INTERNATIONAL CIVIL AVIATION ORGANISATION

REPORT OF THE TWENTY-THIRD MEETING OF THE METEOROLOGICAL INFORMATION EXCHANGE WORKING GROUP (MET/IE WG/23)

(Bangkok, Thailand, 25 – 28 March 2025)

The views expressed in this Report are those of the Meeting and not the Organisation.

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

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HISTORY OF THE MEETING

1. Dates and venue

1.1. The ICAO Asia and Pacific (APAC) Office hosted the Twenty-Third Meeting of the Meteorological Information Exchange Working Group (MET/IE WG/23) in Bangkok, Thailand, from 25 to 28 March 2025.

1.2. A conjoint session of MET/IE WG/23 (the Meeting) and the Twelfth Meeting of the Aeronautical Communication Services Implementation Coordination Group (ACSICG/12) on 26 March 2025 discussed issues of interest to both groups jointly, including readiness of the Air Traffic Services Message Handling System (AMHS) to support disseminating meteorological information in the ICAO Meteorological Information Exchange Model (IWXXM) form.

2. Attendance

2.1. Sixty-five (65) participants attended the MET/IE WG Meeting from nineteen (19) States/Special Administrative Regions, including Australia, Bhutan, Cambodia, China, Hong Kong China, Macao China, Fiji, Japan, Lao PDR, Malaysia, New Zealand, Pakistan, Philippines, Republic of Korea, Singapore, Sri Lanka, Thailand, Viet Nam, and ICAO. The list of participants is in **Appendix A**.

2.2. The list of ACSICG/12 participants is available on the following ICAO website: https://www.icao.int/APAC/Meetings/Pages/2025-AMC-ACSICG12.aspx.

3. Officers and Secretariat

3.1. Mr Tim Hailes, National Manager, Transport Customer Engagement, Bureau of Meteorology, Australia, chaired the Meeting. Mr Marco Mang-Hin Kok, Acting Senior Scientific Officer, Hong Kong Observatory, assisted him in the role of Vice Chair of the Meeting. The Secretary for the Meeting was Mr Peter Dunda, Regional Officer Aeronautical Meteorology and Environment, ICAO APAC Office.

4. Language and Documentation

4.1. The working language of the Meeting was English, including all documentation and this report. The Meeting considered nineteen (19) Working Papers (WPs), seven (7) Information Papers (IPs), three (3) Flimsies and one (1) Slide Presentation (SP). The list of WPs, IPs, Flimsies and SPs is in **Appendix B**.

4.2. The conjoint session on 26 March 2025 considered three (3) additional WPs submitted to ACSICG/12, which are available on the following ICAO website: https://www.icao.int/APAC/Meetings/Pages/2025-AMC-ACSICG12.aspx **.**

5. Outcomes

Draft Conclusions, Draft Decisions and Decisions

5.1. Following established procedures of the APAC Air Navigation Planning and Implementation Regional Group (APANPIRG), the Meeting formulated proposals for action for further consideration and possible adoption by the Meteorology Sub-Group (MET SG) or APANPIRG, within the following definitions:

a) Draft Conclusions: deal with matters that merit directly the attention of States, or on which further action is required to be initiated by the Secretariat;

b) Draft Decisions: relate solely to matters dealing with the internal working arrangements of the APANPIRG and its contributory bodies.

c) Decisions: relate solely to matters dealing with the internal working arrangements of the MET/IE WG.

5.2. The Meeting formulated the following two (2) Draft Conclusions and one (1) Decision, as recorded in the Report on Agenda Items and tabulated in **Appendix C**:

- **Draft Conclusion MET/IE WG/23-01:** Management of obsolete planning and implementation guidance documents on the ICAO APAC Office website
- **Draft Conclusion MET/IE WG/23-02:** IWXXM update notification process
- **Decision MET/IE WG/23-03:** Use of IWXXM Product Version in OPMET Performance Indices

Action Items

5.3. Additionally, the Meeting agreed to eighteen (18) new action items for the MET/IE WG as recorded in the Report on Agenda Items and tabulated in **Appendix D**.

— END OF SECTION —

REPORT ON AGENDA ITEMS

1. Organisational matters

WP/01 – PROVISIONAL AGENDA (Secretariat)

1.1. The Meeting adopted the agenda as listed below:

Agenda Item 1:	Organizational matters
Agenda Item 2:	Review of follow-up action from previous meetings
Agenda Item 3:	Quality control, monitoring, and management of meteorological information exchange
Agenda Item 4:	Guidance material related to meteorological information exchange
Agenda Item 5:	Meteorological information exchange in SWIM
Agenda Item 6:	Meteorological information exchange in IWXXM form
Agenda Item 6.1:	Readiness of AMHS to support IWXXM (to be discussed in the conjoint session with ACSICG/12)
Agenda Item 7:	Future work program and terms of reference
Agenda Item 8:	Any other business
Agenda Item 9:	Next meeting

2. Review of follow-up from previous meetings

WP/02 – FOLLOW-UP ACTION FROM MET/IE WG/22 (Secretariat)

2.1. The Meeting noted the two Draft Conclusions formulated by MET/IE WG/22, as listed below, were further considered by the Twenty-eighth Meeting of the Meteorology Sub-group (MET SG/28). Discussion on the MET SG/28 outcomes was provided in *WP/04 – FOLLOW-UP ACTION FROM MET SG/28*:

> Draft Conclusion MET/IE WG/22-01: Availability and Timeliness of TAC and IWXXM Meteorological Information
>
> Draft Conclusion MET/IE WG/22-02: Review of APAC Region IWXXM Implementation Status/Readiness

2.2. The Meeting reviewed the status of the MET/IE WG List of Actions, including the seventeen (17) new action items agreed upon at the MET/IE WG/22 meeting and nineteen (19) unresolved action items from previous MET/IE WG meetings. The Meeting agreed that twelve (12) of the MET/IE WG/22 action items were completed. In addition, the Meeting considered that six (6) of the previously unresolved action items from previous meetings were completed or had been superseded. The meeting agreed to revise the target dates on the Secretariat's uncompleted actions on the ROBEX Handbook and ANP updates for completion before the upcoming MET SG meeting in August 2025. The updated MET/IE WG List of Actions is presented in **Appendix D**.

2.3. The Chair expressed concerns that the late availability of Secretariat meeting papers continued to negatively impact the effectiveness of the Meeting. Similarly, the lack of progress on several Secretariat actions, including the quarterly coordination meetings of the MET/IE WG members, impeded progress of the MET/IE WG work plan.

2.4. The Meeting recalled uncompleted agreed Secretariat action (ACTION 20-12) to document the steps States should take to effect changes to the ROBEX scheme and notify States of changes to the

MET service. To facilitate progress on updates to the ROBEX Handbook, SIGMET Guide, ANP and other relevant documentation, the Meeting revised the above action item and requested the Secretariat with assistance from the Chair and New Zealand, to document a process to clarify how States should initiate required changes to all the relevant regional guidance documents. **[ACTION 23-01]**

WP/03 – FOLLOW-UP ACTION FROM MET SG/28 (Secretariat)

2.5. The Twenty-eighth Meeting of the Asia/Pacific Meteorology Sub-Group (MET SG/28) in Bangkok, Thailand, from 8 to 12 July 2024, resulted in one Draft Decision, two Conclusions, seven Decisions, and thirty-two new action items. The Draft Decision was presented at APANPIRG/35 in November 2024 and discussed further in WP/04. The status of follow-up actions on the MET SG/28 Conclusions, Decisions and action items is detailed in WP/03. The meeting reviewed these follow-up actions and considered further steps for the MET/IE WG.

2.6. The meeting noted that issues related to the action proposed in MET SG/28 Conclusion 28-03: Review of APAC Region IWXXM Implementation Status/ Readiness, would be discussed in the conjoint session with ACSICG/12. In addition, the Meeting noted that MET SG/28 had assigned MET/IE WG the responsibility for action item 28/06: Consider the feasibility of including WIFS in the annual SIGMET tests. The Meeting requested the SIGMET test focal points, Japan and Singapore, to provide a response to the action item for consideration by MET SG/29. **[ACTION 23-02]**

WP/04 – FOLLOW-UP ACTION FROM APANPIRG/35 (Secretariat)

2.7. The Thirty-Fifth Meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/35) in Bangkok, Thailand, from 25 to 27 November 2024, resulted in eleven Conclusions and two Decisions. The meeting reviewed these outcomes, focusing on Conclusion 35/13 (Update of information in the Air Navigation Deficiencies Reporting Form) and Decision 35/11 (Additional Secretariat Support). The status of follow-up actions on these outcomes is detailed in WP/04.

2.8. In relation to the action in Decision 35/11 (Additional Secretariat Support), the Meeting noted recent progress in ICAO recruitment that would have a positive impact on the capacity of the MET Secretary to progress the MET-related work program. In relation to Conclusion 35/13 (Update of information in the Air Navigation Deficiencies Reporting Form), States may inform ICAO of updates to the Focal Points for Air Navigation Deficiencies by contacting the Secretariat directly or responding to the ICAO State Letter on Air Navigation Deficiencies.

3. Quality control, monitoring and management of meteorological information exchange

WP/07 – REVIEW OF WS/LS SIGMET TEST 2024 (Singapore)

3.1. The WS/LS SIGMET Test 2024 was conducted on 27 November 2024. Reception summaries were provided by RODB Bangkok, Brisbane, Tokyo, Nadi, Singapore, and ROC London. 24 out of 29 states issued WS SIGMET test messages, with Afghanistan, Australia, DPR Korea, Nauru, and Papua New Guinea not issuing test messages. Australia's non-participation was due to procedural misinterpretation. The participation rate was 83%, lower than 2022 and 2023 but higher than 2020 and 2021. In total, 42 WS SIGMET test messages were issued. The reception rate remained high, with most achieving 90% or more. Ten states also disseminated LS SIGMET test (IWXXM format) messages: Australia, China, Fiji, French Polynesia, Japan, New Zealand, Philippines, Singapore, Solomon Islands and Thailand. The issue concerning the incorrect use of the priority indicator for the test messages persisted in the WS SIGMET test 2024.

3.2. The Meeting noted that WP/07 did not include in the Appendices the IWXXM results, which could be useful in future reports. Singapore agreed to include the IWXXM results for the next meeting. **[ACTION 23-03]**

WP/15 – RESULTS OF SIGMET TESTS 2024 – TC and VA (Japan)

3.3. The WC/LY and WV/LV SIGMET Tests 2024 were conducted on 13 and 20 November 2024. Four RODBs (Bangkok, Brisbane, Singapore, and Nadi) and WAFC London sent summaries of bulletins received during the tests to Tokyo. The overall availability of WC test bulletins was 73.6%, lower than 2023's 79.2%. The availability of WV test bulletins was 86%, lower than 2023's 93%.

3.4. MWO Bahrain, DPR Korea, Iran, Myanmar, Nauru, Papua New Guinea, the United Arab Emirates, the United States and Yemen did not participate in the WC/LC SIGMET test. MWO Afghanistan, Cambodia, DPR Korea, Nauru, and Papua New Guinea did not participate in the WV/LY SIGMET test.

3.5. MWOs Hong Kong, Manila, Anchorage, and Honolulu couldn't participate due to active tropical cyclones, and MWO Makassar couldn't participate due to volcanic activity. Incorrect use of priority indicators and WMO headings persisted. Some states issued SIGMET messages in IWXXM format, but many are not ready yet. ROCs and RODBs are encouraged to support MWOs and NOCs unable to issue test messages.

3.6. The meeting noted that data gaps in the results (WP/15, Appendix 1) from RODBs Brisbane and Nadi were being investigated by Australia and Fiji.

WP/09 – ASIA/PAC INTER-REGIONAL OPMET GATEWAY BACKUP EXERCISE BETWEEN IROG SINGAPORE AND IROG BANGKOK (Singapore)

3.7. The seventh IROG backup exercise between IROG Singapore and IROG Bangkok was conducted on 27 September 2024. IROG Singapore took over IROG Bangkok's role in relaying OPMET messages from APAC to MID and ASIA to AFI. Both IROGs monitored and recorded the reception and transmission of messages. They were tasked (Ref: ACTION MET/IE WG/22-02) to update on the feasibility and timeline for an IWXXM data backup exercise, which is planned for 2026. IROG Singapore successfully routed all METAR and TAF bulletins during the exercise. The procedures for handover and takeover were validated.

