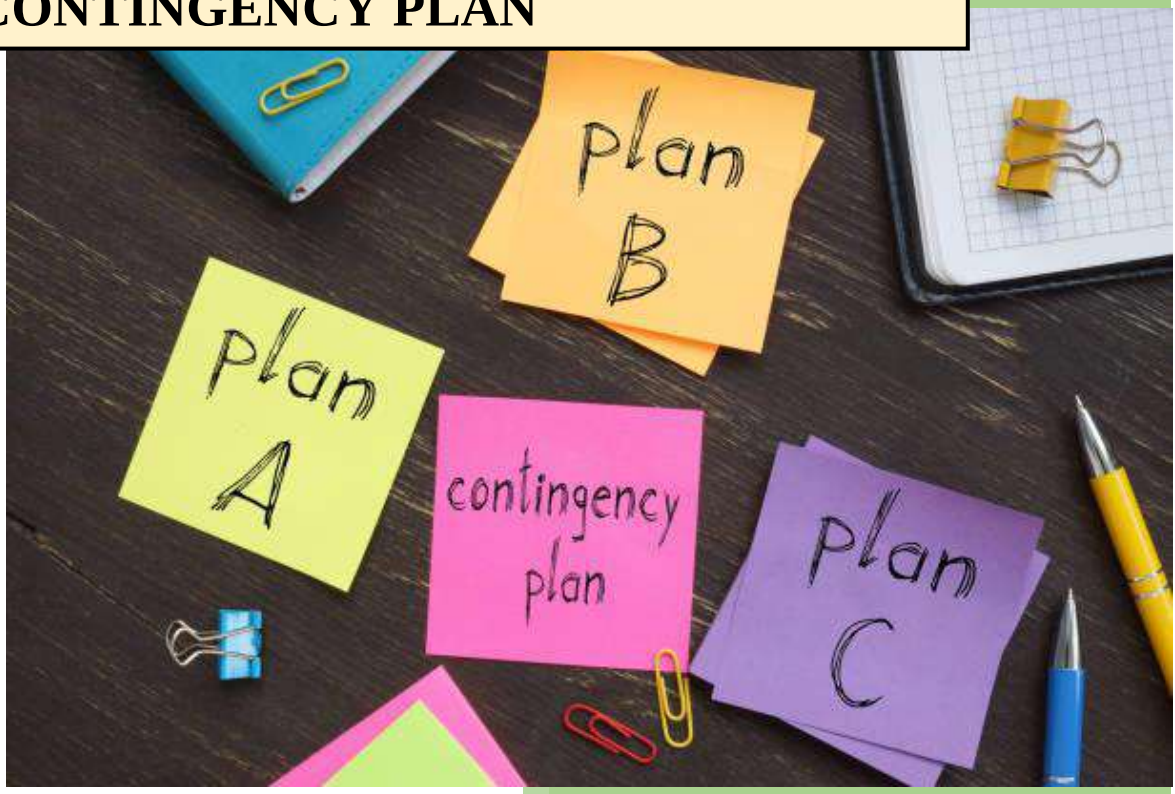
AIR TRAFFIC MANAGEMENT CONTINGENCY PLAN



FOREWORD

This is the Uganda Air Traffic Management (ATM) Contingency Plan for Air Traffic Services (ATS) for the Airspace of Entebbe Flight Information Region (FIR). The Director Air Navigation Services (DANS) of Uganda Civil Aviation Authority (UCAA) is the authority for the Contingency Plan to be operational in Uganda.

This Contingency Plan provides for the arrangements to be introduced to permit the continuance of flights to transit the Entebbe FIR, in the event that the air traffic and support services normally undertaken by the Entebbe Area Control Centre (ACC) should become partially or totally unavailable due to any occurrence that restricts flight operations, ATS operations during this interim period and flight operations in Uganda would be severely restricted.

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

The Plan will be activated by promulgation of a NOTAM issued by the Ugandan International NOTAM Office (NOF) as far in advance as is practicable. However, when such prior notification is impracticable for any reason, the Plan will be put into effect on notification by the designated authority, as authorized by the DANS UCAA. It is expected that the civil aviation authorities concerned and the airline operators will fully cooperate to implement the Plan as soon as possible.

This Plan has been prepared in coordination with the The Uganda Civil Aviation (Air Traffic Services, 2022) Regulations to provide for the safe and orderly continuation of international flights through Ugandan airspace.

Any proposed amendments to this plan shall be forwarded to:
Director of Air Navigation services
Uganda Civil Aviation Authority
P. O. Box 5536, Kampala Uganda

UGANDA

ATS CONTINGENCY PLAN

Prepared by:

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Manager ATM

Date: 29th August 2023

Reviewed by:

pp .....

Director Air Navigation Services

Date: 29/8/2023

Approved by

Director Safety Security and Economic Regulation

Date: 30/08/2023

Accepted by

.....

Director General: Uganda CAA

Date: 30/08/2023

EXECUTIVE SUMMARY

An Air Traffic Management (ATM) contingency exists when disruption due to the failure or non-availability of staff, facilities or equipment affects the provision of ATS. This ATM Contingency Plan has been developed in accordance with the AFI Regional ATM Contingency plan. This is to enhance uniformity in development and implementation of Contingency Plans within the AFI region.

This document provides common definitions of the different levels of contingency within the Entebbe airspace as well as procedures for handling contingencies such as volcanic ash, public health emergencies, civil or industrial unrest, military conflict, national security, political decisions and war, to mention but a few.

RECORD OF AMENDMENTS

Amendment Number	Effective Date	Date Entered	Entered By	Paragraph/ Reference
01	31/01/2014	20/01/2014	Fred Owomukama	
02	31/01/2018	1/11/2017	Fred Owomukama	
03	01/09/2023	24/07/2022	Acipa Annabel	Distribution list, 1.1 Objective of the Contingency plan, 2.0, 3.1, 3.2, 3.3, 3.4, 3.5, 5.0, 5.1, 5.2, 5.3, 5.4, 5.5, 5.6 6.2, 6.3, 14.0, 14.1 Appendix B, D, E, F, G, H, I.
03	01/09/2023	17/07/2023	Jason Arinaitwe	Executive Summary, 13.0,13.1,13.2,13.3

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14	Soroti Aerodrome Tower	ANS	1
15	Gulu Aerodrome Control Tower	ANS	1
16	Manager forecasting services	UNMA	1
17	Director Forecasting Services	UNMA	1
18	Base Commander Entebbe	UPDAF	1
19	Chairman Airline Operators	Airlines	1

TABLE OF CONTENTS

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.

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 asestablished by ICAO under the management or control of a State.

Air Traffic: All aircraft in flight or operating on the manoeuvring 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 manoeuvring 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 couldaffect 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 assistanceor 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 avoidanceof 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.

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 organizationstructure, 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.

ACRONYMS

AFI-Africa and Indian Ocean region

APP-Approach

AOCG- ATM Operational Contingency Group

ATM-Air Traffic Management

ATS- Air Traffic Services

ACC- Area Control Centre

AIS- Aeronautical Information Services

CCC-Central Coordinating Committee

CP- Contingency Plan

DANS- Director Air Navigation Services

DSSER-Director Safety Security and Economic Regulation

FLAS-Flight Level Assignment Scheme

FIR- Flight Information Region

ICAO- International Civil Aviation Organization

IATA-International Airline Transport Association

IFR-Instrument Flight Rules

MATM-Manager Air Traffic Management

MCNS-Manager Communication Navigation and Surveillance

MSMS/QA-Manager Safety Management System and Quality Assurance

MAIM-Manager Aeronautical Information Management

NOF- International NOTAM Office

OC ANS-Officer in Charge Air Navigation Services

SFC-Special Forces Command

SLOP-Strategic Lateral Offset Procedures

TIBA-Traffic Information Broadcast by Aircraft

UCAA-Uganda Civil Aviation Authority

VFR-Visual Flight Rules

ATS CONTIGENCY PLAN FOR INTERNATIONAL FLIGHTS TO TRANSIT AIRSPACE OF ENTEBBE FIR

1.0 OBJECTIVE

1.1 The Air Traffic Management (ATM) Contingency Plan for Entebbe FIR details arrangements to ensure the continued safety of air navigation in the event of partial or total disruption of air traffic services in the Entebbe FIR in accordance with Civil Aviation (Air Traffic Services) Regulation and Civil Aviation (Air Navigation services) Regulation. The Contingency Plan provides the ATS procedures and contingency route structure using existing airways published ATS routes, where practicable, that will allow aircraft operators to transit the Entebbe FIR during period of limited or no ATS.

1.2 An Air Traffic Services (ATS) contingency exists when disruption due to the failure or non-availability of staff, facilities or equipment affects the provision of ATS.

1.3 This contingency plan address arrangements for aircraft operated at Ugandan airports or domestic flight operations within the jurisdiction of Entebbe FIR and all aircrafts transiting Entebbe FIR.

2.0 Regulatory Requirements for implementation of contingency plans

2.1 The Civil Aviation (Air Traffic Services) Regulations:, 2022 -Regulation 40 requires that Air Traffic Management Department develops and promulgate a contingency plan for implementation in the event of disruption or potential disruption of Air Traffic Services (ATS) and related supporting services in Entebbe Airspace. This contingency plan has been developed in close coordination with ICAO regional office and the neighbouring Flight Information Regions (FIRs).

2.2 The Uganda Civil Aviation (Certification of Air Navigation Services) Regulations: 2022, Regulation 17 and 24 provide the requirement for Directorate Of Air Navigation Services to develop and promulgate its Contingency Plan (CP) as below.

3.0 Scope of the Plan and different level of ATM contingency plan

3.1 The different types of contingencies covered and factors considered

3.1.1This CP has been structured to provide contingency measures or procedures to manage contingencies including but not limited to;

a. Total or partial withdrawal of ATS due to failure of Air Navigation facilities

b. Total or partial withdrawal of ATS personnel during or following an industrial action or labor unrest

c. Total or partial withdrawal of ATS due to natural disaster

d. Unlawful interference

e. Bomb threat on ground or on-board aircraft

f. Ground attacks on aircraft and aviation installations

g. Public health threat

3.1.2 The following requirements have been considered when preparing the contingency plan.

i) Airspace available for over flying landing and departing

ii) The staff level and their competence in providing the services

iii) Risk assessment based on the competence in event of probability of the occurrence

3.2 Areas that would be affected during the outage:

3.2.1 The areas envisioned to be affected will include but are not limited to the following;

a- An aerodrome control TOWER

b- An Approach Control Unit

c- Area Control Centre

d- Aeronautical Information Services (AIS HQTRs)

e- International NOTAM office (NOF)

f- AIS Aerodrome unit

g- Rescue Coordination Centre (RCC) and SAR Sub Centres

h- CNS Operational Areas

i- NAVAID shelters

3.3 Types of flights that will be affected by the outage:

3.3.1 The contingencies reviewed are anticipated to affect all flights in the Entebbe FIR, especially the regular scheduled international flights.

3.4 The anticipated duration of the outage:

3.4.1 This duration of the contingencies are anticipated to vary individually BUT have been deemed not to exceed more than Ten (10) days.

