

AERONAUTICAL INFORMATION CIRCULAR (AIC) A 06/24 REPUBLIC OF RWANDA



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ATM CONTINGENCY PLAN FOR KIGALI FIR

This AIC A 06/24 is promulgated for information, guidance and necessary action.

AIC A 02/23 is hereby replaced.

Silas UDAHEMUKA

**Director General
RWANDA CIVIL AVIATION AUTHORITY**

FOREWORD

This Contingency Plan forms part of the overall national contingency planning for Rwanda, In accordance with the provisions of part 22, 22.150 of the Rwanda Civil Aviation Regulations. The Plan is developed and controlled by the ASECNA Representative and it is approved by the Director General, Rwanda Civil Aviation Authority.

It is provided for the safe continuation of international air traffic through the Kigali FIR during periods when ATS may be disrupted or unavailable, or when airspace may be affected as a result of a major earthquake, fire, Bomb explosion, public health emergencies, military conflicts, volcanic ash cloud, radioactive cloud, severe weather events, other natural disasters or acts of unlawful interference with civil aviation.

The Plan has been developed in close cooperation and collaboration with airspace users, ICAO, Military authorities and civil aviation authorities responsible for adjacent FIRs.

It will be activated by a NOTAM issued by the Kigali International NOTAM Office (NOF) as far in advance as is practicable. However, when such prior notification is impracticable the Plan will be activated by the designated authority using the most expeditious alternative means available as authorized by the Director General, Rwanda Civil Aviation Authority. In the event that this is also not practicable, notification may be made by ICAO ESAF Regional Office.

Aircraft flying through the Kigali FIR during activation and operation of this Contingency Plan, are expected to comply with the requirements of this Plan and to cooperate with other airspace users as necessary for continued safety of air navigation.

Proposed amendments to this Contingency Plan shall be sent to;
ASECNA Representative
E-mail: rwandarep@asecna.org

1 DEFINITIONS AND ABBREVIATIONS

1.1 DEFINITIONS

Aircraft: Any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth's surface

AIRPROX: The code word used in an air traffic incident report to designate aircraft proximity.

Air Navigation Services: Services provided to air traffic during all phases of operations including Air traffic management (ATM), communication, navigation and surveillance (CNS), meteorological services for air navigation (MET), search and rescue (SAR) and aeronautical information services (AIS).

Airspace of a Sovereign State:

Sovereign airspace refers to airspace as established over the sovereign territory of a state or an FIR boundary as established by ICAO under the management or control of a State.

Airspace over the High Seas:

Airspace over the High Seas refers to airspace over international waters and delegated to a state by ICAO for the provision of air traffic services or air navigation services.

Airspace of Undetermined Sovereignty:

Airspace of Undetermined Sovereignty refers to airspace over a disputed territory or international waters that authority for the control or provision of air traffic services is not agreed on or is in dispute.

Air Traffic: All aircraft in flight or operating on the maneuvering area of an aerodrome.

Air Traffic Control Service: A service provided for the purpose of:

- a) Preventing collisions:
 1. Between aircraft, and
 2. On the maneuvering area between aircraft and obstructions; and
- b) Expediting and maintaining an orderly flow of air traffic.

Air Traffic Flow Management (ATFM): A service established with the objective of contributing to a safe, orderly and expeditious flow of air traffic by ensuring that ATC capacity is utilized to the maximum extent possible, and that the traffic volume is compatible with the capacities declared by the appropriate ATS authority

Air Traffic Management (ATM): The dynamic, integrated management of air traffic and airspace including air traffic services, airspace management and air traffic flow management — safely, economically and efficiently — through the provision of facilities and seamless services in collaboration with all parties and involving airborne and ground-based functions.

Delegated or Assigned Airspace of a Sovereign State

Delegated airspace refers to airspace for which the provision of air traffic services or air navigation services have been delegated to a state or FIR either by ICAO or by a state due to contingency.

Incident: An occurrence, other than an accident, associated with the operation of an aircraft that affects or could affect the safety of operation.

Level 1 Contingency: Partial system failure or degradation of ATM system that can be managed within the FIR or ACC with the local contingency plan or facilities.

Level 2 Contingency: Total failure of the entire ATM system or air navigation system requiring the assistance or intervention of adjacent FIR(s) for the provision of ATS.

Level 3 Contingency: Total failure of the entire ATM system or air navigation system requiring the avoidance of the concerned FIR or portion of airspace

NOTAM: 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.

Primary Surveillance Radar (PSR): A surveillance radar system which uses reflected radio signals.

Secondary Surveillance Radar (SSR): A surveillance radar system that uses transmitters/receivers (interrogators) and transponders.

Safety Management System: A system for the management of safety at aerodromes including the organization structure, responsibilities, procedures, process and provisions for the implementation of aerodrome safety policies by an aerodrome operator, which provides for the control of safety at, and the safe use of the aerodrome.

Safety: The state in which risks associated with aviation activities, related to, or in direct support of the operation of aircraft, are reduced and controlled to an acceptable level.

State Safety Programme (SSP): An integrated set of regulations and activities aimed at improving safety.

1.2 ABBREVIATIONS

ACC: Area Control Centre
AFI: Africa and Indian Ocean
AFTN: Aeronautical fixed telecommunication network
AIM: Aeronautical Information Management
AIP: Aeronautical Information Publication
AIREP: Air Report
ANS: Air Navigation Services
ANSP: Air Navigation Services Provider
APP: control office or approach control or approach control service
ASECNA: Agency for the Safety of Air Navigation In Africa and Madagascar
ATC: Air traffic control
ATFM: Air traffic flow management
ATM: Air traffic management
ATS: Air Traffic Services
CCC: Central Coordination Committee
CDM: Collaborative Decision Making
CNS: Communications, navigation and surveillance
COO: Chief Operation Officer
DRC: Republic Democratic of the Congo
ESAF: Eastern and Southern African
FIR: Flight information region
FIS: Flight information service
FLAS: Flight level Allocation Scheme

HF: High frequency
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
IFBP: IATA In-flight Broadcast Procedure
IFR: Instrument flight rules
LOA: Letter of Agreement
LOP: Letter of Procedure
MET: Meteorological
MHZ: Megahertz
MWOs: Meteorological Watch Office
No VA Exp: No Volcanic Ash Expected
NOF: International NOTAM office
NOTAM: A notice to airmen
PANS: Procedures for air navigation services
RCAA: Rwanda Civil Aviation Authority
SAR: Search and rescue
SSR: Second Surveillance Radar
TIBA: Traffic Information Broadcasts by Aircrafts
VAA: Volcanic Ash Advisory
VAACs: Volcanic Ash Advisory Centers Region
VAG: Graphical volcanic ash
VAR: Volcanic Activity Report
VFR: Visual flight rules
VHF: Very high frequency

2 OBJECTIVE

2.1 This contingency plan has been developed to detail the contingency arrangements, which will permit the continuation of international air traffic in the event of disruption or potential disruption of Air Traffic Services and systems.