WP/14 – ASIA/PAC INTER-REGIONAL OPMET GATEWAY BACK-UP EXERCISE BETWEEN IROG BANGKOK AND IROG SINGAPORE (Thailand)

3.8. The IROG backup exercise between IROG Singapore and IROG Bangkok, conducted on 18 September 2024, is carried out annually. During the test, both IROGs successfully received and transmitted 100% of METAR and TAF bulletins to IROG London. IROG Singapore received 556 METARs and 104 TAFs, while IROG Bangkok received and transmitted the same numbers. Both IROGs have been tasked to update on the feasibility and timeline for an IWXXM data backup exercise, planned for 2026, based on discussions and stakeholder inputs.

3.9. In relation to the discussion on WP/09 and WP/15, the Meeting requested the IROG provider States to investigate the impact of an IROG outage at each of the IROGs, including Brisbane, Nadi and Tokyo, and the importance of implementing back-up arrangements. **[ACTION 23-04]**

WP/16 – ASIA/PACIFIC PERFORMANCE INDICES (Thailand)

3.10. The Asia-Pacific OPMET monitoring is conducted annually in November using the OPMET Statistics Web Application to calculate performance indices in TAC and IWXXM formats. Data from five RODBs, collected from 1-30 November 2024, is based on the ROBEX Handbook (sixteenth edition, April 2024), covering 322 METAR and 318 TAF bulletins. Availability and Timeliness calculations follow the method provided in WP/16 and the MET/SG 28-WP07 updates. Appendices in WP/16 detail performance indices per aerodrome for TAC and IWXXM, aerodromes with zero performance indices, indices per ROC, and IWXXM performance indices at RODB Bangkok for METAR/TAF, SPECI, SIGMET/AIRMET, and Advisories.

3.11. The Meeting noted the need for further investigation and analysis of the results in WP/16 where PIs were below the agreed threshold. Hong Kong, China was investigating the results for VHHH in WP/16, Appendix B, page 21. The Meeting considered that issues related to OPMET timeliness could be related to the internal clock in automated METAR systems.

WP/13 – IWXXM STATISTICS WITH INDIVIDUAL PRODUCT VERSIONS (Thailand)

3.12. Since November 2022, RODB Bangkok has analyzed IWXXM statistics based on package versions. Statistics calculated using package versions can misinterpret identical product versions as being different. For example, IWXXM METAR v2021-2 and v2023-1 both have version 3.1.0. RODB Bangkok now uses individual product versions for better monitoring insights. WP/13 highlights these versions, with results presented as Performance Indices (WP/13, Appendix A) and IWXXM-specific statistics (WP/13, Appendices B to E). This approach aims to offer a clearer view of the monitoring results.

3.13. The Meeting noted that Thailand will further investigate the reason for apparent discrepancies in the performance indices and IWXXM-specific statistics. The meeting also noted that current availability and timeliness indices appeared to be coupled and it would be more meaningful if these algorithms were independent. The meeting requested Thailand to review the PI algorithms to increase the independence of Availability and Timeliness results. **[ACTION 23-05]**

IP/02 – QUALITY CONTROL AND MANAGEMENT OF AVIATION METEOROLOGICAL INFORMATION IN CHINA (China)

3.14. China has implemented detailed quality control (QC) procedures for aviation meteorological information, verifying most types such as METAR, SPECI, TAF, SIGMET, AIRMET, and advisories. Domestic messages undergo strict inspection, while international messages are checked more leniently. IWXXM formats are verified using the CRUX tool. Validation rules follow the ICAO APAC ROBEX Handbook, with specific checks for WMO headings, observation times, and meteorological elements. Duplicate reports and messages with special characters are filtered out. QC methods include automatic software verification and manual validation, with monthly monitoring and statistical results announced. Data quality has significantly improved.

3.15. China has not yet shared the results with other concerned States. However, the Meeting encouraged China to extract and share relevant details with ROCs to enhance the quality of OPMET exchanges in the region.

IP/07 – ROBEX RECEIPT MONITORING IN FIJI (Fiji)

3.16. The Nadi RODB, managed by Fiji Airports, monitors OPMET data exchange to ensure adherence to the ROBEX Handbook. According to the 17th edition, 14 ROCs should send METAR bulletins and 12 ROCs should send TAF bulletins to Nadi RODB. Some ROCs, including Colombo, Kolkata, and Mumbai, are not sending METAR bulletins, and Karachi sends METARs for only some aerodromes to RODB Nadi. Mumbai and Kolkata are also not sending TAF bulletins. Nadi RODB

requests updates to the ROBEX Handbook to better reflect OPMET data storage needs. PI analysis reveals issues like inconsistent METAR and TAF submissions from some aerodromes.

3.17. The Meeting recommended that Fiji investigate whether some aerodrome OPMET bulletins are not being sent to Nadi or are simply not being produced. Additionally, Fiji should compare its monitoring results with the data presented in WP/16.

3.18. The Meeting emphasized the importance of maintaining up-to-date ROBEX Focal Point information to help States address ROBEX issues effectively. Each RODB should ensure reliable operational points of contact with IROGs and NOCs, and ROCs should maintain strong communication links with their respective NOCs. *Editorial note: Updates for the ROBEX Handbook Focal Point information provided during the meeting are presented in **Appendix E** of this Report.*

4. Guidance material related to meteorological information exchange

WP/05 – ROBEX HANDBOOK UPDATES (Secretariat)

4.1. The ROBEX Handbook was last updated to the Seventeenth Edition in July 2024, based on the outcomes from the Twenty-eighth Meeting of the Meteorology Sub-Group (MET SG/28), held from 8 to 12 July 2024. Updates were approved through Decision MET SG/28-09 and MET SG ACTION 28/09 and 28/19. The ICAO APAC Office subsequently published these updates in the Seventeenth Edition of the ROBEX Handbook, available on its website. The Meeting reviewed and considered further updates as necessary.

4.2. Fiji identified necessary updates to indicate aerodrome meteorological services not available for the full 24 hours of the day. The Secretariat informed the Meeting of the process to update the ROBEX Handbook and New Zealand advised it can assist in the Pacific Region through collaboration with the PIAWS Panel*.

4.3. Regarding the above issues, the Meeting noted that some obsolete OPMET-related documents (e.g., FASID Tables) on the ICAO APAC Office website are not clearly marked as "for historic reference purposes," which can lead to misinterpretation of current operational requirements. Therefore, the Meeting requested the Secretariat to ensure these historic documents are clearly identified as obsolete and non-operational. **[ACTION 23-06]**

4.4. Additionally, the Meeting agreed to prepare a Draft Conclusion proposing that ICAO take appropriate action to manage the archive of obsolete and historic planning and guidance documents on its website, including those related to MET and other AN fields. **[ACTION 23-07]**

Draft Conclusion MET/IE WG/23-01 – Management of obsolete planning and implementation guidance documents on the ICAO APAC Office website	
What: That, ICAO take appropriate action to manage (clearly identified as obsolete or remove) the archive of obsolete and historic planning and implementation guidance documents on its website, including those related to MET and other AN fields.	Expected impact: ☐ Political / Global ☐ Inter -Regional ☐ Economic ☐ Environmental ☒ Ops/Technical

* Pacific Islands Aviation Weather Services (PIAWS) Panel; established by the Pacific Meteorological Council (PMC), which is a specialised subsidiary body of the Secretariat of the Pacific Regional Environment Programme (SPREP).

Why: Obsolete OPMET- and ANS-related documents (e.g., FASID Tables) that are accessible on the ICAO APAC Office website are not clearly identified as obsolete and non-operational information for historic reference purposes only. Therefore, they could be understood by readers to represent the current operational requirements.	Follow-up: ☐ Required from States
When: As soon as practicable	Status: Draft to be adopted by MET SG
Who: ☐ Sub Groups ☐ RASG-APAC ☐ APAC States ☒ ICAO APAC RO ☐ ICAO HQ ☐ Other:	

4.5. New Zealand informed the Meeting about the USA's plans to update the ROBEX Handbook for its aerodromes in the APAC Region. The Meeting requested the Secretariat to invite the USA to submit the update proposal. **[ACTION 23-08]**

4.6. Several States, including the Republic of Korea, Hong Kong China, Fiji, Japan, Malaysia, and Singapore, noted that their ROBEX Focal Point information in (ROBEX Handbook) Appendix I was outdated. The Meeting agreed that these States should inform the Secretariat of the necessary updates, and the Secretariat should contact other concerned States for possible updates. **[ACTION 23-09]** *Editorial note: Updates for the ROBEX Handbook Focal Point information provided during the meeting are presented in **Appendix E** of this Report.*

4.7. Thailand suggested checking the ROBEX Handbook to ensure that the procedure for obtaining the latest ROBEX data for PI calculations is thoroughly documented. The Meeting recalled ACTION 22-03 on the same issue and requested the Secretariat and Thailand to complete this action.

4.8. The Meeting also noted that the Secretariat would prepare previously proposed but uncompleted updates to the ROBEX Handbook for review and possible adoption by MET SG/29. **[ACTION 23-10]**

WP/11 – VONA DISSEMINATION UPDATE (New Zealand, Australia and Hong Kong China)

4.9. MET/IE WG/22 noted that Amendment 82 to Annex 3 would require VONA dissemination via aeronautical fixed services (AFS). An ad hoc group (Australia, Japan, New Zealand) was tasked with developing updates to the ROBEX Handbook for VONA dissemination, to be presented at MET SG/28. MET SG/28 supported the updates in principle but requested finalization of details, including bulletin header 'ii' and applicability date.

4.10. The VONA bulletin header structure was discussed at the 12th METP WG-MIE Meeting and will be included in the next update of the IAVW Handbook. The ICAO European Region Data Management Group also agreed on the bulletin header structure. Not all State volcano observatories (SVOs) have AFS access, so they can use their State's National OPMET Centre (NOC) identifier or request a new one from ICAO. The APAC ROBEX Handbook assigns 'ii' for bulletins, with recommendations for SVOs to use sequential 'ii' numbers for VONA issues. Proposed updates are detailed in WP/11, Appendix A, with MET SG/28 noting that once 'ii' and 'CCCC' details are clarified and endorsed by MET/IE WG, the updates can be published immediately.

4.11. The Meeting agreed to the updates presented in WP/11, Appendix A, and requested the Secretariat to publish these updates in the ROBEX Handbook, 18th Edition, dated March 2025. Additionally, since States agreed to provide updates for the ROBEX Handbook Focal Point information, the Meeting requested the Secretariat to include the available focal point updates in the 18th Edition of

the ROBEX Handbook. **[ACTION 23-11]** *Editorial note: Updates for the ROBEX Handbook Focal Point information provided during the meeting are presented in **Appendix E** of this Report.*

4.12. Regarding VONA dissemination, the Meeting emphasized the urgent need to advance the agreed action for designating State Volcano Observatories in the ANP (ACTION MET/S WG/10-21 refers; transferred to MET SG List of Actions).

WP/17 – UPDATES TO ASIA PACIFIC ROBEX HANDBOOK (Hong Kong, China)

4.13. The Hong Kong Regional OPMET Centre (ROC) proposed to update the Asia-Pacific ROBEX Handbook due to the addition of three aerodromes to its METAR/SPECI and TAF bulletins from 0200 UTC on 17 April 2025. These aerodromes are SOUTH COTABATO/Tambler Gen. Santos International Airport (RPMR) and AKLAN/Kalibo International Airport (RPVK) in the Philippines, and Penghu Airport (RCQC) in Taipei FIR. In 2023, the ROC reorganized its TAF bulletins into three series and will now realign its METAR bulletins similarly to streamline OPMET information exchange within the ROBEX framework.

4.14. The Meeting agreed to the updates presented in WP/17, Appendices A and B, and requested the Secretariat to publish these updates in the ROBEX Handbook, 18th Edition, dated March 2025. **[ACTION 23-12]**

WP/12 – CHANGES TO TCAC DARWIN WMO HEADERS (Australia)

4.15. The Tropical Cyclone Advisory Centre (TCAC) Darwin has increased its Tropical Cyclone Advisory (TCA) products from six to eight, necessitating the addition of two new WMO headers. WP/12 outlines these changes and requests updates to the ICAO Asia/Pacific Regional SIGMET Guide. The guide's Appendix E, which details WMO headers for Tropical Cyclone Advisories, will be updated to reflect TCAC Darwin's new headers, FKAU01-08 ADRM. These updates ensure accurate and consistent dissemination of tropical cyclone information.

4.16. The Meeting endorsed the proposed update and requested the Secretariat to collaborate with the ad hoc group on the SIGMET Guide to ensure the inclusion of this update in the next revision of the SIGMET Guide. **[ACTION 23-13]**

FLIMSY/03 – UPDATES TO IWXXM FAQs (Hong Kong China and Australia)

4.17. The "IWXXM Implementation in APAC Region – FAQs" document consolidates answers from past ICAO APAC IWXXM workshops to assist States with IWXXM implementation. Approved at the MET SG/25 meeting in 2021, the first edition was published in October 2021. Updates were proposed at MET/IE WG/21, including a new section on lessons learned and common issues. To keep the document relevant, a review and update were proposed for the 2023 edition, with the amendments provided in Flimsy/03, Appendix, for the Meeting’s review.