3.4.2 In event of prolonged duration other effective procedures that stand the extended period shall be developed.

3.4.3 In event of industrial or labor unrest the ATS team designated to deal with the contingency shall include but not limited to**:**

a) MATM (Supervisory)
b) MSMS/QA
c) MAIM
d) PATMO O'C ANS
e) Military SATMO/ATMOs/AISOs
f) Retired SATMO/ATMOs/ SAISO/AISO

3.4.4 Contact names of co-opted individuals shall be included in Appendix B of this Plan and reviewed annually for currency and availability.

3.4.5 The Chair CCC shall be advised and will appoint new members to this team accordingly by the Chair, AOCG.

3.5 Levels of ATM contingency

3.5.1 Level 1 Contingencies:

3.5.1.1 This refers to partial system failure or degradation of ATM system that can be managed within Ugandan airspace with the local contingency plan or facilities.

3.5.1.2 In the event of activation of level 1, HUEC shall, where practicable notify ICAO ESAF Regional office and the neighboring FIRs as appropriate.

3.5.1.3 Where unpracticable, the Nairobi ACC shall do the notifications as appropriate. Nairobi ACC, where practicable, shall broadcast on appropriate frequencies that contingency procedures have been initiated or activated.

3.5.1.4 The AOCG will decide the level of notification and action required for Level 1 contingencies.

3.5.1.5 Entebbe has internally developed contingency measures to address level 1 contingencies such as failure of primary communication, navigation, surveillance or ATM system not requiring intervention of adjacent FIR or State.

Under level 1 contingency, airspace 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.

3.5.2 Level 2 Contingencies:

3.5.2.1 This refers to total failure of an entire ATM system or ANS requiring the assistance or intervention of an ATS Unit located in another State for the provision of ATS. Under Level 2 Contingencies, the Entebbe airspace will be considered safe, but the responsible ATS Units unable to provide adequate ATS due to contingency events such as industrial action, public health emergency, earthquake, nuclear emergency, etc.

3.5.2.2 In level 2 contingency airspace 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.

3.5.2.3 In the event of activation of level 2, Entebbe shall, where practicable notify ICAO ESAF Regional office and the neighboring FIRs as appropriate.

3.5.2.4 Where unpracticable, the Nairobi ACC shall do the notifications as appropriate. Nairobi ACC, where practicable, shall broadcast on appropriate frequencies that contingency procedures have been initiated or activated.

3.5.2.5 The CCC will decide the level of notification and action required for Level 2 contingencies.

3.5.2.6 Entebbe shall develop, implement and review biennially; programs for regular desktop and inter-unit coordinated exercises of all Level 2 contingency plans. Processes to ensure the outcomes of any testing, pre-activation or activation of a contingency plan or any contingency exercise are reviewed and analyzed, and lessons learned incorporated into contingency procedures and training will be implemented.

3.5.2.7 Entebbe has established internal procedures for management of level 2 contingencies requiring delegation of the provision of ATS to adjacent States/FIRs. This includes statements requiring such States to confirm the availability by NOTAM of Entebbe airspace for contingency.

3.5.3 Level 3 Contingencies:

3.5.3.1 Total unavailability of the affected airspace or FIR requiring the avoidance of the concerned FIR or portion of airspace.

3.5.3.2 Under level 3 contingency, the airspace is closed and users are required to avoid the affected airspace. Level 3 contingencies may include:

i. Airspace Not Safe, due to causal events such as industrial action, earthquake, nuclear emergency, etc. affecting the provision of ATS.

ii. 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.

iii. 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.

3.5.3.3 Entebbe has developed and formalized for all cases where the pre-activation or activation of a Level 3 contingency plan would impact upon ATS within the area of responsibility of a neighboring State. This has been published as the Entebbe Contingency Avoidance Routes (CARs) and is included in Letters of Procedures (LoPs) with all the neighboring States/ATS units.

3.5.3.4 The CCC will decide the level of notification and action required for Level 3 contingencies. This should include procedures for the tactical definition and promulgation by NOTAM of contingency ATS routes to avoid airspace affected by contingency requiring the avoidance of the affected airspace/ACC/FIR.

4.0 ATS UNITS, CENTRES, STATES AND FIRS AFFECTED

4.1 In the event that the Uganda Civil Aviation Authority activates this Contingency Plan, the adjacent ACCs and APPs affected will be notified in accordance with the Letter of Procedures (LOP) established between them.

4.2 The Civil Aviation Authorities of the adjacent FIRs will be notified in accordance with the procedures established and agreed upon within the Regional Contingency Plans and affected Letters of procedure.

4.3 The adjacent States, FIRs and ACCs directly affected by this Contingency Plan are as follows in the table below:

No.	State	Name of FIR	Name of ACC/FIC/APP
1	Kenya	Nairobi	Nairobi North
2	Tanzania	Dar es Salaam	Dar es Salaam North
3	Rwanda	Kigali	Kigali
4	Democratic Republic of Congo	Kinshasa	Kinshasa
5	South Sudan	Juba	Juba Approach
6	Sudan	Khartoum	Khartoum

4.2 The contact details of the civil aviation authorities and organizations concerned are contained in **Appendix A.** These details should be regularly reviewed, and relevant information provided to the Director General Uganda CAA as soon as practicable.

5.0 MANAGEMENT OF THE CONTINGENCY PLAN

5.1 General Provisions

5.1.1 The contingency measures set out in this Plan are applicable in cases of foreseeable events caused by unexpected interruptions in ATS caused by natural occurrences or other circumstances which, in one way or another, may impair or totally disrupt the provision of ATS and/or of the related support services in the Entebbe FIR.

5.1.2 The following details have been put in place to ensure that the management of this Contingency Plan provides for flights to proceed in a safe and orderly fashion through the Airspace of Entebbe FIR.

5.2 Central Coordinating Committee (CCC):

5.2.1 The CCC shall be responsible for the development and maintenance of the CP, activation, deactivation and general conduct of the CP and the formation of the ATM Operational Contingency Group (AOCG).

5.2.2 As soon as practicable in advance with, or after a contingency event has occurred; the DG Uganda CAA shall convene the Central Coordinating Committee (CCC) comprised of holders or representatives from the following offices:

1) Director General Uganda Civil Aviation Authority (DG UCAA)
2) Director of Safety Security and Economic Regulation (DSSER)
3) Director Airports and Aviation Security (DAAS)
4) Director of Air Navigation Services (DANS)
6) Manager Air Traffic Management (MATM)
7) Officer in-Charge Air Navigation Services (PATMO O'C ANS)
8) Commander Air Force Uganda Peoples Defence Forces (Air Force)
9) Executive Director Uganda National Meteorological Authority (UNMA)
10) Commander Special Forces Command (SFC)
8) Chairman, Air Operators' Committee (AOC)

9) Other participants as required

5.2.3 The CCC shall have the primary responsibility of convening the ATM Operational Contingency Group (AOCG) in the event of a contingency occurring in Entebbe FIR. Thus, the CCC has the responsibility of overseeing the day-to-day operations under the contingency arrangements, and coordinate operational ATS activities, 24 hours a day, throughout the contingency period. The terms of reference of the AOCG shall be determined by the CCC.

5.2.4 Contact details of the members of the CCC are provided in **Appendix B**.

5.3 ATM Operational Contingency Group (AOCG):

5.3.1 The AOCG shall be established for the tactical or operational management of the contingencies due to disruptions affecting Entebbe FIR.

5.3.2 The functions of the AOCG shall include but not limited to the following:

a) Review and update of the Contingency Plan as required;
b) Keep up to date reports at all times of the contingency situation;
c) Organize contingency teams in each of the specialized areas;
d) Keep in contact with and update all affected airspace and system users, customers and other relevant stakeholders;
e) Exchange up-to-date information with the adjacent ATS authorities to be affected by the contingency activities;
f) Notify the designated organizations of the contingency situation sufficiently in advance and/or as soon as possible thereafter;
g) Take necessary action for issuing NOTAMs in accordance with the contingency plan or as otherwise determined by the particular contingency situation. Where the contingency situation is foreseeable, then the relevant NOTAMs should be issued 48 hours in advance of the contingency events, using templates provided in the appendices contained herein.
h) Membership of the AOCG should include any necessary specialist input from the following disciplines:
    1. Air Traffic Management (ATM)
    2. Aeronautical Information Management (AIM)

3. Communication, Navigation and Surveillance (CNS)
4. Aeronautical Meteorology (MET)
5. Public Health Emergencies (PHE)
6. Air Traffic Flow Management (ATFM) where applicable
7. Civil Military Airspace Organization and Management (CAOM)
8. Cyber Security Resilience
9. Airport Operations.

5.3.3 Contact details of the members of the AOCG are provided in **Appendix B**

5.4 ATM Contingency Focal points

5.3.1 The Focal Point for HUEC CP shall be:

Mr Okot Geoffrey

Manager Air Traffic Management (MATM)

5.3.2 The alternate focal point for HUEC CP shall be:

Mr. Owomukama Fredrick

Principle Air Traffic Management Officer (PATMO)

Officer In-Charge Air Navigation Services (O'C ANS)

Or delegated as appropriate by the CCC.

5.5 AFI Regional ATM Contingency Coordination Team (AFI CCT) Arrangements

5.5.1 The AFI Regional Contingency Coordination Team (AFI CCT) shall coordinate, cooperate, collaborate and communicate closely with the Entebbe CCC in the event of a contingency affecting Entebbe FIR. The AFI CCT shall also coordinate with adjacent FIRs affected by the contingency or delegated to provide ATS by Entebbe FIR.

11.2 The Entebbe ATM Contingency Focal points shall represent Entebbe FIR at the AFI CCT unless when other resource persons are expressly requested by the ESAF or AFI CCT. The function of the ATM Contingency Focal Point shall be within the defined duties of the AFI CCT.

5.6 Planning, activation and deactivation of Contingency Plan

5.6.1 It is the responsibility of the Directorate of ANS to conduct contingency planning, that includes measures to be taken in considering, developing, applying and terminating the applications of such plans within Entebbe FIR.

5.6.2 This contingency plan has been coordinated regionally through letters of procedures as it is anticipated that disruption of services in the Entebbe FIR may affect ATS services in adjacent FIRs.

5.6.3 Considering time is a factor in planning, preparation action has been taken as appropriate, to facilitate timely introduction of contingency arrangements. The preparation includes the following;

i) Preparing general contingency plans as to introduce general foreseeable events that will affect the provision of air navigation services and/or supporting services.

ii) Monitoring any developments that might lead to events requiring ATS contingency arrangements to be developed and applied;

5.6.4 The CCC SHALL activate and deactivate the Contingency Plan and determine the level of notification and take necessary action as required to disseminate this information via NOTAM. The CCC shall inform ICAO, AFI CCT and adjacent FIRs as appropriate.

5.6.5 The NOTAM shall be issued at least 48 Hrs prior to commencement of the contingency operations. Where unable, to issue NOTAM, CCC delegate this function to a neighbouring FIR, as deemed fit to issue NOTAM by the AFI CCT.

5.6.6 In the event HUEC is unable to provide ATS; the NOTAM, the responsibility for delegation and assignment of the functions of promulgating NOTAM and providing ATS over HUEC airspace SHALL lie with the AFI CCT.

5.6.7 The CP point of contact at State level, as designated by the CCC, shall ensure timely provision of updates or progress reports to the AFI CCT during and after the contingency situation. Entebbe shall submit a comprehensive report to ICAO ESAF Regional office detailing volume of traffic operations over the contingency airspace, operational challenges encountered, safety reports as well as recommended action.

