

**ICAO ASIA/PACIFIC
VOLCANIC ASH EXERCISE
DIRECTIVE
VOLCEX 19/01**



DOCUMENT CHANGE RECORD

Version	Issue Date	Change Made
1.0	05/04/19	Finalised Directive
1.1	15/04/19	Update observer contact information, moved Virgin Australia to participant. Dates included in first example NOTAM. Added mid-exercise WebEx to check all going well. NOTAM to be sent on morning of exercise. Details of WhatsApp group added.

1. INTRODUCTION

1.1 “Volcanic ash exercises should be conducted by ICAO on a regional basis in order to practice and develop inter-agency response to volcanic activity, in order to maintain safety, regularity and efficiency of aviation in the event of a volcanic eruption”. ICAO Doc 9766 – Handbook on the International Airways Volcano Watch, Appendix F- Guidance for conducting volcanic ash exercises in ICAO regions.

1.2 The first ICAO APAC volcanic ash exercise to be conducted in 2019, named **APAC VOLCEX 19/01**, will involve the simulated eruption of Raoul Island (29.27°S 177.92°W) in the Kermadec Islands region of the South Pacific.

The simulated, high-level volcanic ash cloud will contaminate two adjacent FIRs, Auckland Oceanic and Nadi, affecting major air traffic routes in the South Pacific. Volcanic ash deposition will also be simulated at both Nadi and Nausori International Airports in Fiji.

1.3 There will be no operational impact in this exercise; dedicated staff are expected to be available for participation in the exercise.

1.4 Exercise date and time: **NZST/FJT: 9am – 3pm 07 May 2019** (2100 UTC 06 May 2019 to 0300 UTC 07 May 2019).

An initial exercise debrief (via web conference) for all participants and interested observers will follow immediately after at **NZST/FJT: 3.15pm – 4.30pm 07 May 2019** (0315 - 0430 UTC 07 May 2019).

Note: tentative back-up date in case of exercise NO GO decision is 09 May (NZST/FJT). See [Appendix C](#) for more details.

1.5 **Exercise Leader:** Ms. Paula Acethorp, Chief Meteorological Officer (Designate), Civil Aviation Authority New Zealand (CAA NZ).

The Exercise Leader is responsible for:

- Publishing the exercise directive
- Making the GO/NO decision for the volcanic ash exercise (see 10.1 for more details)
- Conducting the volcanic ash exercise in coordination with directing staff
- Facilitate communications between participants during the exercise
- Reporting results of volcanic ash exercises including lessons learnt, as well as recommended improvements to the regional volcanic ash ATM contingency plan and global ICAO provisions, to appropriate groups in APANPIRG, including the VOLCEX Steering Group.

1.6 **Location of Exercise Leader, and Secretariat:** The Exercise Leader will be at CAA NZ office, Wellington, New Zealand to conduct the pre-exercise coordination meeting and the volcanic ash exercise. Coordination between the Exercise Leader and participants will be facilitated by the use of instant messaging applications, web conferencing facilities, telephone and e-mail.

1.7 **Pre-exercise coordination meeting:** To be held on the day prior to the volcanic ash exercise, i.e., on 06 May 2019 NZST/FJT, at CAA NZ office, Wellington, New Zealand. To be chaired by the Exercise Leader.

1.8 **Full debrief meeting:** To be incorporated in the agenda of the volcanic ash exercises steering group meeting, VOLCEX/SG/6, 20-21 June 2019, Bangkok, Thailand. Note: VOLCEX/SG/6 shall also include planning for future ICAO APAC volcanic ash exercises.

1.9 **Exercise website:** A dedicated website for the exercise is not available. Other useful websites include:

- VAAC Wellington: <http://vaac.metservice.com> (for access to exercise VAA and VAG)
- Fiji Meteorological Service: <http://www.met.gov.fj> (for access to exercise NFFF SIGMETs)

2. PARTICIPATING AGENCIES

2.1 Agencies that have agreed to participate in the exercise are listed according to area of responsibility in [Appendix A](#), along with contact details.

2.2 Additional agencies that have been invited to observe in the exercise and provide input to the exercise debrief meeting are listed according to area of responsibility in [Appendix B](#), along with contact details, if provided.

3. AIMS AND OBJECTIVES

3.1 The volcanic ash exercise should demonstrate the practice of applicable global and regional procedures including the provision/exchange of volcanic ash information in support of flexible airspace management, improved situational awareness and collaborative decision-making, and dynamically optimised flight trajectory planning.