It aims to:

- a) Provide a contingency response framework for Kigali FIR to ensure the safe, expeditious, effective and secure management of aircraft operations in the FIR, including transiting between other FIRs, during contingency events;
- b) Ensure timely and appropriate responses to all events resulting in disruption to the provision of Air Traffic Services (ATS), or in which ATS is involved, and hence to normal aircraft movement; and
- c) Provide a greater degree of certainty for airspace and aerodrome users during contingency operations.

3 SCOPE OF THE PLAN

3.1 The plan considers contingency situations which may result in a degradation of the ATS provided (limited service) as well as situations where there is a total loss of the ability to provide Air Traffic services (no service).

3.2 The Contingency Plan is structured to provide contingency measures or procedures to manage the following contingencies:

- a) Breakdown or interruption of ATM system (Communication, Navigation, Surveillance, ATM Operations and Human Factors);
- b) Natural Disasters (Volcanic Eruption, Earthquake, Tsunami, Extreme Weather, etc.);
- c) Industrial Action or Labour Unrest affecting Air Navigation Services;
- d) Security Challenges affecting Air Navigation System (Military Conflict, Acts of Unlawful Interference, Conflict Zones, etc.);
- e) Public Health Emergency;
- f) State exercising its sovereignty, sanctions over a state or territory, etc.

3.3 The plan shall be coordinated with adjacent States and civil aviation authorities responsible for air navigation services in the adjacent FIRs in accordance with the Letters of Procedure (LOPs) established between ANSP and adjacent FIRs concerned.

4 FLIGHT INFORMATION REGIONS AFFECTED

4.1 FIR for which the Contingency Plan Applies Kigali FIR.

4.2 FIRs and ATS units directly affected by this Contingency Plan are as follows:

- a) Burundi: Bujumbura FIR;
- b) Tanzania: Dar es Salaam FIR;
- c) Uganda: Entebbe FIR; and
- d) DRC: Kinshasa FIR

4.3 The contact details of the civil aviation authorities and organizations concerned are contained in Appendix A. These details should be kept up to date and relevant information provided to the focal point who will advise as soon as practicable for the purposes of review.

5 MANAGEMENT OF THE CONTINGENCY PLAN

5.1 LEVELS OF ATM CONTINGENCY

5.1.1 The following are levels of ATM contingencies that determine the planning for the effective management of contingencies:

Level 1 Contingencies: This refers to partial system failure or degradation of ATM system that can be managed within the FIR or ATS unit with the local contingency plan or facilities. In level 1 contingency, users may expect to fly within the affected airspace but with limited ATS such as no surveillance services, limited voice communication, increased separation, delays or application of ATFM measures. The contingency measures to internally address level 1 contingencies such as failure of primary communication, navigation, surveillance or ATM system are detailed in Chapter 5 of CNS MANOPS and Chapter 15 of manual of Air Traffic Services (MATS). In level 1 contingency, users may expect to fly within the Kigali airspace but with limited ATS such as no surveillance services, limited voice communication, increased separation minima and delays.

5.1.2 Level 2 Contingencies: This refers to total failure of an entire ATM system or air navigation system requiring the assistance or intervention of an ATS Unit located in another State for the provision of ATS. Under Level 2 Contingencies, the airspace or FIR is considered safe, but the responsible ATS Unit is unable to provide adequate ATS due to contingency events such as industrial action, public health emergency, earthquake, nuclear emergency, etc. In level 2 contingency users may expect to fly within the affected airspace but with limited ATS within specified contingency routes or Simplified Route Network with the application of flight level allocation scheme.

5.1.3 Level 3 Contingencies: Total unavailability of the airspace or FIR requiring the avoidance of Kigali FIR or portion of airspace. Under level 3 contingency, the airspace is closed and users are required to avoid the airspace and use contingency routes in appendix I attached to this contingency plan as per AFI contingency routes.

Level 3 contingencies may include:

- a) Airspace Not Safe, due to causal events such as industrial action, earthquake, nuclear emergency, etc. affecting the provision of ATS.
- b) Airspace Not Secured due to contingency events such as military activity, military conflict, war, terrorist activities, unlawful interference, etc. necessitating the avoidance of such airspace.
- c) Airspace Not Available, due to causal events such as national security-political decisions, civil unrest, imposition of sanctions, etc. necessitating the avoidance of such airspace

5.2 CENTRAL COORDINATION COMMITTEE

5.2.1 Whenever circumstances permit, as soon as practicable in advance of, or after a contingency event has occurred, the Director General RCAA shall convene the Central Coordination Committee (CCC) comprising of:

- 1) Director General, Rwanda Civil Aviation Authority
- 2) Managing Director, RAC
- 3) ASECNA Representative
- 4) Deputy Director General, RCAA
- 5) Director Air Navigation Services, RAC
- 6) Director Airport Unit, RAC
- 7) Director Aviation Infrastructure, Safety and Security Standards, RCAA
- 8) Chief Operations Officer (COO), RwandAir

5.2.2 The Central Coordination Committee (CCC) shall oversee the nature of the problem and the conduct of the Contingency Plan and in the event that the Kigali Area control center premises are out of service for an extended period, make arrangements for and facilitate the temporary relocation of Kigali Area Control Centre (ACC) to a Temporary Location or facility and the restoration of ATS services accordingly.

5.2.3 The primary responsibility of the CCC is to oversee the day to day operations under the contingency arrangements throughout the contingency period.

5.2.4 The contact details are in appendix B attached.

5.3 ATM OPERATIONAL CONTINGENCY GROUP (AOCG)

5.3.1 The ATM Operational Contingency Group (AOCG) shall be established by the CCC for the tactical or operational management of the contingencies due to disruptions affecting Kigali FIR. The terms of reference of the AOCG shall be determined by the CCC and is complies or the following.

- 1) Head ANS, RCAA
- 2) Manager of Airport operations ASECNA
- 3) Manager of ACC, ASECNA
- 4) Chief of CNS, ASECNA
- 5) Chief of AIM, ASECNA
- 6) Chief of MET, ASECNA
- 7) Chief of Safety, Security, Quality, and Environment, ASECNA.
- 8) National Search and Rescue Advisor, RAC
- 9) Military Representative
- 10) Manager Airport operations, RAC
- 11) Aircraft operators representative
- 12) Other agencies and stakeholders considered necessary and as may be appropriate (e.g. Police, etc.)

5.3.2 The AOCG shall also make assessment of risk to civil air traffic due to military conflict or acts of unlawful interference with civil aviation as well as a review of the likelihood and possible consequences of natural disasters or public health emergencies and take appropriate preparatory action.

5.3.3 The functions of the AOCG as in attached appendix C shall include but not limited to the following;

- i) Review and update of the Contingency Plan as required;
- ii) Keep up to date at all times of the contingency situation;
- iii) Organize contingency teams in each of the specialized areas;
- iv) Keep in contact with and update the ICAO Regional Office, operators and the IATA Regional office
- v) Exchange up-to-date information with the adjacent ATS authorities concerned to coordinate contingency activities;
- vi) Notify the designated organizations in Rwanda of the contingency situation sufficiently in advance and/or as soon as possible thereafter;
- vii) Issue NOTAMs according to the corresponding contingency situation or as otherwise needed (example NOTAMS are provided in **Appendix F**). If the situation is foreseeable sufficiently in advance, a NOTAM will be issued 48 hours in advance

5.3.4 Contact details of the AOCG members are provided in **Appendix C** to this document.

6 IMPLEMENTATION OF THE PLAN

6.1 In the event of adoption of contingency procedures, ANSPs will notify all affected agencies and operators appropriately.

