



INTERNATIONAL CIVIL AVIATION ORGANIZATION

TWENTY SEVENTH MEETING OF THE ASIA/PACIFIC  
AIR NAVIGATION PLANNING AND IMPLEMENTATION  
REGIONAL GROUP (APANPIRG/27)

Bangkok, Thailand, 5 to 8 September 2016

Agenda Item 3: Performance Framework for Regional Air Navigation Planning and  
Implementation

3.5 MET

METEOROLOGY SUB-GROUP REPORT

(Presented by MET SG Chairperson)

**SUMMARY**

This paper presents the outcomes from the Twentieth Meeting of the APANPIRG Meteorology Sub-Group (MET SG/20), held in the ICAO APAC Regional Office, Bangkok, Thailand, from 6-9 June 2016.

*Strategic Objectives:*

- A: **Safety** – Enhance global civil aviation safety
- B: **Air Navigation Capacity and Efficiency**—Increase the capacity and improve the efficiency of the global aviation system
- E: **Environmental Protection** — minimize the adverse environment effects of civil aviation activities.

**1. INTRODUCTION**

1.1. The MET SG/20 meeting was attended by 65 experts from Australia, Bangladesh, Cambodia, China, Hong Kong-China, Macao-China, India, Indonesia, Japan, Lao (Peoples Democratic Republic), Malaysia, Maldives, Mongolia, New Caledonia, New Zealand, Pakistan, Philippines, Republic of Korea, Singapore, Thailand, United Kingdom, United States, Viet Nam, International Air Transport Association (IATA), International Federation of Airline Pilot's Associations (IFALPA), World Meteorological Organization (WMO) and the ICAO.

1.2. Mrs. Susan O'Rourke presided over MET SG/20 in the role as Chairperson and Mr. Peter Dunda, ICAO Regional Officer, Aeronautical Meteorology, acted as Secretary.

1.3. The Vice-Chairperson of the MET SG, Dr. Cheng Cho-ming from the Hong Kong Observatory, was unable to continue in the role due to other commitments. The meeting expressed appreciation for Dr. Cheng Cho-ming's efforts and acknowledged the long-term and valuable contributions he made to APANPIRG.

## 2. DISCUSSION

### Organizational matters

2.1. MET SG/20 was held over 4 days from 6-9 June 2016 and followed an agenda based on the Terms of Reference of the MET SG, with specific discussion items submitted by members prior to the meeting. Note: MET SG/20 business related specifically to Meteorology/Air Traffic Management (MET/ATM) coordination was discussed in a joint session with the Sixth Meeting of the Air Traffic Flow Management Steering Group (ATFM/SG/6).

2.2. A total of twenty-eight (28) Working Papers (WP), seventeen (17) Information Papers (IP), one (1) slide presentation (SP) and two (2) flimsies were considered by MET SG/20.

2.3. Outcomes from the meeting included five (5) Draft Conclusions encompassing recommendations for action that require further guidance from APANPIRG (listed at **Attachment A** to this Paper) and sixteen (16) Decisions on matters of solely internal interest to the MET SG (listed at **Attachment B** to this Paper).

2.4. A copy of the full Report from the MET SG/20 Meeting, and all supporting documentation, is available on the ICAO APAC website.

### Outcomes from other ICAO groups

2.5. The meeting reviewed the outcomes from MET SG/19, which was held in Bangkok, Thailand from 3-6 August 2015, and APANPIRG/26, which was held in Bangkok, Thailand from 7-10 September 2015, and noted the revisions to the *APANPIRG Procedural Handbook*, consequent to *Decision APANPIRG/26/65 — Revised APANPIRG Structure, Terms of Reference and APANPIRG Sub Group Empowerment*.

2.6. The revised template for APANPIRG Conclusions/Decisions, provided by the third coordination meeting between the Chairpersons of APANPIRG and the Regional Aviation Safety Groups – Asia/Pacific (RASG-APAC), was used to report the MET SG/20 Conclusions/Decisions.

### Planning and monitoring

2.7. The meeting referred to the ICAO State letter (AN 10/1.1-16/17) informing about the adoption of Amendment 77 to Annex 3 – *Meteorological Service for International Air Navigation* and in particular the provisions related to the implementation of the ICAO Meteorological Information Exchange Model (IWXXM) format as a recommended practice for the exchange of volcanic ash and tropical cyclone advisory information, AIRMET information, OPMET information (i.e., METAR, SPECI and TAF) and SIGMET information, and the consequential requirement for States to file any differences, via the Electronic Filing of Differences (EFOD) system, before 10 October 2016.

2.8. The meeting noted the recent amendment to the Asia/Pacific Regional Air Navigation Plan (ANP), Volumes I and II (ANP amendment dated September 2015; State letters T 11/2.1 – AP034/16 and T 11/2.1 – AP051/16 refer) and proposed additional amendments to realign the MET tables of the new ANP (in Volume II, Part V – MET) with States' current requirements (as provided at **Attachment C** to this paper), to be forwarded to APANPIRG for further review and possible endorsement [MET SG/20 **Draft Conclusion 20/1** refers].

2.9. The meeting also decided on action for the MET SG to update the relevant regional guidance material in response to, and to reflect planned changes to OPMET provision announced by the United States and to assess the impacts of the said changes on APAC States [MET SG/20 Decisions 20/2 and 20/3 refer].

Air navigation deficiencies in the MET field

2.10. The meeting noted the list of APANPIRG air navigation deficiencies in the MET field including the required Corrective Action Plans (CAPs) of the States concerned and decided on action necessary to improve the level of information provided to APANPIRG in the *Reporting Form on Air Navigation Deficiencies* [MET SG/20 Decision 20/4].

Research, development and implementation issues in the MET field

2.11. The meeting reviewed the work programmes of the expert working groups under the MET SG, namely the Meteorological Services Working Group (MET/S WG), Meteorological Information Exchange Working Group (MET/IE WG), Meteorological Requirements Working Group (MET/R WG) and the Volcanic Ash Exercises Steering Group (VOLCEX SG).

2.12. Discussion related to MET/ATM coordination was conducted in a joint meeting session convened with ATFM/SG/6 to take advantage of the opportunity to promote closer coordination between MET and ATM experts and to assist in raising awareness of issues of direct interest to both groups.

2.13. Under this agenda item, the meeting decided on the following actions:

- a) Delegate tasks to its working group/s to support annual backup tests of the APAC Volcanic Ash Advisory Centres (VAACs) [MET SG/20 Decision 20/5 refers];
- b) Remind States of the imminent cessation of the SADIS 2G service [MET SG/20 Decision 20/6 refers];
- c) Repeat a survey on Regional implementation of the exchange of meteorological information using IWXXM format and supporting communication systems [MET SG/20 Decision 20/7 refers]; and
- d) Promote coordination among APANPIRG groups to support implementation of the Air Traffic Services Message Handling System (AMHS) [MET SG/20 Decision 20/8 refers].

2.14. Furthermore, the meeting recommended the following actions for consideration and possible adoption by APANPIRG:

- a) Expedite the operational status of extended AMHS in the APAC Region [**MET SG/20 Draft Conclusion 20/9** refers];
- b) Increase the representation of ATM experts in the Meteorological Requirements Working Group (MET/R WG) to improve MET/ATM coordination [MET SG/20 **Draft Conclusion 20/10** refers]; and
- c) Provide guidance on the interpretation and implementation of ICAO's safety management system (SMS) provisions related to MET [MET SG/20 **Draft Conclusion 20/11** refers].

2.15. The meeting also decided to update the MET SG work programme in relation to capacity building activities to support implementation of ICAO provisions for the exchange of meteorological information in IWXXM format [MET SG/20 **Decision 20/12** refers].

Regional guidance material

2.16. The meeting considered updates and drafts of relevant Regional guidance materials, including the *Asia/Pacific Regional SIGMET Guide*, *SIGMET Pamphlets* and the proposed *Asia/Pacific Regional Guidance on Aerodrome Tsunami Warnings and their integration into the National Public Safety Plans for Tsunami*.

2.17. With respect to the above, the meeting decided to:

- a) Further consider the inclusion of guidance related to the ICAO APAC volcanic ash exercises in the Regional SIGMET Guide [MET SG/20 **Decision 20/13** refers]; and
- b) Promote sharing information on (States') practices and procedures for the preparation of SIGMET information for the various types of thunderstorm phenomena required by Annex 3 [MET SG/20 **Decision 20/14** refers].

2.18. The meeting noted action completed (by members of the MET SG and MET/S WG) on the development of SIGMET pamphlets and the drafting of guidance material related to aerodrome warning for tsunami, and agreed to:

- a) Distribute the new and improved SIGMET pamphlets for use in the Region [MET SG/20 **Decisions 20/15 and 20/16** refer]; and
- b) Finalize the draft regional guidance on aerodrome tsunami warning [MET SG/20 **Decision 20/17** refers].

2.19. The meeting further recommended that, on completion of the tsunami guidance material it should be forwarded to APANPIRG for review and possible endorsement as complementary regional guidance to support States' application of the relevant note introduced in Amendment 77 to Annex 3 – *Meteorological Service for International Air Navigation* (refer Annex 3, Appendix 6, paragraph 5.1.3, Note), which will become applicable on 10 November 2016 [MET SG/20 **Draft Conclusion 20/18** refers] (see also the separate information paper on tsunami warning guidance).

Future work programme

2.20. The meeting adopted revisions to the MET SG work programme in order to:

- a) Align the tasks and the terms of reference of its contributory expert groups (i.e., MET/IE WG, MET/S WG, MET/R WG and VOLCEX/SG) with the major deliverables set out in the MET SG terms of reference [MET SG/20 **Decision 20/19** refers];
- b) Improve coordination within the MET SG forum with the Pacific Island States [MET SG/20 **Decision 20/20** refers]; and
- c) Promote information sharing among APAC States on the impacts of climate change on aviation [MET SG/20 **Decision 20/21** refers].

Any other business

2.21. With respect to planning ahead for the next meeting (MET SG/21), the meeting agreed to the following:

- a) Include election of Chairperson and Vice-Chairperson as an agenda item; and
- b) MET SG/21 to be held (tentatively) from 29 May to 1 June 2017.

**3. ACTION BY THE MEETING**

3.1. The Meeting is invited to:

- a) Note the information in this paper; and
- b) Review and adopt the Draft Conclusions formulated by MET SG/20 provided at **Attachment A** to this paper.

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## ATTACHMENT A — MET SG/20 — DRAFT CONCLUSIONS

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| <b>MET SG/20 Draft Conclusion 20/1</b> – Proposal for amendment to the Asia/Pacific Regional Air Navigation Plan   |   |
| <b>What:</b> <del>That, Endorse</del> the proposal for amendment to the APAC Regional Air Navigation Plan, Volume II, Part V – MET, Table MET II-1, Table MET II-2 and Table MET II-3 (provided at <b>Attachment C</b> to this paper) <del>be endorsed</del> . | <b>Expected impact:</b><br><input type="checkbox"/> Political / Global<br><input type="checkbox"/> Inter-regional<br><input type="checkbox"/> Economic<br><input type="checkbox"/> Environmental<br><input checked="" type="checkbox"/> Ops/Technical |
| <b>Why:</b> Data in the Tables in the new APAC ANP are not completely aligned with current operational requirements  |   |
| <b>When:</b> 8-Sep-16  | <b>Status:</b> Draft conclusion to be adopted by PIRG   |
| <b>Who:</b> <input type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: APANPIRG  |   |

  

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| <b>MET SG/20 Draft Conclusion 20/9</b> – Expedited availability of extended AMHS  |  |
| <b>What:</b> <del>That, States be urged to expedite operational status of</del> extended Air Traffic Services Message Handling System (AMHS) services linking APAC Inter-Regional OPMET Gateways (IROGs) and Regional OPMET Centres (ROCs) to APAC National OPMET Centres (NOCs), and between APAC IROGs and IROGs in neighbouring Regions.   | <b>Expected impact:</b><br><input checked="" type="checkbox"/> Political / Global<br><input checked="" type="checkbox"/> Inter-regional<br><input checked="" type="checkbox"/> Economic<br><input type="checkbox"/> Environmental<br><input checked="" type="checkbox"/> Ops/Technical |
| <b>Why:</b> It has been identified that the regional implementation of Amendment 77 to Annex 3 provisions for exchange of meteorological information using a globally interoperable information exchange model (IWXXM) format, applicable on 10 November 2016, is contingent upon the operational availability of extended AMHS services nationally, regionally and as part of the global exchange. |  |
| <b>When:</b> <del>10 Nov 16</del> Sep-16  | <b>Status:</b> Draft conclusion to be adopted by PIRG  |
| <b>Who:</b> <input type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other:  |  |

  

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| <b>MET SG/20 Draft Conclusion 20/10</b> – Membership of the MET/R WG from both MET and ATM experts   |  |
| <b>What:</b> <del>That, States and international organizations concerned be urged to nominate experts for the Meteorological Requirements Working Group (MET/R WG)</del> from both the MET and ATM fields, and actively participate in the work programme of the MET/R WG. | <b>Expected impact:</b><br><input type="checkbox"/> Political / Global<br><input type="checkbox"/> Inter-regional<br><input checked="" type="checkbox"/> Economic<br><input type="checkbox"/> Environmental<br><input checked="" type="checkbox"/> Ops/Technical |
| <b>Why:</b> The MET/R WG lacks sufficient nominated ATM experts to fully meet the terms of reference to promote coordination between the MET and ATM communities in the Region in order to carry out the specific functions delegated to the working group.                |  |
| <b>When:</b> <del>1 Nov 16</del> Sep-16  | <b>Status:</b> Draft conclusion to be adopted by PIRG  |
| <b>Who:</b> <input type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other: <del>IATA, IFALPA, IFATCA, CANSO</del>                              |  |