4.18. The Meeting endorsed the amendments and requested the Secretariat to publish the updated version of the FAQs on the ICAO APAC Office website. States are invited to provide feedback on the amendments within a two-week period, which will be reviewed and addressed by Australia and Hong Kong China before the amendments are published. Any contentious issues will be deferred for further review at MET SG/29. **[ACTION 23-14]**

5. Meteorological information exchange in SWIM

WP/19 – BUSINESS FUNCTIONALITY OF APAC COMMON SWIM INFORMATION SERVICES (SWIM TF Task Lead)

5.1. The 2022 APAC SWIM survey recommended developing a common set of SWIM information services for the APAC Region. The SWIM TF Task Team on Information Services, in coordination with subject matter experts, identified the types of information to be exchanged via APAC SWIM and proposed necessary business functionalities to address operational needs.

5.2. Exchanging aeronautical, flight, flow, meteorological, and surveillance information in a common digital format via APAC Common SWIM Information Services offers several operational benefits, including efficient real-time updates, automatic retrieval of tailored information, increased lead time for operational users, enhanced situational awareness, and improved overall operational efficiency.

5.3. A draft list of business functionalities for APAC Common SWIM Information Services was presented at SWIM TF/8 in November 2023. The list includes:

- APAC Common SWIM Flight Information Services
- APAC Common SWIM Aeronautical Information Services
- APAC Common SWIM Meteorological Information Services
- APAC Common SWIM Surveillance Information Services

5.4. To refine this list, an online survey was conducted from November to December 2023, receiving 59 responses from 18 States/Administrations, 2 airlines, and the CRV provider. Based on the survey responses, the proposed initial set of APAC Common SWIM Information Services was updated and presented at SWIM TF/9 in May 2024. A three-level prioritization scheme was recommended:

Priority (1): Recommended for region-wide implementation for region-wide benefits
Priority (2): Recommended for implementation as much as practicable
Priority (3): Additional information services without common regional requirements

5.5. The list was further reviewed and modified by SWIM TF/9. The SWIM TF Task Lead from Hong Kong China, along with relevant experts, will present the updated version to various groups for feedback, which will be discussed at SWIM TF/10.

5.6. The information exchange model for each service will be finalized by relevant expert bodies. The initial set of APAC Common SWIM Information Services will be incorporated into the APAC SWIM Implementation Guidance Document once matured. The MET SG/28 meeting reviewed and provided corrections to the proposed business functionalities, noting no current plan for ICAO to implement special aircraft reports as an information service.

5.7. The Chair identified that subsequential updates to the above document would be required to reflect outcomes from the recent METP/6 meeting and suggested that the information service priorities be revisited. The Meeting agreed that proposed updates be prepared for further review and consideration by the SWIM TF, including consistent use of the term “information service”. **[ACTION 23-15]**

6. Meteorological information exchange in IWXXM form (incl. 6.1 Readiness of AMHS to support IWXXM)

Start of Conjoint session of ACSICG/12 and MET/IE/WG/23 (26 March 2025)

6.1. Readiness of AMHS to support IWXXM

6.1.1. A Joint Session conducted between the Twelfth Meeting of the Aeronautical Communication Services Implementation Coordination Group (ACSICG/12) and the Twenty-third

Meeting of the Meteorological Information Exchange Working Group (MET/IE WG/23) on 26 March 2025 covered ACSICG/12—Agenda Item 8 and MET/IE WG/23—Agenda Item 6.1, *Readiness of AMHS to support IWXXM*, with focus on the support of IWXXM traffic over AMHS.

(MET/IE WG/23 and ACSICG/12) WP/10 – EDUCATIONAL MATERIAL TO MANAGE THE DISTRIBUTION OF IWXXM INFORMATION FOR COMM EXPERTS IN THE EVENT OF PRIMARY LINK FAILURE (Australia, Fiji, Hong Kong China, Singapore, and the USA)

6.1.2. The Meeting recalled that during the joint session of ACSICS/11 and MET IE/22 in 2024, the meeting acknowledged the necessity to support the prompt implementation of capable primary and, where relevant, secondary links for the exchange of IWXXM messages. The ACSICG/11 and MET IE WG/22 joint sessions formed an ad-hoc group of operational communications experts (comprising members from Australia, Fiji, Hong Kong, China, Singapore, and the USA) to develop educational material to manage the distribution of IWXXM information when primary AMHS link failure occurs which resulted into Action item 11-2 of the ACSICG/11 and Action Item 22-14 of MET/IE WG/22.

6.1.3. It was noted that IWXXM information, being the successor to traditional alphanumeric code (TAC) format, can only be transported over links that possess specific capabilities and AFTN links do not possess the link capabilities required nor expected to transport IWXXM information.

6.1.4. As COM Centres have little control beyond their own links, and this is evident in the case of cascading or multiple failures throughout the ATN, an educational material that identified the required link capabilities to maintain IWXXM message distribution in the event of a primary link failure can provide crucial contextual background for the required secondary/alternate link capabilities and can propose actions aligned with the link requirements to maintain the message distribution.

6.1.5. To follow up on Action Item 11-2 of the ACSICG/11 and Action Item 22-14 of MET/IE WG/22, this paper provided educational material intended to assist COM/MET experts in managing the distribution of IWXXM in the event of a primary link failure. The meeting reviewed the drafted education material and modified it further.

6.1.6. On the question about the need for link-based diversion in case AMHS is implemented over the CRV network by all parties, it was stated that CRV is capable of being configured to support the exchange of IWXXM messages.

6.1.7. The Meeting acknowledged the significant information provided in the drafted educational material. However, it was recommended that additional input from other APAC States/Administrations be needed to improve the document further. In addition, due to the criticality and usability of the information provided in the document, it was suggested that it should be made available for States' reference.

6.1.8. With the aforementioned, the Meeting adopted the draft educational material as a living document, provided in Appendix F to the ACSICG/12 report, and endorsed the following draft conclusion for consideration by CNS SG/29:

Draft Conclusion ACSICG/12/05- Educational material to manage the distribution of IWXXM information for COMM experts in the event of primary link failure	
What: The educational material to support COM/MET experts in managing the distribution of IWXXM in case of primary link failure, provided in Appendix F (of the ACSICG/12 report), be adopted as a living document.	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental

			☒ Ops/Technical
Why: Educational material that identifies the required link capabilities to maintain IWXXM message distribution in the event of a primary link failure is necessary for uninterrupted service.		Follow-up:	☐Required from States
When:	28-Mar-25	Status:	Draft to be adopted by Subgroup
Who:	☒Sub groups ☒APAC States ☐ICAO APAC RO ☐ICAO HQ ☐Other: ACSICG		

6.1.9. It was agreed that if the document is adopted by CNS SG/29, it will be shared by the ICAO Secretariat for APAC States/Administrations feedback [ACSICG ACTION ITEM 12-6]. The ICAO Secretariat will compile comments received from members for further review by the Ad-hoc group, and the Ad-hoc group will prepare revised educational material incorporating all received comments and present it to the next ACSICG meeting [ACSICG ACTION ITEM 12-7].

6.1.10. It was also agreed that after the adoption of the document by CNS SG/29 , the document will be uploaded on the ICAO APAC e-docs portal under CNS->COM and MET [ACSICG ACTION ITEM 12-8].

(ACSICG/12) WP/11 – CHECKLIST OF STEPS REQUIRED TO OPERATIONAL IWXXM EXCHANGE (Singapore)

6.1.11. It was recalled that during the joint session of ACSICS/11 and MET IE/22 in 2024, the meeting acknowledged the necessity to support the prompt implementation of capable primary and, where relevant, secondary links for the exchange of IWXXM messages. A team of Communications and Meteorological experts from Australia, Hong Kong China, Fiji and Singapore (lead) volunteered to create a checklist to facilitate the operational implementation of IWXXM message exchange.

6.1.12. This paper introduced a checklist created by a team of Communications and Meteorological experts to facilitate the *implementation of ICAO Meteorological Information Exchange Model (IWXXM) messages exchange.* The overview of the checklist was as follows:

(a) **Preparation and System Requirements**: Stakeholders should be informed and involved, and ICAO guidelines should be reviewed. Verify AMHS supports File Transfer Body Part (FTBP) and compatibility with IWXXM data formats;

(b) **Network Configuration**: Ensure network settings support IWXXM data exchange, secure and reliable connections, and P1 and P3 AMHS connections with neighboring COM Centres;

(c) **Testing and Documentation**: Conduct initial tests with internal and external stakeholders, verify data integrity, maintain detailed records, and document issues and resolutions; and

(d) **IWXXM Data Generation and Quality Control**: Gather and format meteorological data according to IWXXM schema, validate XML, ensure compliance, and perform quality checks and interoperability tests.

6.1.13. The Meeting reviewed and modified the checklist based on the comments received from the participants. It was suggested that, like educational material presented by WP/10 and adopted by the meeting as a living document, the checklist could also be adopted as a living document and updated further based on feedback [ACSICG ACTION ITEM 12-9].

6.1.14. The Meeting endorsed the following draft conclusion for consideration by CNS SG/29. The updated checklist is provided in Appendix G of the ACSICG/12 Report.

<table>
<tr><td colspan="3">Draft Conclusion ACSICG/12/06- Checklist of steps required to operational IWXXM exchange</td></tr>
<tr><td colspan="2">What: A checklist to facilitate the operational implementation of the IWXXM message exchange, provided in Appendix G (of the ACSICG/12 Report), be adopted as a living document.</td><td>Expected impact:
☐ Political / Global
☐ Inter-regional
☐ Economic
☐ Environmental
☒ Ops/Technical</td></tr>
<tr><td>Why: To support the prompt implementation of capable primary and, where relevant, secondary links for the exchange of IWXXM messages</td><td colspan="2">Follow-up: ☐Required from States</td></tr>
<tr><td>When: 28-Mar-25</td><td colspan="2">Status: Draft to be adopted by Subgroup</td></tr>
<tr><td colspan="3">Who: ☒Sub groups ☒APAC States ☒ICAO APAC RO ☐ICAO HQ ☒Other: ACSICG</td></tr>
</table>

6.1.15. It was also agreed that after the adoption of the document by CNS SG/29, the document will be uploaded on the ICAO APAC e-docs portal under CNS->COM and MET.

(ACSICG/12) WP/09 – REVIEW OF ASIA AND PACIFIC REGION IWXXM IMPLEMENTATION STATUS/ READINESS (Secretariat)

6.1.16. The paper presented the IWXXM implementation status and the Asia/Pacific Region's readiness to fully implement IWXXM data exchange and encouraged States/Administrations to review and update the IWXXM implementation status as required.

6.1.17. The Meeting updated the AMHS Readiness Table for Supporting IWXXM Traffic, which is provided in Appendix H of the ACSICG/12 Report.

6.1.18. A discussion was initiated on the Column E *"Readiness Status of AMHS for supporting File Transfer Body Part (FTBP), the Interpersonal Message (IPM) Heading Extension (IHE) to support for exchanging IWXXM reports of a maximum size of 4MB and FTBP of maximum 2MB"* of Appendix A of this WP for the size of 4MB for IWXXM reports and 2 MB for FTBP.

6.1.19. ACSICG Co-Chair informed that in Singapore, the size of IWXXM messages utilization is much lower than 4MB. MET/IE WG Chair informed that the size mentioned in column E was suggested by MET experts based on *Guidelines for the Implementation of OPMET Data Exchange Using IWXXM* defined at a global level many years ago. The fixation of the maximum size of messages was based on the accommodation of requirements of potential users who will use IWXXM messages extensively or moderately. However, the meeting agreed on the need for an analysis to estimate this size requirement based on APAC usage. It was decided that all APAC States/Administrations having the capability to transmit IWXXM messages over AMHS can monitor the IWXXM traffic size and contribute to this analysis. The MET/IE WG Chair also noted that future IWXXM products are likely to be larger than the current product based IWXXM variants. Also, the USA has the largest TAC bulletins and they are yet to distribute their corresponding IWXXM bulletins and encouraged the ACSICG to seek advice from the US on the size of their IWXXM bulletins. The ICAO Secretariat will coordinate with COM experts from these States and support the ACISCG Co-Chairs in conducting this study [ACSICG ACTION ITEM 12-10].