6.2 In **Limited-Service** situations the ANSP (ASECNA Rwanda) will decide upon the level of notification necessary and take action as required to cascade the information. In this case notification of any service limitations and traffic management measures will be promulgated to operators and adjacent ANSPs via AFTN.

6.3 In **No Service** situations it is likely that the ATC facility involved will be subject to evacuation. In this instance the ANSP in collaboration with RCAA, will issue NOTAM and broadcast on appropriate frequencies that contingency procedures have been initiated. Operators in receipt of the contingency message are asked to forward this information to affected flights wherever possible.

6.4 The notification process employed by ANSP is detailed in this plan. However, the general format of Issued NOTAM advising operators of the evacuation as in **appendix F**.

7 PUBLIC HEALTH EMERGENCIES

7.1 Details of action to be taken by the air navigation services provider, pilots and airport users in the event of public health emergencies are contained in **appendix H** to this Contingency Plan.

8 VOLCANIC ASH CONTINGENCY PLAN

8.1 Details of action to be taken by the air navigation services provider, pilots and airport users in the event of Volcanic Ash cloud are contained in **appendix G** to this Contingency Plan.

9 CONTINGENCY ROUTE STRUCTURE

9.1 In the event of disruption, the ATS provided by Kigali Area Control Centre, contingency routes will be introduced to ensure safety of flights and to facilitate limited flight operations commensurate with the prevailing conditions. Existing ATS routes form the basis of the contingency routes to be used.

9.2 The contingency route structure for international flights is detailed in **Appendix D&E** to this document. If circumstances dictate, all flights shall be temporarily suspended until a full assessment of the prevailing conditions has been determined and sufficient air traffic services restored. A decision to restart operations will be made by the CCC.

9.3 Aircraft on long-haul international flights and Aircraft on special operations (e.g. Search and Rescue, State Aircraft, humanitarian flights etc) shall be handled by Kigali ACC.

9.4 International operators may elect to route around the Rwanda airspace. In such instances, the contingency routes to be used will be provided by States providing air traffic services in the adjacent FIRs concerned.

10 AIR TRAFFIC MANAGEMENT AND CONTINGENCY PROCEDURES

10.1 Reduced ATS and provision of flight information services (FIS)

10.1.1 During the contingency critical period, ATS including ATC may not be available, particularly with regard to availability of communications and radar services. In cases where services are not available, a NOTAM will be issued providing the relevant information, including an expected date and time of resumption of service. The contingency plan provides for limited flight information and alerting services to be provided by Kigali ACC.

10.1.2 A chart depicting the airspace arrangement is provided in **Appendix D**

10.2 ATS Responsibilities

10.2.1 During the early stages of a contingency event, ATC may be overloaded and tactical action taken to re-route aircraft on alternative routes not included in this Plan.

10.2.2 In the event that ATS cannot be provided in the Kigali FIR, a NOTAM shall be issued in concurrence with CCC indicating the following:

- a) time and date of the beginning of the contingency measures;
- b) airspace/routes available for landing and overflying traffic and airspace/routes to be avoided;
- c) details of the facilities and services available or not available and any limits on ATS provision (e.g. AREA/APPROACH, TOWER and FIS), including an expected date of restoration of services if available;
- d) information on the provisions made for alternative services;
- e) any changes to the ATS contingency routes contained in this Plan;
- f) any special procedures to be followed by neighboring ATS units not covered by this Plan if any;
- g) any special procedures to be followed by pilots; and
- h) any other details with respect to the disruption and actions being taken that aircraft operators may find useful.

10.2.3 All ATS units and the adjacent FIRs will be notified of the disruption or potential disruption of Air Traffic Services. All ATS units will make every effort, in consultation with other appropriate agencies, to restore normal operations after the disruption or potential disruption of the air traffic services as soon as practicable.

10.3 Aircraft Separation

10.3.1 Separation criteria will be applied in accordance with the Procedures for Air Navigation Services- Air Traffic Management (PANS-ATM, Doc 4444) and the Regional Supplementary Procedures (Doc 7030).

10.3.2 The minimum longitudinal separation applicable will be 15 minutes for aircraft maintaining the same level.

10.3.3 Aircraft on long-haul international flights shall be given priority with respect to cruising levels where possible in accordance with FLAS in this plan.

10.3.4 If ATC services become unavailable during the interruption of air traffic services, and depending on the level of service and anticipated outage of facilities, airspace classifications may be changed to reflect the reduced level of services. Changes to airspace classification will be notified by NOTAM.

10.4 Operational restrictions

10.4.1 VFR flights shall not operate in the Kigali FIR if there are extensive disruptions to ATC facilities, except in special cases such as State aircraft, Medivac flights, and any other essential flights authorized by the appropriate authority.

10.4.2 IFR General Aviation flights will receive a lower priority than all other flights and may be suspended or delayed depending on circumstances.

10.4.3 IFR commercial flights will receive a high priority together with state and Medivac flights.

10.5 Procedures for ATS Units

10.5.1 The ATS units providing ATC services will follow their unit's emergency operating procedures and activate the appropriate level of contingency procedures in line with this plan as follows:

a) The Kigali ACC on determining that ATS may be reduced or may be disrupted due to a contingency event, will inform pilots about the emergency condition and advise if it is likely that the Kigali ACC will be evacuated and ATS suspended. In the event that it becomes necessary to evacuate the Kigali ACC building, the unit evacuation procedures will be activated, and if time permits, controllers will make an emergency evacuation transmission on the radio frequency in use providing pilots with alternate means of communication.

b) During the period when the contingency procedures are in effect, flight plan messages must continue to be transmitted by operators to Kigali ACC and to the adjacent FIRs (KINSHASA, ENTEBBE, DAR ES SALAAM and BUJUMBURA) via AFTN using normal procedures;

Note: Depending on the phase of emergency and circumstances, the Kigali NOF may be suspended and alternatively use email (kiaaim@asecna.org) to communicate to the adjacent FIRs.

c) Operators may also choose to avoid the Kigali airspace, and the controlling authorities of the FIRs concerned will provide air traffic services as appropriate.

d) Prior to entry to Kigali FIR during contingency operations, prior authorization must be obtained from Rwanda CAA through Clearance office (clearance@caa.gov.rw), mobile telephone **+250-788468888** and flights must comply with the ATC (clearance/route, flight level) and communication instructions issued by ACC/APP responsible for the airspace immediately adjacent to the Kigali ACC contingency airspace.

e) Coordination of aircraft boundary estimates and flight levels by the adjacent ACC/APP responsible for the aircraft entering Kigali FIR shall be in accordance with this Contingency plan.

f) The ACC/APP responsible for the aircraft entering Kigali FIR will instruct pilots to maintain the last flight level assigned and speed (MACH number where applicable) while operating in Kigali FIR.