In particular, the exercise should demonstrate:

- Provision/exchange of timely and compliant alerts (e.g., VONA) and AIS and MET information (e.g., VAA/VAG, SIGMET, NOTAM, special air-report) to the correct recipients
- Collaboration between operational units (e.g., VO, MWO, VAAC, ATM and AIS) and other relevant authorities and regulators
- Enhanced situational awareness and communication between organisations (e.g., via a web-conference, website, or other media)
- Responses by operational units (e.g., air traffic flow management measures, safety risk assessments, tactical re-routes, aerodrome management)

3.2 The exercise shall be planned and conducted to ensure that detrimental effects on the aviation system performance are avoided, but that nevertheless useful experience and information is generated, with any opportunities for improvement identified.

4. EXERCISE DURATION

4.1 The exercise shall be conducted over a period of approximately six hours from **NZST/FJT: 9am – 3pm 07 May 2019** (2100 UTC 06 May 2019 to 0300 UTC 07 May 2019).

5. **EXERCISE VOLCANO¹**

5.1 Name: Raoul Island, Number: 242030, Position: 29.27°S 177.92°W, Area: NZ to Fiji

6. **EXERCISE SCENARIO**

6.1 Simulated eruption with volcanic ash cloud up to high levels and moving north, to impact ATS routes and airspace within Auckland Oceanic FIR (NZZO) and Nadi FIR (NFFF), with volcanic ash deposition at two aerodromes (Nadi and Nausori) in Fiji and subsequent impacts for operations at other aerodromes (e.g. domestic Fiji aerodromes).

7. **EXERCISE SCHEDULE**

7.1 Participating agencies have agreed to the chronological list of the actions to be undertaken before and during the exercise, as provided in [Appendix C](#).

8. **EXERCISE MESSAGES AND COMMUNICATIONS**

8.1 Exercise messages comprising VAB start with “VA EXERCISE APAC VOLCEX 19/01” and end with “VA EXERCISE VA EXERCISE VA EXERCISE”. They should be based on the agreed exercise scenario. Examples of exercise VAB messages and distribution lists are provided in [Appendix D](#).

8.2 Exercise messages comprising VONA start with “VA EXERCISE APAC VOLCEX 19/01” and end with “VA EXERCISE VA EXERCISE VA EXERCISE”. They should be based on the agreed exercise scenario. Examples of exercise VONA messages and distribution lists are provided in [Appendix E](#).

8.3 Exercise messages comprising VAA and VAG should include the use of “VA EXERCISE” and “APAC VOLCEX 19/01” (in accordance with ICAO Doc 9766, Part 4, 4.8) to highlight and emphasise that the advisory information refers to the volcanic ash exercise. They should be based on the agreed exercise scenario and the preceding exercise VONA messages. Examples of exercise VAA and VAG messages and distribution lists are provided in [Appendix F](#).

8.4 Exercise messages comprising SIGMET should include the use of “VA EXERCISE” and “APAC VOLCEX 19/01” (in accordance with ICAO Doc 9766, Part 4, 4.8) to highlight and emphasize that the SIGMET information refers to the volcanic ash exercise. They should be based on the preceding exercise VAA messages. Examples of exercise SIGMET messages and distribution lists are provided in [Appendix G](#).

8.5 Exercise messages comprising NOTAM start with “VA EXERCISE APAC VOLCEX 19/01” and end with “VA EXERCISE VA EXERCISE VA EXERCISE” (in Item E of the NOTAM). Examples of exercise NOTAM messages and distribution lists are provided in [Appendix H](#).

8.6 Exercise messages comprising special air-reports end with “VA EXERCISE APAC VOLCEX 19/01 VA EXERCISE VA EXERCISE VA EXERCISE”. Examples of exercise special air-report messages and distribution lists are provided in [Appendix I](#).

¹ Details as per Smithsonian database at <http://www.volcano.si.edu>

8.7 Exercise messages comprising reports of special observations (SPECI) issued in accordance with local arrangements include “VA EXERCISE APAC VOLCEX 19/01” in the supplementary information. Examples of exercise SPECI messages are provided in [Appendix J](#).