5.7 Plan testing and review

5.7.1 The CP shall be tested in desktop exercise, where necessary including telephone or web based conference facilities at least once a year.

5.7.2 A full review of the plan shall be conducted at least once every two (2) years or as per the agreed regional plans. Provisions for the review of airspace. ATS routes, coordination and communication details of the plan shall be included in relevant ATS airspace, data and facility implementation plans.

5.7.3 A preliminary post-activation review (PAR) report shall be completed within 28 days following any testing, pre-activation of plan. A more comprehensive report shall be completed in any case where an air safety incident investigation related to the pre-activation or activation of the plan has been conducted, or as otherwise determined by the CCC.

5.8 Transition to and from Contingency Operations:

5.8.1 During times of uncertainty when airspace closures seem possible, aircraft operators are required to be prepared for possible change in routing while en-route by familiarization with contingency routes as outlined in this Contingency Plan, as well as those which may be promulgated by Uganda CAA via NOTAM or AIP.

5.8.2 In the event of airspace closure that has not been promulgated, ATC should, if possible, broadcast to all aircraft in their airspace, what airspace is being closed and to stand by for further instructions.

5.8.3 This contingency plan recognizes that when closures of airspace or airports are promulgated, individual airlines/operators might have different company requirements as to their alternative routings. In this regard, duty ATC should be alert to respond to any request by aircraft and react commensurate with safety.

5.8.4 In the event of a Level 2 or Level 3 contingency, Entebbe shall develop and share switchover plans for transition from normal to delegated provision of ATS and vice versa. The switchover plan shall indicate the switchover date, switchover time, affected airspaces, controlling authority, communication frequencies, contingency routes, transfer of control points and any other information deemed necessary.

5.9 Development, Promulgating and Implementation of Contingency Plan

5.9.1 It is the responsibility of the DANS to conduct contingency planning, that includes measures to be taken in considering, developing, applying and terminating the applications of such plans within Entebbe FIR.

5.9.2 This requirement shall also apply in respect of any airspace where the responsibility for providing the services has been delegated by another adjacent FIR to Entebbe FIR as applicable until and unless the delegating state terminates temporarily the delegation.

5.9.3 This contingency plan has been coordinated regionally as it is anticipated that disruption of services in the Entebbe FIR may affect ATS services in adjacent FIRs

5.9.4 This ATS contingency plan has been harmonized in accordance with the LOPs signed with respect to the adjacent FIRs and also with any civil or military agencies in Uganda whose participation is necessary for an effective implementation of the plan.

5.9.5 Considering time is a factor in planning, preparation action has been taken as appropriate, to facilitate timely introduction of contingency arrangements. The preparation includes the following;

iii) Preparing general contingency plans as to introduce general foreseeable events that will affect the provision of air navigation services and/or supporting services.

iv) Monitoring any developments that might lead to events requiring ATS contingency arrangements to be developed and applied

6.0 CONTINGENCY ROUTE AND FLIGHT LEVEL STRUCTURE

6.1 In the event of disruption of the ATC services in Entebbe FIR, Contingency Routes (CRs) shall be introduced to ensure safety of flight and to facilitate limited flight operations commensurate with the prevailing conditions.

6.2 Existing ATS routes shall form the basis of the CRs to be used, and a Flight Level Allocation Scheme (FLAS) introduced to minimize potential points of conflict and to limit the number of aircraft operating simultaneously in the system under reduced ATS. The contingency route structure for flights is detailed in **Appendix E.**

6.3 Additional unpublished contingency routes may be developed tactically by the AOCG and promulgated by NOTAM as and when circumstances require such as in volcanic ash cloud, radioactive cloud or severe weather event.

6.4 As and where dictated by circumstances, domestic flights and international flights that have not yet departed may be temporarily suspended until a full assessment of the prevailing conditions has been determined and sufficient ATS restored. A decision to curtail or restart these operations will be made by the CCC.

6.5 The DG has the authority for immediate tactical response to unexpected contingency situations, including where necessary the exclusion of flights from affected airspace during transition to the contingency procedures in this plan.

6.6 Aircraft on international flights and special operations (e.g. Search and Rescue (SAR), State aircraft, humanitarian flights, etc), shall be afforded priority in accordance with this plan.

6.7 International operators affected by the suspension of all operations from Ugandan airports will be notified by the relevant airport authority when operations may be resumed, and flight planning information will be made available pertaining to that airport. International flights which have received such approval may be required to file flight plan via domestic routes to join international contingency routes.

6.8 International operators may decide to avoid Ugandan airspace and route to the west around Entebbe FIR via Kinshasa and East around Nairobi, North around Khartoum and South around Dar es Salaam FIRS. The contingency routes to be used in this scenario will be provided by the ATS authorities concerned

7.0 AIR TRAFFIC MANAGEMENT AND CONTINGENCY PROCEDURES

7.1 Reduced ATS and provision of Flight Information Services (FIS):

7.1.1 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 promulgated providing the relevant information on the contingency. This CP provides for limited flight information and alerting services to be provided by adjacent ACCs in regard to availability of communications and RADAR services, where applicable.

7.1.2 The Uganda airspace FIS and flight monitoring will be provided by designated ATS authorities for the adjacent FIRs on the contingency routes that enter those FIRs. A chart depicting the airspace arrangement is provided in **Appendix E.**

7.1.3 The primary means of communication will be by VHF or HF radio Details of the communication requirements are provided in **Appendix D.**

7.2 ATS Responsibilities

7.2.1 During the early stages of a contingency event, ATS may be overloaded and tactical action taken to reassign aircraft any alternative routes not included in this Plan.

Such alternate routing shall be coordinated prior to implementation with the neighbouring FICs and acceptance message obtained.

7.3 SSR CODE ALLOCATION SCHEME

7.3.1 When HUEC CP has been activated, the ATS unit, delegated to provide such services within the airspace by the AFI CCT SHALL be responsible for allocation of SSR codes over HUEC airspace.

7.3.2 The allocated SSR codes will be in accordance with the existing AFI SSR Code Allocation between HUEC ACC and the delegated ACC, provided that the delegated ACC has RADAR coverage over HUEC airspace.

7.3.2 Where SSR code assignment is provided for in the Letters of Agreement (LoAs), then the LoA will supersede any SSR allocation schemes.

7.4 NOTAM

7.4.1 In the event that ATS cannot be provided in the Entebbe FIR a NOTAM shall be promulgated indicating the following:

a) The activation of the contingency plan with time and date of the beginning of the contingency measures;

b) Airspace available for landing and overflying traffic and airspace to be avoided;

c) Details of the facilities and services available or not available and any limits on ATS provision (e.g., ACC, APPROACH RADAR, TOWER and FIS), including an expected date of restoration of services if available.

d) Information on the provisions made for alternative services;

e) Applicable ATS routes, AIP-published routes, or tactically defined routes.

f) Any special procedures to be followed by neighboring ATS Unit not covered by the plan

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.

Note: NOTAM should contain only one subject and one condition. The list above should be a series of NOTAM as may be applicable to the situation,

7.4.2 NOTAM promulgation form are provided on website: https://aim.caa.co.ug/pdf/promulgation-form.pdf and Sample NOTAM in Appendix C.

7.4.3 In the event that the Entebbe International NOTAM office is unable to issue the NOTAM, neighboring AIS authorities will be requested to act to issue the contingency NOTAM upon notification by the DG UCAA.

7.5 Aircraft Separation:

7.5.1 Aircraft 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) and as published in the Entebbe Manual of Operations (MANSOPs Part I) and approved accordingly.

7.5.2 The longitudinal separation will be 20 minutes.

7.5.3 The route structure provides for lateral separation and where the routes are crossing, a standard minimum vertical separation will be applied.

7.6 Priority for Flight Levels

Where possible, aircraft on international flights shall be given priority with respect to cruising levels assigned in accordance with the (FLAS).

7.7 Aircraft Position Reporting

7.7.1 The primary means of communication will be by VHF or HF radio.

7.7.2. Traffic Information Broadcast by Aircraft (TIBA) procedures shall apply in Entebbe FIR during periods of contingency.

7.7.3. TIBA frequencies shall be as per AFI REGION – 126.9 MHz

7.7.4 Pilots will continue to make routine position reports in line with normal ATC reporting procedures.

7.8 VFR Operations

VFR flights shall not operate in the Entebbe FIR if there are extensive disruptions to ATC facilities, except in special cases such as State aircraft, medical flights, and any other essential flights authorized by the DG CAA.

7.9 Procedures for ATS Units

7.9.1 The ATS units providing ATC services will follow their unit emergency operating procedures and activate the appropriate level of contingency procedures in line with this plan, these procedures may include the following:

- Entebbe ACC on determining that ATS may be reduced due to a contingency event will inform pilots in line with the published unit emergency procedures. These procedures include the advice if it is likely that the ACC will be evacuated and ATS suspended. In the event of it becoming necessary to evacuate the ACC building, the ANS emergency Plan response plan will be activated, and time permitting, controllers will make an emergency evacuation transmission on the radio frequency in use providing pilots with alternate means of communication.
- The adjacent ACCs responsible for aircraft entering for transit of Entebbe FIR SHALL communicate, not less than 30 minutes before hand, the estimated time over entry point.
- The ACCs responsible for aircraft entering Entebbe FIR SHALL instruct pilots to maintain the last level assigned and speed (Mach number if applicable) while overflying Entebbe FIR.
- The ACC responsible SHALL NOT authorize any change in flight planned and duly coordinated information later than 10 minutes before the aircraft enters Entebbe FIR except as specified below;
- The responsible ACCs prior for aircraft entering Entebbe FIR will instruct aircraft that they must communicate with the next available (downstream) ATC unit at least 10 minutes before the estimated time of exit of Entebbe FIR

- Aircraft may also choose to avoid the Ugandan airspace, and the controlling authorities of the FIR concerned will provide alternative contingency routes as appropriate and published by NOTAM.

7.10 Transfer of control and coordination

Unless otherwise specified in this plan, transfer of control and communication should be at the common FIR boundary between ATS units.

7.11 Review of Contingency plan:

ATM Department will review the effectiveness of current coordination requirements and procedures in light of contingency operations on short notice of airspace closure, and make any necessary adjustments of the Contingency Plan.

8.0 PILOTS AND OPERATORS PROCEDURES

8.1 Filing of Flight Plans:

Flight planning requirements for Entebbe FIR are to be followed in respect to normal flight planning requirements contained in Uganda Aeronautical Information Publication (AIP) and as detailed at **Appendix F** except where modified by the contingency ATS routes and FLAS specified by ATC and/or in a NOTAM.

8.2 Over Flight Approval:

8.2.1 Aircraft operators must obtain normal over flights approval from UCAA, prior to operating flights through Entebbe FIR.

8.2.2 During the period of activation of this CP the adjacent ATS authority will provide normal ATC clearances for aircraft to enter the Ugandan airspace. The adjacent ATS authority is not responsible for coordination or provision of overflight clearances for Uganda airspace. The operator must ensure any required overflight approval has been obtained.