10.5.2 Other measures related to the closure of airspace and the implementation of the contingency plan with the Kigali FIR may be:

- a) Suspension of all VFR operations;
- b) Delay or suspension of general aviation IFR operations; and
- c) Delay or suspension of commercial IFR operations.

11 TRANSITION TO CONTINGENCY PLAN

11.1 During times of uncertainty when airspace disruption/closures of air traffic service seem possible, aircraft operators should be prepared for a possible change in routing while en-route. Contingency routes (CRs) outlined in this Contingency Plan, **appendix E** would be promulgated by NOTAM for familiarization and information to operators.

11.2 In the event of airspace closure that has not been promulgated, Kigali ACC will, if possible, broadcast to all aircraft in the airspace affected by the disruption and provide any further instructions.

11.3 ATS provider should recognize that when closures of airspace or airports are promulgated, individual airlines might have different company requirements as to their alternative routings. ATC should be alert to respond to specific requests by aircraft and react commensurate with safety.

12 TRANSFER OF CONTROL AND COORDINATION

12.1 The transfer of control and communication should be at the common FIR boundary between ATS units or as agreed in the letters of procedures.

13 PILOT AND OPERATOR PROCEDURES

13.1 Filing of flight plans

13.1.1 Flight planning requirements for the Kigali FIR are to be followed in respect to normal flight planning requirements contained in the Aeronautical Information Publication (AIP-Rwanda).

13.2 Aircraft position reporting

13.2.1 Pilots will continue to make routine position reports in line with normal ATC reporting procedures on the published ATC frequencies.

13.2.2 Pilots shall also use the IFBP VHF frequency **126.9 Mhz** when making routine position reports.

13.3 Pilot operating procedures

13.3.1 Aircraft over-flying the Kigali FIR shall strictly comply with the following procedures:

a) All aircraft proceeding along the ATS routes established in this Contingency Plan will comply with the Instrument Flight Rules (IFR) and will be assigned a flight level in accordance with the flight level allocation scheme applicable to the route(s) being flown as specified in **Appendix E**;

b) Aircraft are to operate along or as close as possible to the center line of the assigned contingency route except where SLOP is applied;

c) Pilots are to keep a continuous watch on the specified contingency frequency and transmit the aircraft's position in line with normal ATC position reporting procedures;

d) Keep navigation and anti-collision lights on while overflying the Kigali FIR;

e) Maintain the flight level last assigned by the last adjacent ACC/APP responsible prior to the aircraft entering the Kigali FIR except in cases of emergency or for flight safety reasons.

f) Maintain the last SSR transponder code assigned or if no transponder has been assigned, transmit on SSR code A2000.

g) Aircraft is to reach the flight level last assigned by the responsible ACC at least 10 minutes before entering the Kigali FIR or as otherwise instructed by the ATC unit in accordance with the LOPs with Kigali;

h) Pilots are to include in their last position report prior to entering the Kigali FIR, the estimated time over the entry point of the Kigali FIR and the estimated time of arrival over the relevant exit point of the Kigali FIR;

i) Pilots are to contact the next adjacent ACC as soon as possible, and at the latest, ten (10) minutes before the estimated time of arrival over the relevant exit point of Kigali FIR;

j) Pilots are to strictly adhere to the ICAO Traffic Information Broadcasts by Aircraft (TIBA) and maintain a continuous listening watch on In-Flight Broadcast Procedures (IFBP)VHF frequency **126.9 MHz**, as well as on the specified VHF on 121.5MHz.

13.3.2 When necessitated by emergency conditions, pilots are to transmit blind on these frequencies, their current circumstances and the commencement and completion of any climb and descent or deviation from the cleared contingency route.

13.4 Overflight Approval

13.4.1 Aircraft operators must obtain flight approval from RCAA prior to operating flights through the Kigali FIR.as mentioned in 10.5.1(d) above.

13.4.2 During the period of activation of this contingency plan the adjacent ATS unit is not responsible for coordination or provision of overflight clearance for Kigali FIR. The operator must ensure that any required overflight approval has been obtained. Rwanda Civil Aviation Authority will consider making special arrangements to expedite flight approvals in these contingency situations.

13.5 Interception of civil aircraft

13.5.1 Pilots need to be aware that in light of current international circumstances, a contingency routing requiring aircraft to operate off of normal traffic flows, could result in an intercept by military aircraft. Aircraft operators must therefore be familiar with international intercept procedures contained in Part 40 of the Rwanda civil aviation regulations concerning interception of civil aircraft.

13.5.2 Pilots are required to continuously guard the VHF frequencies 406 MHz and 121.5 MHz and should operate their transponder at all times during flight, regardless of whether the aircraft is within or outside airspace where secondary surveillance radar (SSR) is used for ATS purposes. Transponders should be set on a discrete code last assigned by ATC or select code A2000 if ATC has not assigned a code.

13.5.3 If an aircraft is intercepted by another aircraft, the pilot shall immediately:

- a) Follow the instructions given by the intercepting aircraft, interpreting and responding to visual signals in accordance with international procedures;
- b) Notify, if possible, the appropriate ATS unit;
- c) Attempt to establish radio communication with the intercepting aircraft by making a general call on the emergency frequency 121.5 MHz and 243 MHz if equipped; and
- d) Set transponder to code 7700, unless otherwise instructed by the appropriate ATS unit.

13.5.4 If any instructions received by radio from any source conflict with those given by the intercepting aircraft, the intercepted aircraft shall request immediate clarification while continuing to comply with the instructions given by the intercepting aircraft.

14 COMMUNICATION PROCEDURES

14.1 Degradation of Communication - Pilot Radio Procedures

14.1.1 When operating within the contingency airspace of the Kigali FIR, pilots should use normal radio communication procedures where ATS services are available. These will be in accordance with the communication procedures in this Plan or as otherwise notified by NOTAM.

14.1.2 If communications are lost unexpectedly on the normal ATS frequencies, pilots should try the next applicable frequency, e.g. if en-route contact is lost then try the next appropriate frequency, that is, the next normal handover frequency. Pilots should also consider attempting to contact ATC on the last frequency where two-way communication had been established. In the absence of any communication with ATC, the pilot should continue to make routine position reports on the assigned frequency, and also broadcast positions in accordance with the ICAO Traffic Information Broadcast Aircraft.

15 AERONAUTICAL SUPPORT SERVICES

15.1 Aeronautical Information Services (AIS)

15.1.1 If there would be any major disruption to the NOTAM service by AFTN for the Kigali FIR, NOTAM services and flight planning would be provided through AMHS/email (kiaaim@asecna.org)

15.2 Aeronautical Meteorological Services (MET)

15.2.1 It is expected that the aeronautical MET services provided by Rwanda Airports Company would continue to be available in the event of an ATS contingency situation. However, should ATS services for the Kigali FIR be withdrawn, timely MET information may not be immediately available to aircraft in flight. Alternative means of obtaining up to date MET information concerning the Kigali FIR will be provided to the extent possible through the adjacent ATS authorities.

16 SEARCH AND RESCUE

The SAR Point of Contact (SPOC) is:

Name: Mr. KWIZERA Geoffrey

Tel: +250788445486/ +250726952801

AFTN: HRYRYFYX

E-mail: kigalircc@rac.co.rw

16.2 In the event that the Kigali ACC is not available to coordinate with Rescue Coordination Center (RCC) for a given SAR operation, Kigali ACC will assume the responsibility for coordination.