8.8 Any voice communicated exercise messages start with “VA EXERCISE APAC VOLCEX 19/01”.

8.9 Other communications such as exercise web-conferences, e-mail exchanges and instant messaging chats start with “VA EXERCISE APAC VOLCEX 19/01”.

8.10 Volcanic ash information is disseminated through email (e.g. VONA, SPECI, and Ground Observation report), AFTN (e.g. SIGMET, VAA, special air-report) and/or via relevant websites (e.g. VAA/VAG, SIGMET).

9. SPECIAL INSTRUCTIONS

9.1 Exercise GO/NO decision shall be made by the Exercise Leader one day before the planned exercise commencement date/time. In case of unforeseen circumstances, such as a real volcanic eruption or other significant event affecting the air transport system, the Exercise Leader may decide to either postpone the exercise to a later date or to cancel the exercise. A decision not to proceed, i.e., to postpone or cancel the exercise, shall be communicated to all participants and observers as early as possible before the exercise is due to commence.

9.2 In case of a real volcanic eruption or other unforeseen event that occurs within the exercise period, the Exercise Leader will gather views from all participating agencies and determine whether to postpone or abort the exercise, if continuing the exercise is considered to potentially negatively affect the operation of the aviation system. According to ICAO Doc 9766 Handbook on the IAVW, Appendix F, paragraph 2.3., “Exercises can only simulate a real event, while operation of the aviation system must continue normally and be unaffected by the exercise. The planning of the exercise needs to ensure that detrimental effects on the system performance are avoided, but that nevertheless useful experience and information is generated.”

9.3 Exercise web-conference instructions:

A. Lead: In this exercise, the lead of web-conference calls should be the exercise leader.

B. Expected participants and general information expected from each:

VO – brief update on eruption status, latest height information, source of height information, duration of event, expected activity

VAAC – brief update on VAA/VAG

MWO – brief update on SIGMET (if different from VAA/VAG, briefly explain why)

AMO – brief update on SPECI, if applicable

NOF – brief update on NOTAM to publish reroutes (if any)

ACC – brief update on reroutes (if any) and coordination with ACCs

AO – brief update on tactical reroutes, flight plan changes and satisfaction with reroutes

ACC – respond, if necessary, to AO

ALL PARTICIPANTS – share any issues encountered during exercise so far.

- C. **Information sharing:** WhatsApp will be utilised as a supplementary means to share information between participants. Contact the Exercise Leader for details on accessing the VOLCEX 19/01 WhatsApp group.
- D. **Language:** Each State should arrange to have participants communicate in English during the web-conferences.
- E. **Microphones:** Each Participant should mute microphones to reduce background noise. The leader of the web-conference will instruct the participant when to speak.

10. **ABBREVIATIONS, ACRONYMS AND DEFINITIONS**

10.1 A list of abbreviations, acronyms and definitions used in this directive is provided at [Appendix K](#).

Appendix A – List of Participating Agencies

Area of Responsibility	Agency	Contact	Email
Volcanic activity alerting (VAB/VONA)	GNS Science NZ	Nico Fournier	N.Fournier@gns.cri.nz
Volcanic ash advisory information (VAA/VAG)	VAAC Wellington	Marcel Roux	Marcel.Roux@metSERVICE.com
SIGMET	MWO Wellington	Marcel Roux	Marcel.Roux@metSERVICE.com
	MWO Nadi	Amit Singh (FMS)	Amit.Singh@met.gov.fj
Air Traffic Control and Air Traffic Flow and Capacity Management	Airways NZ	Johl Brown	Johl.Brown@airways.co.nz
	Airports Fiji Ltd	Amit Singh (AFL)	AmitS@fijiairports.com.fj
Ground Observations at Fiji Airports	Fiji MetService	TBC	TBC
	Airports Fiji Ltd	Amit Singh (AFL)	AmitS@fijiairports.com.fj
Aeronautical information service	Airways NZ	Frances Dowdle	Frances.Dowdle@airways.co.nz
	Airports Fiji Ltd	Amit Singh (AFL)	AmitS@fijiairports.com.fj
Airport Operator	Airports Fiji Ltd	Amit Singh (AFL)	AmitS@fijiairports.com.fj
Aircraft operator response	Air New Zealand	Markus Kraettli	Markus.Kraettli@airnz.co.nz
	Virgin Australia	Paul Chevalier Courtney Meares-Whitty	Paul.Chevalier@virginaustralia.com Courtney.Meares-Whitty@virginaustralia.com
	Fiji Airways/Fiji Link	Shyamal Krishna	Shyamal.krishna@fijiairways.com
Regulation	CAA NZ	Paula Acethorp	Paula.Acethorp@caa.govt.nz
		Keith Mackersy	Keith.Mackersy@caa.govt.nz
		Kate Madden	Kate.Madden@caa.govt.nz
	CAA Fiji	Alisi Namoro	Alisi.Namoro@caaf.org.fj
ICAO oversight	ICAO – APAC office	Peter Dunda	PDunda@icao.int

