International Civil Aviation Organization

WORKING PAPER (WP/11)

ICAO Asia and Pacific (APAC)
Twenty-third Meeting of the Meteorological Information Exchange Working Group (MET/IE WG/23)

Bangkok, Thailand, 25 to 28 March 2025

Agenda Item 4: Guidance material related to meteorological information exchange

VONA DISSEMINATION UPDATE

(Presented by New Zealand, Australia and Hong Kong)

SUMMARY

This paper provides an updated proposal to inclusion of the volcano observatory notice to aviation (VONA) in the ROBEX scheme, following feedback from the 28th Meeting of the APANPIRG Meteorological Sub-group.

1. INTRODUCTION

1.1 The 22nd Meeting of the Meteorological Information Exchange Working Group (MET/IE WG/22) noted that the proposed Amendment 82 to Annex 3 would require dissemination of the VONA via the aeronautical fixed services (AFS). Therefore, the meeting requested an ad hoc group (Australia, Japan, New Zealand) to develop proposed updates to the ROBEX Handbook to facilitate the dissemination of VONA (refer Action 22-10) and present these to the 28th Meeting of the APANPIRG MET Sub-group (MET SG/28).

1.2 A paper (refer MET SG/28 WP/08) containing proposed updates to the ROBEX Handbook to facilitate the dissemination of VONA via the AFS was presented to MET SG/28. The meeting supported the proposed updates, in principle, but requested the MET/IE WG to finalise the details of the proposed VONA exchange updates, noting guidance was required on the '*ii*' to be used in the bulletin header, plus a date of applicability would also be required due to Amendment 82 not being in force until November 2025.

1.3 VONA bulletin header structure was discussed at the recent 12th Meeting of the Meteorology Panel Working Group Meteorology Information Exchange (METP WG-MIE), with a view to providing guidance to the International Airways Volcano Watch (IAVW) Work Stream of the METP Working Group Meteorology Operations Group (WG-MOG). The guidance will be included in the next update of the *Handbook on the International Airways Volcano Watch* (Doc 9766), expected later 2025, and is provided here also to inform the updates of the ROBEX Handbook.

1.4 The dissemination of VONA via AFS was also discussed at a 2024 meeting of the ICAO European Region Data Management Group, where they have also agreed to the bulletin header structure advised by WG-MIE and proposed in this paper.

2. DISCUSSION

2.1 It is recognised that not every State volcano observatory (SVO) has access to the AFS network, meaning they don't have a '*CCCC*' location identifier. It is proposed that SVOs can either use the location identifier of their State's National OPMET Centre (NOC) that is disseminating the VONA on their behalf – or they could request a new location identifier to be registered with ICAO.

2.2 The APAC ROBEX Handbook outlines the assignment of '*ii*' to bulletins (Appendix D, section 2.1.3), where '*ii*' are to be assigned as follows:

ii = 01-19 inclusive for global distribution
ii = 20-39 inclusive for regional and inter-regional distribution
ii = 40-89 inclusive for national and bilaterally agreed distribution

2.3 However, given that some States have many active or potentially active volcanoes, it is recommended that SVOs (for the first ever bulletin issue) use *ii*=01 for the first VONA issued, *ii*=02 for the second VONA and so on, with VONA issued initially for the most active volcanoes (lower '*ii*' numbers) and VONA for more quiescent volcanoes issued after.

2.4 The proposed updates relating to VONA dissemination are provided in Appendix A to this paper, where updated text related to the use of '*ii*' and '*CCCC*' following the MET SG/28 discussion being highlighted separately. It was noted by the MET SG/28 that once details around the '*ii*' and '*CCCC*' were clarified and endorsed by the MET/IE WG, the proposed update to the ROBEX Handbook regarding VONA dissemination can be published immediately.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the information contained in this paper; and

b) refine and agree to the proposed updates; and

c) request the Secretariat to publish the update as soon as possible.

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APPENDIX A – APAC ROBEX Guidance on VONA Dissemination via the AFS

Acronyms and Abbreviations

…	…
SUG	SADIS User Guide
SVO	State volcano observatory
…	…
VAAC	Volcanic Ash Advisory Centre
VONA	Volcano observatory notice to aviation
…	…

….

2. ROBEX SCHEME – GENERAL

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2.4.2 ICAO Annex 3 Amendment 82, applicable 27 November 2025, ~~is expected to~~ will introduce the recommended practice of using the volcano observatory notice to aviation (VONA) for sharing volcanic information, in both TAC and IWXXM form.

[*Editorial note – renumber subsequent paragraphs.*]

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3. OPMET INFORMATION AND OPMET EXCHANGE

3.1. OPMET data types

3.1.1 The following OPMET data types should be handled by the ROBEX scheme:

Data type	Abbreviated name	WMO data type designator	
		TAC	IWXXM
…	…	…	…
Space Weather Advisory	SWX ADVISORY	FN	LN
Volcano observatory notice to aviation	VONA	WM	LM
Administrative	METNO	NO	N/A

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4. THE COMPOSITION OF ROBEX

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4.1.1 ***Originating station*** – An aeronautical meteorological station, aerodrome meteorological office, forecasting office, MWO, TCAC, or a VAAC. The duties and

responsibilities of these originating stations are defined by the State's meteorological authority. An SVO is also an information originator, however for those SVOs with no AFS access, it is expected that they will liaise with their associated meteorological office or air navigation service provider to arrange to disseminate VONA into the ROBEX scheme, in line with Amendment 82 to Annex 3, applicable 27 November 2025.