17 COORDINATION OF CONTINGENCY

17.1 The ATS unit shall notify the CCC the status of contingency, the CCC is assigned with the responsibility of monitoring developments that may dictate the enforcement of the contingency plan and coordination of contingency arrangements.

17.2 During a contingency situation, the CCC will liaise with the adjacent FIRs through the ICAO ESAF Regional Office.

17.3 The ICAO ESAF Office will:

a) closely monitor the situation and coordinate with all affected states/Territories/International Organizations and the IATA Regional Office, so as to ensure air navigation services are provided to international aircraft operations in the AFI Region;

b) take note of any incidents reported and take appropriate action;

c) provide assistance as required on any issue with the Civil Aviation Administrations involved in the contingency plan; and

d) keep the President of ICAO Council, the Secretary General and Director Air Navigation Bureau at ICAO Headquarters continuously informed on developments, including activation of the contingency plan.

18 REPORTING PROCEDURES DURING AND AFTER CONTINGENCY OPERATIONS

18.1 The Point of Contact for Rwanda shall ensure timely provision of updates or progress reports to the AFI CCT during and after the contingency situation.

18.2 Rwanda CAA shall submit a comprehensive report to the ICAO Regional Office (ESAF) detailing volume of traffic operations over the contingency airspace, operational challenges encountered, safety reports, as well as recommended action.

APPENDIX A: CONTACT DETAILS FOR CONCERNED STATES, ICAO REGIONAL OFFICE AND IATA

State/Organization	Point of contact	Telephone	E-mail
Tanzania	Tanzania CAA	+255222198100	tcaa@tcaa.go.tz
	Flora Alphonse Mwanshinga Ag. Director ANS TCAA	+255766442405	flora.mwanshinga@tcaa.go.tz
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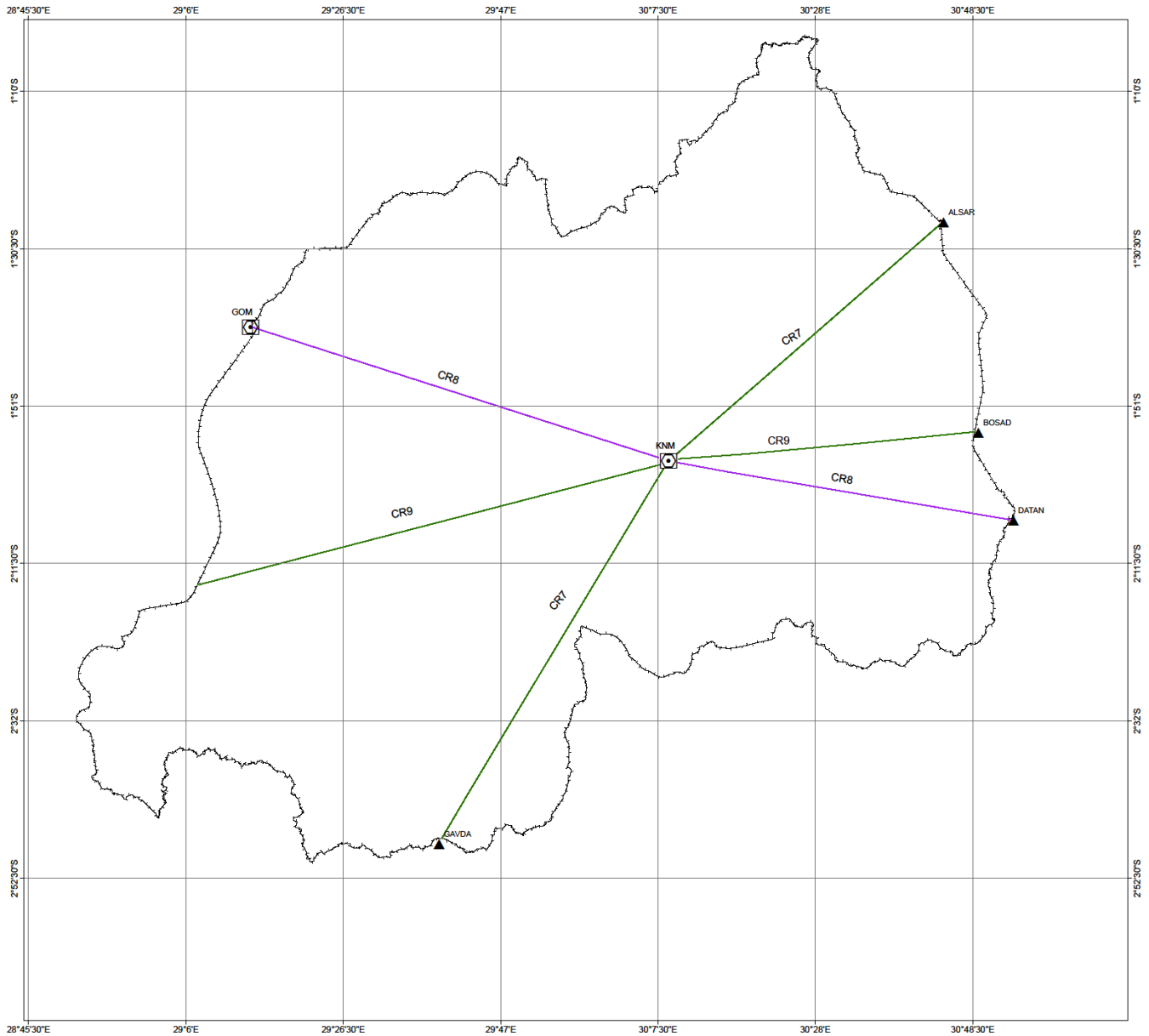
APPENDIX B: CONTACT DETAILS FOR CENTRAL COORDINATION COMMITTEE (CCC)

Organization	Post and Name	Telephone	E-mail
RCAA	Mr. Silas Udahemuka Director General	+250724123000 +250788302641	info@caa.gov.rw sudahemuka@caa.gov.rw
ASECNA	ASECNA Representative	+250733000018	rwandarep@asecna.org
RAC	Charles Habonimana Managing Director	+250724123001	info@rac.co.rw chabonimana@rac.co.rw
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APPENDIX C: CONTACT DETAILS FOR ATM OPERATIONAL CONTINGENCY GROUP (AOCG)

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APPENDIX D: CONTINGENCY ROUTE MAP STRUCTURE FOR KIGALI FIR



APPENDIX E: CONTINGENCY ROUTE STRUCTURE AND FLIGHT LEVEL ALLOCATION SCHEME (FLAS) DURING ATS DISRUPTION OF KIGALI FIR

Contingency Route	Present ATS Route	Contingency routings	FLAS	Minimum Longitudinal Separation	FIRs involved
CR7	UL432	BJA-KNM - NN	FL350 – FL340	15 Minutes	HUEC, HRYR, and HTDC
CR8	UB531	GOM-KNM - MV	FL310 – FL320	15 Minutes	FZZA, HRYR, and HTDC
CR9	UL442	BKV-KNM - NV	FL290 – FL300	15 Minutes	FZZA, HRYR, and HTDC

APPENDIX F: EXAMPLE OF NOTAM

PARTIAL/COMPLETE UNAVAILABILITY OF THE AIR TRAFFIC SERVICES/AIRSPACE FOR KIGALI

NOTAM WEF TO KIGALI AIRSPACE ALL FLIGHTS SHALL COMPLY WITH THE REQUIREMENT OF SELECT SPECIFIC CONTINGENCY ROUTES AND FLIGHT LEVELS APPLICABLE TO THE CONTINGENCY ROUTES AS DETAILED HERE BELOW. ADJACENT AREA CONTROL CENTRES OF DAR ES SALAAM, ENTEBBE AND KINSHASA WILL ALLOCATE ONLY THE CONTINGENCY ROUTES AND FLIGHT LEVELS SPECIFIED AS FOLLOWS:

A) CR7 (UL432) BJA – KNM - NN

EASTBOUND FL350, WESTBOUND FL 340.