Appendix B – List of Observing Agencies

Area of Responsibility	Agency	Contact	Email
Volcanic ash advisory information (VAA/VAG)	VAAC Tokyo	Yuichi Imamura Kazuya Kawaguchi	y_imamura@met.kishou.go.jp kazuya_kawaguchi@met.kishou.go.jp
	VAAC Darwin	Jarrad Denman	Jarrad.Denman@bom.gov.au
SIGMET	Tahiti	TBC	
	Honiara	Solomon Sammy	s.sammy@met.gov.sb m.tepa@met.gov.sb forecast@met.gov.sb flightsvc@solomon.com.sb
	Honolulu	Matt Foster	Matthew.J.Foster@noaa.gov
RODBs	Nadi RODB	William Reece	WilliamR@fijiairports.com.fj
	Singapore RODB	TBC	
	Bangkok RODB	TBC	
Aircraft operators	Qantas	Graham Rennie	grennie@qantas.com.au
Other	Tonga Met Service	'Ofa Fa'anunu	ofaf@met.gov.to
	MCDEM	Sara Mitchell	sara.mitchell@dpmc.govt.nz
	BKMG	Ahmad Muhlis Zulkarnain	ahmad.muhtis@bmg.go.id zulkarnain@bmg.go.id
	Air Services Australia	Chris McCormack	Christopher.McCormack@airservicesaustralia.com

Appendix C – List of Exercise Actions

Date/Time UTC	Participants	Event/Actions
<p>Additional Actions All Participants: In addition to the actions listed below, all participants are to take further action as necessary, in accordance with Part 4 of ICAO Doc 9766 Handbook on International Airways Volcano Watch, and any relevant local instructions/procedures.</p>		
06 April 2019	Exercise Leader	Publish final version of exercise directive
30 April 2019	Exercise Leader	Exercise leader request NOF to issue preparatory NOTAMs to inform the aviation community of the exercise
05 May 2019, 2200 UTC	Exercise Leader	GO/NO Decision, inform all participants
06 May 2019, 2000 UTC	Exercise Leader	Send email message to all players to announce that the exercise will commence at 2100 UTC. Keep log of all messages sent, received and actions taken.
06 May 2019, 2100 UTC		Exercise begins.
Simulate Raoul Island unrest		
	GNS Science	Issue VAB as required. Issue VONA, X times during exercise: <ul style="list-style-type: none"> • 1st VONA for volcano eruption • Xth VONA² for volcanic activity considered to have ceased Keep log of all messages sent, received and actions taken.
	VAAC Wellington	Issue VAA/VAG, X times during exercise <ul style="list-style-type: none"> • 1st VAA urgent initial • Xth VAA² issued for dissipated volcanic ash Keep log of all messages sent, received and actions taken.
	MWOs Wellington and Nadi	Issue SIGMET(s) during exercise Keep log of all messages sent, received and actions taken.
	Airways NZ and Airports Fiji Ltd	Publish NOTAM(s) during exercise Keep log of all messages sent, received and actions taken.
	Airways NZ and Airports Fiji Ltd	CDM process and ATFM measures Keep log of all messages sent, received and actions taken.
	Airline operators	Transmit special air report, risk assessment and flight planning Keep log of all messages sent, received and actions taken.
	Airways NZ and Airports Fiji Ltd	Transmit special air report via AFTN Keep log of all messages sent, received and actions taken.
	Airport Operators (Nadi, Suva)	Conduct visual report by paper test Keep log of all messages sent, received and actions taken.
	Met Offices (Nadi, Suva)	Issue METAR/SPECI Keep log of all messages sent, received and actions taken.
0000 UTC	All Participants	Web conference (exercise check-in, addressing any issues that have been noted).
07 May 2019, 0315 UTC	All Participants	Web conference (initial evaluation) Send logs of messages sent, received and actions taken to Exercise Leader

² To avoid “scripting” the exercise, the Directive will not outline how many VONA or VAA will be issued.

