International Civil Aviation Organization

INFORMATION PAPER

Eighteenth Meeting of the Meteorological Information Exchange Working Group (MET/IE WG/18)

Tenth Meeting of the Meteorological Services Working Group (MET/S WG/10)

Web-conference, 27 to 31 July 2020

Agenda Item 8: Monitoring of meteorological services

WELLINGTON AND DARWIN VAAC BACK-UP

(Presented by New Zealand)

SUMMARY

This paper presents a brief account of a live back up event that took place on 30 January 2020 between the Wellington and Darwin Volcanic Ash Advisory Centres (VAACs). It describes the steps that the VAAC teams followed when handing over responsibilities and also provides information on which users received back-up notices.

1. INTRODUCTION

1.1 On 30 January 2020, MetService experienced a partial systems outage that resulted in VAAC Wellington being unable to adequately monitor the volcanoes across its area of responsibility. The applications that the VAAC would normally rely on to monitor status of volcanoes were either not or only partially working.

1.2 The outage also meant VAAC Wellington was not able to communicate with VAAC Darwin via email and phone or receive information via AFTN/AMHS.

2. DISCUSSION

During the outage

2.1 Given the lack in monitoring capability, VAAC Wellington reached out to VAAC Darwin to take over responsibility by sending an email message. However, it became apparent that the email connectivity was also not working, resulting in both VAACs then conversing via a WhatsApp message group.

2.2 WhatsApp has been used between both VAACs for several years as a quick way to collaborate with each other on a variety of volcanic ash items of interest. In this example, the platform

was crucial to VAAC Wellington in handing over VAAC duties to Darwin. Figures 1 and 2 below show examples of the email and WhatsApp communication between the VAACs:

Hi Darwin VAAC

1) Expected duration and reason for outage: **duration unknown. We have had a network switch physical failure, and it sounds like we need a new switch.**
2) **No current VAAs.**
3) Volcanoes of interest: **White Island has been in a state of unrest for some time. It is frequently emitting steam. Outside NZ, our most active recent volcano is Yasur. There have been frequent very low level eruptions; we have not issued VAAs for them because the ash has never been visible on satellite imagery; it seems confined to the immediate area around the volcano and is not getting into the atmosphere.**

Figure 1. Email message sent to the VAAC Darwin at 4:29AM NZDT advising current status of VAAC Wellington

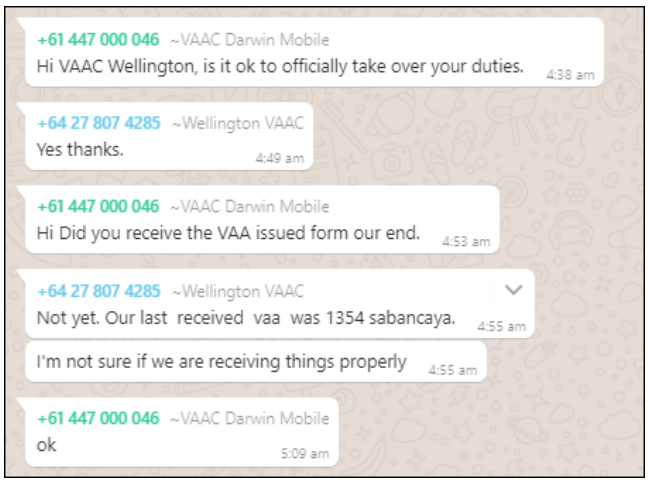

Figure 2. WhatsApp communication between both VAACs.

2.3 Once the VAACs had agreed to handover responsibilities, it became apparent that VAAC Wellington was not receiving external advisories as a result of the systems outage. It also became apparent that VAAC Wellington's email and phone systems were impacted, causing both VAACs to rely on WhatsApp as the primary source of communication during the outage. This proved useful in confirming that VAAC Darwin had issued the official notice to users that they had taken over, since VAAC Wellington did not receive the notice into their internal systems.

2.4 The outage lasted several hours during which time VAAC Darwin oversaw the VAAC Wellington area of responsibility. Once the issues at VAAC Wellington were resolved, the duty forecaster again engaged with VAAC Darwin using WhatsApp, to advise they were ready to take back responsibility and issued the relevant VAA notice advising users.

2.5 Following the outage, VAAC Wellington approached several users to confirm that they received VAAC Darwin's volcanic ash advisory sent out to advise users on the transfer of responsibility. To date, VAAC Wellington has received confirmation from an RODB, Airways NZ and an operator that they had received the VAAC Darwin message.

Future back-up tests

2.6 The last official back-up test between VAACs Darwin and Wellington was conducted in February of 2019. However, this test identified an issue that is triggered within both VAAC's dissemination systems, caused by VAAC Wellington using the NZKL location indicator when backing up VAAC Darwin (e.g. FVAU*ii* NZKL).

2.7 When a back-up advisory is sent for VAAC Darwin on behalf of VAAC Wellington, it triggers spurious copies of advisories when VAAC Darwin uses the same WMO header in the future for issuing an operational advisory. Resolving the issue took some time and involved the assistance of Air Services Australia.

2.8 Further, it was agreed at the MET Panel WG-MOG IAVW work stream meeting in Washington DC November 2019 that all VAACs will completely mimic the WMO header and location indicator of the VAAC they are providing back-up services for. This is to ensure that any VAA sent in a back-up capacity will be received by all intended recipients, without the need to subscribe to alternate back-up bulletin headers.

2.9 This "mimicking" approach to bulletin headers requires VAAC Wellington to carry out some internal development. This, combined with the impact from the COVID-19 pandemic earlier this year, has meant that both VAACs have not been able to run back-up tests between their respective centres. In the interim, if VAAC Wellington is required to provide a back-up service for VAAC Darwin's area of responsibility (south of 20S), a manual procedure is required to ensure that the location indicator used for all back-up VAAs is ADRM instead of NZKL.

2.10 VAACs Darwin and Wellington will be aiming to test this manual procedure as part of a back-up test later this year. The plan going forward will be for these manual steps to be integrated within VAAC Wellington's regular dissemination systems, meaning VAAC Wellington will then completely and automatically mimic VAAC Darwin's WMO headers when providing back-up services.

3. ACTION BY THE MEETING

3.1 Note the information contained in this paper.

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