MINIMUM LONGITUDINAL SEPARATION APPLICABLE IS 15 MINUTES.

B) CR8 (UB531) GOM - KNM- MV

EASTBOUND FL310, WESTBOUND FL320

MINIMUM LONGITUDINAL SEPARATION APPLICABLE IS 15 MINUTES.

C) CR9 (UL442) BKV – KNM - NV

EASTBOUND FL290, WESTBOUND FL300

MINIMUM LONGITUDINAL SEPARATION APPLICABLE IS **15 MINUTES**.

PILOTS WHO HAVE BEEN ASSIGNED WITH A FLIGHT LEVEL NOT IN ACCORDANCE WITH THE FLAS, SHOULD TRY TO ESTABLISH CONTACT WITH THE ATS UNIT RESPONSIBLE FOR THE PROVISION OF SERVICE TO CLARIFY, AND IF UNABLE, ADJUST TO THE FLAS AS SOON AS POSSIBLE ONCE IN THE CONTINGENCY AIRSPACE.

APPENDIX G: VOLCANIC ASH CLOUD CONTINGENCY PLAN FOR KIGALI FIR

1. Introduction

1.1. The purpose of Air Traffic Management (ATM) Volcanic Ash Contingency Plan is to set out standardized guidelines and procedures for the provision of information to airlines and en route aircraft before, during and after volcanic eruption. Volcanic contaminations, of which volcanic ash is the most serious, may be a hazard for flight operations; the issue cannot be resolved in isolation but through collaborative decision making (CDM) involving all entities concerned. During an eruption, volcanic contamination can reach and exceed the cruising altitudes of turbine-powered aircraft within minutes and spread over vast geographical areas within a few days. Encountering with volcanic ash may result in one or more of the following and associated problems:

- a) The malfunction, or failure of engine(s) leading not only to reduction, or complete loss of thrust but also to failures of electrical, pneumatic and hydraulic systems;
- b) Blockage of pilot and static sensors resulting in unreliable airspeed indications and erroneous warnings;
- c) Partial or complete opaque rendering of windscreens;
- d) Smoke, dust and/or toxic chemical contamination of cabin air requiring crew use of oxygen masks, thus impacting communications; electronic systems may also be affected;
- e) Corrosion of external and internal aircraft components;
- f) Reduced electronic cooling efficiency leading to a wide range of aircraft system failures;
- g) Aircraft to be maneuvered in an abnormal manner
- h) Deposits of volcanic ash on a runway which degrades braking performance, most significantly if the ash is wet. In extreme cases this can lead to runway closure.

1.2. Volcanic ash can also affect the operation of aircraft at an aerodrome.

1.3. Ash deposited at aerodrome (s), even in very small amount, can result in closure of the aerodrome until all the ash has been removed. In extreme cases aerodrome(s) might no longer be available for use, resulting in loss of ATM infrastructure / system and economy.

1.4. It should be noted that some aircraft types or engine technologies are more vulnerable to volcanic ash contaminants; any specific measures to be applied would therefore have to take into account these variances. Considering that an aircraft travels in half that time, a timely response to reports of volcanic ash is essential.

1.5. It is imperative that information on the volcanic activity is disseminated as soon as possible. In order to assist staff in expediting the process of originating and issuing relevant AIS and/or MET messages a series of steps is available for different stages of the volcanic activity at the International NOTAM office with volcano name, number and nominal position.

2. VOLCANIC EVENT

2.1. The response to a volcanic event that affects air traffic has been divided into four distinct phases (Pre-Eruption Phase, Start of Eruption Phase, Ongoing Eruption Phase, and Recovery Phase) as set out in Doc 9974. (Flight Safety and Volcanic Ash). The four phases cover an actual event only and do not describe ATM activities that need to be performed before or after a volcanic event.

2.2. Flight crews shall report observations of volcanic activity by means of a special air-report (Special AIREP).

2.3. Volcanic events information (both from the scientific community and pilots) shall be transferred without delay to the aeronautical meteorology station for subsequent action.

2.4. Phases of an event

2.4.1 Pre-eruption phase (when applicable):

The initial response, "raising the alert", commences when a volcanic eruption is expected.

2.4.2 Start of eruption phase (when applicable):

The start of eruption phase commences at the outbreak of the volcanic eruption and entrance of volcanic ash into the atmosphere and mainly pertains to aircraft in flight.

2.4.3 Ongoing eruption phase:

The ongoing eruption phase commences with the issuance of the first volcanic ash advisory (VAA) after completion of reactive response.

2.4.4 Recovery phase:

The recovery phase commences with the issuance of the first Volcanic Ash Advisory (VAA) containing a statement that "NO VA EXP" (i.e. no volcanic ash expected") which normally occurs when it is determined that no volcanic ash is expected in the atmosphere and the volcanic activity has reverted to its pre- eruption state

3. PRE-ERUPTION PHASE

3.1. General

3.1.1 Where flight operations are planned in areas that are susceptible to volcanic eruptions, ATM may expect to receive from pilots the ICAO Volcanic Activity Report (VAR) form (published in the Procedures for Air Navigation Services – Air Traffic Management (PANS-ATM, Doc 4444) Appendix 1).

3.1.2 The focus of this phase is to gain early recognition of volcanic events. This phase is frequently characterized by a very limited availability of information on the potential extent and severity of the upcoming eruption.

3.1.3 The priority is to ensure the safety of aircraft in flight and there is therefore a requirement to promulgate information as a matter of urgency. Regardless of the extent of information available, the pre- eruption phase actions should be carried out for every expected eruption.

3.1.4 Initial awareness of the event can be by means of a Special AIREP/Volcanic Activity Report and/or meteorological or volcano logical agencies.

Air traffic management in collaboration with the meteorological office shall ensure that alerting information is provided expeditiously by the most appropriate means to ensure safety of flight.

3.1.5 Emphasis is placed on raising awareness of the hazard and to protect aircraft in flight.

3.1.6 Aircraft are expected to clear or avoid the affected area based on standard operating procedures.

3.1.7 Appropriate AIS and MET messages may be issued in accordance with the relevant Rwanda Civil Aviation Technical Standards (RCATS), respectively, and disseminated to affected aircraft in flight by the most expeditious means.