8.2.3 The AFI CCT shall facilitate waiver or expeditious approval of overflight permits or clearances.

8.3 Procedures to be followed by Pilot:

All aircraft transiting Entebbe FIR shall strictly comply with the following;

- To operate along or as close to the centerline of the assigned contingency air traffic route.
- Pilots strictly adhere to the IATA In-flight Broadcast procedures (IFBP) and maintain a continuous listening watch on the VHF frequency 126.9 MHZ and also on VHF 128.5 MHZ (and/or on HF 11300 KHZ day time and night time 5517 KHZ) Report positions when over the compulsory reporting points established along the respective contingency air traffic route. Also, for traffic to/from Entebbe International Airport or when necessitated by emergency conditions, transmit blind on these same frequencies that start and completion of climb and descent.
- Pilots are to make blind broadcast on 121.5 MHZ of the relevant emergency level change message (comprising the aircraft call sign, the aircraft position, the flight levels being vacated and crossed etc…)

  "ALL STATIONS

  THIS IS [CALLSIGN] IN THE ENTEBBE FIR
  FL …

  [WESTBOUND | EASTBOUND] ON [AIRWAY]
  ESTIMATING [WAYPOINT] AT [UTC TIME]
  [CALLSIGN]"

  FL …

  IN THE ENTEBBE FIR"

- To maintain, during their entire flight time within Entebbe FIR, the flight level last assigned to them by the competent adjacent ACC and in no way change this level and Mach number, except in cases of emergencies and for flight safety reasons. In addition, the last transponder assigned shall be maintained or, if no transponder has been assigned, transmit on SSR code 2000.

- 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 D.**
- Flights are to file a flight plan using the Contingency Routes specified in **Appendix D,** according to their airport of origin and destination.
- The pilots are to keep a continuous watch on the specified contingency frequency as specified in **Appendix D** and transmit in English position information and estimates line with normal ATC position reporting procedures.
- Whenever emergencies and/or flight safety reasons make it impossible to maintain the flight level assigned for the transit of Entebbe FIR, to climb or descent well to the right of the centerline of the contingency air traffic route being flown but remaining within Entebbe FIR, and to inform immediately the ACC responsible for that airspace.
- To reach the flight level assigned by the competent adjacent ACCs for the transit of Entebbe FIR at least ten (10) minutes before entering Entebbe FIR.
- To include in their last position report to the competent adjacent ACC/FIC the estimated time over the entry point of Entebbe FIR and the estimated time of arrival over the relevant exit point of Entebbe FIR.
- To contact the next adjacent ACC/FIC as soon as possible and at least ten (10) minutes before the estimated time of arrival over the relevant exit point of Entebbe FIR.

- To display navigation and anti-collision lights at all times during the transit of Entebbe FIR.
- To maintain own longitudinal separation of 20 minutes from proceeding aircraft at the same cruising level.

8.4 In-Flight Emergencies

8.4.1 In case of **non-critical** inflight emergency, the aircraft should proceed as cleared until leaving the Entebbe FIR.

8.4.2 In case of a **critical** in-flight emergency (de-pressurization, etc.) where the aircraft is unable to comply with its IFR clearance, the aircraft should follow published emergency descent procedures, broadcast status and intentions on 121.5 MHz and proceed at the discretion of the pilot in command until clear of the Entebbe FIR and in contact with the ensuing ACC.

8.4.3 In case of **medical** emergency the aircraft should proceed as cleared until leaving the Entebbe FIR.

8.5 Interception of civil aircraft:

8.5.1 Pilots need to be aware that in light of current international circumstances, a contingency routing requiring aircraft to operate off normal traffic flows, could result in an intercept by military aircraft. Aircraft operators must therefore be familiar with international intercept procedures.

8.5.2 The Ugandan Air Force may intercept civil aircraft over the territory of Uganda in the event that a flight may not be known to and identified by the military authority. In such cases, the intercept procedures contained in the Uganda Civil Aviation(Rules of the Air Regulations), 2020, Schedule 5 and (**Appendix H** of this CP) will be followed by Ugandan Air Force, and pilots being intercepted are to comply with instructions given by the pilot of the intercepting aircraft. In such circumstances, the pilot of the aircraft being intercepted shall broadcast information on the situation.

9.0 COMMUNICATION PROCEDURES

9.1 Degradation of Communication—Pilot Radio Procedures:

9.1.1 When operating within the contingency airspace of Entebbe FIR, pilots are required to use normal radio communications procedures where ATS services are available. Where limited or no ATS is available communications will be conducted in accordance with the procedures otherwise notified by NOTAM.

9.1.2 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 event of no communication with ATC, the pilot should continue to make routine position reports on the assigned frequency, and also broadcast positions on the specified contingency frequency.

9.2 Communication frequencies:

A list of frequencies to be used for the contingency routes and then ATS units providing FIS and air-ground communication monitoring for the Entebbe FIR is detailed at **Appendix D**.

10.0 AERONAUTICAL SUPPORT SERVICES

10.1 Aeronautical Information Services (AIS)

10.1.1 A NOTAM contingency plan will be developed to ensure continuation of the NOTAM services for the Entebbe FIR in support of contingency operations. The NOTAM will establish the actions to be taken in order to reduce the impact of the failures in the air traffic services. The NOTAM will also establish the necessary coordination and operational procedures that would be established before, during and after any Contingency phase.

10.1.2 NOTAM services will be provided by neighbouring AIS authorities in accordance with agreements with the neighbouring states.

10.2 Meteorological Services (MET)

10.2.1 The National Meteorological Centre (NMC) of the Uganda National Meteorological Authority (UNMA) is designated to provide Meteorological Services for international and domestic air navigation.

10.2.2 Meteorological service will ensure the regular provision of the following products and services;

i) Aerodrome observations and reports
ii) Terminal aerodrome forecast-TAF as per the requirement indicated in - SIGMET for Uganda FIR
iii) Information for the ATS units (TWR, APP, and ACC) as agreed upon.
iv) Flight briefing and documentations
v) Any other required information in accordance with existing agreements between the ATS and the Meteorological service providers

Note: *It is expected that MET services would continue to be available in the event of ATS Contingency situation. However, should ATS services for Entebbe FIR be withdrawn, timely MET information may not be immediately available to pilots in flight. Alternative means of obtaining up to date MET information concerning Entebbe FIR will be provided to the extent possible through adjacent ATS authorities*

11.0 SEARCH AND RESCUE ALERTING

11.1 Notification and Coordination:

11.1.1 ACCs involved in this contingency Plan are required to assist as necessary to ensure that the proper Search and Rescue (SAR) authorities are provided with the information necessary to support downed aircraft or aircraft with an in-flight emergency in respect to Entebbe FIR.

11.2 The SAR authority responsible for Entebbe FIR is the Entebbe Rescue Coordination Centre (Entebbe RCC/Entebbe SAR Office)

Identification: Entebbe RCC/Entebbe SAR Office

Tel. +256-414-323428

Toll free: 0800388701 (in Uganda only)

Fax +256-414-320956

AFTN: HUENYCYX

Email: rccebb@caa.co.ug

11.3 ACC shall assist as necessary in the dissemination of INCERFA, ALERFA and DITRESFA in respect to incidents in Entebbe FIR.

11.4 In the event that Entebbe ACC is not available, the responsibility for coordinating with Entebbe RCC for aircraft emergencies and incidents involving Entebbe FIR will be undertaken by Soroti TWR/APP or Gulu TWR if aircraft is within rage. The CCC will take appropriate steps to ensure that SAR information is made available to Entebbe RCC. The AOCG will also oversee SAR coordination and disseminate relevant contact information.

12.0 ARRANGEMENTS FOR THE RESUMPTION OF NORMAL OPERATIONS

When it has been determined that the services have returned to normality, the officer who has been coordinating the contingency shall inform all the units and stakeholders involved by the quickest means of communication and followed by NOTAM.

13.0 NOTIFICATION

13.1 General provisions

13.1.1 In the event of activation of level 1, 2 or 3 contingency procedures, Entebbe FIR shall where practicable, notify ICAO, AFI CCT, all affected agencies, ACCs, FIRs and operators as appropriate. However, where this is not practicable due to the level of the contingency, then the

delegated State/FIR shall notify ICAO, AFI CCT, all affected ACCs, FIRs and operators as appropriate.

13.1.2 In level 1contingency events resulting in Limited-Service situations, the AOCG will decide upon the level of notification necessary and act as required to disseminate the information.

13.1.3 In a level 2 or 3 contingency event resulting in a no air traffic service situation, the CCC will issue a NOTAM to the effect that contingency procedures have been activated.

13.1.3 The Controlling ATS Authority over the contingency Entebbe FIR shall where practicable, broadcast on appropriate frequencies that contingency procedures have been initiated or activated.

13.1.4 IATA member airlines, other operators and other airspace users encountering contingency events within Entebbe FIR, affecting safety or security of flight operations are required to immediately report such events or occurrences to the ICAO Regional Office or IATA Regional Office for immediate mitigation action and dissemination to other airspace users and affected States/FIRs.

13.2 Broadcast of Termination of provision of ATC services by Contingency FIR/ACC:

> "Due to (type of contingency) affecting Entebbe ACC/FIR all ATC services are terminated. Flights within Entebbe FIR should continue as cleared and contact the next ATC unit in adjacent ACC or FIR, as soon as possible. Flights not in receipt of an en-route clearance should land at an appropriate airfield or request clearance to fly contingency route or avoid affected (ACC or FIR). Flights should monitor (defined frequencies ---)."

13.3 Broadcast an evacuation message on appropriate frequencies:

> "All aircraft on ACC Freq 128.5MHz be informed that due to the activation of contingency plan no air traffic control service will be provided by Entebbe ACC. All affected aircraft should exercise caution and monitor (control frequencies ---), emergency frequencies and air to air frequencies, aswell as contact the next air traffic control unit in adjacent (ACC or FIR ---) as soon as possible".

14.0 AMENDMENTS OF THE CONTINGENCY PLAN

14.1 Procedure for Promulgation and status reporting of the CP

14.1.1 The Uganda ATM CP shall be promulgated on the UCAA website: https://www.caa.go.ug.

14.1.2 The Uganda ATS CP shall be forwarded to the ICAO ESAF Regional office and form an appendix of the Regional Plan and shall be implemented by ICAO ESAF Regional Office.

14.1.3 Entebbe shall report on the status of the ATM CP to ICAO ESAF Regional Office. The report shall include;

- Publication of the ATM CP, together with the hyperlink to the UCAA website where the CP can be accessed.

- Entebbe Focal points and their contacts

- Any contingency arrangements with the neighboring FIRs on contingency routes for Level 2 and 3 contingencies.

14.2 Enquiries

In preparation of this manual, care has been taken to ensure that the information contained herein is accurate, reliable, relevant and complete. However, any errors or clarifications, omissions should be addressed to:

Manager Air Traffic Management,
Directorate of Air Navigation Services
Civil Aviation Authority
P. O. Box 5536,
KAMPALA
Email : atm@caa.co.ug;
Tel : +256-312-352530; 256-414-320906
+256-414-320680; 256-414-320907
Fax : +256-414-320964;

APPENDIX A: CONTACT DETAILS OF ADJACENT STATES (FIRs) AND INTERNATIONAL ORGANISATIONS, (IATA and ICAO ESAF).