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| <b>MET SG/20 Draft Conclusion 20/11</b> – Guidance on SMS SARPs for the meteorological authority and meteorological service provider   |   |
| <b>What:</b> That, ICAO be invited to consider providing guidance to facilitate States' uniform interpretation of the safety management system (SMS) standards and recommended practices (SARPs) with respect to their applicability to the designated meteorological authority and meteorological service provider, and to facilitate States' implementation of the relevant, applicable SMS SARPs. | <b>Expected impact:</b><br><input checked="" type="checkbox"/> Political / Global<br><input type="checkbox"/> Inter-regional<br><input checked="" type="checkbox"/> Economic<br><input type="checkbox"/> Environmental<br><input checked="" type="checkbox"/> Ops/Technical |
| <b>Why:</b> MET SG/20 participants reported general uncertainty among States with respect to applicability of the SMS SARPs in Annex 19 regarding the designated meteorological authority and meteorological service provider.   |   |
| <b>When:</b> 7-Nov-19 With submission of APANPIRG report to the Air Navigation Commission  | <b>Status:</b> Draft conclusion to be adopted by PIRG   |
| <b>Who:</b> <input type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other:   |   |

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| <b>MET SG/20 Draft Conclusion 20/18</b> – Endorsement of draft regional guidance on aerodrome tsunami warning  |  |
| <b>What:</b> That, <del>Endorse</del> the Asia/Pacific Regional Guidance on Aerodrome Tsunami Warnings and their integration into the National Public Safety Plans for Tsunami (provided in APANPIRG/27 IP/24) be endorsed as regional guidance material for use by States ( <del>refer to separate information paper</del> ).   | <b>Expected impact:</b><br><input checked="" type="checkbox"/> Political / Global<br><input type="checkbox"/> Inter-regional<br><input type="checkbox"/> Economic<br><input type="checkbox"/> Environmental<br><input checked="" type="checkbox"/> Ops/Technical |
| <b>Why:</b> Draft guidance material was developed to support implementation of Annex 3 provisions related to aerodrome tsunami warning. In accordance with Annex 3 specifications, aerodrome warnings shall be issued where required by operators or aerodrome services, and shall be disseminated in accordance with local arrangements to those concerned. Furthermore, aerodrome warnings should relate to the occurrence or expected occurrence of phenomena including tsunami. Amendment 77 to Annex 3, applicable on 10 November 2016 will introduce a note that aerodrome warnings related to the occurrence or expected occurrence of tsunami are not required where a national public safety plan for tsunami is integrated with the "at risk" aerodrome concerned. |  |
| <b>When:</b> 10-Nov-16 8-Sep-16  | <b>Status:</b> Draft conclusion to be adopted by PIRG  |
| <b>Who:</b> <input type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: Ad hoc group APANPIRG   |  |

## ATTACHMENT B — MET SG/20 — DECISIONS

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| <b>MET SG/20 Decision 20/2</b> – Consequential amendments to the regional guidance material related to OPMET provision changes by the US  |   |
| <b>What:</b> Assess the requirement for, and prepare proposals for amendments to the regional guidance material related to OPMET provision (e.g., ROBEX Handbook) to reflect the planned changes to locations for OPMET provision from the US, as discussed in MET SG/20 WP/07. | <b>Expected impact:</b><br><input type="checkbox"/> Political / Global<br><input type="checkbox"/> Inter-regional<br><input type="checkbox"/> Economic<br><input type="checkbox"/> Environmental<br><input checked="" type="checkbox"/> Ops/Technical |
| <b>Why:</b> Changes in US OPMET requirements presented in MET SG/20 WP/07 will need to be reflected in the regional guidance material to ensure the most efficient exchange of the OPMET information within the APAC Region.  |   |
| <b>When:</b> Before the OPMET changes are implemented by the US   | <b>Status:</b> Adopted by Subgroup  |
| <b>Who:</b> <input type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: MET/IE WG and US   |   |

  

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| <b>MET SG/20 Decision 20/3</b> – Impacts on APAC States of the implementation of “remarks” appended to US METAR/SPECI messages  |   |
| <b>What:</b> Assess the impacts for APAC States of the implementation of a “remarks” section appended to the end of METAR/SPECI messages issued by the US as discussed in MET SG/20 WP/07.                              | <b>Expected impact:</b><br><input type="checkbox"/> Political / Global<br><input type="checkbox"/> Inter-regional<br><input type="checkbox"/> Economic<br><input type="checkbox"/> Environmental<br><input checked="" type="checkbox"/> Ops/Technical |
| <b>Why:</b> APAC States need to be informed of impacts on APAC international air navigation systems that may result from the distribution by the US of non-Annex 3-compliant OPMET messages.                            |   |
| <b>When:</b> Before the OPMET changes are implemented by the US   | <b>Status:</b> Adopted by Subgroup  |
| <b>Who:</b> <input type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: MET/IE WG and US |   |

  

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| <b>MET SG/20 Decision 20/4</b> – Update of air navigation deficiencies in the MET field  |   |
| <b>What:</b> Update and improve the information in the <i>Reporting Form on Air Navigation Deficiencies (in the MET field)</i> , including: a) concise and concrete proposals for CAPs with defined target dates; b) updates on the progress of existing CAPs; and c) official reports providing full details of the corrective actions taken where deficiencies have been resolved. | <b>Expected impact:</b><br><input type="checkbox"/> Political / Global<br><input type="checkbox"/> Inter-regional<br><input type="checkbox"/> Economic<br><input type="checkbox"/> Environmental<br><input checked="" type="checkbox"/> Ops/Technical |
| <b>Why:</b> The resolution of air navigation deficiencies in the MET field (in the APANPIRG database) has lacked significant progress over several years, due in part to inadequate information in the Reporting Form, e.g., infrequent updates and lack of concise and concrete CAPs with defined target dates.   |   |
| <b>When:</b> 8-Aug-16  | <b>Status:</b> Adopted by Subgroup  |
| <b>Who:</b> <input type="checkbox"/> Sub groups <input checked="" type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other:  |   |



| <b>MET SG/20 Decision 20/5 – Improvement of the Darwin and Wellington VAAC backup tests</b> |   |  |
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| What:   | Include appropriate tasks in the MET/S WG work programme supporting the annual programme of VAAC backup tests, including: coordination with participants; follow-up on issues arising from backup tests; and recommendations for improvement of the backup test procedures. | Expected impact:<br><input type="checkbox"/> Political / Global<br><input type="checkbox"/> Inter-regional<br><input type="checkbox"/> Economic<br><input type="checkbox"/> Environmental<br><input checked="" type="checkbox"/> Ops/Technical |
| Why:  | In accordance with ICAO Annex 3, Chapter 3, 3.5, and ICAO Doc 9766, Appendix D, backup arrangements in case of interruption of the operation of a VAAC should be tested at least annually.  |  |
| When:   | 8-Aug-16  | Status: Adopted by Subgroup  |
| Who:  | <input type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: MET/S WG  |  |

| <b>MET SG/20 Decision 20/6 – SADIS user States and SADIS users to prepare for cessation of SADIS 2G</b> |   |  |
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| What:   | SADIS users confirm the nature of their SADIS service and, where necessary, ensure that they are prepared for the cessation of SADIS 2G and, if not already done so, urgently undertake actions to migrate to the Secure SADIS FTP service. | Expected impact:<br><input type="checkbox"/> Political / Global<br><input type="checkbox"/> Inter-regional<br><input type="checkbox"/> Economic<br><input type="checkbox"/> Environmental<br><input checked="" type="checkbox"/> Ops/Technical |
| Why:  | The cessation of the SADIS 2G service will occur at 1200 UTC on 31 July 2016.   |  |
| When:   | 31-Jul-16   | Status: Adopted by Subgroup  |
| Who:  | <input type="checkbox"/> Sub groups <input checked="" type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: SADIS users                |  |

| <b>MET SG/20 Decision 20/7 – IWXXM and AMHS Survey</b> |  |   |
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| What:  | Revise and recirculate the IWXXM and AMHS survey, in coordination with the ICAO EUR/NAT Region, with distribution of the survey assisted through the WMO's channels, and produce an analysis of the Regional status of implementation of IWXXM and AMHS.   | Expected impact:<br><input type="checkbox"/> Political / Global<br><input checked="" type="checkbox"/> Inter-regional<br><input type="checkbox"/> Economic<br><input type="checkbox"/> Environmental<br><input checked="" type="checkbox"/> Ops/Technical |
| Why:   | OPMET exchange using a globally interoperable information exchange model (IWXXM) format becomes a recommended practice with applicability of Amendment 77 to Annex 3 in November 2016; and is envisaged to become a standard with future Annex 3 amendments supporting the integration of meteorological information into the SWIM environment. To support the Regional monitoring and implementation of IWXXM, additional information from States is necessary. Responses to a previous IWXXM and AMHS survey in 2015 were limited in number and in some cases lacked sufficient clarity. |   |
| When:  | Before next meeting of MET/IE WG   | Status: Adopted by Subgroup   |
| Who:   | <input type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: Chairperson MET/IE WG  |   |

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| <b>MET SG/20 Decision 20/8</b> – Coordination on implementation of extended AMHS |   |  |
| What:  | Coordinate the MET SG work programme with the other APANPIRG Sub-groups (e.g., CNS SG) with respect to the regional planning and implementation of extended AMHS services for the exchange of meteorological information in the IWXXM format.   | Expected impact:<br><input type="checkbox"/> Political / Global<br><input type="checkbox"/> Inter-regional<br><input type="checkbox"/> Economic<br><input type="checkbox"/> Environmental<br><input checked="" type="checkbox"/> Ops/Technical |
| Why:   | CNS SG monitors and facilitates the implementation of CNS systems and services in the Region including AMHS. As the regional implementation of Annex 3 provisions for exchange of OPMET in IWXXM format is contingent on the regional implementation of extended AMHS, coordination is necessary to ensure alignment of the related MET SG and CNS SG work programmes and to avoid duplication of effort. |  |
| When:  | CNS SG/20   | Status: Adopted by Subgroup  |
| Who:   | <input checked="" type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: Chairperson MET/IE WG  |  |

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| <b>MET SG/20 Decision 20/12</b> – Capacity building initiatives to support implementation of the exchange of meteorological information in IWXXM format |   |  |
| What:   | Develop a coordinated regional strategy for capacity building initiatives to support implementation of the exchange of meteorological information in IWXXM format taking into consideration relevant outcomes from the <i>Workshop on implementing IWXXM</i> , coordination with the WMO and the METP WG-MIE, as well as consideration of the following suggestions: a) opportunities for side meetings or briefing sessions at appropriate regional meetings; b) Regional workshops*, including “train the trainer”; and c) development and distribution of education materials. | Expected impact:<br><input type="checkbox"/> Political / Global<br><input type="checkbox"/> Inter-regional<br><input type="checkbox"/> Economic<br><input type="checkbox"/> Environmental<br><input checked="" type="checkbox"/> Ops/Technical |
| Why:  | A range of capacity building and awareness raising activities would be required to support the range of stakeholders involved in the implementation of IWXXM for OPMET exchange.  |  |
| When:   | Next meeting of MET/IE WG   | Status: Adopted by Subgroup  |
| Who:  | <input type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: MET/IE WG   |  |

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| <b>MET SG/20 Decision 20/13</b> – SIGMET Guide updates |  |   |
| What:  | Consider inclusion of procedures and/or examples for SIGMET information to be provided in volcanic ash exercises in the draft SIGMET Guide updates.  | Expected impact:<br><input type="checkbox"/> Political / Global<br><input checked="" type="checkbox"/> Inter-regional<br><input type="checkbox"/> Economic<br><input type="checkbox"/> Environmental<br><input checked="" type="checkbox"/> Ops/Technical |
| Why:   | The Regional SIGMET Guide provides procedures and examples for SIGMET tests and VAAC backup tests, but does not provide specific guidance related to the issuance of SIGMET in ICAO volcanic ash exercises.    |   |
| When:  | 10-Nov-16  | Status: Adopted by Subgroup   |
| Who:   | <input type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: MET/S WG |   |

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| <b>MET SG/20 Decision 20/14 – SIGMET issuance procedures for thunderstorm</b>  |   |
| What: In coordination with the METP and other ICAO Regions, monitor and facilitate the transfer of information on States' national procedures for implementation of the detailed criteria related to SIGMET information for thunderstorm phenomena when categorized as 'obscured', 'embedded', 'frequent' and 'squall line'. | Expected impact:<br><input type="checkbox"/> Political / Global<br><input checked="" type="checkbox"/> Inter-regional<br><input type="checkbox"/> Economic<br><input type="checkbox"/> Environmental<br><input checked="" type="checkbox"/> Ops/Technical |
| Why: States' interpretation of the detailed criteria related to SIGMET information for thunderstorm phenomena was not harmonized.  |   |
| When: 10-Nov-16  | Status: Adopted by Subgroup   |
| Who: <input type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: MET/S WG  |   |