3.1.8 In the event that volcano erupts unexpectedly without any alert being raised the pre-eruption phase will be omitted.

3.2 The Kigali Area Control Unit actions

3.2.1 In the event of significant pre-eruption volcanic activity, eruption of volcanic, or a volcanic ash cloud being reported which could pose a hazard to aviation, the approach Unit on receiving such information, shall carry out the following:

- a) Define an initial, precautionary danger area in accordance with established procedures. The size of the danger area shall be a circle with a radius of (15 NM) center on focal or estimated location of activity.
- b) Alert flights already within the danger area by providing with all necessary information required to make safe and efficient decisions in dealing with the hazards in the defined area and offer assistance to enable them to exit the area in the most expeditious and appropriate manner.
- c) Aircraft that are close to the danger area should be offered assistance to keep clear of the area.
- d) Tactically re-clear flights which would penetrate the danger area onto routes that will keep them clear.
- e) Continue to provide normal services. It is the responsibility of the pilot-in-command to determine the safest course of action. Kigali Approach will not initiate a clearance through a danger area.
- f) Inform the associated MET service in accordance with national and regional arrangements (unless the initial notification originated from either of these entities).
- g) Immediately notify adjacent ACCs of the event and the location and dimensions of the danger area.
- h) The Approach Control Unit should also negotiate any re- routings necessary for flights already coordinated but still within adjacent flight information regions (FIRs) and provide any information on potential implications on traffic flow and its capability to handle the expected traffic.
- i) It is also expected that adjacent ACCs will be asked to reroute flights not yet coordinated to keep them clear of the danger area.
- j) It should be noted that pilots may make the decision not to completely avoid the danger area based on e.g. visual observations.
- k) Implement flow management measures if necessary to maintain the required level of safety.
- l) Ensure that appropriate AIS messages are originated and disseminated in accordance with RCATS-AIS.
- m) The information must be as precise as is available regarding the activity of the volcano.
- n) In addition to sending the relevant AIS messages to the normal distribution list, it will be sent to the relevant meteorological agencies.

3.3 Adjacent ACC Actions

3.3.1 During the pre-eruption phase ATC will not normally initiate clearances through the danger area; however, it will inform aircraft about the potential hazard and continue to provide normal services.

3.3.2 Any ash contamination would be expected to be contained within a limited area and disruption to traffic should not be excessive.

3.3.3 Adjacent ACCs should take the following action to assist:

- a) When advised, re-clear flights to which services are being provided and which will be affected by the danger area.
- b) Unless otherwise instructed, continue normal operations; and
- c) if one or more routes are affected by the danger area, suggest re- routing(s) to the affected aircraft onto routes clear of the danger area; and
- d) Maintain awareness of the affected area

4 START OF ERUPTION PHASE

4.1 General

4.1.1 This phase commences at the outbreak of volcanic eruption.

4.1.2 The focus of the processes in this phase is to protect aircraft in flight and on aerodromes from the hazards of the eruption; to collect relevant information; and to combine the information available into reliable information about the volcanic cloud.

4.1.3 In addition to relevant actions described under the pre-eruption phase, major activities of the start of eruption phase are: Issuance of relevant AIS and MET messages in accordance with relevant RCATS; and

4.1.4 Provision of information and assistance to airborne traffic.

4.1.5 As appropriate, danger areas will be notified via NOTAM. This phase will last until such time as the ongoing eruption phase can be activated.

4.2 Kigali Area Control Unit Actions

4.2.1 The ACC unit will inform flights about the existence, extent and forecast movement of volcanic ash and provide information useful for the safe and efficient conduct of flights.

4.2.2 If necessary, re-routing of traffic should commence immediately or may be in progress if the alerting time has been sufficient to facilitate activation of the pre-eruption phase. The Approach unit will assist in re-routing aircraft around the danger area as expeditiously as possible. Adjacent ACCs are also expected to take the danger area into account and give similar assistance to aircraft as early as possible.

4.2.3 During the start of eruption phase, although ATC will not normally initiate a clearance through a danger area, it will inform aircraft about the hazard and will continue to provide normal services. It is expected that aircraft will attempt to remain clear of the danger area; however, it is the responsibility of the pilot-in-command to determine the safest course of action.

4.2.4 During the start of eruption phase the Approach control unit should:

a) Ensure that a NOTAM is originated to define the danger area. The area is delineated cautiously so as to encompass a volume of airspace in accordance with the limited information available. In determining the area, information on upper winds should be taken into account, if available.

The purpose is to ensure safety of flight in the absence of any prediction from a competent authority of the extent of contamination.

b) Maintain close liaison with MET service providers, who should issue appropriate MET messages in accordance with the RCATS-MET.

c) Based on these forecasts and in collaboration with aircraft operators and the adjacent ACCs using the CDM process, ATFM measures should be devised and updated when necessary to ensure safety of flight operations.

d) Ensure that reported differences between published information and observations (pilot reports, airborne measurements, etc.) are forwarded as soon as possible to the appropriate authorities to ensure its dissemination to all concerned.

e) Begin planning for the ongoing eruption phase in conjunction with the aircraft operators, the appropriate ATFM unit and ACCs concerned.

f) Should significant reductions in intensity of volcanic activity take place during this phase and the airspace no longer is contaminated by volcanic ash, appropriate AIS messages should be issued in accordance with RCATS-AIS. Otherwise, begin CDM planning for the ongoing eruption phase in conjunction with aircraft operators, the appropriate ATFM unit and the affected ACCs.

4.2.5 Appropriate AIS and MET messages may be issued as appropriate in accordance with relevant RCATS, respectively, and a danger area may be declared by NOTAM. Normally, clearances will not be issued through the danger area unless explicitly requested by the flight crew.

4.3 Adjacent ACC actions

4.3.1 During the start of eruption phase adjacent ACCs should take the following actions:

- a) Maintain close liaison with the appropriate concerned unit and the originating ACC to design, implement and keep up to date ATFM measures which will enable aircraft to ensure safety of flight operations.
- b) In the event that tactical measures additional to those issued by the appropriate ATFM unit are required, the adjacent ACC should, in collaboration with the originating ACC and aircraft operators, impose such measures.
- c) Maintain plotting of the affected area.
- d) Begin planning for the ongoing eruption phase in conjunction with the aircraft operators, the appropriate ATS unit and ACCs concerned.

Note: During the start of eruption phase, depending on the impact of the volcanic ash, the appropriate ATS unit should organize the exchange of latest information on the developments with the associated VAACs, ANSPs, MWOs and operators concerned in order to support CDM.

5 ONGOING ERUPTION PHASE

5.1 The ongoing eruption phase commences with the issuance of the first complete VAA by the lead VAAC in accordance with RCATS-MET. Note that volcanic ash advisory information in graphical format (VAG) may be issued by the VAAC, containing the same information as its text-based VAA equivalent.

5.2 The VAA/VAG should be used to:

- a) Publish appropriate MET and AIS messages in accordance with RCATS MET and AIS; and
- b) Plan and apply appropriate ATFM measures.