NO	ADDRESS	TEL.NO	FAX. NO	E-MAIL	AFTN
KENYA					
1	Director General Kenya Civil Aviation Authority	+254 20 827470/1/2/3/4/5	+254 20 822300	info@kcaa.or.ke	HKNCYAYD
2	Nairobi ACC Jomo Kenyatta Airport	+254 20 827101 00520827101	+254 20 827 102		HKNAZQZX
TANZANIA					
3	Director General Tanzania Civil Aviation Authority IPS Building	+255 22 2115079/80	255 22 2118905	tcaa@tcaa.go.tz	HTDQYOYO
4	Dar es Salaam ACC	+255 22 110254 007222110254	255 22 2110264		HTDCZQZX
SUDAN					
5	Director General Sudan Civil Aviation Authority P.O. Box 430 Khartoum	+249 I 83772360/83770617	249 1 83779715	TBN	HSSSYAYG
6	Khartoum ACC	+249 183 784925	249 183 779125		HSSSZQZX
DEMOCRATIC REPUBLIC OF CONGO					
7	Director General Civil Aviation Authority P.B P.O. 6514 Kinshasa	+250 19 25020	250 19 21404	bnikin@yahoo.fr	FZABYAYX

	Kinshasa ACC	+243 810 086772	TBN		FZAAZQZR
RWANDA					
11	Director General Rwanda Civil Aviation Authority P.O Box 1122Kigali	+250 25 2585845	+250 25 2582609	info@caa.gov.rw	HRYRYAYX
12	Kigali APPROACH	+250 25854499	+250 2525 85499		
IATA					
10	IATA Regional office AFI Johannesburg	+27 11 5232732	+27 11 5232701	konateg@iata.org	HRYRZTZX
ICAO/ESAF					
	Regional Director Ms. Lucy Mbugua. Eastern and Southern Africa Office P O Box 46294 Nairobi	+254 20 7622395/7622396	+254 20 7621092	icaoesaf@icao.int	
	Regional Officer ATM& SAR- P O Box 46294 Nairobi	Tel.: +254 20 762 2372	+254 20 762 1092	kogutu@icao.int	

APPENDIX B: COORDINATING BODIES OF CENTRAL COORDINATING COMMITEE

1. Director General
   Uganda Civil Aviation Authority
   P O Box 5536 Kampala
   Tel: 256 414 321426
   Fax: 256 414 321401

2. Director Air Navigation Services
   Entebbe International Airport –Control Tower Complex
   P O Box 5536 Kampala
   Tel: 256 414 320906
   Fax: 256 414 320964

3. Director Airports & Aviation Security
   Entebbe International Airport
   P O Box 5536
   Tel: 256 414 320890
   Fax: 256 414 320571

4. Director Safety Security and Economic Regulation
   Entebbe International Airport- UCAA Headquarters
   P O Box 5536 Kampala
   Tel: 256 414 321435

5. Uganda People Defence Air Forces
   Base Commander Entebbe
   P O Box 386 Entebbe
   Tel: 256 414 320266/320098
   Fax: 256 414 321071/321825
   E-mail enteairforcebase@gmail.com

6. Commander,
   Uganda Peoples Defence Air forces
   Gombe Close
   P O Box 105, Entebbe
   Tel: 256 414 323148/320224
   Fax: 256 414 321071/321825
   E-mail ugairforces@gmail.com

7. Director Forecasting Services
   Uganda National Meteorological Authority
   P O Box 3 Entebbe
   Tel: 256 414 320920
   Fax: 256 414 321403

8. Chairman
   Airline Operators' Committee
   Entebbe International Airport

9. Manager Air Traffic Management
   Tel: 256 414 320368
   EXT: 2534
   E-mail: gokot@caa.co.ug

ATM OPERATIONAL CONTINGENCY GROUP

1. Manager Air Traffic Management
   Tel: 256 414 320368
   EXT: 2534
   E-mail: gokot@caa.co.ug

2. Manager Safety Management System and Quality Assurance
   Tel: 256 414 353000

EXT: 2550

E-mail: dmatovu@caa.co.ug

3. Manager AIM and Meteorological Liaison

   Tel: 256 414 353000

   EXT: 2534

   E-mail: mtibenderana@caa.co.ug

4. Manager Communication Navigation & Surveillance

   Tel: 256 414 353000

   EXT: 2510

   E-mail:

5. Manager Forecasting Services,

   Uganda National Meteorological Authority

   P O Box 3 Entebbe

6. Officer in Charge ANS Entebbe

   Tel: 256 414 320680

   EXT: 2531

   E-mail: fowomukama@caa.co.ug

7. Principal Technical Officer/ Maintenance

   Tel: 256 414 353000

   EXT: 2512

   E-mail: amwesige@caa.co.ug

8. Principal Air Traffic Management/ Operations

   Tel: 256 414 323428

   EXT: 2527

   E-mail: asempungu@caa.co.ug

10. Principal Air Traffic Management Officer/ Planning, Training and ICAO liaison

    Tel 256 414 323428

    EXT: 2535

    E-mail: mwabomba@caa.co.ug

11. Principal Aeronautical Information Management COM

    Tel: 256 414 353000

    EXT: 2536

    E-mail: smayanja@caa.co.ug

12. Principal Air Traffic Management Officer /SMS

    Tel: 256 414 353000

    EXT: 2553

    E-mail: mndagire@caa.co.ug

13. Principal Air Traffic Management Officer Search and Rescue

    Tel. +256-414-323428

    EXT: 2540

    Email: pzalwango@caa.co.ug

PROPOSED PERSONNEL TO WORK IN CASE OF INDUSTRIAL ACTION

NO	NAME	TELEPHONE	NO	NAME	TELEPHONE
1	Mr. G. Okot	0772686721	18	Maj. M. Kirunda	0757629512
2	Ms. Madina Ndagire	0752142087	19	Maj. S. Bingi	0772522720
3	Mr. David Matovu	0752718121	20	Maj. D. Rusoke	0702624906
4	Mr. F. Owomukama	0774542756	21	2LT. F. Musoke	0752620068
5	Mr. Wabomba M	0753532208	22	2LT. V. Wasike	0784020282
6	Mr. Sempungu A	0782640383	23	2LT. R .Mugenyi	0701042721
7	Mr. Kasujja Jude	0782435888	24	2LT. J. Magezi	0783259440
8	2LT. Soyet	0782301405	25	2LT. A. Ndahagire	0772304516
9	2LT. F. Kijuga	0752665422	26	Maj. M. Madaya	0784444079
10.	2LT. D. L Ngadu	0772602805	27	2LT. F. Kagina	0752477816
11	2LT. E Opolot	0783704646	28	Pte. Ssenoga Ali Bakka	0704791509
12	Maj. I. Emojong	0702073708	29	L/CPL. P.Kasozi	0779137472
13	LT Eric Mukonyezi	0700746515	30	Pte. F. Lukwago	0777816034
14	LT. Kusaasira Eleazer	0752611095	31	PTE.ETwineomujuni	0772690100
15	LT. Tauba Kayanja	0701975689	32	L/CPL.C.Ninsiima	0702988962
16	L/CPL. I.Tumuhairwe	0789742283	33	PTE.K. Ampurire	0706348450
17	PTE.L Bwambale	0752611095			

APPENDIX C: SAMPLE NOTAMS

a) Avoidance of Airspace

NOTAM…….DUE TO DISRUPTION OF ATS IN THE ENTEBBE FIR ALL ACFT ARE ADVISED TO AVOID THE FIR

b) Airspace available Limited ATS

NOTAM ……DUE TO ANTICIPATED DISRUPTION OF ATS IN THE ENTEBBE FIR ALL ACFT ARE ADVISED THAT THERE WILL BE LIMITED ATS. PILOTS MAYEXPERIENCE DLA AND OVERFLIGHTS MAY CONSIDER AVOIDING THE AIRSPACE.

c) Contingency Plan activated

NOTAM ……. DUE TO DISRUPTION OF ATS IN ENTEBBE FIR ALL ACFT ARE ADVISED THAT THE ENTEBBE FIR INTERNATIONAL CONTINGENCY PLAN FOR ACFT INTENDING TO OVERFLY THESE FIRS IS IN EFFECT. FLIGHT PLANNING MUST BE IN ACCORDANCE WITH THE CONTINGENCY ROUTES LISTED AND FL ASSIGNMENT. PILOTS MUST STRICTLY ADHERE TO THE CONTINGENCY PROCEDURES. ONLY APPROVED INTERNATIONAL FLIGHTS ARE PERMITTED TO OVERFLY UGANDAN AIRSPACE

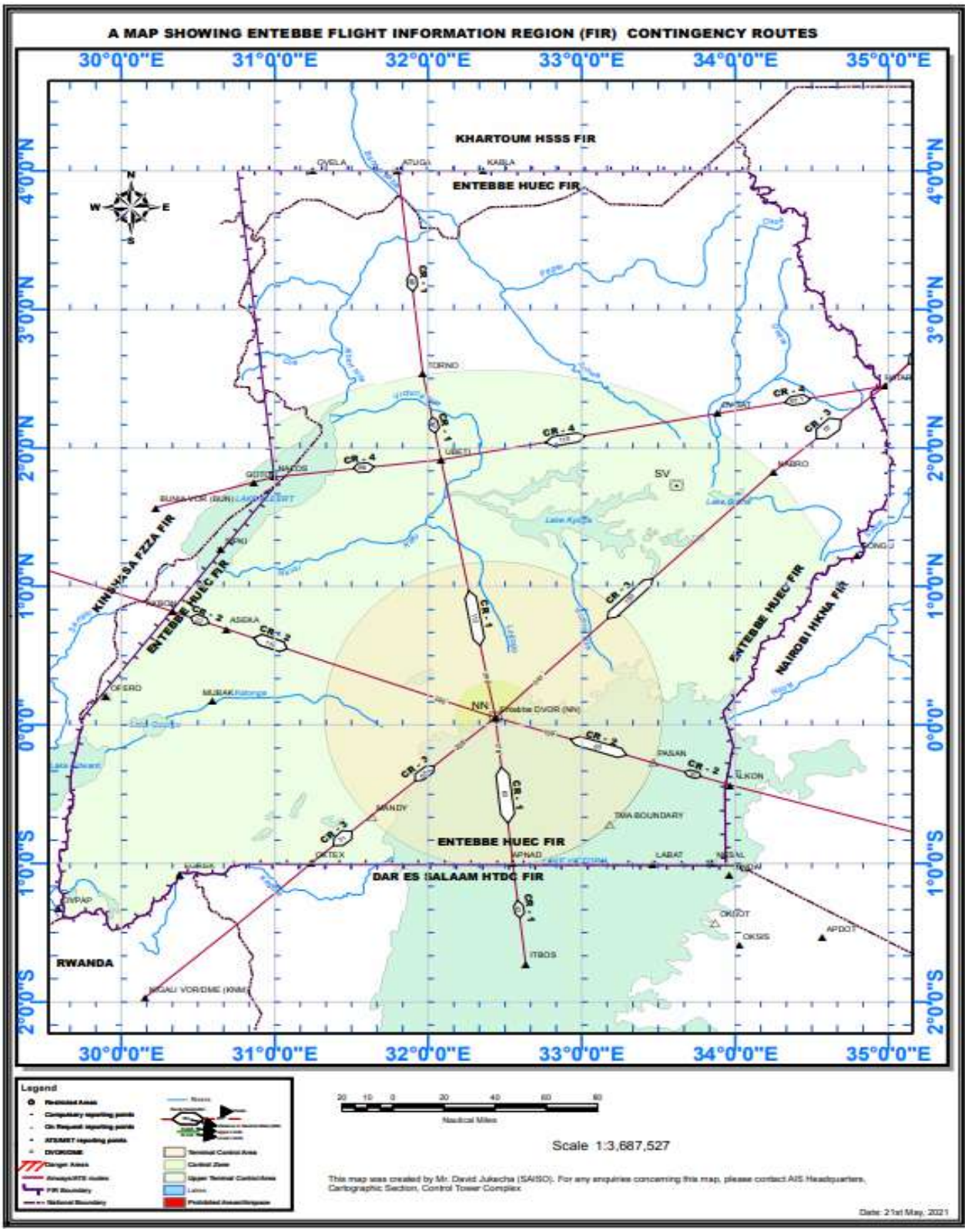
d) Non adherence to the Contingency Plan

NOTAM ……..OPERATORS NOT ABLE TO ADHERE TO THE CONTINGENCY PLAN SHALL AVOID THE ENTEBBE FIR.