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| <b>MET SG/20 Decision 20/15 – SIGMET pamphlet for volcanic ash</b>   |  |
| What: Distribute the 'WV SIGMET' pamphlet provided at WP/22 for use by States as regional guidance material to facilitate improved format of SIGMET information for volcanic ash issued by the designated MWOs.  | Expected impact:<br><input type="checkbox"/> Political / Global<br><input type="checkbox"/> Inter-regional<br><input type="checkbox"/> Economic<br><input type="checkbox"/> Environmental<br><input checked="" type="checkbox"/> Ops/Technical |
| Why: SIGMET pamphlets were developed to provide ready reference guidance to States to help improve the format of SIGMET messages; the WV SIGMET pamphlet was developed as complementary guidance to the Annex 3 SARPs, Regional ANP requirements and the Regional SIGMET Guide specifically for SIGMET information for volcanic ash. |  |
| When: 10-Nov-16  | Status: Adopted by Subgroup  |
| Who: <input type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other:  |  |

|   |  |
|---|--|
| <b>MET SG/20 Decision 20/16 – SIGMET pamphlet updates for Amendment 77 to Annex 3</b>   |  |
| What: Distribute the WS, WC and WV SIGMET pamphlets provided at WP/21 for use by States as regional guidance material to facilitate improved format of SIGMET information aligned with Amendment 77 to Annex 3, following completion of the final revisions of the pamphlets based on feedback provided before 30 June 2016.                            | Expected impact:<br><input type="checkbox"/> Political / Global<br><input type="checkbox"/> Inter-regional<br><input type="checkbox"/> Economic<br><input type="checkbox"/> Environmental<br><input checked="" type="checkbox"/> Ops/Technical |
| Why: SIGMET pamphlets were developed to provide ready reference guidance to States, which was complementary to the Annex 3 SARPs, Regional ANP requirements and the Regional SIGMET Guide, to help improve the format of SIGMET messages. The SIGMET pamphlets required revision to align with Amendment 77 to Annex 3, applicable on 10 November 2016. |  |
| When: 10-Nov-16   | Status: Adopted by Subgroup  |
| Who: <input type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: Ad hoc group   |  |

| <b>MET SG/20 Decision 20/17 – Revision of draft regional guidance on aerodrome tsunami warning</b>  |  |
|---|--|
| What: Complete the final revision of the draft <i>Asia/Pacific Regional Guidance on Aerodrome Tsunami Warnings and their integration into the National Public Safety Plans for Tsunami</i> , provided in WP/26, and forward to APANPIRG for possible endorsement as regional guidance material.   | Expected impact:<br><input type="checkbox"/> Political / Global<br><input type="checkbox"/> Inter-regional<br><input type="checkbox"/> Economic<br><input type="checkbox"/> Environmental<br><input checked="" type="checkbox"/> Ops/Technical |
| Why: In accordance with Annex 3 specifications, aerodrome warnings shall be issued where required by operators or aerodrome services, and shall be disseminated in accordance with local arrangements to those concerned. Furthermore, aerodrome warnings should relate to the occurrence or expected occurrence of phenomena including tsunami. Amendment 77 to Annex 3, applicable on 10 November 2016 will introduce the note that aerodrome warnings related to the occurrence or expected occurrence of tsunami are not required where a national public safety plan for tsunami is integrated with the “at risk” aerodrome concerned. |  |
| When: 9-Jul-16  | Status: Adopted by Subgroup  |
| Who: <input type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: Ad hoc group   |  |

| <b>MET SG/20 Decision 20/19 – Terms of reference and work programme of the MET SG and the contributory working groups and steering group under the MET SG</b>   |  |
|---|--|
| What: Adopt the terms of reference and work programme provided at the Appendixes 2 and 3 to this Report, ensure the tasks delegated to the MET/IE WG, MET/S WG, MET/R WG and VOLCEX/SG are aligned with the major deliverables set out in the MET SG terms of reference, and review and coordinate the respective terms of reference and work programmes of the MET/IE WG, MET/S WG, MET/R WG and VOLCEX/SG to ensure that project management principles are applied where appropriate. | Expected impact:<br><input type="checkbox"/> Political / Global<br><input type="checkbox"/> Inter-regional<br><input type="checkbox"/> Economic<br><input type="checkbox"/> Environmental<br><input checked="" type="checkbox"/> Ops/Technical |
| Why: A review of the terms of reference and work programme of the MET SG and its contributory groups is necessary to ensure alignment with the broader work programme of the APANPIRG.  |  |
| When: 8-Aug-16  | Status: Adopted by Subgroup  |
| Who: <input checked="" type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: MET/IE WG, MET/S WG, MET/R WG and VOLCEX/SG   |  |

| <b>MET SG/20 Decision 20/20 – Improved coordination with Pacific Island States</b>  |  |
|---|--|
| What: Revise the MET SG terms of reference and work programme as necessary to include specific references to coordination with the Pacific Islands Aviation Weather Services Panel (PIAWS) on issues common to the business of both forums, including: a) sharing relevant meeting reports and work progress reports; and b) establishing mutual points of contact and possibly extending invitations to the respective Chairpersons for mutual membership of MET SG and PIAWS. | Expected impact:<br><input type="checkbox"/> Political / Global<br><input type="checkbox"/> Inter-regional<br><input type="checkbox"/> Economic<br><input type="checkbox"/> Environmental<br><input checked="" type="checkbox"/> Ops/Technical |
| Why: There was a lack of sustained, effective engagement with Pacific Island States in the MET SG forum.  |  |
| When: 8-Aug-16  | Status: Adopted by Subgroup  |
| Who: <input checked="" type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: MET/IE WG, MET/S WG, MET/R WG and VOLCEX/SG   |  |

|   |  |
|---|--|
| <b>MET SG/20 Decision 20/21</b> – Promote information sharing on the impacts of climate change on aviation  |  |
| What: Revise the MET SG work programme as necessary, in accordance with the terms of reference, to include specific coordination with the WMO to promote information sharing on the impacts of climate change on aviation.  | Expected impact:<br><input type="checkbox"/> Political / Global<br><input type="checkbox"/> Inter-regional<br><input type="checkbox"/> Economic<br><input type="checkbox"/> Environmental<br><input checked="" type="checkbox"/> Ops/Technical |
| Why: Although included in the terms of reference, the work programme of the MET SG did not list any specific task/s related to environmental initiatives.   |  |
| When: 8-Aug-16  | Status: Adopted by Subgroup  |
| Who: <input checked="" type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: MET/IE WG, MET/S WG, MET/R WG and VOLCEX/SG |  |

## ATTACHMENT C — AIR NAVIGATION PLAN (proposed amendments)

Note: — proposed amendments are arranged to show “deleted word/text” using strikeout (~~text to be deleted~~), and “added word/text” with yellow highlight (text to be inserted or to replace the existing text).

### ASIA/PAC ANP, VOLUME II

#### PART V – METEOROLOGY (MET)

##### 1. INTRODUCTION

1.1 This part of the APAC ANP, Volume II, complements the provisions in the ICAO SARPs and PANS related to aeronautical Meteorology (MET). It contains dynamic plan elements related to the assignment of responsibilities to States for the provision of MET facilities and services within a specified area in accordance with Article 28 of the *Convention on International Civil Aviation* (Doc 7300); and mandatory requirements related to the MET facilities and services to be implemented by States in accordance with regional air navigation agreements. Such agreement indicates a commitment on the part of the States concerned to implement the requirements specified.

##### 2. GENERAL REGIONAL REQUIREMENTS

###### *Meteorological offices*

2.1 In the Asia and Pacific Regions, Meteorological Watch Offices (MWO) have been designated to maintain continuous watch on meteorological conditions affecting flight operations within their area(s) of responsibility, as indicated at **Table MET II-1**.

###### *Meteorological observations and reports*

2.2 In the Asia and Pacific Regions, routine observations, issued as a METAR, should be made throughout the 24 hours of each day at intervals of one hour or, for RS and AS designated aerodromes<sup>1</sup> if so determined by regional air navigation agreement, at intervals of one half-hour at aerodromes as indicated in **Table MET II-2**. For aerodromes included on the VHF VOLMET broadcast as indicated in **Table MET II-3**, routine observations, issued as METAR, should be made throughout the 24 hours of each day.

2.3 At aerodromes that are not operational throughout 24 hours, METAR should be issued at least 3 hours prior to the aerodrome resuming operations in the Asia and Pacific Regions.

###### *Forecasts*

2.4 In the Asia and Pacific Regions, an aerodrome forecast, issued as a TAF, should be for the aerodromes indicated in **Table MET II-2**.

2.5 In the Asia and Pacific Regions, the period of validity of a routine TAF should be of 12-, 18-, 24- or 30-hours to meet the requirements indicated in **Table MET II-2**.

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<sup>1</sup> Refer to Table AOP II-1, Explanation of the table

2.6 In the Asia and Pacific Regions, the forecast maximum and minimum temperatures expected to occur during the period of validity, together with their corresponding day and time of occurrence, should be included in TAF at aerodromes indicated in **Table MET II-2**.

2.7 In the Asia and Pacific Regions, landing forecasts (prepared in the form of a trend forecast) should be provided at aerodromes indicated in **Table MET II-2**.

*Requirements for and use of communications*

2.8 Operational meteorological information prepared as METAR, SPECI and TAF for aerodromes indicated in **Table MET II-2**, and SIGMET and AIRMET messages prepared for flight information regions or control areas indicated in **Table MET II-1**, should be disseminated to the international OPMET databanks designated for the Asia and Pacific Regions (namely Bangkok, Brisbane, Nadi, Singapore and Tokyo) and to the centres designated for the operation of the aeronautical fixed service satellite distribution system (SADIS 2G) and the Internet-based service (Secure SADIS FTP) and WIFS in the Asia and Pacific Regions.

2.9 SIGMET messages should be disseminated to other meteorological offices in the Asia and Pacific Regions in accordance with the regional OPMET bulletin exchange scheme.

2.10 Special air-reports that do not warrant the issuance of a SIGMET should be disseminated to other meteorological offices in the Asia and Pacific Regions in accordance with the regional OPMET bulletin exchange scheme.

2.11 In the Asia and Pacific Regions, meteorological information for use by aircraft in flight should be supplied through VOLMET broadcasts.

2.12 In the Asia and Pacific Regions, the aerodromes for which METAR and SPECI are to be included in VOLMET broadcasts, the sequence in which they are to be transmitted and the broadcast time, is indicated in **Table MET II-3**.

### **3. SPECIFIC REGIONAL REQUIREMENTS**

*Service for operators and flight crew members.*

3.1 In the Asia and Pacific Regions, scheduled VOLMET broadcasts should contain TAF and SIGMET.

3.2 In the Asia and Pacific Regions, METAR, SPECI and TAF should be available for uplink to aircraft in flight via D-VOLMET.

# TABLE MET II-1 - METEOROLOGICAL WATCH OFFICES

## EXPLANATION OF THE TABLE

### Column

- 1 Name of the State where meteorological service is required
- 2 Name of the Flight Information Region (FIR) or Control Area (CTA) where meteorological service is required  
*Note: The name is extracted from the ICAO Location Indicators (Doc 7910) updated quarterly. If a State wishes to change the name appearing in Doc 7910 and this table, ICAO should be notified officially.*
- 3 ICAO location indicator of the FIR or CTA
- 4 Name of the meteorological watch office (MWO) responsible for the provision of meteorological service for the FIR or CTA  
*Note: The name is extracted from the ICAO Location Indicators (Doc 7910) updated quarterly. If a State wishes to change the name appearing in Doc 7910 and this table, ICAO should be notified officially.*
- 5 ICAO location indicator of the responsible MWO
- 6 Requirement for SIGMET information (excluding for volcanic ash and for tropical cyclones) to be provided by the MWO for the FIR or CTA concerned, where:  
Y – Yes, required  
N – No, not required
- 7 Requirement for SIGMET information for volcanic ash to be provided by the MWO for the FIR or CTA concerned, where:  
Y – Yes, required  
N – No, not required
- 8 Requirement for SIGMET information for tropical cyclone to be provided by the MWO for the FIR or CTA concerned, where:  
Y – Yes, required  
N – No, not required
- 9 Requirement for AIRMET information to be provided by the MWO for the FIR or CTA concerned, where:  
Y – Yes, required  
N – No, not required