(MET/IE WG/23) FLIMSY/01 – POTENTIAL AIR NAVIGATION DEFICIENCIES RELATED TO IWWXM (Lead, Ad Hoc Group on Deficiencies)

6.1.20. APANPIRG/34 recommended incorporating IWXXM implementation into the identification, assessment, and reporting of air navigation deficiencies. The MET/IE WG/22 agreed on a 95% threshold for minimum availability and timeliness criteria for IWXXM meteorological information. Enhanced Asia-Pacific OPMET performance monitoring and SIGMET tests will inform potential deficiency identification.

6.1.21. The meeting was invited to consider whether deficiencies in communication links for IWXXM dissemination should be categorized under the MET or CNS field. It was recalled that addressing APANPIRG air navigation deficiencies is a State responsibility.

(MET/IE WG/23) IP/04 – FIJI AMHS UPGRADE TO SUPPORT IWXXM (Fiji)

6.1.22. Fiji presented the progress of Fiji in upgrading its AMHS to support the Nadi RODB in exchanging the IWXXM ROBEX bulletin with RODB centers. The Meeting noted that Fiji Airports hosted the Nadi RODB, one of the five (5) designated RODBs in the APAC region. To comply with the ICAO mandate for the APAC RODB centers to exchange the ROBEX bulletin in IWXXM format in 2019, Fiji is upgrading its AMHS to support IWXXM. The Meeting noted that the AMHS has to be upgraded to support the IWXXM requirement for Nadi RODB for the exchange of IWXXM ROBEX. While the existing COMSOFT AMHS supports extended services for File Transfer Body Parts (FTBP), it does not support the file size to exchange IWXXM. AMHS system requires support up to 4.0MB file size, including FTBP for ATS extended service in the exchange of IWXXM messages.

6.1.23. The Meeting was informed that in mitigating the ICAO mandated for designated RODB to exchange the IWXXM ROBEX bulletin, ROC Wellington has been supporting the Nadi RODB to translate the TAC ROBEX bulletin to IWXXM ROBEX bulletin and exchange with the RODB centers over the AMHS. Fiji's AMHS upgrade has been delayed due to COVID-19 impact. The contract for the AMHS upgrade with IWXXM was signed in 2024, and the system has now been deployed on-site for installation. It is expected to commission the new AMHS to support IWXXM in May 2025. It was added that Nadi RODB is expected to generate and exchange the IWXXM ROBEX bulletin directly with RODB centers when the AMHS & IWXXM system is commissioned.

6.1.24. The Meeting shared appreciation to Fiji for enhancing their efforts for upgrading its AMHS to support the Nadi RODB in exchanging the IWXXM ROBEX bulletin with RODB centers. It requested to provide further updates on this matter in future meetings.

6.1.25. In response to a question about the view of ICAO on the practice of translation of the TAC ROBEX bulletin to the IWXXM ROBEX bulletin, the MET IE WG Chair informed that as per ICAO Annex 3, every State would provide or arrange the provision of, IWXXM and translation services by translation center are allowed. However, IWXXM generation from the source is a preferred method for ICAO. It was also added that the translation of TAC messages to IWXXM currently meets the requirements specified in ICAO SARPs; however, with the evolution of IWXXM products, such translation options may not be acceptable in the future.

6.1.26. It was also added that even after ceasing the exchange of TAC in 2030, APAC States/Administrations can generate and consume TAC messages for national usage as ICAO SARPs are applicable for international operations.

(MET/IE WG/23) FLIMSY/02 – UPDATE ON ONLINE REGISTER OF APAC IWXXM EXCHANGE STATUS (Hong Kong, China)

6.1.27. The IWXXM online register was developed to allow Regional OPMET Centres (ROCs) to share updates on IWXXM exchange implementation, including readiness to receive IWXXM, AMHS capability, and dissemination status to other ROCs or National OPMET Centres (NOCs). It also tracks inter-regional IWXXM OPMET data exchange progress by Inter-regional OPMET Gateways (IROGs).

6.1.28. As of March 18, 2025, ROC Kuala Lumpur and ROC Wellington are actively disseminating IWXXM messages, while NOC Ha Noi and ROC Jakarta have planned exchanges. Currently, eight ROCs in the APAC region can routinely receive and disseminate IWXXM messages, but several ROCs or NOCs lack the necessary AMHS capabilities. States/Administrations are encouraged to update their IWXXM exchange status in the online register to identify new opportunities and promote region-wide implementation.

6.1.29. The meeting noted that the *Online Register of APAC IWXXM Exchange Status* can be accessed on the ICAO APAC e-docs webpage under MET. However, as currently, States update this online register annually during MET/IE WG, which is not as frequent as needed, it was agreed that there is a need for a notification method so that when a Regional OPMET Centre (ROC) enhanced AMHS capability and can disseminate IWXXM reports to other ROCs or National OPMET Centers (NOCs), relevant NOC and ROC can be notified automatically and table can be updated. It was agreed that MET experts from Australia and Hong Kong, China will work on this requirement. **[MET/IE WG ACTION ITEM 23-16]**

Brainstorming Session

Slide Presentation – TRANSITIONING MET SERVICES (Chair, MET/IE WG)

6.1.30. The MET/IE WG Chair moderated the session, during which the following agenda items were proposed for discussion:

1. Operational exchange of IWXXM in a hybrid AMHS/SWIM environment
2. Use of the Internet for MET-SWIM
3. A list of MET-SWIM information services which will be/preferred to be transmitted over CRV
*4. The benefit of aggregation functions for MET-SWIM in APAC**

*Note: not discussed.

6.1.31. MET IE WG Chair presented the current OPMET Exchange model and hierarchical architecture. He introduced different stakeholders and actors in the OPMET exchange in the APAC region and planned future evolutions based on the latest edition of the Global Air Navigation Plan. Several questions were asked for the presented diagram of OPMET Exchange in blocks 1 to 4 which were answered by MET IE WG Chair.

6.1.32. The Meeting was informed that some of the information in the slide presentation was yet to be endorsed by the METP or the ANC and therefore States should use the materials with appropriate caution.

6.1.33. The Meeting noted the desire of some States to move to SWIM directly without implementing AMHS. The benefits and disadvantages of bypassing AMHS and migrating directly to SWIM were discussed. However, due to limited time and knowledge about SWIM implementation, the discussion could not be completed. The meeting requested SWIM TF to discuss this topic during any SWIM event and share information, if possible, in future ACSICG and MET IE WG meetings [ACSICG ACTION ITEM 12-11].

6.1.34. It was stated that currently, various States/Administrations use multiple methods to transmit MET information. It included AFTN/AMHS, IP links, public internet, web-based applications, etc. Some States shared that for their ANSP, MET, information is critical and transmitted through a secure channel. However, some have the view that MET information can be exchanged over the public internet with PKI implementation to meet security requirements.

6.1.35. One State informed that ICAO Annex 3 — *Meteorological Service for International Air Navigation*, Chapter 11, Section 11.1 — *Requirements for Communications* (extract below) mentions the public Internet and the aeronautical fixed service (AFS) for MET message exchanges.

> 11.1.9 **Recommendation.**— *The telecommunications facilities used for the exchange of operational meteorological information should be the aeronautical fixed service or, for the exchange of non-time-critical operational meteorological information, the public Internet, subject to availability, satisfactory operation and bilateral/multilateral and/or regional air navigation agreements.*
>
> *Note 1.— Aeronautical fixed service Internet-based services, operated by the world area forecast centres, providing for global coverage are used to support the global exchanges of operational meteorological information.*
>
> *Note 2.— Guidance material on non-time-critical operational meteorological information and relevant aspects of the public Internet is provided in the* Guidelines on the Use of the Public Internet for Aeronautical Applications *(Doc 9855)*.

6.1.36. However, the meeting was informed that the current ICAO Annex 3 is not modified to meet future SWIM requirements, and a new version of ICAO Annex 3 will provide updated information.

6.1.37. Due to the limited time available, it was concluded that the discussion could not be finalized during the ongoing plenary. In addition, operational experts need to be involved in these discussions to understand operational experts' views on the criticality and sensitivity of various MET information services in future SWIM environments. To further progress on this topic, it was suggested that offline discussions be held on the effective way to bring CRV, MET, SWIM, and operational experts together to discuss this topic further. ACSICG and MET/IE WG Secretariat will discuss this matter and inform the meeting about further updates [ACSICG ACTION ITEM 12-12].

6.1.38. The Meeting participants shared the value of conducting the joint session. However, it was stated that there is a need for a joint session of MET and SWIM experts in the future. Therefore, it was agreed that offline discussion would be done among ACSICG, MET/IE WG and SWIM TF Chairs and Secretariat for agreement on a way forward for an effective way of close collaboration among these groups to discuss various common topics in future joint Meetings [ACSICG ACTION ITEM 12-13].

6.1.39. Due to time limitation, the discussion on the last item, *the benefit of aggregation functions for MET-SWIM in APAC*, did not occur.

6.1.40. For the ACSICG/12 meeting report, working papers, information papers, and other documents, please refer to the following link: https://www.icao.int/APAC/Meetings/Pages/2025-AMC-ACSICG12.aspx.

End of Conjoint session of ACSICG/12 and MET/IE/WG/23 (26 March 2025)

WP/18 – IWXXM: LATEST DEVELOPMENTS AND FUTURE PLANS (Hong Kong, China)

6.2. WMO TT-AvData is developing a new version of IWXXM based on METP/5's proposed changes, incorporated into Amendment 82 to Annex 3. This aims to reduce the time lag between the publication of IWXXM schemas and the applicable date of Annex 3 requirements. In April 2024, a release candidate (IWXXM 2025-2RC1) was made available for public consultation until 14 October 2024 to gather feedback before the second 2025 WMO Fast Track approval process. The approved IWXXM schemas are targeted for publication in November 2025, aligning with Amendment 82's applicable date.

6.3. At METP/6 in March 2025, discussions focused on developing new information services for the SWIM environment, including Aerodrome Meteorological Observation, Aerodrome Meteorological Forecast, and Hazardous Weather Information Services. These services aim to comply with existing SARPs while providing enhanced information for aviation decision-makers. A new IWXXM design is required to ensure global consistency.

6.4. IWXXM 2025-2RC1 introduces several changes:

- Quantitative Volcanic Ash Concentration Information (QVACI) package
- Volcano Observatory Notice for Aviation (VONA) package
- Updates to METAR/SPECI, Volcanic Ash Advisory, and Space Weather Advisory packages
- Provision for unlimited RVR and temperature reports in tenths of a degree
- Improvements to the WAFS Significant Weather Forecast package

6.5. Details, including draft schemas and release notes, are available at schemas.wmo.int/iwxxm/2025-2RC1. Another release candidate (IWXXM 2025-2RC2) is being prepared, considering feedback from the consultation period.

6.6. IWXXM uses an object-based approach, with WxObjects representing meteorological phenomena and WxObject collections conveying messages. Future development will focus on defining reusable elements and WxObjects for specific phenomena. Discussions by ICAO METP WG-MRAD and WG-MIE will address reporting practices to balance flexibility and interoperability in API development.

6.7. The meeting acknowledged the necessity for a notification process for IWXXM updates and requested the Secretariat to inform the WMO of the discussion. The meeting agreed to prepare a Draft Conclusion proposing that ICAO seek support from WMO to provide an IWXXM update notification process for all relevant stakeholders, including IWXXM consumers and system vendors. **[ACTION 23-17]**

Draft Conclusion MET/IE WG/23-02 – IWXXM update notification process	
What: That, ICAO in coordination with WMO take appropriate action to initiate an IWXXM update notification process for all relevant stakeholders, including IWXXM consumers and system vendors.	Expected impact: ☐ Political / Global ☐ Inter -Regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: WMO develops new versions of IWXXM to affect improvements and support the evolution of ICAO Annex 3 SARPs. To avoid the potential impact on operations due to IWXXM version compatibility issues, States must upgrade the systems for generating, exchanging and consuming IWXXM	Follow-up: ☐ Required from States

reports to support the IWXXM version that complies with the latest amendment to Annex 3.	
When: As soon as practicable	Status: Draft to be adopted by MET SG
Who: ☐ Sub Groups ☐ RASG-APAC ☐ APAC States ☒ ICAO APAC RO ☒ ICAO HQ ☐ Other:	

6.8. Recalling the earlier discussion on WP/13 – *IWXXM Statistics with Individual Product Versions (presented by Thailand)*, when calculating OPMET performance indices, the Meeting decided to adopt IWXXM product versions rather than package versions.