APPENDIX D: FLIGHT ROUTE STRUCTURE FOR ENTEBBE FIR DURING ATS CONTINGENCY LEVEL 2

Contingency Routes	ATS Routes	Direction	Flight Level Assignment/ Longitudinal Separation	ACCs	COMM (Frequency Details)
CR 1	UG656 ATUGA-NN-APNAD UG656 APNAD-NN-ATUGA	EASTBOUND WESTBOUND	FL330/ FL390 20 MIN FL340 / FL400	Dar es Salaam Khartoum	VHF 119.3 MHZ HF 11300 KHZ VHF 127.3 MHZ HF 11300 KHZ
CR 2	UL433 AKBON-NN-ALKON UL433 ALKON-NN- AKBON	Eastbound Westbound	FL310, FL370, FL410 20 MIN FL360, 20 MIN20MIN	Nairobi Kinshasa	VHF 121.3 MHZ HF 38903 KHZ VHF 126.1 MHZ HF 11300
CR 3	UL432/UM216 OKTEX-NN-PATAR UM216/UL432 PATAR-NN-OKTEX	EASTBOUND WESTBOUND	FL350,20 MIN FL320, FL380, 20 MIN	Nairobi Dar es Salaam	VHF 121.3 MHZ HF 38903 KHZ VHF 119.3 MHZ HF 11300 KHZ
CR 4	UN553 NALOS-OVGAT-PATAR UN553 PATAR-OVGAT-NALOS	EASTBOUND WESTBOUND	FL290, 20 MIN FL300, 20 MIN	Nairobi Kinshasa	VHF 121.3 MHZ HF 11300 KHZ VHF 126.1 MHZ HF 11300 KHZ

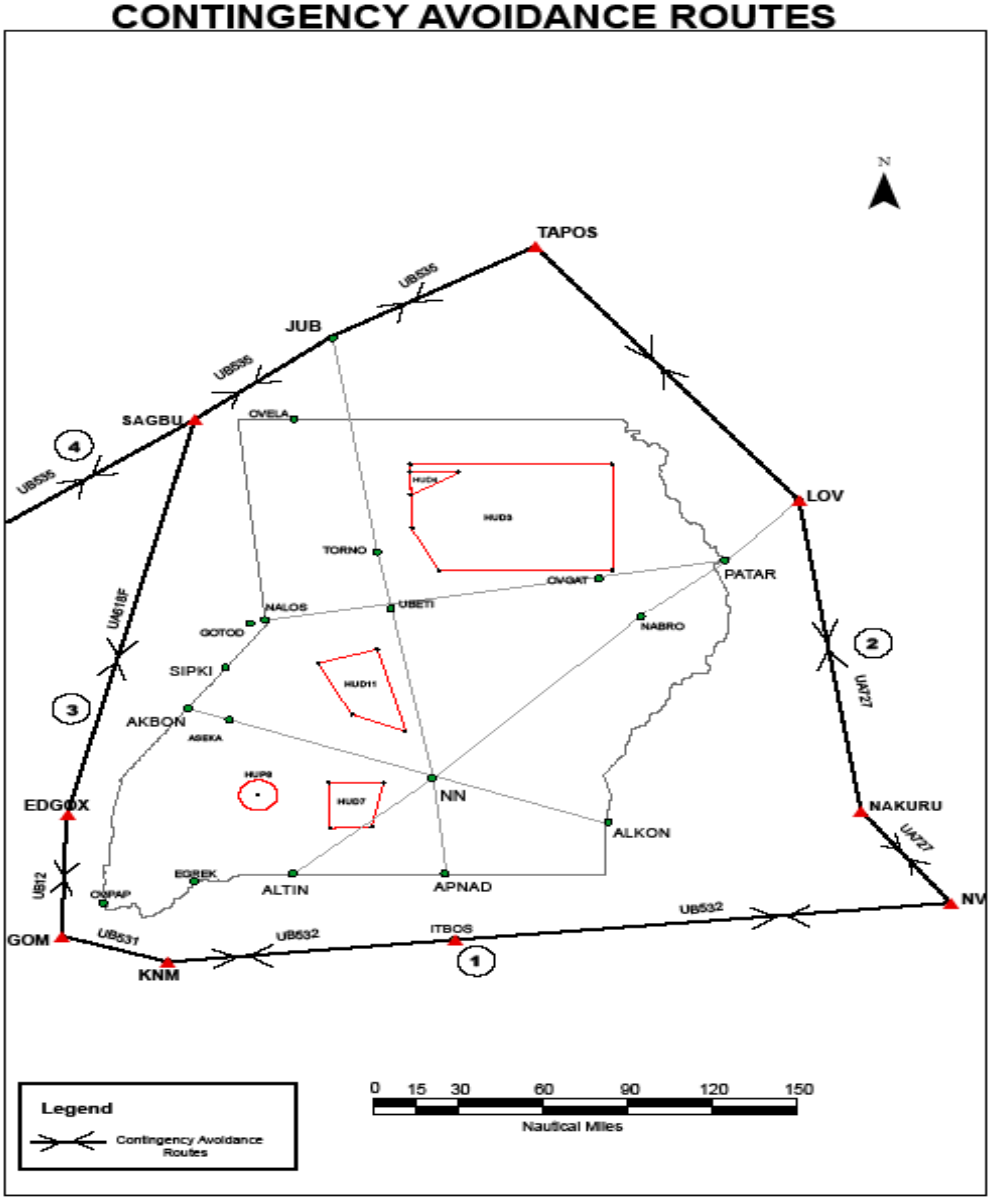
ENTEBBE FIR CONTINGENCY ROUTES



APPENDIX E: CONTINGENCY AVOIDANCE ROUTES – LEVEL 3 CONTINGENCY

FROM EAST TO WEST AND WEST TO EAST	NV-KNM-DCT-GOM-KGI	CAR1	FPL FL	AS PER LOP	HKNA, HTDC
FROM NORTH TO SOUTH AND SOUTH TO NORTH	NV-NAK-LOV-DCT-TAPOS	CAR2	FPL FL	AS PER LOP	HKNA, HAAA, HSSS
FROM NORTH TO SOUTH AND SOUTH TO NORTH	JUB-SAGBU-DCT-EDGOX-DCT-GOM	CAR3	FPL FL	AS PER LOP	HSSS, FZZA, HTDC
NORTHWARDS	KGI-JUB	CAR4	FPL FL	AS PER LOP	FZZA, HSSS

CONTINGENCY AVOIDANCE ROUTES



Note: *In the event that Entebbe ACC, Entebbe TWR/APP and Soroti TWR/APP are out of service and no ATS is available for Entebbe FIR, Flight Information Service (FIS) for the upper airspace will be:*

- *Delegated to the designated ATS authority of NAIROBI ACC.*
- *FIS will be provided by the adjacent ACCs in accordance with this CP.*
- *During the activation of the CP, pilots are requested to contact Nairobi ACC.*

APPENDIX F: FLIGHT PLANNING REQUIREMENT

Airline operators are expected to familiarize themselves with the Contingency Plan of Entebbe FIR and the activation times. For aircraft intending to operate in areas during periods when the contingency plans are activated, the operator shall plan the flight to conform to the requirements of Contingency Plans.

The flight planning requirements during the contingency period will be in accordance with requirements of applicable Uganda civil aviation rules of the air regulation provisions on flight planning. Additional information, will, however, be required, to indicate that the flight will operate in airspace where the contingency plan is active. Repetitive Flight Plans (RPLs/ Bulk stored) will not be accepted during the time that the contingency plan is activated. Airline operators are required to file flight plans in accordance with the contingency flight planning procedures.

APPENDIX G: PUBLIC HEALTH EMERGENCY CONTINGENCY

CAPSCA: Cooperative Arrangement for the Prevention of Spread of Communicable Diseases through Air travel.

1. Introduction

1.1 This contingency shall demonstrate preparedness in the roles, responsibilities, and procedures in a Public Health Emergency, for a situation of an arriving aircraft with a suspected case of infectious disease on board or a situation where an outbreak of a Public Health Emergency has occurred within Entebbe International Airport.

1.2 The Ministry of Health shall be the lead agency and will declare public health emergency when it is satisfied that there is an outbreak or imminent outbreak of an infectious disease that poses a substantial risk of a number of human fatalities. It is also responsible in ensuring that the airport implements and follows the public health control measures.

2. Objectives of the contingency

- To keep the airport operating during a health emergency – business continuity planning.
- To prevent the spread and infection of the epidemic-disease in and around the airport environment.
- To support Ministry of Health in surveillance so as to respond and contain the Public Health Emergency.
- To ensure that adequate assistance is rendered in the process of stopping and tracing of other passengers, goods, plants and animals suspected of having been infected or got in contact with affected person but allowed into the country for medical/quarantine management.
- To ensure safety of all staff at the airport.
- To stipulate the role and responsibilities of ATC in the event of a Public Health Emergency.

Contingency coverage

The plan will cover the occurrence of communicable diseases of the nature listed below:

- COVID-19
- SARS

- Avian FLU
- Cholera
- Typhus
- Yellow Fever
- Radiation
- Ebola
- Marburg
- Miseales
- Chicken pox
- Polio and any other remerging/emerging diseases.

Signs and Symptoms

While as an ATC you may not be directly involved in the handling of patients with such diseases, it is necessary that you are aware of the symptomatic presentations to be able to manage the environment in which you operate in the event of an outbreak.

- The passenger or crew aboard an aircraft who has contracted any of the communicable diseases listed above is more likely to present with the following symptoms
- Persistent coughing
- Difficulty in breathing
- Persistent diarrhea
- Persistent vomiting
- High great fever
- Bruising or bleeding without previous injuries in the mouth, ears, nose and any other site in the body.
- Confusion of recent on set.
- Coma
- Sudden death

Roles and Responsibilities

This is a multi–agency Standard Operating Plan involving key airport stakeholders in aviation, health, security, immigration, public affairs, and other airport communities. The contingency in this area works to support part of the overall Airport Emergency Plan.

Responsibility of Pilot in command

Upon having reasonable belief that there is a suspected case of a passenger or crew on board the aircraft with a communicable disease, the pilot shall communicate the same to Air Traffic Control, or in a case where such information may have already been obtained by ATC through interaction with the operator, the Controller shall only confirm the report with the pilot.

Procedure for notification of suspected case on board an aircraft

The flight crew of an en-route aircraft shall, upon identifying a suspected case(s), promptly notify the ATS unit with which the pilot is communicating, the information listed below:

– aircraft identification;

– departure aerodrome; – destination aerodrome;

– estimated time of arrival;

– number of persons on board;

– number of suspected case(s) on board; and

– nature of the public health risk, if known.