| State              | FIR or CTA Where Meteorological Service is Required |                         | Responsible Meteorological Watch Office             |                         | Meteorological Service To Be Provided |                |                |                |
|--------------------|---|-------------------------|---|-------------------------|---------------------------------------|----------------|----------------|----------------|
|                    | Name  | ICAO Location Indicator | Name  | ICAO Location Indicator | SIGMET (WS)                           | SIGMET (WV)    | SIGMET (WC)    | AIRMET (WA)    |
| 1                  | 2   | 3                       | 4   | 5                       | 6                                     | 7              | 8              | 9              |
| <b>Afghanistan</b> | KABUL FIR / SSR                                     | OAKX                    | KABUL AD  | OAKB                    | Y                                     | Y              | N              | N              |
| <b>Australia</b>   | MELBOURNE FIR                                       | YMMM                    | ADELAIDE (REGIONAL FORECASTING CENTRE)              | YPRM                    | Y                                     | N              | N              | N <sup>Y</sup> |
|                    | BRISBANE FIR  | YBBB                    | BRISBANE (REGIONAL FORECASTING CENTRE)              | YBRF                    | Y                                     | N              | Y              | N <sup>Y</sup> |
|                    | BRISBANE FIR<br>MELBOURNE FIR                       | YBBB<br>YMMM            | DARWIN (REGIONAL FORECASTING CENTRE)                | YPDM                    | Y                                     | Y              | Y              | N <sup>Y</sup> |
|                    | MELBOURNE FIR                                       | YMMM                    | HOBART (REGIONAL FORECASTING CENTRE)                | YMHF                    | Y                                     | N              | N              | N <sup>Y</sup> |
|                    | BRISBANE FIR<br>MELBOURNE FIR                       | YBBB<br>YMMM            | MELBOURNE (WORLD MET CENTRE, BUREAU OF METEOROLOGY) | YMMC                    | Y                                     | N              | N              | N              |
|                    | BRISBANE FIR<br>MELBOURNE FIR                       | YBBB<br>YMMM            | MELBOURNE (REGIONAL FORECASTING CENTRE)             | YMRF                    | Y                                     | N              | N              | N <sup>Y</sup> |
|                    | BRISBANE FIR<br>MELBOURNE FIR                       | YBBB<br>YMMM            | PERTH (REGIONAL FORECASTING CENTRE)                 | YPRF                    | Y                                     | N <sup>Y</sup> | N <sup>Y</sup> | N <sup>Y</sup> |
|                    | BRISBANE FIR<br>MELBOURNE FIR                       | YBBB<br>YMMM            | SYDNEY (REGIONAL FORECASTING CENTRE)                | YSRF                    | Y                                     | N              | N              | N <sup>Y</sup> |
| <b>Bangladesh</b>  | DHAKA FIR / SRR                                     | VGFR                    | HAZRAT SHAHJALAL INTERNATIONAL AIRPORT              | VGHS                    | Y                                     | Y              | Y              | N              |
| <b>Cambodia</b>    | PHNOM PENH FIR / SRR                                | VDPP                    | PHNOM PENH  | VDPP                    | Y                                     | Y              | Y              | N              |
| <b>China</b>       | BEIJING FIR / SRR                                   | ZBPE                    | BEIJING/CAPITAL                                     | ZBAA                    | Y                                     | Y              | Y              | N              |
|                    | GUANGZHOU FIR / SRR                                 | ZGZU                    | GUANGZHOU/BAIYUN                                    | ZGGG                    | Y                                     | Y              | Y              | N              |
|                    | KUNMING FIR / SRR                                   | ZPKM                    | CHENGDU/SHUANGLIU                                   | ZUUU                    | Y                                     | Y              | Y              | N              |
|                    | LANZHOU FIR / SRR                                   | ZLHW                    | XI'AN/XIANYANG                                      | ZLXY                    | Y                                     | Y              | N              | N              |
|                    | SANYA FIR / SRR                                     | ZJSA                    | HAIKOU/MEILAN                                       | ZJHK                    | Y                                     | Y              | Y              | N              |
|                    | SHANGHAI FIR / SRR                                  | ZSHA                    | SHANGHAI/HONGQIAO                                   | ZSSS                    | Y                                     | Y              | Y              | N              |
|                    | SHENYANG FIR / SRR                                  | ZYSH                    | SHENYANG/TAOXIAN                                    | ZYTX                    | Y                                     | Y              | N              | N              |
|                    | TAIBEI FIR / SRR                                    | RCAA                    | TAIBEI CITY/TAIBEI INTL AP                          | RCTP                    | Y                                     | Y              | Y              | N              |
|                    | URUMQI FIR / SRR                                    | ZWUQ                    | URUMQI/DIWOPU                                       | ZWWW                    | Y                                     | Y              | N              | N              |
|                    | WUHAN FIR / SRR                                     | ZHWH                    | WUHAN/TIANHE  | ZHHH                    | Y                                     | Y              | N              | N              |
|                    | HONG KONG FIR / SRR                                 | VHHK                    | HONG KONG/INTL                                      | VHHH                    | Y                                     | Y              | Y              | N              |

| State                                 | FIR or CTA Where Meteorological Service is Required |                         | Responsible Meteorological Watch Office |                         | Meteorological Service To Be Provided |             |             |             |
|---------------------------------------|---|-------------------------|---|-------------------------|---------------------------------------|-------------|-------------|-------------|
|                                       | Name  | ICAO Location Indicator | Name                                    | ICAO Location Indicator | SIGMET (WS)                           | SIGMET (WV) | SIGMET (WC) | AIRMET (WA) |
| 1                                     | 2   | 3                       | 4                                       | 5                       | 6                                     | 7           | 8           | 9           |
| Democratic People's Republic of Korea | PYONGYANG FIR / SRR                                 | ZKKP                    | SUNAN                                   | ZKPY                    | Y                                     | Y           | Y           | N           |
| Fiji                                  | NADI FIR / SRR                                      | NFFF                    | NADI/INTL                               | NFFN                    | Y                                     | Y           | N           | N           |
| French Polynesia                      | TAHITI FIR / SRR                                    | NTTT                    | TAHITI/FAAA                             | NTAA                    | Y                                     | Y           | Y           | N           |
| India                                 | CHENNAI FIR / SRR                                   | VOMF                    | CHENNAI                                 | VOMM                    | Y                                     | Y           | Y           | N           |
|                                       | DELHI FIR / SRR                                     | VIDF                    | DELHI/INDIRA GHANDI INTL                | VIDP                    | Y                                     | Y           | N           | N           |
|                                       | KOLKATA FIR / SRR                                   | VECF                    | KOLKATA/KOLKATA                         | VECC                    | Y                                     | Y           | N           | N           |
|                                       | MUMBAI FIR / SRR                                    | VABF                    | MUMBAI/CHHATRAPATI SHIVAJI INTL.        | VABB                    | Y                                     | Y           | Y           | N           |
| Indonesia                             | JAKARTA FIR/UIR / SRR                               | <del>WHE</del> WIIZ     | JAKARTA/SOEKARNO-HATTA (COMM CENTER)    | WIII                    | Y                                     | Y           | Y           | N           |
|                                       | UJUNG PANDANG FIR/UIR / SRR                         | <del>WAAF</del> WAAZ    | UJUNG PANDANG/HASANUDDIN (COMM CENTER)  | WAAA                    | Y                                     | Y           | Y           | N           |
| Japan                                 | FUKUOKA FIR / TOKYO SRR                             | RJJJ                    | TOKYO (CITY)                            | RJTD                    | Y                                     | Y           | Y           | N           |
| Lao People's Democratic Republic      | VIENTIANE FIR / SRR                                 | VLVT                    | VIENTIANE/WATTAY                        | VLVT                    | Y                                     | Y           | Y           | N           |
| Malaysia                              | KOTA KINABALU FIR / SRR<br>KUALA LUMPUR FIR / SRR   | WBFC<br>WMFC            | SEPANG/KL INTL AIRPORT                  | WMKK                    | Y                                     | Y           | Y           | N           |
| Maldives                              | MALE FIR / SRR                                      | VRMF                    | MALE/INTL                               | VRMM                    | Y                                     | Y           | Y           | N           |
| Mongolia                              | ULAANBAATAR FIR / SRR                               | ZMUB                    | ULAANBAATAR                             | ZMUB                    | Y                                     | Y           | N           | N           |
| Myanmar                               | YANGON FIR / SRR                                    | VYYY                    | YANGON INTL                             | VYYY                    | Y                                     | Y           | Y           | N           |
| Nauru                                 | NAURU FIR / SRR                                     | ANAU                    | NAURU I.                                | ANYN                    | Y                                     | Y           | Y           | N           |
| Nepal                                 | KATHMANDU FIR / SRR                                 | VNSM                    | KATHMANDU                               | VNKT                    | Y                                     | Y           | N           | N           |
| New Zealand                           | AUCKLAND OCEANIC FIR / SRR<br>NEW ZEALAND FIR / SRR | NZZO<br>NZZC            | WELLINGTON (AVIATION WEATHER CENTRE)    | NZKL                    | Y                                     | Y           | Y           | N           |
| Pakistan                              | KARACHI FIR / SRR                                   | OPKR                    | KARACHI/JINNAH INT'L                    | OPKC                    | Y                                     | Y           | Y           | N           |
|                                       | LAHORE FIR / SRR                                    | OPLR                    | LAHORE/ALLAMA IQBAL INT'L               | OPLA                    | Y                                     | Y           | N           | N           |
| Papua New Guinea                      | PORT MORESBY FIR / SRR                              | AYPY                    | PORT MORESBY INTL                       | AYPY                    | Y                                     | Y           | Y           | N           |

| State             | FIR or CTA Where Meteorological Service is Required |                         | Responsible Meteorological Watch Office             |                         | Meteorological Service To Be Provided |             |             |             |
|-------------------|---|-------------------------|---|-------------------------|---------------------------------------|-------------|-------------|-------------|
|                   | Name  | ICAO Location Indicator | Name  | ICAO Location Indicator | SIGMET (WS)                           | SIGMET (WW) | SIGMET (WC) | AIRMET (WA) |
| 1                 | 2   | 3                       | 4   | 5                       | 6                                     | 7           | 8           | 9           |
| Philippines       | MANILA FIR / SRR                                    | RPHI                    | MANILA/NINYOY AQUINO INTL, PASAY CITY, METRO MANILA | RPLL                    | Y                                     | Y           | Y           | N           |
| Republic of Korea | INCHEON FIR / SRR                                   | RKRR                    | INCHEON   | RKSI                    | Y                                     | Y           | Y           | N           |
| Singapore         | SINGAPORE FIR / SRR                                 | WSJC                    | SINGAPORE/CHANGI                                    | WSSS                    | Y                                     | Y           | Y           | N           |
| Solomon Islands   | HONIARA FIR / SRR                                   | AGGG                    | HONIARA (HENDERSON)                                 | AGGH                    | Y                                     | Y           | Y           | N           |
| Sri Lanka         | COLOMBO FIR / SRR                                   | VCBI                    | BANDARANAIKE INTL AIRPORT COLOMBO                   | VCBI                    | Y                                     | Y           | Y           | N           |
| Thailand          | BANGKOK FIR / SRR                                   | VTBB                    | BANGKOK/SUARNABHUMI INTL AIRPORT                    | VTBS                    | Y                                     | Y           | Y           | N           |
| United States     | ANCHORAGE FIR                                       | PAZA                    | ANCHORAGE   | PAWU                    | Y                                     | N           | Y           | N           |
|                   | OAKLAND OCEANIC / HONOLULU SRR                      | KZAK                    | HONOLULU  | PHFO                    | Y                                     | Y           | Y           | N           |
|                   | OAKLAND OCEANIC FIR                                 | KZAK                    | KANSAS CITY   | KKCI                    | Y                                     | N           | Y           | N           |
| Viet Nam          | HANOI FIR / SRR<br>HO-CHI-MINH FIR / SRR            | VVNB<br>VVTS            | GIA LAM   | VVGL                    | Y                                     | Y           | Y           | N           |

## TABLE MET II-2 - AERODROME METEOROLOGICAL OFFICES

### EXPLANATION OF THE TABLE

#### Column

- 1 Name of the State where meteorological service is required
- 2 Name of the aerodrome (listed in Tables AOP) where meteorological service is required  
  
*Note: The name is extracted from the ICAO Location Indicators (Doc 7910) updated quarterly. If a State wishes to change the name appearing in Doc 7910 and this table, ICAO should be notified officially.*
- 3 ICAO location indicator of the aerodrome (listed in Tables AOP)
- 4 Designation of the aerodrome (listed in Tables AOP):  
RG – international general aviation, regular use  
RS – international scheduled air transport, regular use  
RNS – international non-scheduled air transport, regular use  
AS – international scheduled air transport, alternate use  
ANS – international non-scheduled air transport, alternate use
- 5 Name of the aerodrome meteorological office responsible for the provision of meteorological service  
  
*Note: The name is extracted from the ICAO Location Indicators (Doc 7910) updated quarterly. If a State wishes to change the name appearing in Doc 7910 and this table, ICAO should be notified officially.*
- 6 ICAO location indicator of the responsible aerodrome meteorological office
- 7 Requirement for METAR/SPECI from the aerodrome concerned, where:  
Y – Yes, required  
N – No, not required
- 8 Requirement for information on the state of the runway provided by the appropriate airport authority to be included as supplementary information in METAR/SPECI from the aerodrome concerned, where:  
Y - Yes, required  
N- No, not required
- 9 Requirement for trend forecast to be appended to METAR/SPECI from the aerodrome concerned, where  
Y – Yes, required  
N – No, not required
- 10 Requirement for TAF from the aerodrome concerned, where  
T – Requirement for 12/18/24-hour validity aerodrome forecasts in TAF code (12/18/24H)  
X – Requirement for 30-hour validity aerodrome forecasts in TAF code (30H)  
N – No, not required
- 11 Requirement for maximum and minimum temperature (expected to occur during the period of validity of the TAF) to be included in TAF from the aerodrome concerned, where:  
Y – Yes, required  
N – No, not required

