary for consideration by the group at the METWSG/3 Meeting. 	<ul style="list-style-type: none"> a) Secretary Draft Amendment to Annex 3 (May 2010) b) All members Provide comment (August 2010) c) Secretary Draft Amendment to Annex 3 (September 2010)
2/5	<p>Phraseologies relating to wind shear for proposed inclusion in the PANS ATM (Doc 4444)</p> <p>That the Secretary forward the standard phraseologies included in the Appendix D for inclusion in the PANS-ATM (Doc 4444) following the appropriate consultation process.</p> <p><i>Note. — Preliminary review by the ANC expected after the METWSG/3 Meeting in the first half of 2011.</i></p>	<p>Secretary</p> <p>Draft Amendment to PANS-ATM</p> <p>(December 2010)</p>
2/6	<p>Inclusion of expected/reported in the phraseologies used for wind shear alerts</p> <p>That an ad hoc group (B) consisting of Carole, CM, Herbert, Juan, Steve and Tom (rapporteur), study whether the inclusion of the words “expected and reported” should be included in the phraseology for wind shear alerts in PANS-ATM (Doc 4444) considering Annex 3, Amendment 7.4 requirements and report their findings to the METWSG/3 Meeting..</p>	<p>Ad hoc group (B) (Tom – rapporteur)</p> <p>Report to METWSG/3</p> <p>(August 2010)</p>

No.	Title/Action	Follow-up action (target/ completion dates in brackets)
2/7	<p>Update of the <i>Manual on Low-Level Wind Shear (Doc 9817)</i> and deletion of the related work programme task</p> <p>That,</p> <p>a) the Secretary update the Manual on Low-Level Wind Shear (Doc 9817) to make it compatible with Amendment 75 to Annex 3 following its adoption; and</p> <p>b) work programme task 5 relating to the observing and reporting of low-level wind shear be deleted on completion of a) above.</p>	<p>a) Secretary Update manual (July 2010)</p> <p>b) Secretary Amend deliverables (July 2010)</p>
2/8	<p>Use of turbulence forecast algorithms in the automatic generation of SIGMET</p> <p>That an ad hoc group (C) consisting of CM, Colin (rapporteur), Patrick and Steve should study the possibility of using turbulence forecast algorithms for the use in SIGMET and produce a report in time for the METWSG/3 Meeting for its consideration.</p>	<p>Ad hoc group (C) (Colin – rapporteur)</p> <p>Report to METWSG/3</p> <p>(July 2010)</p>
2/9	<p>The use of automatic turbulence warning systems in the approach/landing and take off/climb out areas</p> <p>That the task relating to the automated turbulence warnings in the approach/landing areas be deleted from the work programme.</p>	<p>Secretary</p> <p>Proposed deletion of task to ANC</p> <p>(June 2009)</p>
2/10 ✓	<p>Work programme of the group</p> <p>That the Secretary update the work programme of the group and make it available to the group for comments by 27 May 2009.</p>	<p>Secretary</p> <p>Deliverables updated</p> <p>(27 May 2009)</p>

Target date	Action	Owner
June 2009	2/9	Secretary
August 2009	2/2 a)	Carole and Tom
May 2010	2/2 b), 2/4 a)	All members and Secretary
July 2010	2/1, 2/7 a), 2/7 b), 2/8	All members and Secretary
August 2010	2/2 c), 2/3, 2/4 b), 2/6	All members
September 2010	2/2 d), 2/4 c)	Secretary
December 2010	2/5	Secretary

— END —