Appendix D – Exercise VAB Example

VA EXERCISE APAC VOLCEX 19/01

Volcanic Alert Bulletin RLI – 2019/01

DDD May XX 2019 XX:XX XM Raoul Island Volcano

Volcanic Alert Level [remains]/[is raised to]/[is lowered to] X

Aviation Colour Code [remains]/[is raised to]/[is lowered to] Green/Yellow/Orange/Red

VA EXERCISE APAC VOLCEX 19/01

[Information on recent volcanic activity leading to VAB issuance.]

As a result, GNS scientists [revise]/[keep] the Volcanic Alert Level to/at Level X (*statement about meaning of level*). The Aviation Colour Code [remains unchanged at XXXX] / [is also changed, from XXXXX to XXXXX].

VA EXERCISE VA EXERCISE VA EXERCISE

Distribution list:

VAB to:

- VAAC Wellington

Appendix E – Exercise VONA Example

VA EXERCISE APAC VOLCEX 19/01

- | | | |
|------|--|---|
| (1) | VOLCANO OBSERVATORY NOTICE FOR AVIATION — VONA | |
| (2) | Issued: | <i>Universal (Z) date and time (YYYYMMDD/HHMMZ)</i> |
| (3) | Volcano: | RAOUL ISLAND 242030 |
| (4) | Current aviation colour code: | <i>GREEN, YELLOW, ORANGE OR RED in upper-case bold font</i> |
| (5) | Previous aviation colour code: | <i>Lower-case font, not bold</i> |
| (6) | Source: | <i>Name of volcano observatory (volcanological agency)</i> |
| (7) | Notice number: | <i>Create unique number for each VONA that includes year</i> |
| (8) | Volcano location: | S2927 W17792 |
| (9) | Area: | NZ to Fiji |
| (10) | Summit elevation: | 516M |
| (11) | Volcanic activity summary: | <i>Concise statement that describes activity at the volcano. If known, specify time of onset and duration (local and UTC) of eruptive activity. If the eruption is ongoing at the time of VONA release, indicate “eruption and ash emission is continuing”.</i> |
| (12) | Volcanic cloud height: | <i>Brief summary of relevant cloud characteristics (colour of cloud, shape of cloud, direction of movement, etc.) Specify if cloud height is obscured or suspected to be higher than what can be observed clearly. “UNKNOWN” if no data available or “NO ASH CLOUD PRODUCED” if applicable.</i> |
| (13) | Other volcanic cloud information: | <i>Optional. Brief comments on related topics (monitoring data, observatory actions, volcano’s previous activity, etc.)</i> |
| (14) | Remarks: | EG Volcanic tremor recorded continuously |
| (15) | Contacts: | <i>Names, telephone and fax numbers, e-mail addresses.</i> |
| (16) | Next notice: | <i>“A new VONA will be issued if conditions change significantly or the colour code is changed.” Include URL of website where latest volcanic information is posted.</i> |

VA EXERCISE VA EXERCISE VA EXERCISE

Notes:

1. Information from State volcano observatories should be sent to their associated ACCs, MWOs and VAACs [Annex 3, Appendix 2, 4.1]
2. Information on volcanic eruptions from State volcano observatories should be forwarded and telephoned to verbally inform the associated ACCs, MWOs and VAACs of the significant activity, and then followed up with a faxed or e-mailed VONA [Doc 9766, Part 4, 4.2.1 a)]
3. VONA from State volcano observatories may also be distributed directly to interested operators in accordance with local arrangements [Doc 9766, Part 4, 4.2.1 a)]

Distribution list:

VONA to:

- VAAC Wellington
- Airways NZ

Appendix F – Exercise VAA/VAG Example and Distribution List

FVPSXX NZKL XXXXXX
 VA ADVISORY
 DTG: nnnnnnnn/nnnnZ
 VAAC: WELLINGTON
 VOLCANO: RAOUL ISLAND 242030
 PSN: S2927 W17792
 AREA: NZ TO FIJI
 SUMMIT ELEV: 516M
 ADVISORY NR: 2019/nnnn
 INFO SOURCE: VA EXERCISE APAC VOLCEX 19/01 *Free text*
 AVIATION COLOUR CODE: *RED or ORANGE or YELLOW or GREEN or UNKNOWN or NOT GIVEN or NIL*
 ERUPTION DETAILS: VA EXERCISE APAC VOLCEX 19/01 *Free text up to 64 characters or UNKNOWN*
 OBS VA DTG: nn/nnnnZ
 OBS VA CLD:
 FCST VA CLD +6 HR:
 FCST VA CLD +12 HR:
 FCST VA CLD +18 HR:
 RMK: VA EXERCISE APAC VOLCEX 19/01 *Free text up to 256 characters*
 VA EXERCISE VA EXERCISE VA EXERCISE
 NXT ADVISORY: *nnnnnnnn/nnnnZ or NO LATER THAN nnnnnnnn/nnnnZ or NO FURTHER ADVISORIES or WILL BE ISSUED BY nnnnnnnn/nnnnZ*

Sample VAG

OBS polygon <i>Exercise</i>	+6 HR polygon <i>Exercise</i>		
+12 HR polygon <i>Exercise</i>	+18 HR polygon <i>Exercise</i>		
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"> VOLCANIC ASH ADVISORY DTG: nnnnnnnn/nnnnZ VAAC: WELLINGTON VOLCANO: RAOUL ISLAND 242030 PSN: S2927 E17792 AREA: NZ TO FIJI SUMMIT ELEV: 516M </td> <td style="width: 50%; border: none;"> ADVISORY: 2019/nnnn INFO SOURCE: VA EXERCISE APAC VOLCEX 19/01... AVIATION COLOR CODE: ERUPTION DETAILS: VA EXERCISE APAC VOLCEX 19/01 ... RMK: VA EXERCISE APAC VOLCEX 19/01 ... VA EXERCISE VA EXERCISE VA EXERCISE NXT ADVISORY: nnnnnnnn/nnnnZ </td> </tr> </table>		VOLCANIC ASH ADVISORY DTG: nnnnnnnn/nnnnZ VAAC: WELLINGTON VOLCANO: RAOUL ISLAND 242030 PSN: S2927 E17792 AREA: NZ TO FIJI SUMMIT ELEV: 516M	ADVISORY: 2019/nnnn INFO SOURCE: VA EXERCISE APAC VOLCEX 19/01... AVIATION COLOR CODE: ERUPTION DETAILS: VA EXERCISE APAC VOLCEX 19/01 ... RMK: VA EXERCISE APAC VOLCEX 19/01 ... VA EXERCISE VA EXERCISE VA EXERCISE NXT ADVISORY: nnnnnnnn/nnnnZ
VOLCANIC ASH ADVISORY DTG: nnnnnnnn/nnnnZ VAAC: WELLINGTON VOLCANO: RAOUL ISLAND 242030 PSN: S2927 E17792 AREA: NZ TO FIJI SUMMIT ELEV: 516M	ADVISORY: 2019/nnnn INFO SOURCE: VA EXERCISE APAC VOLCEX 19/01... AVIATION COLOR CODE: ERUPTION DETAILS: VA EXERCISE APAC VOLCEX 19/01 ... RMK: VA EXERCISE APAC VOLCEX 19/01 ... VA EXERCISE VA EXERCISE VA EXERCISE NXT ADVISORY: nnnnnnnn/nnnnZ		

Notes:

1. A Volcanic Ash Advisory Centre (VAAC) is responsible for issuing advisory information regarding the extent and forecast movement of the volcanic ash “cloud” to:
 - a. MWOs, ACCs and FICs serving FIRs in its area of responsibility which may be affected;
 - b. other VAACs whose areas of responsibility may be affected;
 - c. WAFCs, international OPMET databanks, international NOTAM offices, and centres designated by regional air navigation agreement for the operation of aeronautical fixed service Internet-based services; and

- d. airlines requiring the advisory information through the AFTN address provided specifically for this purpose. *[Annex 3, Chapter 3, 3.5.1 c)]*
2. All VAA/VAG will be available from the VAAC Wellington webpage:
<http://vaac.metservice.com/>

Distribution list:

VAA (via AFTN/AMHS) and VAG (via WIFS) to usual recipients.