- 12 Availability of METAR/SPECI and TAF from the aerodrome concerned, where:  
F – Full availability : OPMET information as listed issued for the aerodrome all through the 24-hour period  
P – Partial availability: OPMET information as listed not issued for the aerodrome for the entire 24-hour period

| State                          | Aerodrome (listed in Tables AOP) where meteorological service is to be provided |                         |     | Responsible aerodrome meteorological office |                         | Observations and forecasts to be provided |                     |                |     |                   | METAR/SPECI and TAF availability |
|--------------------------------|---|-------------------------|-----|---|-------------------------|---|---------------------|----------------|-----|-------------------|----------------------------------|
|                                | Name  | ICAO Location Indicator | Use | Name  | ICAO Location Indicator | METAR/SPECI                               | State of the runway | Trend forecast | TAF | Temperature Tx/Tn |                                  |
| 1                              | 2   | 3                       | 4   | 5   | 6                       | 7   | 8                   | 9              | 10  | 11                | 12                               |
| Afghanistan                    | KABUL INTERNATIONAL   | OAKB                    | RS  | KABUL INTERNATIONAL                         | OAKB                    | Y   |                     | Y              | T   |                   | F                                |
|                                | KANDAHAR  | OAKN                    | AS  | KABUL INTERNATIONAL                         | OAKB                    | Y   |                     |                | T   |                   | F                                |
| American Samoa (United States) | PAGO PAGO INTERNATIONAL, TUTUILA I.   | NSTU                    | RS  | WASHINGTON (NWS NATIONAL MET CENTER), DC.   | KWBC                    | Y   |                     |                | T   |                   | F                                |
| Australia                      | ADELAIDE/ADELAIDE INTL  | YPAD                    | RS  | ADELAIDE/ADELAIDE INTL                      | YPAD                    | Y   |                     | Y              | X   |                   | F                                |
|                                | ALICE SPRINGS   | YBAS                    | AS  | DARWIN/DARWIN INTL                          | YPDN                    | Y   |                     | N              | T   |                   | F                                |
|                                | BRISBANE/BRISBANE INTL  | YBBN                    | RS  | BRISBANE/BRISBANE INTL                      | YBBN                    | Y   |                     | Y              | X   |                   | F                                |
|                                | CAIRNS/CAIRNS INTL  | YBCS                    | RS  | CAIRNS/CAIRNS INTL                          | YBTL                    | Y   |                     | Y              | T   |                   | F                                |
|                                | CHRISTMAS ISLAND  | YPXM                    | RS  | PERTH/PERTH INTL                            | YPPH                    | Y   |                     | N              | T   |                   | F                                |
|                                | COCOS (KEELING) ISLANDS INTL  | YPCC                    | RS  | PERTH/PERTH INTL                            | YPPH                    | Y   |                     | N              | T   |                   | F                                |
|                                | DARWIN/DARWIN INTL  | YPDN                    | RS  | DARWIN/DARWIN INTL                          | YPDN                    | Y   |                     | Y              | X   |                   | F                                |
|                                | HOBART  | YMHB                    | RS  | HOBART                                      | YMHB                    | Y   |                     | N              | T   |                   | F                                |
|                                | MELBOURNE/MELBOURNE INTL  | YMML                    | RS  | MELBOURNE/MELBOURNE INTL                    | YMML                    | Y   |                     | Y              | X   |                   | F                                |
|                                | NORFOLK ISLAND  | YSNF                    | RS  | SYDNEY/SYDNEY (KINGSFORD SMITH) INTL        | YSSY                    | Y   |                     | N              | T   |                   | F                                |
|                                | PERTH/PERTH INTL  | YPPH                    | RS  | PERTH/PERTH INTL                            | YPPH                    | Y   |                     | Y              | X   |                   | F                                |
|                                | PORT HEDLAND  | YPPD                    | RS  | PERTH/PERTH INTL                            | YPPH                    | Y   |                     | N              | T   |                   | F                                |
|                                | ROCKHAMPTON   | YBRK                    | AS  | BRISBANE/BRISBANE INTL                      | YBBN                    | Y   |                     | N              | T   |                   | F                                |
|                                | SYDNEY/SYDNEY (KINGSFORD SMITH) INTL  | YSSY                    | RS  | SYDNEY/SYDNEY (KINGSFORD SMITH) INTL        | YSSY                    | Y   |                     | Y              | X   |                   | F                                |
|                                | TINDAL  | YPTN                    | AS  | DARWIN/DARWIN INTL                          | YPDN                    | Y   |                     | Y              | T   |                   | F                                |
|                                | TOWNSVILLE/TOWNSVILLE INTL  | YBTL                    | RS  | TOWNSVILLE/TOWNSVILLE INTL                  | YBTL                    | Y   |                     | Y              | T   |                   | F                                |
| Bangladesh                     | M.A. HANNAN INTL. CHITTAGONG  | VGEG                    | RS  |   | VGZR                    | Y   |                     | Y              | T   |                   | F                                |

| State             | Aerodrome (listed in Tables AOP) where meteorological service is to be provided |                         |     | Responsible aerodrome meteorological office |                         | Observations and forecasts to be provided |                     |                |     |                   | METAR/SPECI and TAF availability |
|-------------------|---|-------------------------|-----|---|-------------------------|---|---------------------|----------------|-----|-------------------|----------------------------------|
|                   | Name  | ICAO Location Indicator | Use | Name  | ICAO Location Indicator | METAR/SPECI                               | State of the runway | Trend forecast | TAF | Temperature Tx/Tn |                                  |
| 1                 | 2   | 3                       | 4   | 5   | 6                       | 7   | 8                   | 9              | 10  | 11                | 12                               |
| Bhutan            | PARO/INTL   | VQPR                    | RS  | PARO/INTL                                   | VQPR                    | Y   |                     |                |     |                   | F                                |
| Brunei Darussalam | BRUNEI/INTL   | WBSB                    | RS  | BRUNEI/INTL                                 | WBSB                    | Y   |                     |                | X   |                   | F                                |
| Cambodia          | PHNOM PENH  | VDPP                    | RS  | PHNOM PENH                                  | VDPP                    | Y   |                     | Y              | T   |                   | P                                |
|                   | SIEM REAP   | VDSR                    | AS  | PHNOM PENH                                  | VDPP                    | Y   |                     |                | T   |                   | P                                |
| China             | BEIJING/CAPITAL   | ZBAA                    | RS  | BEIJING/CAPITAL                             | ZBAA                    | Y   |                     | Y              | X   |                   | F                                |
|                   | CHANGSHA/HUANGHUA   | ZGHA                    | RS  | GUANGZHOU/BAIYUN                            | ZGGG                    | Y   |                     |                | T   |                   | F                                |
|                   | CHENGDU/SHUANGLIU   | ZUUU                    | RS  | CHENGDU/SHUANGLIU                           | ZUUU                    | Y   |                     |                | T   |                   | F                                |
|                   | CHONGQING/JIANGBEI  | ZUCK                    | RS  | CHENGDU/SHUANGLIU                           | ZUUU                    | Y   |                     | Y              | T   |                   | F                                |
|                   | DALIAN/ZHOUSHUIZI   | ZYTL                    | RS  | SHENYANG/TAOXIAN                            | ZYTX                    | Y   |                     |                | T   |                   | F                                |
|                   | FUZHOU/CHANGLE  | ZSFZ                    | RS  | SHANGHAI/HONGQIAO                           | ZSSS                    | Y   |                     |                | T   |                   | F                                |
|                   | GAOXIONG  | RCKH                    | RS  | TAIBEI CITY/TAIBEI INTL AP                  | RCTP                    | Y   |                     | Y              | X   |                   | F                                |
|                   | GUANGZHOU/BAIYUN  | ZGGG                    | RS  | GUANGZHOU/BAIYUN                            | ZGGG                    | Y   |                     | Y              | X   |                   | F                                |
|                   | GUILIN/LIANGJIANG   | ZGKL                    | RS  | GUANGZHOU/BAIYUN                            | ZGGG                    | Y   |                     |                | T   |                   | F                                |
|                   | HANGZHOU/XIAOSHAN   | ZSHC                    | RS  | SHANGHAI/HONGQIAO                           | ZSSS                    | Y   |                     |                | T   |                   | F                                |
|                   | HARBIN/TAIPING  | ZYHB                    | RS  | SHENYANG/TAOXIAN                            | ZYTX                    | Y   |                     |                | T   |                   | F                                |
|                   | HEFEI/XINQIAO   | ZSOF                    | AS  | SHANGHAI/HONGQIAO                           | ZSSS                    | Y   |                     |                | T   |                   | F                                |
|                   | HUHHOT/BAITA  | ZBHH                    | RS  | BEIJING/CAPITAL                             | ZBAA                    | Y   |                     |                | T   |                   | F                                |
|                   | JINAN/YAOQIANG  | ZSJN                    | RS  | SHANGHAI/HONGQIAO                           | ZSSS                    | Y   |                     |                | T   |                   | F                                |
|                   | KASHI/KASHI   | ZWSH                    | RS  | URUMQI/DIWOPU                               | ZWWW                    | Y   |                     |                | X   |                   | F                                |
|                   | KUNMING/CHANGSHUI   | ZPPP                    | RS  | CHENGDU/SHUANGLIU                           | ZUUU                    | Y   |                     |                | X   |                   | F                                |
|                   | LANZHOU/ZHONGCHUAN  | ZLLL                    | AS  | XI'AN/XIANYANG                              | ZLXY                    | Y   |                     |                | T   |                   | F                                |
|                   | NANJING/LUKOU   | ZSNJ                    | RS  | SHANGHAI/HONGQIAO                           | ZSSS                    | Y   |                     |                | T   |                   | F                                |
|                   | NANNING/WUXU  | ZGNN                    | AS  | GUANGZHOU/BAIYUN                            | ZGGG                    | Y   |                     |                | T   |                   | F                                |
|                   | QINGDAO/LIUTING   | ZSQD                    | RS  | SHANGHAI/HONGQIAO                           | ZSSS                    | Y   |                     |                | T   |                   | F                                |
|                   | SANYA/PHOENIX   | ZJSY                    |     |   |                         | Y   |                     |                | T   |                   | F                                |
|                   | SHANGHAI/HONGQIAO   | ZSSS                    | RS  | SHANGHAI/HONGQIAO                           | ZSSS                    | Y   |                     | Y              | T   |                   | F                                |
|                   | SHANGHAI/PUDONG   | ZSPD                    | RS  | SHANGHAI/HONGQIAO                           | ZSSS                    | Y   |                     | Y              | X   |                   | F                                |
|                   | SHENYANG/TAOXIAN  | ZYTX                    | RS  | SHENYANG/TAOXIAN                            | ZYTX                    | Y   |                     | Y              | T   |                   | F                                |
|                   | SHENZHEN/BAOAN  | ZGSZ                    | RS  | GUANGZHOU/BAIYUN                            | ZGGG                    | Y   |                     |                | X   |                   | F                                |
|                   | TAIBEI CITY/TAIBEI INTL AP  | RCTP                    | RS  | TAIBEI CITY/TAIBEI INTL AP                  | RCTP                    | Y   |                     | Y              | X   |                   | F                                |
|                   | TAIBEI/SONGSHAN   | RCSS                    | AS  | TAIBEI CITY/TAIBEI INTL AP                  | RCTP                    | Y   |                     |                | T   |                   | F                                |
|                   | TAIYUAN/WUSU  | ZBYN                    | AS  | BEIJING/CAPITAL                             | ZBAA                    | Y   |                     |                | T   |                   | F                                |