Role of ATC

Upon receiving communication from the pilot in command of any inbound aircraft to Entebbe Airport that there is a suspected case of contagious or communicable disease, ATC shall pass the same information to:

- The Duty Airside Operations Officer on Tel Ext. 3201.
- ATC shift supervisor/Senior officer of the watch.
- OC ANS Entebbe
- Manager Air Traffic Management
- UCAA call Center

ATC shall coordinate with the ground operations in ensuring that the pilot receives the necessary guidance in the circumstances to the planned parking. The shift supervisor shall keep the OC ANS and Manager Air Traffic Management updated on the progress of the operation to cessation.

APPENDIX H: INTERCEPTION OF CIVIL AIRCRAFT

Pilots need to be aware that in flight of current international circumstances, a contingency routing requiring aircraft to operate off normal traffic flows, could result in an intercept by military aircraft. Aircraft operators must therefore be familiar with provisions of Article 65 of the applicable Civil Aviation Rules of the Air regulations.

Pilots need to continuously listen out on the VHF emergency frequency 121.5MHz and should operate their transponders always during flight within Entebbe FIR. Transponders should be on discreet code assigned by ATC or select code 2000 if ATC has not assigned a code.

Action by intercepted aircraft

If an aircraft which is intercepted by another aircraft shall immediately:

a) Follow the instructions given by the intercepting aircraft, interpreting and responding to visual signals;
b) Notify, if possible, the appropriate ATS unit;
c) Attempt to establish radio communication with the intercepting aircraft or with the appropriate intercept control unit, by making a general call on the emergency frequency 121.5MHz, giving the identity of the intercepted aircraft and the nature of the flight; and if no contact has been established and if practicable, repeating this call on the emergency frequency 243 MHz.
d) If equipped with SSR transponder, select Mode A, Code 7700, unless otherwise instructed by the appropriate air traffic services unit.

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

Radio communication during interception

If radio contact is established during interception but communication in a common language is not possible, attempts shall be made to convey instructions, acknowledgement of instructions and essential information by using the phrases and pronunciations in Table 2.1

and transmitting each phrase twice:

Phrases for use by INTERCEPTING aircraft			***Phrases for use by INTERCEPTED aircraft***		
Phrase	*Pronunciation1*		Phrase	Pronunciation1	
CALLSIGN	KOLSA-IN	What is your callsign?	CALLSIGN (callsign)	KOLSA-IN (callsign)	My callsign is (callsign)
FOLLOW	FOL-LO	Follow me	WILCO	VILL-KO	Understood Will comply
DESCEND	DEE-SEND	Descend for landing	CANNOT	KANNNOTT	Unable to comply
YOULAND	YOU LAAND	Land at this aerodrome	REPEAT	REE-PEET	Repeat your instruction
PROCEED	PRO-SEED	You may proceed	AM LOST	AM LOSST	Position unknown
			MAYDAY	MAYDAY	I am in distress
			HIJACK	HI-JACK	I have been hijacked
			LAND (place name)	LAAND (place name)	I request to land at (place name)
			DESCEND	DEE-SEND	I require descent

APPENDIX I: CONTINGENCY FOR VOLCANIC ASH WITHIN ENTEBBE FIR

Entebbe FIR is known to harbor/neighbor volcanic activity with suspected active volcanoes in the Mufumbiro ranges (Mgahinga) and Mt. Muhavura which borders the three states of Rwanda, D.R. Congo and Uganda. It is required that controllers are prepared with adequate knowledge to handle such natural disasters in the event of occurrence. The procedures here under are developed to guide controllers to adequately manage any of such occurrences.

PROCEDURES FOR AN ATC UNIT IN ENTEBBE FIR WHEN A VOLCANIC ASH CLOUD IS REPORTED OR FORECAST.

If a volcanic ash cloud is reported by either a pilot, local people, media or forecast in Entebbe FIR for which the ACC is responsible, the controller shall:

a) Originate NOTAM

b) Relay all information available to pilots whose aircraft could be affected, to ensure that they are aware of the ash clouds position and the flight levels affected.

c) Suggest appropriate re-routing to the flight crew to avoid areas of known or forecast ash clouds.

d) Inform pilots that volcanic ash clouds are not detected by relevant ATS surveillance systems;

e) And if the ACC has been advised by an aircraft that it has already entered a volcanic ash cloud, the controller shall:

1. Consider the aircraft to be in an emergency situation;
2. Not initiate any climb clearances to turbine-powered aircraft until the aircraft has exited the ash cloud; and
3. Not initiate vectoring without pilot concurrence.

Note: -Experience has shown that the recommended escape manoeuvre for an aircraft which has encountered an ash cloud is to reverse its course and begin a descent if terrain permits. The final responsibility of this decision however rests with the pilot.

In the event of volcanic activity on MGAHINGA Mountain, the affected routes are:

UB527 – Through position EGREK northbound to position ASEKA and vice-versa

UM216- from NN to position OVPAP and vice-versa

UL434- from NN to position OPERO and vice-versa

Proposed routes to be used in the event of volcanic activity on Mgahinga are:

I. **UL433** through position AKBON and

II. **UL432/L432** through position OKTEX.

The proposed usable routes for Volcanic Ash avoidance coincide with the ATS Contingency routes CR2 through AKBON and CR3 through OKTEX Appendix E.

REROUTING SCHEME

In the event of closure of the Routes; UM216, UB527 & UL434, in the event of **volcanic activity/ash**, aircraft operators should file their flight plans using the alternative contingency routes listed in the scheme below in order to ensure avoidance in Entebbe FIR.

Present ATS ROUTE	**CONTINGENCY ROUTINGS**	**FIRs INVOLVED**
In lieu of: **UM216 &UB527**	(ATS unit) provides ATC on the following routings: **CR 3: UL432/L432**	**Entebbe**: In coordination with **DAR/KIGALI**
In Lieu of: **UL434**	**CR 2: UL433**	**Entebbe:** In coordination with **Kinshasa**

All aircraft should establish and maintain contact on published VHF or HF frequencies with the Entebbe ACC responsible for the airspace.

PHASES OF AN EVENT

The response to a volcanic event that affects air traffic has been divided into four distinct phases in this document — a Pre-Eruption Phase, a Start of Eruption Phase, an On-going Eruption Phase, and a Recovery Phase— as follows:

a) PRE-ERUPTION PHASE (when applicable): The initial response, "raising the alert", commences when a volcanic eruption is expected. 1) Appropriate AIS and MET messages may be issued in accordance with Annex 15 and Annex 3 respectively, and disseminated to affected aircraft in flight by the most expeditious means. It should be noted that, sometimes volcanoes erupt unexpectedly without any alert being raised; hence the pre-eruption phase may be omitted.

b) 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.

i) Principally this will include volcanic ash advisory messages (issued by volcanic ash advisory centers) and SIGMET information on volcanic ash (issued by meteorological watch offices).

ii) Depending on the State's regulation, the area may be established as a "danger area", "restricted area "or "prohibited area". Over the high seas only "danger area" may be established.

iii) Appropriate AIS and MET messages may be issued as appropriate in accordance with Annex 15 and Annex 3 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.

c) ON-GOING ERUPTION PHASE: The on-going eruption phase commences with the issuance of the first volcanic ash advisory (VAA) containing information on the extent and movement of the volcanic ash cloud following completion of the previous

reactive responses. Appropriate AIS and MET messages may be issued as appropriate in accordance with Annex 15 and Annex 3 respectively.

d) RECOVERY PHASE: The recovery phase commences with the issuance of the first 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.

ANTICIPATED FLIGHT CREW ISSUES WHEN ENCOUNTERING VOLCANIC ASH

ATS personnel 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) Acrid odor similar to electrical smoke;

c) multiple engine malfunctions, such as stalls, increasing exhaust gas temperature (EGT), torching, flameout, and thrust loss causing an immediate departure from assigned altitude;

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 visibility due to cockpit windows becoming cracked or discoloured, due to the sandblast effect of the ash;

g) because of the abrasive effects of volcanic ash on windshields and landing lights, visibility for approach and landing may be markedly reduced. Forward visibility may be limited to that which is available through the side windows; and/or

h) 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).

Simultaneously, ATS personnel can expect flight crews 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) don flight crew oxygen masks 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 aerodrome; and

f) upon landing, thrust reversers may be used as lightly as feasible

Communication and Dissemination of Pilot Reports of Volcanic Activity

Introduction

ICAO Annex 3 — Meteorological Service for International Air Navigation (paragraph 5.5, g) and h)) prescribes that volcanic ash clouds, volcanic eruptions and pre-eruption volcanic activity, when observed, shall be reported by all aircraft. The ICAO Procedures for Air Navigation Services – Air Traffic Management (PANS-ATM, Doc 4444) contain detailed provisions on this special air report requirement in paragraphs 4.12.3 and 4.12.5, and the Volcanic Activity Report form in Appendix 1.

Experience has shown that reporting and sharing of information on volcanic ash encounters in accordance with the above mentioned provisions (in-flight and post-flight) varies across the world. The efficiency and quality of reporting currently depends heavily on regional characteristics and the level of regional integration. A high level of global harmonization is essential to achieve the desired level of implementation and consistency of the information.

Purposes of Volcanic Ash Reporting and Data Collection

The main purposes for volcanic ash reporting and data collection are to:

a) locate the volcanic hazards:

b) notify immediately other aircraft (in-flight) about the hazard;

c) notify other interested parties: ANSPs (ATC, AIS, and ATFM), VAACs, MWO, etc to ensure the consistent production of appropriate information and warning products in accordance with existing provisions;

d) analyse collected reports from the post-flight phase in order to:

1) identify areas of concern;

2) validate and improve volcanic ash forecasts;

3) improve existing procedures;

4) assist in defining better airworthiness requirements; and

5) share lessons learned, etc.

PHASE OF OPERATIONS

The roles and responsibilities of the participants in the collection, exchange and dissemination of the volcanic information are distinctly different in two distinct phases:

a) in-flight; and

b) post-flight.

PARTICIPANTS IN THE REPORTING PROCESS, THEIR ROLE SAND RESPONSIBILITIES

Identification of the participants as well as their roles and responsibilities in general, but specifically during the two different phases of operations, is an important element in improving collection, exchange and dissemination of volcanic information. The number of participants and their roles and responsibilities depends on the phase of operations (in-flight, post- flight), their position in the information chain within one of these two phases and national/regional arrangements. One of the main issues regarding participants' roles and responsibilities is that each of them is, at one time or another, both a data/Information provider and user of the information.

In-Flight Phase

Participants, Roles & Responsibilities

	Participant	Roles & Responsibilities
a)	Pilots, civil and/or military, observing and/or encountering volcanic activity	To provide as much detailed information as possible about the type, position, colour, smell, dimensions of the volcanic contamination, level and time of the observation and forward VARP art I immediately to the ATS unit with which the pilot is in radiotelephony (R/T) communication. Record the information required for VAR Part II on the appropriate form as soon as possible after the observation or encounter, and files the report via data link, if available.
b)	ATS unit receiving the information from the pilot encountering volcanic event	To ensure that information received by an air traffic controller from the pilot has been copied, clarified (if necessary) and disseminated to other pilots as well as to the ACC Supervisor. In addition, air traffic controllers could ask other pilots flying within the same area if they have observed any volcanic activity.