Appendix G – Exercise SIGMET Example and Distribution List

SIGMET exercise template

T1T2A1A2ii CCCC YGGgg
CCCC SIGMET [n][n]n VALID YGGgg/YGGgg CCCCCC
<FIR name> FIR **VA EXERCISE APAC VOLCEX 19/01** VA ERUPTION MT
RAOUL ISLAND PSN **S2927 W17792** VA CLD
OBS AT GGggZ or FCST AT GGggZ WI <Nnn[nn]> or <Snn[nn]> <Wnnn[nn]>
or <Ennn[nn]> - <Nnn[nn]> or <Snn[nn]> <Wnnn[nn]> or <Ennn[nn]> -
<Nnn[nn]> or <Snn[nn]> <Wnnn[nn]> or <Ennn[nn]> - <Nnn[nn]> or
<Snn[nn]> <Wnnn[nn]> or <Ennn[nn]> - <Nnn[nn]> or <Snn[nn]>
<Wnnn[nn]> or <Ennn[nn]> - <Nnn[nn]> or <Snn[nn]> <Wnnn[nn]> or
<Ennn[nn]> - <Nnn[nn]> or <Snn[nn]> <Wnnn[nn]> or <Ennn[nn]>
SFC/FLnnn MOV <direction> <speed> KMH[KT] or STNR
INTSF or WKN or NC
FCST AT nnnnZ WI <Nnn[nn]> or <Snn[nn]> <Wnnn[nn]> or <Ennn[nn]> -
<Nnn[nn]> or <Snn[nn]> <Wnnn[nn]> or <Ennn[nn]> - <Nnn[nn]> or
<Snn[nn]> <Wnnn[nn]> or <Ennn[nn]> - <Nnn[nn]> or <Snn[nn]>
<Wnnn[nn]> or <Ennn[nn]> - <Nnn[nn]> or <Snn[nn]> <Wnnn[nn]> or
<Ennn[nn]> - <Nnn[nn]> or <Snn[nn]> <Wnnn[nn]> or <Ennn[nn]> -
<Nnn[nn]> or <Snn[nn]> <Wnnn[nn]> or <Ennn[nn]> or NO VA EXP

Cancellation SIGMET exercise template

T1T2A1A2ii CCCC YGGgg
CCCC SIGMET [n][n]n VALID YGGgg/YGGgg CCCCCC
<FIR name> FIR **VA EXERCISE APAC VOLCEX 19/01** CNL SIGMET nn
nnnnnn/nnnnnn

Distribution list:

SIGMETs (via AFTN/AMHS) to usual recipients.

Appendix H – Exercise NOTAM Example and Distribution List

Example 1: Preparatory NOTAM (issued 1 week prior to exercise)

Bnnnn/19 NOTAMN

A) NZZO or NFFF

B) yymmddhhmm

C) yymmddhhmm EST

E) VA EXERCISE APAC VOLCEX 19/01. VOLCANIC ASH EXERCISE TAKE PLACE 6 MAY FROM 2100Z TO 7 MAY 0300Z. EXERCISE NAME: APAC VOLCEX 19/01. VOLCANO: RAOUL ISLAND 242030 S2927 W17792 NZ TO FIJI. FREE TEXT OF PROMULGATED EXERCISE MESSAGES STARTS WITH: VA EXERCISE APAC VOLCEX 19/01. FREE TEXT OF EXERCISE MESSAGES ENDS WITH: VA EXERCISE VA EXERCISE VA EXERCISE. VA EXERCISE VA EXERCISE VA EXERCISE

F) SFC

G) UNL

Example 2: Exercise NOTAM

Bnnnn/09 NOTAMR

A) NZZO or NFFF

B) yymmddhhmm

C) yymmddhhmm EST

E) VA EXERCISE VOLCEX 19/01 VOLCANIC HAZARD ZONE NZV010 RAOUL ISLAND IS REDEFINED AS FLW DUE TO INCREASED/DECREASED VOLCANIC ACT: ALL THAT AIRSPACE BOUNDED BY A CIRCLE OF RADIUS 8NM CENTRED ON S291600.0 W1775500.0 RAOUL ISLAND PILOTS ARE REQ TO REP LOCATION OF VA AND ANY VOLCANIC ACT OBS PRESCRIBED PURSUANT TO CIVIL AVIATION RULE PART 71 UNDER A DELEGATED AUTHORITY ISSUED BY THE DIRECTOR OF CIVIL AVIATION VA EXERCISE VA EXERCISE VA EXERCISE