| State  | Aerodrome (listed in Tables AOP) where meteorological service is to be provided  |  |  | Responsible aerodrome meteorological office  |  | Observations and forecasts to be provided                    |                     |                |  |                   | METAR/SPECI and TAF availability                             |
|--|--|--|--|--|--|--|---------------------|----------------|--|-------------------|--|
|  | Name   | ICAO Location Indicator  | Use  | Name   | ICAO Location Indicator  | METAR/SPECI  | State of the runway | Trend forecast | TAF  | Temperature Tx/Tn |  |
| 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8                   | 9              | 10   | 11                | 12   |
|  | TIANJIN/BINHAI<br>URUMQI/DIWOPU<br><br>WUHAN/TIANHE<br>XIAMEN/GAOQI<br>XI'AN/XIANYANG<br>XICHANG/QUINGSHAN   | ZBTJ<br>ZWWW<br>ZHHH<br>ZSAM<br>ZLXY<br>ZUXC   | RS<br>RS<br>RS<br>RS<br>RS<br>RNS  | BEIJING/CAPITAL<br>URUMQI/DIWOPU<br><br>GUANGZHOU/BAIYUN<br>SHANGHAI/HONGQIAO<br>XI'AN/XIANYANG<br>CHENGDU/SHUANGLIU   | ZBAA<br>ZWWW<br>ZGGG<br>ZSSS<br>ZLXY<br>ZUUU   | Y<br>Y<br>Y<br>Y<br>Y<br>Y                                   |                     |                | X<br>X<br>T<br>T<br>T  |                   | F<br>F<br>F<br>F<br>F<br>F                                   |
| <b>Cook Islands</b>                          | RAROTONGA INTL.  | NCRG   | RS   | NADI/INTL  | NFFN   | Y  |                     |                | T  |                   | F  |
| <b>Democratic People's Republic of Korea</b> | SUNAN  | ZKPY   | RS   | SUNAN  | ZKPY   | Y  |                     | Y              | T  |                   | F  |
| <b>Fiji</b>                                  | NADI/INTL<br>NAUSORI/INTL  | NFFN<br>NFNA   | RS<br>RS   | NADI/INTL<br>NADI/INTL   | NFFN<br>NFFN   | Y<br>Y   |                     | Y<br>Y         | T<br>T   |                   | F<br>F   |
| <b>French Polynesia (France)</b>             | TAHITI FAAA  | NTAA   | RS   | TAHITI FAAA  | NTAA   | Y  |                     | Y              | T  |                   | F  |
| <b>Hong Kong, China (China)</b>              | HONG KONG/INTERNATIONAL  | VHHH   | RS   | HONG KONG/INTERNATIONAL  | VHHH   | Y  |                     | Y              | X  |                   | F  |
| <b>India</b>                                 | AHMEDABAD<br>AMRITSAR<br>BANGALORE INTL. AIRPORT<br>CALICUT<br>CHENNAI<br><br>COCHIN INTL.<br>COIMBATORE<br><br>DELHI (IGI)<br>GAYA<br>GUWAHATI<br>HYDERABAD INTL. AIRPORT<br>JAIPUR | VAAH<br>VIAR<br>VOBL<br>VOCL<br>VOMM<br>VOCI<br>VOCB<br><br>VIDP<br>VEGY<br>VEGT<br>VOHS<br>VIJP | RS<br>RS<br>RS<br>RS<br>RS<br>RS<br>RS<br><br>RS<br>RS<br>RS<br>RS<br>RS | AHMEDABAD<br>DELHI (IGI)<br>BANGALORE INTL. AIRPORT<br>THIRUVANANTHAPURAM<br>CHENNAI<br><br>THIRUVANANTHAPURAM<br>CHENNAI<br><br>DELHI (IGI)<br>PATNA<br>GUWAHATI<br>HYDERABAD INTL. AIRPORT<br>JAIPUR | VAAH<br>VIDP<br>VOBL<br>VOTV<br>VOMM<br>VOTV<br>VOMM<br><br>VIDP<br>VEPT<br>VEGT<br>VOHS<br>VIJP | Y<br>Y<br>Y<br>Y<br>Y<br>Y<br>Y<br><br>Y<br>Y<br>Y<br>Y<br>Y |                     |                | X<br>X<br>X<br>X<br>X<br>X<br>X<br><br>X<br>T<br>T<br>X<br>T |                   | F<br>F<br>F<br>F<br>F<br>F<br>F<br><br>F<br>F<br>F<br>F<br>F |

| State     | Aerodrome (listed in Tables AOP) where meteorological service is to be provided |                         |         | Responsible aerodrome meteorological office |                         | Observations and forecasts to be provided |                     |                |     |                   | METAR/SPECI and TAF availability |
|-----------|---|-------------------------|---------|---|-------------------------|---|---------------------|----------------|-----|-------------------|----------------------------------|
|           | Name  | ICAO Location Indicator | Use     | Name  | ICAO Location Indicator | METAR/SPECI                               | State of the runway | Trend forecast | TAF | Temperature Tx/Tn |                                  |
| 1         | 2   | 3                       | 4       | 5   | 6                       | 7   | 8                   | 9              | 10  | 11                | 12                               |
|           | KOLKATA   | VECC                    | RS      | KOLKATA                                     | VECC                    | Y   |                     | Y              | X   |                   | F                                |
|           | LUCKNOW   | VILK                    | RS      | LUCKNOW                                     | VILK                    | Y   |                     | Y              | T   |                   | F                                |
|           | MANGALORE   | VOML                    | RS      | BANGALORE INTL. AIRPORT                     | VOBL                    | Y   |                     |                | T   |                   | F                                |
|           | MUMBAI  | VABB                    | RS      | MUMBAI                                      | VABB                    | Y   |                     | Y              | X   |                   | F                                |
|           | NAGPUR  | VANP                    | RS      | NAGPUR                                      | VANP                    | Y   |                     | Y              | T   |                   | F                                |
|           | PATNA   | VEPT                    | RS      | PATNA                                       | VEPT                    | Y   |                     |                | X   |                   | F                                |
|           | THIRUVANANTHAPURAM  | VOTV                    | RS      | THIRUVANANTHAPURAM                          | VOTV                    | Y   |                     |                | X   |                   | F                                |
|           | TIRUCHIRAPPALLI   | VOTR                    | RS      | CHENNAI                                     | VOM<br>M                | Y   |                     |                | T   |                   | F                                |
|           | VARANASI  | VIBN                    | RS      | LUCKNOW                                     | VILK                    | Y   |                     |                | X   |                   | F                                |
| Indonesia | AMBON/PATTIMURA   | WAPP                    | RN<br>S | AMBON/PATTIMURA                             | WAPP                    | Y   |                     |                | T   |                   | F                                |
|           | BALI INTL/NGURAH RAI  | WADD                    | RS      | BALI INTL/NGURAH RAI                        | WADD                    | Y   |                     |                | X   |                   | F                                |
|           | BALIKPAPAN/SEPINGGAN  | WALL                    | RS      | BALIKPAPAN/SEPINGGAN                        | WALL                    | Y   |                     |                | X   |                   | F                                |
|           | BANJARMASIN/SYAMSUDIN NOOR  | WAOO                    | AS      | BANJARMASIN/SYAMSUDIN NOOR                  | WAOO                    | Y   |                     |                | T   |                   | F                                |
|           | BATAM/HANG NADIM  | WIDD                    | AS      | BATAM/HANG NADIM                            | WIDD                    | Y   |                     |                | T   |                   | F                                |
|           | BIAK/FRANS KAISIEPO   | WABB                    | RS      | BIAK/FRANS KAISIEPO                         | WABB                    | Y   |                     | Y              | X   |                   | F                                |
|           | JAKARTA INTL/SOEKARNO-HATTA   | WIII                    | RS      | JAKARTA INTL/SOEKARNO-HATTA                 | WIII                    | Y   |                     | Y              | X   |                   | F                                |
|           | JAKARTA/HALIM PERDANAKUSUMA   | WIHH                    | RN<br>S | JAKARTA/HALIM PERDANAKUSUMA                 | WIHH                    | Y   |                     | Y              | T   |                   | P                                |
|           | JAYAPURA/SENTANI  | WAJJ                    | RS      | JAYAPURA/SENTANI                            | WAJJ                    | Y   |                     |                | T   |                   | F                                |
|           | KUPANG/EL-TARI  | WATT                    | RS      | KUPANG/EL-TARI                              | WATT                    | Y   |                     |                | T   |                   | F                                |
|           | MAKASSAR/SULTAN HASANUDDIN  | WAAA                    | RN<br>S | MAKASSAR/SULTAN HASANUDDIN                  | WAAA                    | Y   |                     | Y              | X   |                   | F                                |
|           | MANADO/SAMRATULANGI   | WAM<br>M                | RS      | MANADO/SAMRATULANGI                         | WAM<br>M                | Y   |                     |                | X   |                   | F                                |
|           | MEDAN/KUALANAMU   | WIMM                    | RS      | MEDAN/KUALANAMU                             | WIMM                    | Y   |                     | Y              | T   |                   | F                                |
|           | MERAUKE/MOPAH   | WAKK                    | RN<br>S | JAYAPURA/SENTANI                            | WAJJ                    | Y   |                     |                | T   |                   | P                                |
|           | PALEMBANG/SULTAN MAHMUD BADARUDDIN II   | WIPP                    | RN<br>S | PALEMBANG/SULTAN MAHMUD BADARUDDIN II       | WIPP                    | Y   |                     |                | T   |                   | F                                |
|           | PANDANG/MINANGKABAU   | WIPT                    | RS      | PANDANG/MINANGKABAU                         | WIPT                    | Y   |                     | Y              | T   |                   | F                                |
|           | PEKANBARU/SULTAN SYARIF KASIM II  | WIBB                    | RS      | PEKANBARU/SULTAN SYARIF KASIM II            | WIBB                    | Y   |                     |                | T   |                   | F                                |
|           | PONTIANAK/SUPADIO   | WIOO                    | RS      | PONTIANAK/SUPADIO                           | WIOO                    | Y   |                     |                | T   |                   | F                                |



| State                                   | Aerodrome (listed in Tables AOP) where meteorological service is to be provided |                         |         | Responsible aerodrome meteorological office |                         | Observations and forecasts to be provided |                     |                |     |                   | METAR/SPECI and TAF availability |
|---|---|-------------------------|---------|---|-------------------------|---|---------------------|----------------|-----|-------------------|----------------------------------|
|   | Name  | ICAO Location Indicator | Use     | Name  | ICAO Location Indicator | METAR/SPECI                               | State of the runway | Trend forecast | TAF | Temperature Tx/Tn |                                  |
| 1                                       | 2   | 3                       | 4       | 5   | 6                       | 7   | 8                   | 9              | 10  | 11                | 12                               |
|   | SURABAYA/JUANDA   | WARR                    | RS      | SURABAYA/JUANDA                             | WARR                    | Y   |                     |                | T   |                   | F                                |
|   | TANJUNG PINANG/RAJA HAJI FISABILILLAH   | WIDN                    | RS      | BATAM/HANG NADIM                            | WIDD                    | Y   |                     |                | T   |                   | P                                |
|   | TARAKAN/JUWATA  | WALR                    | RS      | BALIKPAPAN/SEPINGGAN                        | WALL                    | Y   |                     |                | T   |                   | P                                |
| <b>Japan</b>                            | CHUBU CENTRAIR INTL   | RJGG                    | RS      | TOKYO (CITY)                                | RJTD                    | Y   |                     | Y              | X   |                   | F                                |
|   | FUKUOKA   | RJFF                    | RS      | TOKYO (CITY)                                | RJTD                    | Y   |                     |                | X   |                   | F                                |
|   | HAKODATE  | RJCH                    | AS      | TOKYO (CITY)                                | RJTD                    | Y   |                     |                | X   |                   | F                                |
|   | HIROSHIMA   | RJOA                    | RS      | TOKYO (CITY)                                | RJTD                    | Y   |                     |                | X   |                   | F                                |
|   | KAGOSHIMA   | RJFK                    | RS      | TOKYO (CITY)                                | RJTD                    | Y   |                     |                | X   |                   | F                                |
|   | KANSAI INTL   | RJBB                    | RS      | TOKYO (CITY)                                | RJTD                    | Y   |                     | Y              | X   |                   | F                                |
|   | KUMAMOTO  | RJFT                    | RS      | TOKYO (CITY)                                | RJTD                    | Y   |                     |                | X   |                   | F                                |
|   | NAGASAKI  | RJFU                    | RS      | TOKYO (CITY)                                | RJTD                    | Y   |                     |                | X   |                   | F                                |
|   | NAHA  | ROAH                    | RS      | TOKYO (CITY)                                | RJTD                    | Y   |                     |                | X   |                   | F                                |
|   | NARITA INTL   | RJAA                    | RS      | TOKYO (CITY)                                | RJTD                    | Y   |                     | Y              | X   |                   | F                                |
|   | NIIGATA   | RJSN                    | RS      | TOKYO (CITY)                                | RJTD                    | Y   |                     |                | X   |                   | F                                |
|   | OITA  | RJFO                    | RS      | TOKYO (CITY)                                | RJTD                    | Y   |                     |                | X   |                   | F                                |
|   | OKAYAMA   | RJOB                    | RS      | TOKYO (CITY)                                | RJTD                    | Y   |                     |                | X   |                   | F                                |
|   | OSAKA INTL  | RJOO                    | AS      | TOKYO (CITY)                                | RJTD                    | Y   |                     |                | X   |                   | F                                |
|   | SAPPORO/NEW CHITOSE   | RJCC                    | RS      | TOKYO (CITY)                                | RJTD                    | Y   |                     |                | X   |                   | F                                |
|   | SENDAI  | RJSS                    | RN<br>S | TOKYO (CITY)                                | RJTD                    | Y   |                     |                | X   |                   | F                                |
|   | TAKAMATSU   | RJOT                    | RS      | TOKYO (CITY)                                | RJTD                    | Y   |                     |                | X   |                   | F                                |
|   | TOKYO INTL  | RJTT                    | AS      | TOKYO (CITY)                                | RJTD                    | Y   |                     | Y              | X   |                   | F                                |
| <b>Kiribati</b>                         | CHRISTMAS ISLAND  | PLCH                    | RS      | NADI/INTL                                   | NFFN                    | Y   |                     |                | T   |                   | F                                |
|   | TARAWA/BONRIKI INTL   | NGTA                    | RS      | NADI/INTL                                   | NFFN                    | Y   |                     |                | T   |                   | F                                |
| <b>Lao People's Democratic Republic</b> | VIENTIANE(WATTAY)   | VLVT                    | RS      | VIENTIANE(WATTAY)                           | VLVT                    | Y   |                     | Y              | T   |                   | P                                |
| <b>Macao, China (China)</b>             | MACAO/INTL AIRPORT  | VMMC                    | RS      | MACAO/INTL AIRPORT                          | VMMC                    | Y   |                     | Y              | X   |                   | F                                |
| <b>Malaysia</b>                         | JOHOR BAHRU/SULTAN ISMAIL   | WMKJ                    | RS      | SEPANG/KL INTERNATIONAL AIRPORT             | WMKK                    | Y   |                     |                | T   |                   | F                                |
|   | KOTA KINABALU/INTL  | WBKK                    | RS      | KOTA KINABALU/INTL                          | WBKK                    | Y   |                     | Y              | T   |                   | F                                |
|   | KUCHING/INTL  | WBGG                    | RS      | KOTA KINABALU/INTL                          | WBKK                    | Y   |                     |                | T   |                   | F                                |