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5. COMMUNICATIONS - GENERAL

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5.2.5 OPMET bulletins (TAC) transmitted via AFTN shall use the following priority indicators:

- FF – for SIGMET, AIREP SPECIAL, VAA, TCA, VONA and TAF AMD; and
- GG – for TAF, METAR and SPECI.

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8. EXCHANGE OF SIGMET, TCA, ~~and~~ VAA and VONA

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8.8 From 27 November 2025, VONA should be prepared by designated State volcano observatories, as included in *ANP, Volume I, Table MET I-1* and in accordance with Amendment 82 to Annex 3.

8.9 VONA should be distributed to all RODBs within the Region, who should also make the VONA messages available on request. In order to facilitate that, the originating SVOs should work with associated meteorological or air navigation service providers to issue VONA.

8.10 WMO headings for VONA messages should include data designators (T_1T_2) as included in per section 3.1.1, and geographic designators (A_1A_2) used will be the country or territory designators, as included in WMO No. 386 *Manual on the Global Telecommunication System*. The location indicator can either be that assigned to the SVO (as per ICAO Doc 7910) or that assigned to ~~should be for~~ the organisation distributing the VONA on behalf of the SVO.

8.11 VONA messages should be distributed to other ICAO regions and made available for redistribution through SADIS and WIFS. This distribution should be carried out through the relevant IROGs.

8.12 Detailed information on the format of the VONA messages is provided in the Handbook on the International Airways Volcano Watch (Doc 9766).

13. MANAGEMENT OF OPMET EXCHANGE

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13.3.2 **Monitoring of Non-Scheduled OPMET data**

13.3.2.1 Monitoring of non-routine OPMET data shall include:

a) TAC - TCA (FK), VAA (FV), VONA (WM), SWX Advisory (FN) and SIGMET (WC, WS, and WV); and

b) IWXXM – TCA (LK), VAA (LU), VONA (LM), SWX Advisory (LN) and SIGMET (LY, LS, LV).

13.3.2.2 Monitoring of ~~VONA,~~ SIGMET, VAA and TCA should be performed during the scheduled regional SIGMET tests in accordance with the procedures published by the APAC Office, Bangkok. From 27 November 2025, this will also include VONA.

13.3.2.3 Additional monitoring of ~~SIGMET~~ non-routine OPMET issuance may be scheduled as necessary to monitor its ~~the~~ issuance ~~of SIGMET~~ in specific ~~FIRs~~ locations over specific periods when such monitoring would be useful to support the identification or rectification of deficiencies in the provision of ~~SIGMET~~ these services.

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APPENDIX D - Use of WMO Abbreviated Heading

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2.1.3.2 For most of the ROBEX bulletins, “ii” should be selected from the set “20 – 39”. In the case of METAR/TAF bulletins, ROCs issuing only one bulletin should use "31", whilst ROCs issuing more than one bulletin should use "31", "32", etc. From 27 November 2025, VONA bulletins should simply use the next available number, from ii = 01-99.

APPENDIX F — OPMET Quality Control and Monitoring Procedures

1 Quality Control Procedures

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1.2 Quality Control Methods

OPMET Data	Elements Defining	Control Methods
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Tropical Cyclone Advisory FK	…	…
VONA (from 27 November 2025)	• Type of message • Issue date and time	Software verification Manual validation Periodic Quality Control & PI Monitoring

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APPENDIX H — RODB OPMET Interrogation Procedures

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2. Reply messages

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2.4.2 When a request for SIGMET of any type (WS, WC or WV) is received, the reply should contain all valid WS, WV and WC SIGMETs that are available for the FIR concerned.

2.4.3 From 27 November 2025, w~~W~~hen a request for VONA is received, the reply should contain all VONA that are available for State concerned, issued within the time period specified.

2.5 **Format of the reply message**

2.5.1 The WMO abbreviated heading of a reply message will be constructed as:

TTAAii CCCC YYGGgg

where,

TT the requested message type as per section 3.1.1. of the ROBEX Handbook (e.g., SA)

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~~2.7 **OPMET Data Types**~~

~~The following meteorological data types, as defined by the WMO data designator indicator, are stored and available on request from the RODBs:~~

~~TT~~	~~Message Type~~
~~SA~~	~~METAR~~
~~SP~~	~~SPECI~~
~~FT~~	~~12 to 30 HR TAF~~
~~WS~~	~~SIGMET~~
~~WC~~	~~Tropical Cyclone SIGMET~~
~~WV~~	~~Volcanic Ash SIGMET~~
~~FV~~	~~Volcanic Ash Advisory (VAA)~~
~~FK~~	~~Tropical Cyclone Advisory (TCA)~~