F) SFC

G) FL150

Example 3: Final exercise NOTAM

Bnnnn/09 NOTAMC

A) NZZO or NFFF

B) yymmddhhmm

E) VA EXERCISE VOLCEX 19/01 ERUPTION OF RAOUL ISLAND 242030 S2927 W17792 NZ TO FIJI HAS CEASED AS REPORTED BY VOLCANO OBSERVATORY AT XXXX. VOLCANIC ASH CLOUD HAS DISSIPATED. VOLCANIC ASH CLOUD NO LONGER VISIBLE. VOLCANIC ASH EXERCISE APAC VOLCEX 19/01 HAS CONCLUDED. VA EXERCISE VA EXERCISE VA EXERCISE

Distribution list:

To usual NOTAM recipients.

Appendix I – Exercise Special Air-Report Example and Distribution List

Example for Special Air-Report (downlink)

ARS nnnnnn Snnnn Wnnnn FLnnn [or FLnnn to FLnnn] OBS AT XXXXZ nnn/nnnKT n TMnnn VA
CLD [FLnnn/FLnnn] [or VA RAOUL ISLAND] VA EXERCISE APAC VOLCEX 19/01 VA
EXERCISE VA EXERCISE VA EXERCISE

Example for Special Air-Report (uplink)

ARS nnnnnn VA CLD [FLnnn/FLnnn] [or VA RAOUL ISLAND] OBS AT XXXXZ Snnnn Wnnnn
FLnnn VA EXERCISE APAC VOLCEX 19/01 VA EXERCISE VA EXERCISE VA EXERCISE

Distribution list Special Air-Reports:

From ATS units:

ATS units shall transmit without delay the special air-reports to associated MWOs, the WAFCs, and the centres designated by regional air navigation agreement by voice communications and/or data link communications [*Annex 3, Chapter 5, 5.8*]

From MWOs:

- MWOs shall transmit without delay the special air-reports received by voice communications to the world area forecast centres (WAFCs) and the centres designated by regional air navigation agreement for the operation of aeronautical fixed service Internet-based services.
- MWO shall transmit without delay special air-reports of pre-eruption volcanic activity, a volcanic eruption or volcanic ash cloud received to the associated VAACs [*Annex 3, Appendix 4, 3.1*]

Appendix J – Exercise SPECI Example

SPECI NFFN XXXXXXZ 01015KT 2000 VA FEW007CB BKN014 27/25 Q1009 RMK VA
EXERCISE APAC VOLCEX 19/01=

Note – due to RMK sections being routinely stripped from METAR/SPECI reports before dissemination via AFTN, to reduce the risk of the exercise SPECI being mistaken for operational information, any exercise SPECI should be disseminated by **email only**.

Distribution list:

vaac@metervice.com

all-fcstrs@met.gov.fj

Other email addresses TBC.

Appendix K – Abbreviations, Acronyms and Definitions

Abbreviation/Acronym	Definition
ACC	Area control centre
AIC	Aeronautical Information Circular. A notice containing information that does not qualify for the origination of a NOTAM or for inclusion in the AIP, but which relates to flight safety, air navigation, technical, administrative or legislative matters
AIS	Aeronautical information service
AO	Aircraft operator
APAC	Asia and Pacific
APANPIRG	APAC air navigation planning and implementation regional group
ATM	Air traffic management
ATS	Air traffic services
BOM	Bureau of Meteorology (Australia)
CAA NZ	Civil Aviation Authority of New Zealand
CAAF	Civil Aviation Authority of Fiji
CDM	Collaborative decision making
FIR	Flight information region
FL	Flight level
ICAO	International civil aviation organisation
JMA	Japan meteorological agency
MET	Meteorological
MWO	Meteorological Watch Office
NOF	International NOTAM office
NOTAM	“NOTice To AirMen”. A notice distributed by means of telecommunication containing information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations
SIGMET	Information issued by a meteorological watch office concerning the occurrence or expected occurrence of specified en-route weather phenomena which may affect the safety of aircraft operations
UTC	Coordinated universal time
VA	Volcanic ash
VAA	Volcanic ash advisory
VAAC	Volcanic ash advisory centre
VAB	Volcanic ash bulletin
VAG	Volcanic ash graphic (VAA in graphical format)
VO	Volcano observatory
VOLCEX/SG	(APAC) volcanic ash exercises steering group
VONA	Volcano observatory notice for aviation