| State                            | Aerodrome (listed in Tables AOP) where meteorological service is to be provided |                         |     | Responsible aerodrome meteorological office |                         | Observations and forecasts to be provided |                     |                |     |                   | METAR/SPECI and TAF availability |
|----------------------------------|---|-------------------------|-----|---|-------------------------|---|---------------------|----------------|-----|-------------------|----------------------------------|
|                                  | Name  | ICAO Location Indicator | Use | Name  | ICAO Location Indicator | METAR/SPECI                               | State of the runway | Trend forecast | TAF | Temperature Tx/Tn |                                  |
| 1                                | 2   | 3                       | 4   | 5   | 6                       | 7   | 8                   | 9              | 10  | 11                | 12                               |
|                                  | PENANG/INTL   | WMKP                    | RS  | SEPANG/KL INTERNATIONAL AIRPORT             | WMK K                   | Y   |                     |                | T   |                   | F                                |
|                                  | PULAU LANGKAWI/INTL   | WMK L                   | RS  | SEPANG/KL INTERNATIONAL AIRPORT             | WMK K                   | Y   |                     |                | T   |                   | F                                |
|                                  | SEPANG/KL INTERNATIONAL AIRPORT   | WMK K                   | RS  | SEPANG/KL INTERNATIONAL AIRPORT             | WMK K                   | Y   |                     | Y              | X   |                   | F                                |
| Maldives                         | GAN/GAN INTERNATIONAL AIRPORT   | VRMG                    | AS  | IBRAHIM NASIR INTERNATIONAL AIRPORT         | VRM M                   | Y   |                     |                | X   |                   | F                                |
|                                  | HANIMAADHOO   | VRMH                    | RS  | IBRAHIM NASIR INTERNATIONAL AIRPORT         | VRM M                   | Y   |                     |                | X   |                   | F                                |
|                                  | IBRAHIM NASIR INTERNATIONAL AIRPORT   | VRM M                   | RS  | IBRAHIM NASIR INTERNATIONAL AIRPORT         | VRM M                   | Y   |                     |                | X   |                   | F                                |
|                                  | VILLA AIRPORT MAAMIGILI   | VRMV                    | RS  | IBRAHIM NASIR INTERNATIONAL AIRPORT         | VRM M                   | Y   |                     |                |     |                   |                                  |
| Marshall Islands                 | MARSHALL ISLANDS/INTL MAJURO ATOLL  | PKMJ                    | RS  | WASHINGTON (NWS NATIONAL MET CENTER), DC.   | KWBC                    | Y   |                     |                | T   |                   | P                                |
| Micronesia (Federated States of) | POHNPEI INTL,POHNPEI ISLAND   | PTPN                    | RS  | WASHINGTON (NWS NATIONAL MET CENTER), DC.   | KWBC                    | Y   |                     |                | T   |                   | P                                |
|                                  | WENO ISLAND ,FM CHUUK INTL.   | PTKK                    | RS  | WASHINGTON (NWS NATIONAL MET CENTER), DC.   | KWBC                    | Y   |                     |                | T   |                   | F                                |
|                                  | YAP INTL,YAP ISLAND   | PTYA                    | RS  | WASHINGTON (NWS NATIONAL MET CENTER), DC.   | KWBC                    | Y   |                     |                | T   |                   | F                                |
| Mongolia                         | ULAANBAATAR/CHINGGIS KHAAN  | ZMUB                    | RS  | ULAANBAATAR/CHINGGIS KHAAN                  | ZMUB                    | Y   |                     | Y              | X   |                   | F                                |
| Myanmar                          | YANGON INTERNATIONAL  | VYYY                    | RS  | YANGON INTERNATIONAL                        | VYYY                    | Y   |                     | Y              | T   |                   | F                                |
| Nauru                            | NAURU AIRPORT   | ANYN                    | RS  | NAURU AIRPORT                               | ANYN                    | Y   |                     | Y              | T   |                   | F                                |
| Nepal                            | KATHMANDU   | VNKT                    | RS  | KATHMANDU                                   | VNKT                    | Y   |                     | Y              | T   |                   | F                                |
| New Caledonia (France)           | NOUMEA LA TONTOUTA  | NWW W                   | RS  | NOUMEA LA TONTOUTA                          | NWW W                   | Y   |                     | Y              | T   |                   | F                                |
| New Zealand                      | AUCKLAND INTL   | NZAA                    | RS  | KELBURN (MET OFFICE)                        | NZKL                    | Y   |                     | Y              | T   |                   | F                                |
|                                  | CHRISTCHURCH INTL   | NZCH                    | RS  | KELBURN (MET OFFICE)                        | NZKL                    | Y   |                     | Y              | T   |                   | F                                |
|                                  | WELLINGTON INTL   | NZWN                    | RS  | KELBURN (MET OFFICE)                        | NZKL                    | Y   |                     | Y              | T   |                   | F                                |
| Niue (New Zealand)               | NIUE INTL   | NIUE                    | RS  | NADI/INTL                                   | NFFN                    | Y   |                     |                | T   |                   | F                                |

| State                                    | Aerodrome (listed in Tables AOP) where meteorological service is to be provided |                         |      | Responsible aerodrome meteorological office |                         | Observations and forecasts to be provided |                     |                |     |                   | METAR/SPECI and TAF availability |
|--|---|-------------------------|------|---|-------------------------|---|---------------------|----------------|-----|-------------------|----------------------------------|
|  | Name  | ICAO Location Indicator | Use  | Name  | ICAO Location Indicator | METAR/SPECI                               | State of the runway | Trend forecast | TAF | Temperature Tx/Tn |                                  |
| 1  | 2   | 3                       | 4    | 5   | 6                       | 7   | 8                   | 9              | 10  | 11                | 12                               |
| Northern Mariana Islands (United States) | ANDERSON AFB, GUAM ISLAND   | PGUA                    | AS   | WASHINGTON (NWS NATIONAL MET CENTER), DC.   | KWBC                    | Y   |                     |                | T   |                   | F                                |
|  | FRANCISCO C. ADA/SAIPAN INTERNATIONAL, OBYAN                                    | PGSN                    | RS   | WASHINGTON (NWS NATIONAL MET CENTER), DC.   | KWBC                    | Y   |                     |                | T   |                   | F                                |
|  | GUAM INTERNATIONAL, GUAM ISLAND   | PGUM                    | RS   | WASHINGTON (NWS NATIONAL MET CENTER), DC.   | KWBC                    | Y   |                     |                | X   |                   | F                                |
|  | ROTA/INTL, ROTA I.  | PGRO                    | RS   | WASHINGTON (NWS NATIONAL MET CENTER), DC.   | KWBC                    | Y   |                     |                | T   |                   | P                                |
| Pakistan                                 | GWADAR/INTL.  | OPGD                    | RS   | KARACHI/JINNAH INT'L                        | OPKC                    | Y   |                     |                | T   |                   | F                                |
|  | ISLAMABAD/BENAZIR BHUTTO INT'L  | OPRN                    | RS   | KARACHI/JINNAH INT'L                        | OPKC                    | Y   |                     | Y              | X   |                   | F                                |
|  | KARACHI/JINNAH INT'L  | OPKC                    | RS   | BINDO                                       | OPBI                    | Y   |                     |                | X   |                   | F                                |
|  | LAHORE/ALLAMA IQBAL INTL  | OPLA                    | RS   | LAHORE/ALLAMA IQBAL INTL                    | OPLA                    | Y   |                     | Y              | X   |                   | F                                |
|  | NAWABSHAH   | OPNH                    | AS   | LAHORE/ALLAMA IQBAL INTL                    | OPLA                    | Y   |                     |                | T   |                   | F                                |
|  | PESHAWAR/INTL.  | OPPS                    | RS   | LAHORE/ALLAMA IQBAL INTL                    | OPLA                    | Y   |                     |                | X   |                   | F                                |
| Palau                                    | BABELTHUAP/KOROR, BABELTHUAP ISLAND   | PTRO                    | RS   | WASHINGTON (NWS NATIONAL MET CENTER), DC.   | KWBC                    | Y   |                     |                | T   |                   | F                                |
| Papua New Guinea                         | PORT MORESBY INTL   | AYPY                    | RS   | PORT MORESBY INTL                           | AYPY                    | Y   |                     |                | T   |                   | F                                |
|  | VANIMO  | AYVN                    |      |   |                         | Y   |                     |                |     |                   | F                                |
| Philippines                              | DAVAO/FRANCISCO BANGYO INTL   | RPMD                    | RN S | MANILA/NINOY AQUINO INTL                    | RPLL                    | Y   |                     | Y              | T   |                   | P                                |
|  | LAOAG, LAOAG INTL   | RPLI                    | AS   | MANILA/NINOY AQUINO INTL                    | RPLL                    | Y   |                     | Y              | T   |                   | P                                |
|  | LAPU-LAPU/MACTAN INTL   | RPVM                    | RS   | MANILA/NINOY AQUINO INTL                    | RPLL                    | Y   |                     | Y              | X   |                   | F                                |
|  | MANILA/NINOY AQUINO INTL  | RPLL                    | RS   | MANILA/NINOY AQUINO INTL                    | RPLL                    | Y   |                     | Y              | X   |                   | F                                |
|  | SUBIC BAY, SUBIC BAY INTL   | RPLB                    | RN S | MANILA/NINOY AQUINO INTL                    | RPLL                    | Y   |                     | Y              | T   |                   | P                                |
|  | ZAMBOANGA INTL  | RPMZ                    | RN S | MANILA/NINOY AQUINO INTL                    | RPLL                    | Y   |                     | Y              | T   |                   | P                                |
| Republic of Korea                        | CHEONGJU  | RKTU                    | RS   | INCHEON INTL                                | RKSI                    | Y   |                     |                | T   |                   | F                                |
|  | DAEGU INTL  | RKTN                    | RS   | INCHEON INTL                                | RKSI                    | Y   |                     |                | T   |                   | F                                |

| State                  | Aerodrome (listed in Tables AOP) where meteorological service is to be provided |                         |     | Responsible aerodrome meteorological office |                         | Observations and forecasts to be provided |                     |                |     |                   | METAR/SPECI and TAF availability |
|------------------------|---|-------------------------|-----|---|-------------------------|---|---------------------|----------------|-----|-------------------|----------------------------------|
|                        | Name  | ICAO Location Indicator | Use | Name  | ICAO Location Indicator | METAR/SPECI                               | State of the runway | Trend forecast | TAF | Temperature Tx/Tn |                                  |
| 1                      | 2   | 3                       | 4   | 5   | 6                       | 7   | 8                   | 9              | 10  | 11                | 12                               |
|                        | GIMHAE INTL   | RKPK                    | RS  | INCHEON INTL                                | RKSI                    | Y   |                     |                | T   |                   | F                                |
|                        | GIMPO   | RKSS                    | AS  | INCHEON INTL                                | RKSI                    | Y   |                     | Y              | X   |                   | F                                |
|                        | INCHEON INTL  | RKSI                    | RS  | INCHEON INTL                                | RKSI                    | Y   |                     | Y              | X   |                   | F                                |
|                        | JEJU INTL   | RKPC                    | RS  | INCHEON INTL                                | RKSI                    | Y   |                     |                | X   |                   | F                                |
|                        | MUAN  | RKJB                    | RS  | INCHEON INTL                                | RKSI                    | Y   |                     |                | X   |                   | F                                |
|                        | YANGYANG  | RKNY                    | RS  | INCHEON INTL                                | RKSI                    | Y   |                     |                | T   |                   | F                                |
| <b>Samoa</b>           | FALEOLO/INTL  | NSFA                    | RS  | FALEOLO/INTL                                | NSFA                    | Y   |                     | Y              | T   |                   | F                                |
| <b>Singapore</b>       | PAYA LEBAR (RSAF)   | WSAP                    | AS  | SINGAPORE/CHANGI                            | WSSS                    | Y   |                     |                | X   |                   | F                                |
|                        | SELETAR   | WSSL                    | RS  | SINGAPORE/CHANGI                            | WSSS                    | Y   |                     |                | X   |                   | F                                |
|                        | SINGAPORE/CHANGI  | WSSS                    | RS  | SINGAPORE/CHANGI                            | WSSS                    | Y   |                     | Y              | X   |                   | F                                |
| <b>Solomon Islands</b> | HONIARA (HENDERSON)   | AGGH                    | RS  | HONIARA (HENDERSON)                         | AGGH                    | Y   |                     | Y              | T   |                   | F                                |
| <b>Sri Lanka</b>       | HINGURAKGODA/MINNERIYA  | VCCH                    | RS  | KATUNAYAKE/BANDARANAI                       | VCBI                    | Y   |                     |                | X   |                   | F                                |
|                        | KATUNAYAKE/BANDARANAI   | VCBI                    | RS  | KE INTERNATIONAL AIRPORT                    | VCBI                    | Y   |                     | Y              | X   |                   | F                                |
|                        | COLOMBO   |                         |     | COLOMBO                                     |                         |   |                     |                |     |                   |                                  |
|                        | MATTALA/MATTALA   | VCRI                    | RS  | MATTALA/MATTALA                             | VCRI                    | Y   |                     | Y              | X   |                   | F                                |
|                        | RAJAPAKSA INTERNATIONAL AIRPORT   |                         |     | RAJAPAKSA INTERNATIONAL AIRPORT             |                         |   |                     |                |     |                   |                                  |
| <b>Thailand</b>        | BANGKOK/DON MUEANG INTL AIRPORT   | VTBD                    | RS  | BANGKOK/SUVARNA BHUMI INTL AIRPORT          | VTBS                    | Y   |                     | Y              | X   |                   | F                                |
|                        | BANGKOK/SUVARNA BHUMI INTL AIRPORT  | VTBS                    | RS  | BANGKOK/SUVARNA BHUMI INTL AIRPORT          | VTBS                    | Y   |                     | Y              | X   |                   | F                                |
|                        | CHIANG MAI/CHIANG MAI INTL. AIRPORT   | VTCC                    | RS  | CHIANG MAI/CHIANG MAI INTL. AIRPORT         | VTCC                    | Y   |                     | Y              | X   |                   | F                                |
|                        | CHIANG RAI/MAE FAH LUANG-CHIANG RAI INTL AIRPORT                                | VTCT                    | RS  | CHIANG MAI/CHIANG MAI INTL. AIRPORT         | VTCC                    | Y   |                     | Y              | X   |                   | F                                |
|                        | KHON KAEN   | VTUK                    | RS  | UBON RATCHATHANI                            | VTUU                    | Y   |                     |                | T   |                   | P                                |
|                        | KRABI   | VTSG                    | RS  | PHUKET/PHUKET INTL AIRPORT                  | VTSP                    | Y   |                     |                | T   |                   | F                                |
|                        | PHITSANULOK   | VTTP                    | RS  | CHIANG MAI/CHIANG MAI INTL. AIRPORT         | VTCC                    | Y   |                     |                | T   |                   | P                                |
|                        | PHUKET/PHUKET INTL AIRPORT  | VTSP                    | RS  | PHUKET/PHUKET INTL AIRPORT                  | VTSP                    | Y   |                     | Y              | X   |                   | F                                |
|                        | RAYONG/U-TAPAO PATTAYA INTL AIRPORT   | VTBU                    | RS  | RAYONG/U-TAPAO PATTAYA INTL AIRPORT         | VTBU                    | Y   |                     |                | T   |                   | F                                |