Decision MET/IE WG/23-03 – Use of IWXXM Product Version in OPMET Performance Indices	
What: That, MET/IE WG adopt the practice of calculating OPMET performance indices based on IWXXM product versions rather than package versions for the purposes of OPMET monitoring.	Expected impact: ☐ Political / Global ☐ Inter -Regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: RODB Bangkok has analyzed IWXXM statistics based on package versions and found that statistics calculated using package versions can misinterpret identical product versions as being different. The alternative approach of analyzing product versions should provide a clearer view of the monitoring results.	Follow-up: ☐ Required from States
When: As soon as practicable	Status: Adopted by MET/IE WG
Who: ☒ Sub Groups ☐ RASG-APAC ☐ APAC States ☒ ICAO APAC RO ☐ ICAO HQ ☐ Other:	

6.9. Additionally, the Meeting requested Thailand to investigate the advantages and disadvantages of producing State performance indices (PIs) for Regional OPMET Centres (ROCs), National OPMET Centres (NOCs) or States/Administrations. **[ACTION 23-18]**

WP/08 – THE NEED FOR AN IWXXM FORMAT STANDARD FOR A NEW AVIATION METEOROLOGICAL PRODUCT (Republic of Korea)

6.10. The Aviation Meteorological Office (AMO) of the Republic of Korea is conducting a project to provide high-resolution meteorological information for all flight stages, enhancing Air Traffic Management (ATM) decision-making. This project aims to deliver a four-dimensional (4D) aviation meteorological service, incorporating latitude, longitude, altitude, and time data for arbitrary locations to support trajectory-based operations (TBO). Extracted from high-resolution numerical models, this 4D information requires a new format beyond TAC-formatted TAFs.

6.11. AMO invited discussions and information sharing on establishing an IWXXM meteorological service that supports TBO.

6.12. The Chair noted that the new WAFS SIGWX IWXXM format would likely address most en-route weather requirements for supporting TBO. Additionally, the future aerodrome meteorological observation information service and aerodrome meteorological forecast information service, expected

by 2030, will address aerodrome-related needs. The further development of ICAO meteorological services is planned to meet specific user requirements.

IP/03 – STATUS AND PLANS FOR IMPLEMENTATION OF IWXXM IN THAILAND (Thailand)

6.13. Since 30 May 2024, the Thai Meteorological Department (TMD) has been translating and distributing national METAR/SPECI, TAF, and SIGMET reports in IWXXM v2021-2 as the National OPMET Centre of Thailand (Thailand NOC). These reports are exchanged with Bangkok ROC (AEROTHAI) via the ATS Message Handling System (AMHS) with File Transfer Body Part (FTBP). Bangkok ROC collects OPMET data in both TAC and IWXXM formats and disseminates IWXXM reports to other ROCs/RODBs. Future plans include upgrading the IWXXM version to 2023-1 and enhancing the CRV network bandwidth.

IP/04 – STATUS AND PLAN FOR IWXXM IMPLEMENTATION IN VIETNAM (Vietnam)

6.14. Vietnam NOC collects OPMET data in TAC format and translates them into IWXXM format using in-house tools. Since October 2020, METAR/SPECI and TAF in TAC format have been translated to IWXXM by Bangkok ROC and disseminated to Bangkok RODB. All Automated Airport Weather Observing Systems (AWOS) installed in Vietnam since 2023 have IWXXM capability. Some communication networks of Vietnam COM Centre were upgraded to the Common Aeronautical Virtual Private Network (CRV). An AMHS connection test between Vietnam COM Centre and Bangkok COM Centre is scheduled for March 2025, with IWXXM report exchange testing planned for Q3 2025.

IP/05 – IWXXM OPMET DATA EXCHANGE TEST OVER AMHS BETWEEN HONG KONG ROC AND MACAO AMO (Hong Kong China and Macao China)

6.15. Currently, Macao AMO (VMMC) disseminates METAR/SPECI and TAF messages in TAC format through Hong Kong ROC (VHHH). Hong Kong ROC assists in translating these messages into IWXXM format for inclusion in aggregated bulletins. Macao AMO plans to generate these messages directly in IWXXM and disseminate them via AMHS to Hong Kong ROC.

6.16. To identify and resolve potential issues, IWXXM OPMET data exchange tests were conducted between Hong Kong ROC and Macao AMO, involving communication and meteorological service providers from both regions. The tests, conducted on 10 January and 28 February 2025, validated the IWXXM data exchange capabilities. Both AMHS systems can handle messages up to 4 Mbytes and support IPM heading extensions and single File Transfer Body Part.

6.17. During the tests, IWXXM-formatted METAR, SPECI, and TAF reports in version 2023-1 were exchanged. Correct AMHS configuration was critical for error-free data exchange. The tests focused on validating the submission of IPMs containing METAR, SPECI, or TAF reports, with attention to gzip compression for the single File Transfer Body Part.

6.18. Initial test results showed successful IWXXM report exchanges. Further routine trials are planned to ensure reliability before operational implementation.

IP/06 – IWXXM IMPLEMENTATION STATUS IN THE PHILIPPINES VIA AMHS (Philippines)

6.19. The Civil Aviation Authority of the Philippines (CAAP) acquires meteorological data from PAGASA, the National OPMET Centre (NOC). This data is distributed to aviation stakeholders via CAAP's AMHS/AFTN network. PAGASA acquired a translator for METAR/SPECI and TAF to IWXXM version 3.0 in 2022 and upgraded to IWXXM version 2023-1 in early 2025. Internal tests in

August 2024 demonstrated successful IWXXM data transmission. Future plans include establishing a secure network between PAGASA's IWXXM server and CAAP's AMHS system, conducting IWXXM exchange tests with Hong Kong ROC, and implementing IWXXM data transmission as soon as possible.

6.20. Given the information presented in IP/03-IP/06 above, the Meeting considered the need to update the online register of APAC IWXXM exchange status to reflect new information from States.

7. Future work program and terms of reference

WP/06 – REVIEW MET/IE WG WORK PROGRAM AND TERMS OF REFERENCE (Secretariat)

7.1. The MET/IE WG supports the MET SG and APANPIRG in enhancing the availability, reliability, and compliance of OPMET in the Asia/Pacific Region. The MET/IE WG members present in the Meeting reviewed the group's terms of reference and work program, and proposed updates as necessary to ensure the MET/IE WG continues to meet its objectives of supporting improved safety, efficiency, capacity and environmental sustainability of the global air traffic system.

7.2. The MET/IE WG terms of reference and work plan document was previously reviewed by the Twenty-eighth Meeting of the Meteorology Sub-Group (MET SG/28). The updates proposed during the MET/IE WG/23 review above are presented in **Appendix F** of this Report.

8. Any other business

8.1. Nil.

9. Next Meeting

9.1. The Meeting noted that the Chairs and Secretariat in consultation with the ACSICG and SWIM/TF would consider the options of conducting MET/IE WG/24 in 2026 in conjunction with either the ACSICG or SWIM/TF. The ACSICG is considering their meeting being hosted in Fiji and should a decision be made to conduct a conjoint meeting, MET/IE WG/24 may be held in Fiji also. A proposal would be presented with the MET/IE WG progress report to MET SG/29.

— END OF SECTION —

APPENDIX A — MET/IE WG/23 Participants

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APPENDIX B — MET/IE WG/23 Working Papers, Information Papers, Slide Presentations and Flimsies

No.	Agenda	Subject	Presented by
		WORKING PAPERS	
WP/01	1	Provisional Agenda	Secretariat
WP/02	2	Follow-Up Action from MET/IE WG/22	Secretariat
WP/03	2	Follow-Up Action from MET SG/28	Secretariat
WP/04	2	Follow-Up Action from APANPIRG/35	Secretariat
WP/05	4	ROBEX Handbook Updates	Secretariat
WP/06	7	Review MET/IE WG Work Program and Terms of Reference	Secretariat
WP/07	3	Review of WS/LS SIGMET Test 2024	Singapore
WP/08	6	The Need for An IWXXM Format Standard for A New Aviation Meteorological Product	Republic of Korea
WP/09	3	ASIA/PAC Inter-Regional OPMET Gateway Backup Exercise between IROG Singapore and IROG Bangkok	Singapore
WP/10	6.1	COM Centre Educational Material Regarding IWXXM Distribution in the Event of Primary Link Failure	Australia, Fiji, Hong Kong China, Singapore, United States
WP/11	4	VONA Dissemination Update	New Zealand, Australia, Hong Kong China
WP/12	4	Changes to TCAC Darwin WMO Headers	Australia
WP/13	3	IWXXM Statistics with Individual Product Versions	Thailand
WP/14	3	ASIA/PAC Inter-Regional OPMET Gateway Back-Up Exercise between IROG Bangkok and IROG Singapore	Thailand
WP/15	3	Results of SIGMET Tests 2024 – TC and VA	Japan
WP/16	3	ASIA/PACIFIC Performance Indices	Thailand
WP/17	4	Updates to Asia Pacific ROBEX Handbook	Hong Kong China
WP/18	6	IWXXM: Latest Developments and Future Plans	Hong Kong China
WP/19	5	Business Functionality of APAC Common SWIM Information Services	SWIM TF Task Lead
		INFORMATION PAPERS	
IP/01	1	Meeting Bulletin	Secretariat
IP/02	3	Quality Control and Management of Aviation Meteorological Information in China	China
IP/03	6	Status and Plans for Implementation of IWXXM in Thailand	Thailand
IP/04	6	Status and Plan for IWXXM Implementation in Vietnam	Vietnam
IP/05	6	IWXXM OPMET Data Exchange Test Over AMHS Between Hong Kong ROC and Macao AMO	Hong Kong China, Macao China
IP/06	6	IWXXM Implementation Status in the Philippines via AMHS	Philippines
IP/07	3	ROBEX Receipt Monitoring in Fiji	Fiji
		SLIDE PRESENTATIONS	
SP/01	6.1	Transitioning MET Services	Chair APAC MET/IE WG
		FLIMSIES	
Flimsy/01	6.1	Potential Air Navigation Deficiencies Related to IWWXM	Ad Hoc Group on Deficiencies Lead
Flimsy/02	6.1	Update on Online Register of APAC IWXXM Exchange Status	Hong Kong China
Flimsy/03	4	Updates to IWXXM FAQs	Australia, Hong Kong China

— END OF SECTION —

APPENDIX C — MET/IE WG/23 Draft Conclusions, Draft Decisions and Decisions

Draft Conclusion MET/IE WG/23-01: Management of obsolete planning and implementation guidance documents on the ICAO APAC Office website	
What: That, ICAO take appropriate action to manage (clearly identified as obsolete or remove) the archive of obsolete and historic planning and implementation guidance documents on its website, including those related to MET and other AN fields.	Expected impact: ☐ Political / Global ☐ Inter -Regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: Obsolete OPMET- and ANS-related documents (e.g., FASID Tables) that are accessible on the ICAO APAC Office website are not clearly identified as obsolete and non-operational information for historic reference purposes only. Therefore, they could be understood by readers to represent the current operational requirements.	Follow-up: ☐ Required from States
When: As soon as practicable	Status: Draft to be adopted by MET SG
Who: ☐ Sub Groups ☐ RASG-APAC ☐ APAC States ☒ ICAO APAC RO ☐ ICAO HQ ☐ Other:	

Draft Conclusion MET/IE WG/23-02: IWXXM update notification process	
What: That, ICAO in coordination with WMO take appropriate action to initiate an IWXXM update notification process for all relevant stakeholders, including IWXXM consumers and system vendors.	Expected impact: ☐ Political / Global ☐ Inter -Regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: WMO develops new versions of IWXXM to affect improvements and support the evolution of ICAO Annex 3 SARPs. To avoid the potential impact on operations due to IWXXM version compatibility issues, States must upgrade the systems for generating, exchanging and consuming IWXXM reports to support the IWXXM version that complies with the latest amendment to Annex 3.	Follow-up: ☐ Required from States
When: As soon as practicable	Status: Draft to be adopted by MET SG
Who: ☐ Sub Groups ☐ RASG-APAC ☐ APAC States ☒ ICAO APAC RO ☒ ICAO HQ ☐ Other:	

Decision MET/IE WG/23-03: Use of IWXXM Product Version in OPMET Performance Indices	
What: That, MET/IE WG adopt the practice of calculating OPMET performance indices based on IWXXM product versions rather than package versions for the purposes of OPMET monitoring.	Expected impact: ☐ Political / Global ☐ Inter -Regional ☐ Economic ☐ Environmental ☒ Ops/Technical

Why: RODB Bangkok has analyzed IWXXM statistics based on package versions and found that statistics calculated using package versions can misinterpret identical product versions as being different. The alternative approach of analyzing product versions should provide a clearer view of the monitoring results.	Follow-up: ☐ Required from States
When: As soon as practicable	Status: Adopted by MET/IE WG
Who: ☒ Sub Groups ☐ RASG-APAC ☐ APAC States ☒ ICAO APAC RO ☐ ICAO HQ ☐ Other:	

