International Civil Aviation Organization

INFORMATION PAPER

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Bangkok, Thailand, 04 to 08 September 2023

Agenda Item 5: Research, development and other initiatives

APAC VOLCEX 22/01 EXERCISE OUTCOMES

(Presented by Indonesia)

SUMMARY

This paper presents an outline of the ICAO volcanic ash exercise VOLCEX 22/01 simulated the eruption of Sorik-Marapi Volcano located in North Sumatera on 27 October 2022.

1. INTRODUCTION

1.1 The ICAO Asia Pacific (APAC) volcanic ash exercise has been conducted in 2022, named APAC VOLCEX 22/01, simulated the eruption of Sorik-Marapi Volcano (volcano no.: 261120), located at 0.686°N 99.539°E in Mandailing Natal Regency, North Sumatera. The volcanic ash cloud simulated contaminating Jakarta FIR and entering the Colombo FIR, joint coordination between Jakarta FIR and Colombo FIR shall be done. The exercise was held from 0200 UTC to 1100 UTC on 27 October, as a desktop exercise, all exercise participants joined from their own office locations.

1.2 The selection of Sorik-Marapi Volcano for APAC VOLCEX 22/01 was to meet two goals. Firstly was to give an opportunity for joint coordination and collaboration between national aeronautical stakeholders in handling volcanic ash, especially in North Sumatera Region. Secondly was to provide an exercise scenario that would allow collaboration and coordination in an adjacent FIR between Jakarta FIR and Colombo FIR.

1.3 APAC VOLCEX 22/01 has implemented several demonstrations, i.e.:

a) Volcanic ash information flow in accordance with ICAO Doc 9766 – Handbook on the International Airways Volcano Watch (IAVW);
b) Cross-boundary international coordination to provision and responses to volcanic ash information (Jakarta FIR and Colombo FIR);
c) Simulation of “real-time” operational responses to a volcanic event;
d) Communication and information exchange system in volcanic ash handling, named I-WISH;
e) ATM response and CDM Process which has been regulated in the national scale under Minister Decree number 95 the year 2018 revision of CASR (Civil Aviation Safety Regulation) Part 174 Aeronautical Meteorological Information Services.

2. DISCUSSION

2.1 APAC VOLCEX 22/01 was led by Indonesian Agency for Meteorology, Climatology, and Geophysics, with Mr. Rajasain Edralin as Exercise Leader.

2.2 Indonesia stakeholders involve as participants consist of :

a) Directorate General of Civil Aviation as Regulator;
b) Centre of Volcanology and Geological Hazard (CVGHM) as Volcano Observatory;
c) Airport Authority of Jakarta, Airport Authority of Medan, and Airport Authority of Padang as Airport Authority.
d) Meteorological Climatological and Geophysical Agency of Indonesia (BMKG): BMKG Head Office, Jakarta MWO, Kualanamu Met Office, Silangit Met Office, Aek Godang Met Office, Binaka Met Office, and F.L Tobing Met Office as Meteorological Service Provider;
e) Jakarta ACC, Jakarta ATFMU, Medan APP, Kualanamu TWR, NOTAM Office, and AIS Regional Office, AirNav Silangit, AirNav Sibolga, AirNav Gunung Sitoli Sub-Branch Office as Air Navigation Service Provider (Airnav Indonesia);
f) Angkasa Pura II Silangit and Angkasa Pura Aviasi Medan as Airport Operator; and
g) Air Asia, Garuda Indonesia, Lion Air, Wings Air, Citilink, and Susi Air. as Airlines.

2.3 International stakeholders involved as participants consist of:

a) Bureau of Meteorology (BoM) Australia: VAAC Darwin;
b) Department of Meteorology Sri Lanka: MWO Colombo;
c) Civil Aviation Authority of Sri Lanka (CAASL): ACC Sri Lanka, NOF Sri Lanka, AIS Unit, ATFM Unit;
d) Airlines: Sri Lanka Airlines;
e) Hong Kong Observatory (HKO);
f) Japan Meteorological Agency (JMA); dan
g) Invited neighboring countries as observer: India, Tonga, Jepang dan Fiji.