5.3 The volcanic contamination may affect any combination of airspace; therefore, it is impossible to prescribe measures to be taken for any particular situation nor is it possible to detail the actions to be taken by any particular ACC. The following guidance may prove useful during the ongoing eruption phase but should not be considered mandatory:

- a) ACCs affected by the movement of the ash should ensure that appropriate AIS messages are originated in accordance with RCATS-AIS. ACCs concerned should continue to publish details on measures taken to ensure dissemination to all concerned.
- b) Depending on the impact of the volcanic ash, the appropriate unit may take the initiative to organize teleconferences to exchange latest information on the developments, in order to support CDM, with the VAACs, ANSPs and MWOs and operators concerned.
- c) The concerned ATS units should be aware that for the purpose of flight planning, operators could treat the horizontal and vertical limits of the contaminated area to be over-flown as they would mountainous terrain.
- d) Any reported differences between published information and observations (pilot reports, airborne measurements, etc.) should be forwarded as soon as possible to the appropriate authorities.
- e) Appropriate AIS and MET messages may be issued as appropriate in accordance with RCATS AIS and MET, respectively.

6 RECOVERY PHASE

6.1 The recovery phase commences with the issuance of the first VAA/VAG containing a statement that "NO VA EXP" (i.e. no volcanic ash expected") which normally occurs when it is determined that the volcanic activity has reverted to its non-erupting state and the airspace is no longer affected by volcanic ash contamination. Consequently, appropriate AIS messages should be issued in accordance with RCATS – AIS.

6.2 ATS units should revert to normal operations as soon as practical.

7 AIR TRAFFIC CONTROL PROCEDURES

7.1 If volcanic ash is reported or forecast in the FIR for which Kigali Approach control unit will do the following procedures:

- a) Relay all available information immediately to pilots whose aircraft could be affected to ensure that they are aware of the horizontal and vertical extent of the ash contamination;
- b) if requested, suggest appropriate re-routing to assist flights to avoid areas of known or forecast ash contamination;

- c) when appropriate, remind pilots that volcanic ash cannot be detected by ATC radar systems;
- d) normally, ATC will not initiate a clearance through a danger area during the pre-eruption phase and the start of eruption phase; however, on the explicit request of a flight crew, a clearance could be provided. The existence of a danger area due to the presence of volcanic ash indicates the presence and extent of the hazard, hence ATC will inform aircraft about the hazard and will continue to provide normal services. It is then the responsibility of the pilot-in-command to determine the safest course of action in accordance with the operator's advice;
- e) assistance to enable an aircraft to exit a danger area in the most expeditious and appropriate manner should be provided; and
- f) If the Kigali ACC has been advised by an aircraft that it has entered an area of ash contamination and indicates that a distress situation exists:
 - i) consider the aircraft to be in an emergency situation;
 - ii) do not initiate any climb clearances to turbine-powered aircraft until the aircraft has exited the area of ash contamination; and
 - iii) Do not attempt to vectors aircraft without pilot concurrence.
- g) Solicit pilot reports for the characteristics of the ash cloud including cloud base, top, layers and the presence of Sulphur.
- h) Disseminate Special AIREPs in accordance with established procedures.
- i) The recommended escape manoeuvre for an aircraft which has encountered volcanic ash is to reverse its course and begin a descent (if terrain permits). However, the final responsibility for this decision rests with the pilot Attachment: A

ANTICIPATED PILOT ISSUES WHEN ENCOUNTERING VOLCANIC ASH

1. ATCOs should be aware that flight crews will be immediately dealing with some or all of the following issues when they encounter volcanic ash:

- a) Smoke or dust appearing in the cockpit which may prompt the flight crew to don oxygen masks (could interfere with the clarity of voice communications);
- b) Acid smell similar to electrical smoke;
- c) Multiple engine malfunctions, such as stalls, increasing exhaust gas temperature (EGT), torching, flameout, and thrust loss causing a failure to maintain assigned altitude/flight level;
- d) On engine restart attempts, engines may accelerate to idle very slowly, especially at high altitudes (could result in inability to maintain altitude or Mach number);
- e) At night, St. Elmo's fire/static discharges may be observed around the windshield, accompanied by a bright orange glow in the engine inlet(s);
- f) Possible loss of forward visibility due to ash abrasion on cockpit windows. Windscreen may become cracked or discolored and markedly reduce visibility for approach and landing. Visibility may be limited to that which is available through the side windows
- g) Sharp distinct shadows cast by landing lights as compared to the diffused shadows observed in clouds (this affects visual perception of objects outside the aircraft).

2. Simultaneously, ATC can expect pilots to be executing contingency procedures such as the following:

- a) if possible, the flight crew may immediately reduce thrust to idle;
- b) Exit volcanic ash cloud as quickly as possible. The shortest distance/time out of the ash may require an immediate, descending, 180-degree turn (terrain permitting);
- c) Put flight crew oxygen masks on at 100 per cent (if required);

d) Monitor airspeed and pitch attitude. If unreliable airspeed is suspected, or a complete loss of airspeed indication occurs (volcanic ash may block the pitot system), the flight crew will establish the appropriate pitch attitude;

e) Land at the nearest suitable airport; and

f) On landing, reverses may be used as lightly as feasible.

APPENDIX H: PUBLIC HEALTH EMERGENCIES

AIR TRAFFIC SERVICES PROCEDURES FOR THE NOTIFICATION OF SUSPECTED COMMUNICABLE DISEASES OR OTHER PUBLIC HEALTH RISK ON BOARD AN AIRCRAFT.

1. OVERFLIGHTS

1.1 The flight crew of an en-route aircraft shall, upon identifying a suspected case (s) of communicable disease or other public health risk on board an aircraft, promptly notify Area control unit.

The Area Control unit will obtain the following;

- a) Aircraft identification;
- b) Departure Aerodrome;
- c) Destination Aerodrome;
- d) Estimated time of Arrival;
- e) Number of Persons on board;
- f) Number of suspected case(s) on board; and
- g) Nature of public health risk, if known.

1.2 The area control unit will communicate the above information to the Air traffic services unit at the departure and destination as well to the next FIR along route of the aircraft.

2. ARRIVALS

2.1 The Air Traffic Control Unit receiving the message will obtain the following information;

- a) Aircraft identification;
- b) Departure Aerodrome;
- c) Destination Aerodrome;
- d) Estimated time of Arrival;
- e) Number of Persons on board;
- f) Number of suspected case(s) on board; and
- g) Nature of public health risk, if known.

2.2 The Air Traffic Control Unit will forward the above information to the Airport Manager and Aircraft Operator.

2.3 Parking of the affected aircraft

The duty ground controller is expected to designate the parking area of the affected aircraft taking into consideration of access to emergency vehicles, medical personnel and other general aircraft services.

APPENDIX I: UNAVAILABILITY OF HRYP (KIGALI) FIR

FROM EAST TO WEST AND WEST TO EAST
NN-MEVAR CAR... FPL FLAS PER LOP FZZA, HUEC

FROM EAST TO WEST AND WEST TO EAST
MV-UG450-BJA CAR... FPL FLAS PER LOP HTDC

FROM NORTH TO SOUTH AND SOUTH TO NORTH
NN-DCT-GETAB CAR... FPL FLAS PER LOP HUEC, HTDC