— END OF SECTION —

APPENDIX D — MET/IE WG/23 List of Actions

New action items recorded by MET/IE WG/23

ACTION ITEM	DESCRIPTION	BY DATE	RESPONSIBILITY	STATUS/ REMARKS
MET/IE WG/23 **01**	Updating MET-related regional guidance documents Document a process to clarify how States should initiate required changes to all the relevant (MET-related) regional guidance documents. [Ref: para. 2.4.]	tbc	Secretariat, with assistance from the Chair and New Zealand	
MET/IE WG/23 **02**	Including WIFS in the annual SIGMET tests Respond to the action item (MET SG/28 28/06: Consider the feasibility of including WIFS in the annual SIGMET tests) for consideration by MET SG/29 [Ref: para. 2.6.]	MET SG/29	SIGMET test focal points, Japan and Singapore	
MET/IE WG/23 **03**	Including IWXXM results in the SIGMET test reports Include the IWXXM results in future SIGMET test reports. [Ref: para. 3.2.]	MET/IE WG/24	Singapore	
MET/IE WG/23 **04**	Investigating IROG back-up arrangements Investigate the impact of an IROG outage at each of the IROGs, including Brisbane, Nadi and Tokyo, and the importance of implementing back-up arrangements. [Ref: para. 3.9.]	tbc	IROG provider States	
MET/IE WG/23 **05**	Increasing IWXXM-specific (Availability and Timeliness) PI independence Review the IWXXM-specific Performance Indices (PI) algorithms to increase the independence of the Availability and Timeliness results. [Ref: para. 3.13.]	tbc	Thailand	
MET/IE WG/23 **06**	Identifying non-operational ICAO APAC OPMET website documents Ensure historic OPMET-related documents (e.g., FASID Tables) on the ICAO APAC Office website are clearly identified as obsolete and non-operational. [Ref: para. 4.3.]	tbc	Secretariat	
MET/IE WG/23 **07**	Managing ICAO APAC web documents archive Prepare a Draft Conclusion proposing that ICAO take appropriate action to manage the archive of obsolete and historic planning and guidance documents on its website, including those related to MET and other AN fields. [Ref: para. 4.4.]	tbc	tbc	
MET/IE WG/23 **08**	Submitting ROBEX Handbook update proposals Invite the USA to submit the ROBEX Handbook update proposals for its aerodromes in the APAC Region. [Ref: para. 4.5.]	tbc	Secretariat	
MET/IE WG/23 **09**	Proposing ROBEX Focal Point updates Propose necessary updates to the ROBEX Handbook, Appendix I, Focal Point information. [Ref: para. 4.6.]	tbc	Secretariat, Republic of Korea, Hong Kong China, Fiji, Japan, Malaysia, and Singapore	
MET/IE WG/23 **10**	Completing previous ROBEX Handbook update proposals Prepare previously proposed but uncompleted updates to the ROBEX Handbook for review and possible adoption by MET SG/29. [Ref: para. 4.8.]	MET SG/29	Secretariat	
MET/IE WG/23 **11**	Publishing updates in the ROBEX Handbook, 18th Edition Publish the updates presented in MET/IE WG/23, WP/11, Appendix A, in the ROBEX Handbook, 18th Edition, dated March 2025, and include the available focal point updates in the 18th Edition of the ROBEX Handbook. [Ref: para. 4.11.]	tbc	Secretariat	
MET/IE WG/23 **12**	Publishing updates in the ROBEX Handbook, 18th Edition Publish the updates presented in MET/IE WG/23, WP/17, Appendices A and B, in the ROBEX Handbook, 18th Edition, dated March 2025. [Ref: para. 4.14.]	tbc	Secretariat	

ACTION ITEM	DESCRIPTION	BY DATE	RESPONSIBILITY	STATUS/ REMARKS
MET/IE WG/23 **13**	Updating the ICAO Asia/Pacific Regional SIGMET Guide, Appendix E Ensure the proposed updates in MET/IE WG/23, WP/12, concerning WMO headers for Tropical Cyclone Advisories from TCAC Darwin, are included in the next revision of the ICAO Asia/Pacific Regional SIGMET Guide, Appendix E. [Ref: para. 4.16.]	tbc	Secretariat, in collaboration with the ad hoc group on the SIGMET Guide	
MET/IE WG/23 **14**	Publishing updates to the IWXXM Implementation FAQs Publish the updated version of the "IWXXM Implementation in APAC Region – FAQs" on the ICAO APAC Office website (States are invited to provide feedback on the amendments within a two-week period, which will be reviewed and addressed by Australia and Hong Kong China before the amendments are published. Any contentious issues will be deferred for further review at MET SG/29). [Ref: para. 4.18.]	MET SG/29	Secretariat, Australia and Hong Kong China	
MET/IE WG/23 **15**	Proposing updates to the APAC Common SWIM Information Services list Propose updates to the draft list of business functionalities for APAC Common SWIM Information Services to reflect outcomes from the recent METP/6 meeting, the information service priorities, and include consistent use of the term “information service” for further review and consideration by the SWIM TF. [Ref: para. 5.7.]	SWIM TF/10	tbc	
MET/IE WG/23 **16**	Automating notification of updates to the APAC IWXXM Exchange Status Develop the *Online Register of APAC IWXXM Exchange Status*, accessible on the ICAO APAC e-docs webpage under MET, to enable Regional OPMET Centres (ROCs) and National OPMET Centres (NOCs) to update the register and automatically notify other ROCs and NOCs of enhanced AMHS capability to disseminate IWXXM reports. [Ref: para. 6.1.25.]	tbc	Australia and Hong Kong, China	
MET/IE WG/23 **17**	Providing an IWXXM update notification process Prepare a Draft Conclusion proposing that ICAO seek support from WMO to provide an IWXXM update notification process for all relevant stakeholders, including IWXXM consumers and system vendors. [Ref: para. 6.7.]	tbc	tbc	
MET/IE WG/23 **18**	Producing PIs for ROCs, NOCs, or States/Administrations Investigate the advantages and disadvantages of producing State performance indices (PIs) for Regional OPMET Centres (ROCs), National OPMET Centres (NOCs) or States/Administrations. [Ref: para. 6.9.]	tbc	Thailand	

Action items recorded by MET/IE WG/22

(Note: Proposed updates are indicated with ~~strikethrough~~ and highlighted text)

ACTION ITEM	DESCRIPTION	BY DATE	RESPONSIBILITY	STATUS/ REMARKS
MET/IE WG/22 **01**	**MET/IE WG meeting – agenda** Consider incorporating the joint session (MET/IE WG and ACSICG) in the MET/IE WG meeting agenda. [Ref: Report of MET/IE WG/22, para. 1.2.]	3 months before MET/IE WG/23	Secretariat and Chairs	**COMPLETED** [MET/IE WG/23 Invitation and Agenda] ~~**TO COMMENCE**~~
MET/IE WG/22 **02**	**IROG backup exercise – IWXXM data** Provide an update on conducting an IROG backup exercise for IWXXM data. [Ref: Report of MET/IE WG/22, para. 2.3.]	1 month before MET/IE WG/23	Singapore and Thailand	**COMPLETED** [MET/IE WG/23-WP/09, WP/14] ~~**TO COMMENCE**~~
MET/IE WG/22 **03**	**ROBEX Handbook updates – procedure for OPMET monitoring** Include the procedure for obtaining the latest ROBEX data, i.e., from the Secretariat (rather than from the published ROBEX Handbook) for use as the benchmark for OPMET monitoring, in the next proposed update to the ROBEX Handbook. [Ref: Report of MET/IE WG/22, para. 2.4.]	1 month before MET SG/28	Secretariat	**TO COMMENCE**

ACTION ITEM	DESCRIPTION	BY DATE	RESPONSIBILITY	STATUS/ REMARKS
MET/IE WG/22 **04**	**ROBEX Handbook updates – criteria for IWXXM monitoring** Develop consequential updates to the ROBEX Handbook to facilitate OPMET monitoring to identify IWXXM dissemination that does not meet availability and timeliness thresholds of ninety-five per cent (95%) and additional criteria to ensure the messages are well-formed and (where translated from TAC) properly translated. [Ref: Report of MET/IE WG/22, para. 3.4.]	1 month before MET SG/28	Ad hoc group on Performance Indicators (PIs) [Ref: MET/IE WG/21 action item 07]	**COMPLETED** [ROBEX HB, 17TH Ed.] ~~**TO COMMENCE**~~
MET/IE WG/22 **05**	**METAR bulletin dissemination – resolving the issue at ROC Brisbane** Investigate a quick resolution to the METAR bulletin dissemination issue at ROC Brisbane (as presented in MET/IE WG/22 WP/07) and provide an update for inclusion in the MET/IE WG report to MET SG. [Ref: Report of MET/IE WG/22, para. 3.8.]	1 month before MET SG/28	Australia	**COMPLETED** [MET SG/28-WP/03, para 2.12] ~~**TO COMMENCE**~~
MET/IE WG/22 **06**	**SIGMET Guide updates – SIGMET test procedures for IWXXM** a) Report the problem concerning the dissemination of SIGMET test messages in IWXXM form (as presented in MET/IE WG/22 WP/25) to the ad hoc group on the SIGMET Guide, and b) propose an appropriate update to the SIGMET test procedures in the SIGMET Guide to address the IWXXM test message issues. [Ref: Report of MET/IE WG/22, para. 3.42.]	a) Apr 2024, b) 1 month before MET SG/28	a) Secretariat, and b) ad hoc group on the SIGMET Guide	**COMPLETED** [SIGMET Guide, 11th Ed] ~~**TO COMMENCE**~~
MET/IE WG/22 **07**	**IWXXM dissemination – issues for non-ROBEX locations** Forward the MET/IE WG/22 discussion outcomes concerning the issue of disseminating METAR/SPECI in the IWXXM form for weather stations not listed in the ROBEX handbook (as presented in MET/IE WG/22 WP/15) to the MET Panel for further consideration. [Ref: Report of MET/IE WG/22, para. 4.4.]	April 2024	Secretariat and Chair	**IN PROGRESS** ~~**TO COMMENCE**~~
MET/IE WG/22 **09**	**ROBEX Handbook updates – focal points** Review the membership of the ROBEX Handbook focal points and clarify the purpose of these contacts; propose appropriate updates to the ROBEX Handbook. [Ref: Report of MET/IE WG/22, para. 6.10.]	1 month before MET SG/29 ~~MET SG/28~~	Secretariat	**IN PROGRESS** ~~**TO COMMENCE**~~
MET/IE WG/22 **10**	**ROBEX Handbook updates – VONA dissemination** Develop proposed updates to the ROBEX Handbook to facilitate the dissemination of VONA via the AFS, as required by the proposed amendment to Annex 3. [Ref: Report of MET/IE WG/22, para. 6.11.]	1 month before MET SG/28	Ad hoc group (NZL, AUS, JPN)	**COMPLETED** [MET/IE WG/23-WP/11] ~~**TO COMMENCE**~~
MET/IE WG/22 **11**	**ROBEX Handbook updates – ROC IWXXM exchange** Include the changes concerning ROC responsibilities for IWXXM exchange (as presented in MET/IE WG/22 WP/23) with the next proposed updates to the ROBEX Handbook. [Ref: Report of MET/IE WG/22, para. 6.13.]	1 month before MET SG/28	Secretariat, AUS and HKG	**COMPLETED** [MET SG/28-Flimsy/02, MET SG/28-ACTION 28/19, ROBEX HB 17th Ed] ~~**TO COMMENCE**~~
MET/IE WG/22 **12**	**ROBEX Handbook updates – METNO guidance** Include within the proposed changes (as presented in MET/IE WG/22 WP/24), distribution to IROG partners in other regions, further refinements on the contents regarding the METNO focal points (ensuring clear distinction to the purpose of the ROBEX focal points) and METNO message header with the next proposed updates to the ROBEX Handbook. [Ref: Report of MET/IE WG/22, para. 6.15.]	1 month before MET SG/28	HKG, NZL and AUS	**COMPLETED** [MET SG/28, WP/09, Decision MET SG/28-09, MET SG/28-ACTION 28/19, ROBEX HB 17th Ed] ~~**TO COMMENCE**~~
MET/IE WG/22 **13**	**IWXXM Guidelines document – availability on ICAO APAC website** Consider publishing the *Guidelines for the Implementation of OPMET data exchange using IWXXM*, Version 5, on the CNS section of the ICAO APAC Office eDocuments webpage. [Ref: Report of MET/IE WG/22, para. 8.16.]	April 2024	Secretariat	**COMPLETED** [https://www.icao.int/APAC/Pages/eDocs.aspx] ~~**TO COMMENCE**~~