2.4 APAC VOLCEX 22/01 simulated the eruption of Sorik-Marapi Volcano with a height of volcanic ash reaching a flight level of 40000 feet with the movement of ash to the northwest at a speed of 26 knots. Volcanic ash was originally in the Jakarta FIR area and spread enter the Colombo FIR area after 6 hours. This scenario impacted domestic and international Air traffic services (ATS) routes. And also affected Silangit International Airport, Kualanamu International Airport, Dr. Ferdinand Lumban Tobing Airport - Pinangsori (Sibolga), Aek Godang Airport - Padang Sidempuan, and resulted in the closure of Binaka Airport - Gunung Sitoli in North Sumatra so that flights were diverted to nearby airports.

2.5 Information on the Volcanic Ash Exercise 22/01 was conveyed through media according to the provisions in ICAO Doc 9766 Handbook on IAVW, with communication media such as AFTN, e-mail and voice messages. Volcanic ash information is also re-informed in a platform known as I-WISH, a national collaboration platform in Indonesia, which assists in the Collaborative Decision Making (CDM) process and monitors the development of simulations.

2.6 Through meticulous collaboration among stakeholders at both national and international levels, from the initial stages of training preparation to the final execution, the exercise can achieve a seamless and triumphant outcome.

2.7 The utilization of the I-WISH platform proves exceptionally efficient in facilitating the exchange of volcanic ash-related information, serving as a pivotal point of reference for decision-making regarding volcanic ash impact handling.

2.8 Players and observers engaged in practice sessions have unequivocally acknowledged the receipt of information disseminated during APAC VOLCEX 22/01 via AFTN and email. In a broader context, the dissemination of published information adheres meticulously to both ICAO stipulations and the guidelines laid out in Minister Decree number 95 the year 2018 revision of CASR, effectively reaching users and relevant units.

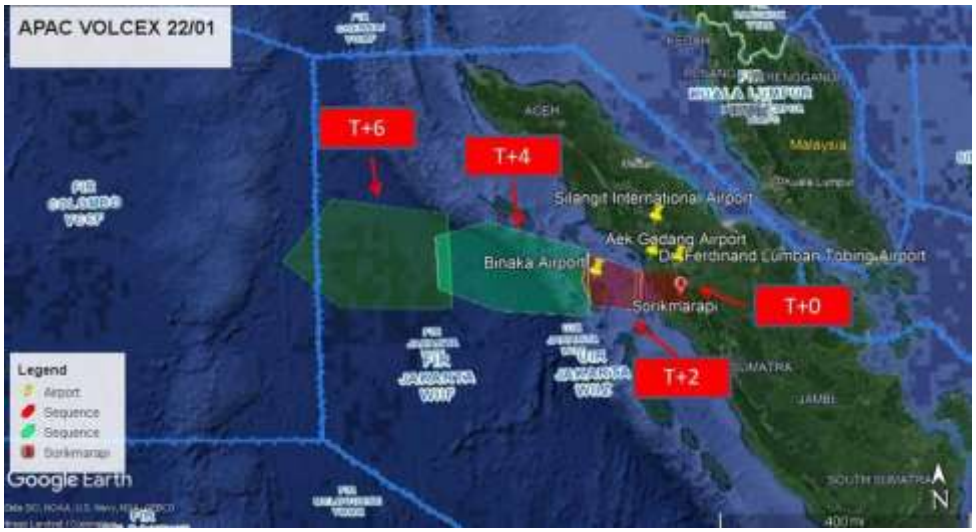

Figure 1. The scenario of VOLCEX 22/01

3. ACTION BY THE MEETING

3.1 Note the information contained in this papers.

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