| State         | Aerodrome (listed in Tables AOP) where meteorological service is to be provided |                         |     | Responsible aerodrome meteorological office |                         | Observations and forecasts to be provided |                     |                |     |                   | METAR/SPECI and TAF availability |
|---------------|---|-------------------------|-----|---|-------------------------|---|---------------------|----------------|-----|-------------------|----------------------------------|
|               | Name  | ICAO Location Indicator | Use | Name  | ICAO Location Indicator | METAR/SPECI                               | State of the runway | Trend forecast | TAF | Temperature Tx/Tn |                                  |
| 1             | 2   | 3                       | 4   | 5   | 6                       | 7   | 8                   | 9              | 10  | 11                | 12                               |
|               | SONGKHLA/HAT YAI INTL AIRPORT   | VTSS                    | RS  | SONGKHLA/HAT YAI INTL AIRPORT               | VTSS                    | Y   |                     | Y              | T   |                   | F                                |
|               | SURAT THANI   | VTSB                    | RS  | SONGKHLA/HAT YAI INTL AIRPORT               | VTSS                    | Y   |                     |                | T   |                   | P                                |
|               | UBON RATCHATHANI  | VTUU                    | RS  | UBON RATCHATHANI                            | VTUU                    | Y   |                     | Y              | T   |                   | F                                |
| Tonga         | FUA'AMOTU INTL.   | NFTF                    | RS  | NADI/INTL                                   | NFFN                    | Y   |                     |                | T   |                   | F                                |
|               | VAVA'U  | NFTV                    | RS  | NADI/INTL                                   | NFFN                    | Y   |                     |                | T   |                   | F                                |
| Tuvalu        | FUNAFUTI/INTL   | NGFU                    | RS  |   |                         | Y   |                     |                | T   |                   | F                                |
| United States | ANCHORAGE/ELMENDORF AFB,AK.   | PAED                    | AS  | WASHINGTON (NWS NATIONAL MET CENTER), DC.   | KWBC                    | Y   |                     |                | T   |                   | F                                |
|               | COLD BAY,AK.  | PACD                    | AS  | WASHINGTON (NWS NATIONAL MET CENTER), DC.   | KWBC                    | Y   |                     |                | T   |                   | F                                |
|               | FAIRBANKS INTERNATIONAL, AK.  | PAFA                    | RS  | WASHINGTON (NWS NATIONAL MET CENTER), DC.   | KWBC                    | Y   |                     |                | X   |                   | F                                |
|               | FAIRBANKS/EIELSON AFB,AK.   | PAEI                    | AS  | WASHINGTON (NWS NATIONAL MET CENTER), DC.   | KWBC                    | Y   |                     |                | T   |                   | F                                |
|               | HILO INTERNATIONAL, HILO HI.  | PHTO                    | AS  | WASHINGTON (NWS NATIONAL MET CENTER), DC.   | KWBC                    | Y   |                     |                | T   |                   | F                                |
|               | HONOLULU INTERNATIONAL, OAHU, HI.   | PHNL                    | RS  | WASHINGTON (NWS NATIONAL MET CENTER), DC.   | KWBC                    | Y   |                     |                | X   |                   | F                                |
|               | KAHULUI, HI.  | PHOG                    | AS  | WASHINGTON (NWS NATIONAL MET CENTER), DC.   | KWBC                    | Y   |                     |                | T   |                   | F                                |
|               | KING SALMON,AK.   | PAKN                    | AS  | WASHINGTON (NWS NATIONAL MET CENTER), DC.   | KWBC                    | Y   |                     |                | T   |                   | F                                |
|               | TED STEVENS ANCHORAGE INTERNATIONAL, AK.  | PANC                    | RS  | WASHINGTON (NWS NATIONAL MET CENTER), DC.   | KWBC                    | Y   |                     |                | X   |                   | F                                |
| Vanuatu       | PORT VILA/BAUERFIELD  | NVVV                    | RS  | PORT VILA/BAUERFIELD                        | NVVV                    | Y   |                     |                | T   |                   | F                                |
|               | SANTO/PEKOA   | NVSS                    | RS  | PORT VILA/BAUERFIELD                        | NVVV                    | Y   |                     |                | T   |                   | F                                |
| Viet Nam      | CAM RANH  | VVCR                    | RS  | CAM RANH                                    | VVCR                    | Y   |                     | Y              | T   |                   | F                                |
|               | CAN THO   | VVCT                    | RS  | CAN THO                                     | VVCT                    | Y   |                     | Y              | T   |                   | F                                |
|               | DA NANG   | VVDN                    | RS  | DA NANG                                     | VVDN                    | Y   |                     | Y              | T   |                   | F                                |
|               | HA NOI/NOI BAI  | VVNB                    | RS  | HA NOI/NOI BAI                              | VVNB                    | Y   |                     | Y              | T   |                   | F                                |
|               | HO CHI MINH/TAN SON NHAT  | VVTS                    | RS  | HO CHI MINH/TAN SON NHAT                    | VVTS                    | Y   |                     | Y              | X   |                   | F                                |
|               | HUE/PHU BAI   | VVPB                    | RS  | HUE/PHU BAI                                 | VVPB                    | Y   |                     | Y              | T   |                   | F                                |
|               | PHU QUOC  | VVPQ                    | RS  | PHU QUOC                                    | VVPQ                    | Y   |                     | Y              | T   |                   | F                                |

| State                              | Aerodrome (listed in Tables AOP) where meteorological service is to be provided |                         |     | Responsible aerodrome meteorological office |                         | Observations and forecasts to be provided |                     |                |     |                   | METAR/SPECI and TAF availability |    |    |
|------------------------------------|---|-------------------------|-----|---|-------------------------|---|---------------------|----------------|-----|-------------------|----------------------------------|----|----|
|                                    | Name  | ICAO Location Indicator | Use | Name  | ICAO Location Indicator | METAR/SPECI                               | State of the runway | Trend forecast | TAF | Temperature Tx/Tn |                                  |    |    |
| 1                                  | 2   | 3                       | 4   | 5   | 6                       | 7   | 8                   | 9              | 10  | 11                | 12                               | 13 | 14 |
| Wallis and Futuna Islands (France) | WALLIS HIHIFO   | NLW W                   | RS  | NADI/INTL                                   | NFFN                    | Y   |                     |                | T   |                   |                                  | F  |    |

# **TABLE MET II-3 – VOLMET BROADCASTS**

## EXPLANATION OF THE TABLE

The transmitting station appears at the top of each block.

Names in lower case letters indicate aerodromes for which reports (routine or selected special) are required.

Names in upper-case letters indicate aerodromes for which forecasts are required.

| Tokyo          | Hong Kong | Auckland     |
|----------------|-----------|--------------|
| 10–15          | 15–20     | 20–25        |
| 40–45          | 45–50     | 50–55        |
| Tokyo (Narita) | Hong Kong | Auckland     |
| Tokyo (Haneda) | Naha      | Christchurch |
| Sapporo        | Taibei    | Faleolo      |
| Chubu          | Gaoxiong  | Wellington   |
| Osaka          | Manila    | Nadi         |
| Fukuoka        | Mactan    | Nouméa       |
| Incheon        | Guangzhou | Pago Pago    |
|                |           | Rarotonga    |
|                |           | Tahiti       |
| TOKYO (NARITA) | HONG KONG | 20–25        |
| TOKYO (HANEDA) |           | 50–55        |
|                |           | NADI         |
|                |           | AUCKLAND     |
|                |           | NOUMÉA       |
|                |           | CHRISTCHURCH |

| Honolulu |               |             |
|----------|---------------|-------------|
| 10–15    | 15–20         | 20–25       |
| 40–45    | 45–50         | 50–55       |
| Honolulu | San Francisco | Anchorage   |
| Hilo     | Los Angeles   | Fairbanks   |
| Kahului  | Seattle       | King Salmon |
| Agana    | Portland      | Elmendorf   |
|          | Sacramento    | Cold Bay    |
|          | Ontario       | Vancouver   |
|          | Las Vegas     |             |
| SIGMET   | SIGMET        | SIGMET      |
| HONOLULU | SAN FRANCISCO | ANCHORAGE   |
| HILO     | SEATTLE       | FAIRBANKS   |
| AGANA    | LOS ANGELES   | VANCOUVER   |
|          |               | COLD BAY    |

| Sydney        | Kolkata   | Bangkok     | Karachi   | Singapore     | Mumbai    |
|---------------|-----------|-------------|-----------|---------------|-----------|
| 00–05         | 05–10     | 10–15       | 15–20     | 20–25         | 25–30     |
| 30–35         | 35–40     | 40–45       | 45–50     | 50–55         | 55–60     |
| Sydney        | Kolkata   | Bangkok     | Karachi   | Singapore     | Mumbai    |
| Brisbane      | Delhi     | Yangon      | Islamabad | Sebang        | Ahmadabad |
| Melbourne     | Dhaka     | Ha Noi      | Lahore    | Jakarta       | Chennai   |
| Townsville    | Yangon    | Ho-Chi-Minh | Delhi     | Kuching       | Colombo   |
| Adelaide      | Kathmandu | Phnom-Penh  | Mumbai    | Brunei        | Karachi   |
| Alice Springs |           | Utapao      |           | Kota Kinabalu | Male      |
| Darwin        |           | Vientiane   |           | Denpasar      |           |
| Perth         |           |             |           | Penang        |           |
| 00–05         | KOLKATA   | BANGKOK     | KARACHI   | 20–25         | MUMBAI    |
| SYDNEY        | DELHI     | YANGON      | LAHORE    | SINGAPORE     | COLOMBO   |
| BRISBANE      |           |             | MUMBAI    | SEBANG        | MALE      |
|               |           |             | DELHI     |               |           |
| 30–35         | HO-CHI-   |             | SINGAPORE | 50–55         |           |
| MELBOURNE     | MINH      |             |           | SINGAPORE     |           |
| PERTH         |           |             |           | JAKARTA       |           |

| Guangzhou |           |          | Beijing  |          |         |
|-----------|-----------|----------|----------|----------|---------|
| 00–05     | 05–10     | 10–15    | 15–20    | 20–25    | 25–30   |
| 30–35     | 35–40     | 40–45    | 45–50    | 50–55    | 55–60   |
| Xiamen    | Guangzhou | Changsha | Beijing  | Hangzhou | Lanzhou |
|           | Nanning   | Chengdu  | Harbin   | Shanghai | Xían    |
|           |           | Kunming  | Dalian   |          | Urumqi  |
|           |           | Wuhan    | Shenyang |          |         |
|           |           |          | Hohhot   |          |         |
|           |           |          | Taiyuan  |          |         |
|           |           |          | Tianjin  |          |         |
|           |           |          |          |          | XÍAN    |
|           | GUANGZHOU | CHENGDU  | BEIJING  | SHANGHAI |         |