ACTION ITEM	DESCRIPTION	BY DATE	RESPONSIBILITY	STATUS/ REMARKS
MET/IE WG/22 **14**	**IWXXM distribution – guidance when primary AMHS fails** Develop educational material on managing the distribution of IWXXM information when primary AMHS link failure occurs. [Ref: Report of MET/IE WG/22, para. 8.25.]	1 month before MET/IE WG/23	Ad hoc group (AUS, FJI, HKG, SGP and USA)	**COMPLETED** [MET/IE WG/23-WP/10, ACSICG/12-WP/10] ~~**TO COMMENCE**~~
MET/IE WG/22 **15**	**IWXXM operational exchange – checklist** Develop a checklist of steps required to facilitate operational IWXXM exchange. [Ref: Report of MET/IE WG/22, para. 8.27.]	1 month before MET/IE WG/23	Ad hoc group (AUS, FJI, HKG and SGP)	**COMPLETED** [ACSICG/12-WP/11] ~~**TO COMMENCE**~~
MET/IE WG/22 **16**	**MET/IE WG and ACSICG joint session – duration and discussion** Consider the duration of and prioritise the materials presented and discussed in the joint session (MET/IE WG and ACSICG) at future meetings. [Ref: Report of MET/IE WG/22, para. 8.33.]	3 months before MET/IE WG/23	Secretariat and Chairs	**COMPLETED** [review conjoint session outcomes] ~~**TO COMMENCE**~~
MET/IE WG/22 **17**	**MET/IE WG meeting – timeliness of papers** Review the timeliness of availability and submission of papers at future MET/IE WG meetings [Ref: Report of MET/IE WG/22, para. 9.1.]	MET/IE WG/23	Secretariat and Chairs	**IN PROGRESS** ~~**TO COMMENCE**~~

Unresolved action items recorded by MET/IE WG/21

(Note: Proposed updates are indicated with ~~strikethrough~~ and highlighted text)

ACTION ITEM	DESCRIPTION	BY DATE	RESPONSIBILITY	STATUS/ REMARKS
MET/IE WG/21 **02**	The meeting requested IROGs to provide updates for each of the interregional circuits in the IWXXM online register. [Ref: MET/IE WG/21 Report, para 4.13] Ref: MET/IE WG/22, WP/13	MET SG/27	APAC IROGs	**COMPLETED** [MET/IE WG/23-Flimsy/02] ~~**TO COMMENCE**~~
MET/IE WG/21 **12**	Incorporate the changes to Table B format (as proposed by New Zealand in MET/IE WG/21, WP/12, and subject to the minor change suggested by the Meeting) in the proposal for updates to follow the publication of the ROBEX Handbook, Fifteenth Edition. [Ref: MET/IE WG/21 Report, para 6.11]	1 month before MET SG/29 ~~MET/IE WG/22~~	Secretariat	**IN PROGRESS** ~~**TO COMMENCE**~~
MET/IE WG/21 **16**	Contact the listed members that were not in attendance at MET/IE WG/21 to confirm their membership status on the MET/IE WG [Ref: MET/IE WG/21 Report, para 7.2]	MET SG/27	Secretariat	**IN PROGRESS** ~~**TO COMMENCE**~~

Unresolved action items recorded by MET/IE WG/20

(Note: Proposed updates are indicated with ~~strikethrough~~ and highlighted text)

ACTION ITEM	DESCRIPTION	BY DATE	RESPONSIBILITY	STATUS/ REMARKS
MET/IE WG/20 **02**	Coordinate the consequential amendments to the ANP (Volume II, Table MET II-2 – Aerodrome Meteorological Offices) to reflect the requirements for MET service at QUANG NINH/Van Don International Airport (ICAO location indicator VVVD). *[Ref: Report of MET/IE WG/20, para. 3.5.]* **(a)** Ref: MET SG/27, WP/14 - Review of the APAC ANP **(b)** Ref: ROBEX HB 15th Ed.	1 month before MET SG/29 ~~Before MET SG/27~~	Secretariat	**IN PROGRESS** ANP PfA pending circulation by the Secretariat;
MET/IE WG/20 **03**	Provide contact details for IROG Jeddah (Saudi Arabia) and IROG Johannesburg (South Africa) to the members from Thailand to discuss their support for IWXXM and AMHS/FTBP and the timing for the testing and implementation of the inter-regional IWXXM exchange. *[Ref: Report of MET/IE WG/20, para. 4.15.]*	Before MET SG/27	Secretariat, in coordination with participants from Thailand	**COMPLETED** ~~**IN PROGRESS**~~

ACTION ITEM	DESCRIPTION	BY DATE	RESPONSIBILITY	STATUS/ REMARKS
MET/IE WG/20 **10**	Coordinate with Indonesia to: a) Validate the proposed updates in WP/08, which concerned aerodrome names that were not reflected in the ANP, Table AOP I-1 – *International Aerodromes Required in the APAC Regions*; and b) Include the validated proposals in the next update of the ROBEX Handbook. *[Ref: Report of MET/IE WG/20, para. 6.9.]* Ref: MET SG/27, WP/14 - Review of the APAC ANP	1 month before MET SG/29 ~~Next ROBEX Handbook update~~	Secretariat, in coordination with participants from Indonesia	**IN PROGRESS** ANP PfA pending circulation by the Secretariat
MET/IE WG/20 **12**	Document the steps States should take to: a) Effect changes to the ROBEX scheme; and b) Notify States of changes to MET service. *[Ref: Report of MET/IE WG/20, para. 6.15.]*	Before MET SG/27	Secretariat	**SUPERSEDED** [ACTION MET/IE WG/23-01] ~~**IN PROGRESS**~~
MET/IE WG/20 **13**	Convene a quarterly meeting of the MET/IE WG (core) members to progress updates to the work plan and terms of reference, including assigning specific dates and responsibilities (incl. identifying a lead and supporting resources for activities) and merging Activities 1 and 2 in the work plan. After the Secretariat and Chairs of MET SG and WGs have prepared the integrated reporting template. *[Ref: Report of MET/IE WG/20, para. 7.5.]*	Before MET SG/27	Chair MET/IE WG and Secretariat	**IN PROGRESS**
MET/IE WG/20 **15**	Concerning the inclusion of MWOs not located in the APAC Region, perform a cross-check of the ICAO APAC SIGMET Test Procedures against the legacy FASID Tables MET 3A – *Tropical Cyclone Advisory Centres* and 3B – *Volcanic Ash Advisory Centres.* *[Ref: Report of Conjoint Session of MET/IE WG/20 and MET/S WG/12, para. 2.17.]*	1 month before MET SG/29 ~~Before MET SG/27~~	Secretariat	**IN PROGRESS**
MET/IE WG/20 **17**	Follow up with Myanmar on the appropriate addressing of letters from ICAO inviting participation in SIGMET tests. *[Ref: Report of Conjoint Session of MET/IE WG/20 and MET/S WG/12, para. 2.23.]*	Before MET SG/27	Secretariat, in coordination with participants from Myanmar	**IN PROGRESS**

Unresolved action items recorded by MET/IE WG/19

(Note: Proposed updates are indicated with ~~strikethrough~~ and highlighted text)

ACTION ITEM	DESCRIPTION	BY DATE	RESPONSIBILTY	STATUS/ REMARKS
05	**Propose updates to the ROBEX Handbook**: to include information on the (KWBC) bulletins containing Pago Pago METAR and TAF [ref: para. 4.3.] Ref: MET SG/27, WP/09 - ROBEX HB UPDATES	1 month before MET SG/29 ~~Before MET SG/27~~	Secretariat	**SUPERSEDED** [MET/IE WG ACTION 23-08] ~~**IN PROGRESS**~~

Unresolved action items recorded by MET/IE WG/18 and MET/S WG/10

(Note: Proposed updates are indicated with ~~strikethrough~~ and highlighted text)

ACTION ITEM	DESCRIPTION	BY DATE	RESPONSIBILTY	STATUS/ REMARKS
18	**ROBEX Handbook and SIGMET Guide updates – Legacy FASID information:** Prepare the consequential updates of the required information from the legacy FASID Tables relating to meteorology, apart from Table MET 1A, Table MET 1B and Table MET 3C, and the existing ICAO APAC regional guidance documentation, according to the proposal in WP/11 and the Draft Decision [ref: para. 4.16.]	1 month before MET SG/29 ~~Before MET SG/27~~	Secretariat	**IN PROGRESS** Ref: MET/IE WG, 5. Work Plan, Activity 6

ACTION ITEM	DESCRIPTION	BY DATE	RESPONSIBILTY	STATUS/ REMARKS
19	**ANP and ROBEX Handbook updates – Vietnam NOC:** Coordinate on the implementation of the Vietnam NOC, including development of proposed updates to the APAC ANP [ref: para. 3.7.] Ref: MET SG/27, WP/14 - Review of the APAC ANP	1 month before MET SG/29 ~~Before MET SG/27~~	Vietnam and Thailand	**IN PROGRESS** Ref: MET/IE WG, 5. Work Plan, Activity 6
20	**ANP and ROBEX Handbook updates – Indonesia new aerodromes:** Determine any requirement (based on IP/09) to update the ICAO APAC **(a)** ANP and/or **(b)** ROBEX Handbook [ref: para. 8.27.] **(a)** Ref: MET SG/27, WP/14 - Review of the APAC ANP **(b)** Ref: MET SG/27, WP/09 - ROBEX HB UPDATES	1 month before MET SG/29 ~~Before MET SG/27~~	Secretariat and Indonesia	**IN PROGRESS** Ref: MET/IE WG, 5. Work Plan, Activity 6

Unresolved action items recorded by MET/IE WG/17

(Note: Proposed updates are indicated with ~~strikethrough~~ and highlighted text)

ACTION ITEM	DESCRIPTION	BY DATE	RESPONSIBILTY	STATUS/ REMARKS
17/1	Coordinate all necessary notifications concerning the planned handover of the provision of SIGMET service valid for Phnom Penh FIR from MWO Chengdu to MWO Phnom Penh, including the following: updates to the ANP, including the legacy FASID tables, and the Regional SIGMET Guide. *[Report of MET/IE WG/17, para. 3.1 – 3.4, refers]*	1 month before MET SG/29 ~~Before MET SG/27~~	Secretariat	**IN PROGRESS**
17/3	Coordinate all necessary notifications concerning the planned provision by China of OPMET information for the new Beijing Daxing International Airport, from 15 August 2019, including the following: **(a)** updates to the ROBEX Handbook and notification to States via "METNO"; and **(b)** APAC ANP, including AOP and MET tables. *[Report of MET/IE WG/17, para. 3.6 – 3.8, refers]*	Before MET SG/27	China and Secretariat	**(a) COMPLETED; (b) CLOSED** [China informed MET/IE WG/23 that it has not proposed to add Beijing Daxing International Airport to the APAC ANP Tables AOP] ~~**IN PROGRESS**~~
17/10	Liaise with the SADIS Provider concerning obtaining OPMET availability statistics on SADIS for future meetings of the MET/IE WG. Propose appropriate actions to apply the statistics to improve OPMET availability. *[Report of MET/IE WG/17, para. 4.21, refers]*	Before MET SG/27	Secretariat	**IN PROGRESS**
17/20	Propose updates to all required APAC documentation regarding the originating address of Australian WV SIGMETs (i.e., YMMC, rather than AMMC). *[Report of conjoint session of MET/IE WG/17 and MET/S WG/9, para. 2.24, refers]*	1 month before MET SG/29 ~~Before MET SG/27~~	Secretariat ~~and Australia~~	**IN PROGRESS** ANP Table MET II-1 pending update

Unresolved action items recorded by ROBEX WG/13

(Note: Proposed updates are indicated with ~~strikethrough~~ and highlighted text)

ACTION ITEM	DESCRIPTION	BY DATE	RESPONSIBILTY	STATUS/ REMARKS
13/7	Investigate feasibility of including provisions in the regional guidance material related to the issuance of routine TAF at intervals of three (3) hours; present draft material to MET SG/21 [Ref: ROBEX WG/13 Decision 13/7].	Before MET SG/27	Secretariat and ROBEX WG	**CLOSED** ~~**IN PROGRESS** Coordinate necessary follow-up through the ICAO ANP~~

ACTION ITEM	DESCRIPTION	BY DATE	RESPONSIBILTY	STATUS/ REMARKS
				~~working group [Ref: MET/IE WG/16 Report para. 2.9].~~

— END OF SECTION —

APPENDIX E — Proposed updates to the ROBEX Handbook

ROBEX HANDBOOK, APPENDIX I — ROBEX FOCAL POINTS

(Note: Proposed updates are indicated with ~~strikethrough~~ and highlighted text)

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…		
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…		
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State/ ADMINISTRATION	NAME/DESIGNATION AND ADDRESS	Tel/Fax/e-mail
	~~Mr. Lee Dong Won~~ Ms. Hee-ju JEONG Assistant Director Aviation Meteorological Office of Korea Meteorological Administration (AMO/KMA) ~~Information and Technology Division~~ 2F-0023, 444 Je2terminal-daero, Jung-gu Incheon, ~~22382~~ REPUBLIC OF KOREA ***Administration units*** ***OPMET/ROBEX*** Aviation Meteorological Office of Korea Meteorological Administration (AMO/KMA) 2F-0023, 444 Je2terminal-daero, Jung-gu Incheon, ~~22382~~ (Location Indicator : RKSIYPYX)	Tel: +82 (32) 222 ~~3030~~ 3079 Fax: +82 (32) 740 2807 e-mail: ~~dwlee5@korea.kr~~ av_isd@korea.kr; jeonghj94@korea.kr
SINGAPORE	Mr. **Chiam** Keng Oon ~~Senior~~ Deputy Principal Meteorologist, Meteorological Service Singapore, ~~P.O. Box 8~~ 60 Airport Boulevard ~~Singapore~~ Changi Airport Terminal 2 #04-514 Singapore ~~918141~~ 819643 Mr. **Goh** Wee Poh Head, ~~Customer Services~~ Central Forecast Office Meteorological Service Singapore, ~~P.O. Box 8~~ 60 Airport Boulevard ~~Singapore~~ Changi Airport Terminal 2 #04-514 Singapore ~~918141~~ 819643 SINGAPORE	Tel: +65 6244 6133 Fax: +65 6542 5026 e-mail: chiam_keng_oon@nea.gov.sg Tel: +65 ~~6542 9224~~ 6244 6133 Fax: +65 6542 5026 Email: goh_wee_poh@nea.gov.sg

State/ ADMINISTRATION	NAME/DESIGNATION AND ADDRESS	Tel/Fax/e-mail
	Administration units ***OPMET/ROBEX*** Central Forecast Office/Weather Services Division ~~P.O. Box 8~~ 60 Airport Boulevard ~~Singapore~~ Changi Airport Terminal 2 #04-514 Singapore ~~918141~~ 819643	
…		

— END OF SECTION —

APPENDIX F — MET/IE WG Terms of Reference and Work Plan

(Note: Proposed updates are indicated with ~~strikethrough~~ and highlighted text)

ICAO APAC MET/IE WG – TERMS OF REFERENCE AND WORK PLAN

TERMS OF REFERENCE

The MET/IE WG is made up of experts from the following entities ~~bodies~~:

- APAC Regional OPMET Data Banks (RODBs): Brisbane, Nadi, Tokyo, Singapore and Bangkok;
- APAC Regional OPMET Centres (ROCs);
- ~~World Area Forecast Centres (WAFCs), London and Washington~~
- Secure Aviation Data Information Service (SADIS) and WAFS Internet File System (WIFS) Provider States, United Kingdom and United States;
- ~~APAC Volcanic Ash Advisory Centres (VAACs): Darwin, Tokyo and Wellington~~
- Designated focal points for SIGMET tests and regional OPMET bulletin exchange (ROBEX);
- ~~Pacific Islands Aviation Weather Services (PIAWS) Panel; and~~
- User representatives, such as the International Air Transport Association (IATA).

1. MEMBERSHIP		
State or Org./Name	**Title/Organization**	**Contact information**
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2. DESCRIPTION	
Objective	Increase quality, availability and timeliness of Meteorological Information needed for flight planning (efficiency) and in-flight re-planning (safety) in support of the ~~Global Air Navigation Plan (GANP) framework and the Aviation System Block Upgrade (ASBUs) methodology~~ services defined in ICAO Annex 3.
Benefits	Increase in safety and efficiency (time and fuel savings), supporting environmental sustainability.
Functions of the group	Under guidance from the ICAO APAC Secretariat: a) Review the OPMET exchange schemes in the APAC and other regions and develop proposals for their optimization, taking into account the requirements by the aviation users and global OPMET exchange; b) Review and update of the procedures for inter-regional OPMET exchange and ensure the availability of the required APAC OPMET data for SADIS and WIFS; c) Monitor~~ing~~ the ~~format and~~ quality, availability and timeliness of OPMET ~~messages~~; d) Monitor and participate in inter- and intra-regional trials of aeronautical meteorological information exchange in support of the implementation of ~~IWXXM and~~ System Wide Information Management (SWIM); e) ~~Conduct trials and d~~Develop standardized quality control, monitoring and management procedures related to exchange of ~~IWXXM and TAC~~ OPMET ~~information~~; f) ~~Participate in the implementation and p~~Promote awareness of the transition to ~~digital exchange of OPMET (~~IWXXM~~)~~ and ~~System Wide Information Management (~~SWIM~~)~~; g) Conduct regular regional IROG back-up and SIGMET tests; h) Provide support for the APAC MET ~~E~~exercises; i) Review and update the regional guidance material related to OPMET exchange, including relevant material on IWXXM, AMHS and SWIM; j) Liaise and consult with other appropriate bodies within ICAO and WMO dealing with communication and/or management aspects of the OPMET exchange; k) Coordinate and seek support from other enabling ICAO groups (e.g. SWIM TF, ACSICG, CRV OG, etc.) to support MET information exchange initiatives; and l) Provide advice and report to the MET Sub-group on the above issues for further co-ordination through the ICAO Secretariat with other appropriate bodies.

3. Communication Strategies				
Description	**Target Audience**	**Delivery Method**	**Frequency / Date**	**Responsibility**
Annual working group meeting	All APAC States	In person	Annual / March	Chair(s) and Secretariat
Interim Work Program Progress Report	MET/IE WG Members	Web-conference E-mail	Quarterly/as determined by Chair	Chair(s) and Secretariat

MET Chairs Coordination Meeting	Chairs of MET SG and its contributory working groups	Web-conference E-mail	Quarterly/as determined by MET SG Chairs	Chair(s) and Secretariat
General correspondence	MET/IE WG Members	E-mail	As required	MET/IE WG Members
New, specific proposal for action (WP)	MET/IE WG Meeting	Working Paper (MET/IE WG meeting)	Annually/submitted 28-days or more before the meeting (published 14-days or more before the meeting)	MET/IE WG Members or States
New, specific information (IP)	MET/IE WG Meeting	Information Paper (MET/IE WG meeting)	Annually/submitted 28-days or more before the meeting (published 14-days or more before the meeting)	MET/IE WG Members or States
Working Group Meeting Report	MET/IE WG Members and all APAC States	MET/IE WG Meeting Report	Annually/published 21-days or less after the meeting	Chair(s) and Secretariat
Working Group Progress Report	MET SG Meeting	Working Paper (MET SG meeting)	Annually/submitted 28-days or more before the meeting (published 14-days or more before the meeting)	Chair(s) and Secretariat

4. WORK PROGRAM			
Activity	**Time Frame**	**Responsibility**	**Status**
Activity 1: Quality, Availability and Timeliness of OPMET exchange	Ongoing	MET/IE WG	
Activity 2: SIGMET and Advisory Tests	Ongoing	MET/IE WG	
Activity 3: IROG Backup Tests	Ongoing		
Activity 4: Regional guidance material related to data exchange	Ongoing	MET/IE WG	
Activity 5: MET information exchange scheme	Ongoing ~~2021-2026~~	MET/IE WG	
Activity 6: MET information in SWIM	Ongoing ~~2021-2026~~		

5. WORK PLAN			
Activity / Milestone	**Accountability**	**Date**	**Status**
Activity 1: Quality, Availability and Timeliness of OPMET exchange			
Activity 1.1: Monitor and collate OPMET data.	RODBs and IATA	Annually Nov	
Activity 1.2: ~~Score~~ Assess RODB OPMET reception ~~(availability and timeliness) against 95% thresholds.~~	RODB Bangkok	Annually Jan	
Activity 1.3: Analyse data and share results with RODBs	RODB Bangkok	Annually Jan	
Activity 1.4: Prepare paper report results to MET/IE WG meeting	RODB Bangkok	Annually Feb	
Activity 1.5: Report summary of OPMET quality, availability and timeliness results to MET SG (via annual MET/IE WG report)	Chair	Annually before MET SG	
~~Activity 1.6: Inform States of non-compliance and corrective actions.~~	~~Secretariat~~	~~Annually Jun~~	
Activity 1.~~7~~6: Provide support for States to support corrective actions if requested.	RODBs	As required	
~~**Milestone 1:** OPMET availability and timeliness are reported.~~	~~MET/IE WG~~	~~Annually Jun~~	
Activity 2: SIGMET and Advisory Tests			
Activity 2.1: Review SIGMET Test procedures	MET/IE WG	Annually Aug	
Activity 2.2: State Letter regarding SIGMET Tests	Secretariat	Annually Sep	
Activity 2.3: Email ~~States~~ participating MWOs, RODBs, VAACs, TCACs regarding SIGMET Tests	Secretariat	Annually	Last Wed in Oct
Activity 2.4: Conduct and collate data for TC SIGMET Tests	RODBs	Annually	2nd Wed in Nov
Activity 2.5: Conduct and collate data for VA SIGMET Tests	RODBs	Annually	3rd Wed in Nov

5. WORK PLAN			
Activity / Milestone	**Accountability**	**Date**	**Status**
Activity 2.6: Conduct and collate data for other SIGMET Tests	RODBs	Annually	4th Wed in Nov
Activity 2.7: Analyse test data	RODB Singapore and Tokyo	Annually Jan	
Activity 2.8: Report to MET/IE WG	RODB Singapore and Tokyo	Annually Mar	
Activity 2.9: Report on SIGMET Test Results to MET SG (via annual MET/IE WG report).	Chair	Annually May	
~~Activity 2.10: Advise States of SIGMET corrective actions~~	~~Secretariat~~	~~Annually Jun~~	
~~**Milestone 2:** Improved issuance and compliance of SIGMETs~~	~~MET/IE WG~~	~~Annually MET SG~~	
Activity 3: IROG Back-up Tests			
Activity 3.1: Update~~d~~ IROG Back-up Procedures in ROBEX Handbook~~, to include~~including support for IWXXM.	Secretariat	~~Anually May~~ As required	
Activity 3.2: Identify list of OPMET ~~Bulletins~~ to monitor.	IROG Bangkok and Singapore	Annually ~~Jan/Feb~~ Jul/Aug	
Activity 3.3: Conduct IROG Back-up Test of Bangkok and analyse results	IROG Bangkok and Singapore	Annually Sept/Oct	
Activity 3.4: Conduct IROG Back-up Test of Singapore and analyse results	IROG Bangkok and Singapore	Annually ~~Jan/Feb~~ Sep/Oct	
Activity 3.5: Report to MET/IE WG	IROG Bangkok and Singapore	Annually Mar	
~~**Milestone 3:** IROG Back-up Tests conducted, analysed and report complete.~~	~~IROG Bangkok and Singapore~~	~~Annually Mar~~	
Activity 4: Regional guidance material related to data exchange			
Activity 4.1: Propose updates to the ROBEX Handbook	MET/IE WG and Secretariat	As required	
Activity 4.2: Share d~~D~~raft updates to the ROBEX Handbook	Secretariat	Annually, at least ~~O~~one month before the MET/IE WG and MET SG	
Activity 4.3: Publish updates to the ROBEX Handbook	Secretariat	Annually Two weeks after the MET/IE WG and MET SG	
~~**Milestone 4:** ROBEX Handbook remains relevant~~	~~Secretariat~~	~~Twice Annually~~	
Activity 5: MET Information Exchange Scheme			
Activity 5.1: Review ROBEX Scheme diagram.	All RODBs, Secretariat	~~May~~ Annually May	
~~Activity 5.2: Review the structure of the ROBEX exchange in light of the introduction of SWIM.~~	~~WG~~	~~Annually Feb~~	
Activity 5.3~~2~~: Maintain IWXXM online register	Australia, Hong Kong China and Secretariat	~~Monthly~~ As required	
~~**Milestone 5:** Improved efficiency and effectiveness of ROBEX Scheme~~	~~MET/IE WG~~		
Activity 6: MET information in SWIM			
Activity 6.1: Provide education and d~~D~~evelop guidance to support States' implementation of MET information services	MET/IE WG	As required	
~~**Milestone 6:** MET-SWIM services implemented in APAC~~	~~MET/IE WG~~	~~2024-2027~~	

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— END OF REPORT —