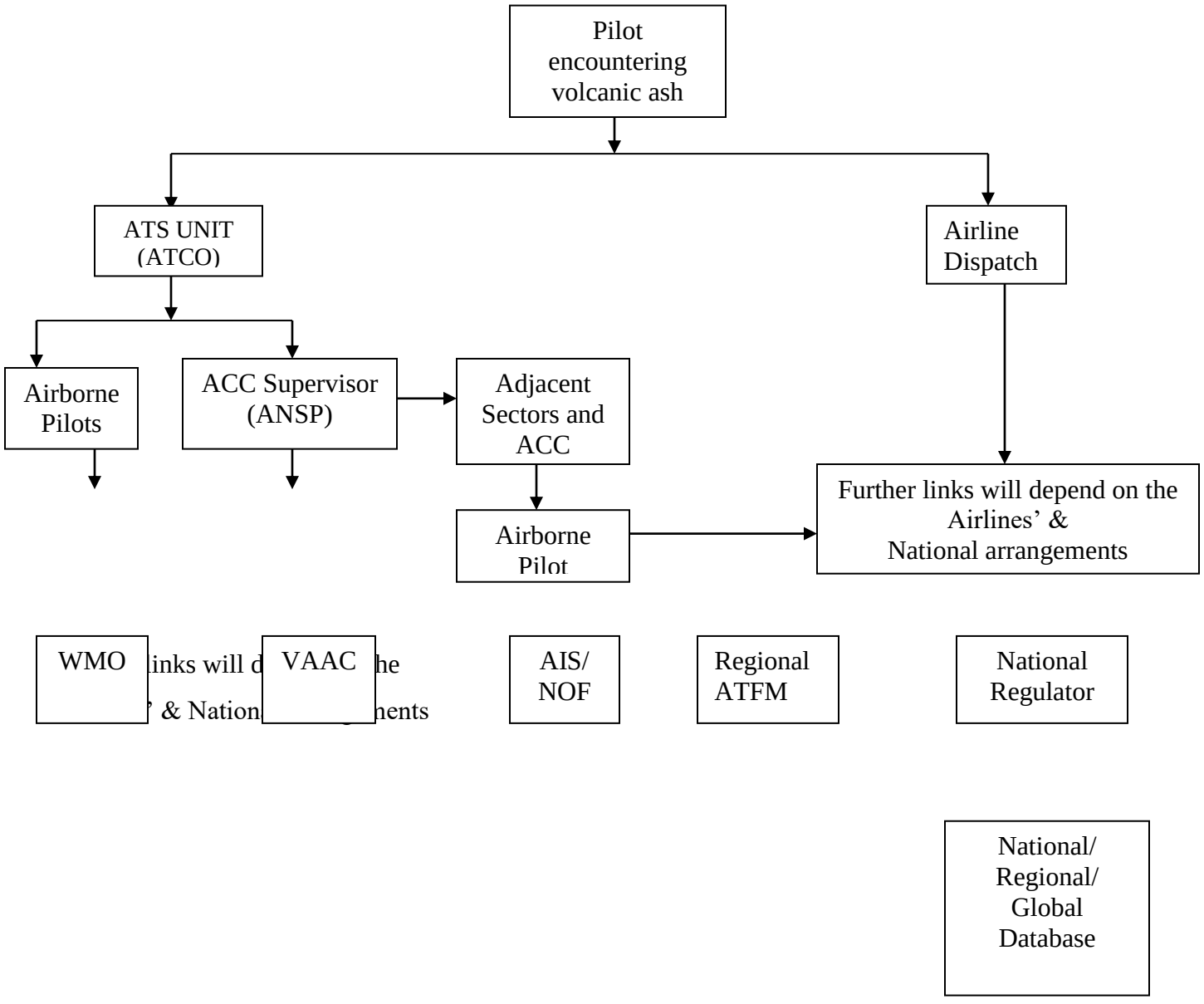
c)	ATS unit/ACC Supervisor (if applicable) or other responsible person within the Air Navigation Service Provider	To use all means of communication and available forms to ensure that the information received from the air traffic controller has been; passed on to the associated Meteorological organizations in accordance with national/regional arrangements; • fully and immediately disseminated across the organization, in particular to adjacent sectors and the associated NOTAM Office (NOF); • passed on to the neighboring sectors and ACCs (if necessary); • passed on to the regional ATFM Centre(if existing)
d)	Neighboring ANSPs (ACCs etc.)	• To ensure that information is provided to flight crews flying towards the area affected by the volcanic contamination; disseminated across the organization and the system • Prepared to cope with the possible changes of the traffic flows; and that the information is provided to the national authority responsible for the handling of contingency situations and passed on to the NOF and MWO as required.
e)	MET Watch Office	To use the information originated by flight crews and forwarded by the ATS unit this received the information, in accordance with Annex3.
f)	VAAC	To use the information originated by flight crews, MWOs and other competent sources in accordance with Annex3
g)	AIS / NOF	To publish appropriate AIS messages in accordance with Annex 15

h)	ATF Monitor Centre (if existing)	To ensure that information received is stored and made available for information to all partners in its area of responsibility (ANSPs, airlines, VAAC, MET etc.). As part of the daily activity, co-ordinate ATFM measures with ACCs concerned.

In-flight reporting– Sample Flow Chart of the volcanic ash information

Thechartbelowisagraphicalrepresentationofapossiblepathofthein-flight volcanic ash information and may differ between regions depending on regional arrangements. It also gives the position of the volcanic ash participants in the reporting chain. The flow chart is not exhaustive and the path of the information can be extended and new participants could be added depending of the national and regional requirements.

SAMPLE FLOW CHART OF VOLCANIC INFORMATION



Links to the database will depend on national regional & global arrangements.

Post-Flight Operations Roles & Responsibilities and order of reporting

	Participant	Roles & Responsibilities
1.	Civil and/or military pilots/airlines having observed or encountered an eruption or volcanic contamination	To file the volcanic ash report with as much detailed information as possible about the volcanic activity and/or encounter(position, colour, smell, dimensions, FL, time of observation, impact on the flight, etc.). Ensure that the VAR is filed and transmitted to the relevant recipients as soon as possible after landing (if not filed via data link already during the flight).Make an entry into the Aircraft Maintenance Log(AML) in case of an actual or suspected encounter with volcanic contamination.
2.	ATM	To provide a summary report of effects of the volcanic activity that affected its operations at least once per day to the national authority with as much detailed information as possible about the number of encounters, impact on air traffic management, etc.).
3.	AOC Maintenance - Post flight Inspection	To report about the observation of the aircraft Surfaces, engine, etc, and to provide the information to the national (or regional or global, where applicable) central data repository.
4.	Investigation authority	All aeronautical service providers (including Operators, ANSPs, airports, etc) shall investigate the effects of a volcanic activity, analyze the information and search for conclusions; and report the investigation results and relevant information to the national supervisory authority and any central data repository.

5.	National Authority	Tohandlethenationalcentraldatarepositoryandreporttother egional/globalcentraldata repository if any. To analyze reports from its Aeronautical service providers and take actionas
6.	Regional Central Data Repository	To collect the national data and make them available to interested stakeholders under agreed conditions.
7.	MWO	To use the national and regional information coming from national and regional central data repositories.
8.	VAAC	To use the information originated by flight crews, and other competent sources to: a) validate its products accordingly and; b) Improve the forecast.
9.	Global Data Repository (and research institutes-where appropriate)	To analyze the information stored in the regional central data repository and provide the research outcomes for lessons learnt process.
10.	Knowledge management (e.g. SKY brary)	To use the post-flight lessons learnt and disseminate them to interested stakeholders.
11.	ICAO	To review/revise ATM volcanic ash contingency plans.

Tools for presenting and sharing the volcanic ash information

To report, transmit and disseminate the volcanic ash encounter information, different types of tools can be used. The list below is provided to give ideas as to what tools can be used. It could also be split into regulatory and general information tools. At any case, it is not an exhaustive list and can be updated with new elements depending on regional experiences.

a) Radiotelephony and Data link Communications
b) VAR (Volcanic Ash Report)
c) NOTAM/ASHTAM
d) SIGMET
e) VAA/VAG
f) Central data repository e.g. CFMU Network Operations Portal(NOP)

g) Centralizedwebbasedsiteswiththeregularlyupdatedinformationandmaps – e.g. EVITA - http://www.eurocontrol.int/services/evita-european-crisis-visualisation-interactive-tool-atfcm

h) Teleconferences

i) PeriodicBulletinswiththesetofinformationdefinedbythedataproviders and data users; e.g. Smithsonian Institution Weekly Bulletin.

j) Centralized internet-based sites for the sharing of lessons learnt (Knowledge management–e.g. SKYBRAY http://www.skybrary.aero/index.php/Main_Page)

For detailed information on Volcanic Ash contingency, refer to the Volcanic Ash Contingency Plan- AFI Region, First Edition – 2012.

APPENDIX J: MOU TEMPLATE FOR DELEGATION OF PROVISION OF ATS

Memorandum of Understanding between (Name of State/FIR/ACC) and (Name of State/FIR/ACC) for the Implementation of Level 2 and 3 Contingency Plan Requiring the Delegation of Provision of ATS

Article 1: Regulatory Requirements for Establishment of Contingency Plan

Annex 11 of ICAO Attachment C requires States, ACCs or FIRs to develop and publish ATM Contingency Plan for the management of ATS disruptions (indicated as level 2 and 3 contingencies in this plan) that may require the delegation of the provision ATS by the affected State/FIR/ACC to an adjacent State/FIR/ACC. Similarly, (Name of State or Civil Aviation Regulations) requires that the ANSP shall develop contingency plan to mitigate the possible disruption in the provision of air navigation services.

Article 2: Objective of the MOU

The objective of this MOU is to provide an instrument for the delegation of the provision of ATS by (Name of Delegating State/FIR/ACC) to (Name of Delegated State/FIR/ACC) for the provision of ATS over (Name of State/FIR/ACC or ATS Route).

Article 3: Effective Date of the MOU

The MOU between (State/FIR/ACC) and (State/FIR/ACC) shall take effect from (Date and Time in UTC) or whenever a level 2 contingency occurs that requires intervention from adjacent State/FIR/ACC.

Article 4: Authorization of ATCs to provide ATS in adjacent FIR under assignment

(Name of Delegating State/FIR/ACC) hereby authorizes (Name of Delegated State/FIR/ACC) to provide (type of air traffic service) within (Name of State/FIR or

airspace). The applicable longitudinal separation standard shall be (---- time or --- Nautical Miles).

Article 5: Responsibility for granting of over-flight clearance

(Name of State/FIR/ACC) shall be responsible or is delegated to grant approval for the overflight over (Name of State/FIR or airspace) during the period of level 2 contingency.

Article 6: Responsibility for Search and Rescue under Contingency

The responsibility for the conduct of search and rescue shall be vested in (Name of State/FIR/ACC) during level 2 contingency.

Article 7: Procedures for Amendment of Contingency Plans and MOUs

The MOU between (Name of State/FIR/ACC) and (Name of adjacent State/FIR/ACC) shall remain in force from ---------- to ----------. However, any of the parties to the MOU can request for a review or termination of the MOU at any point in time after prior notification of the other party, and without jeopardizing safety and efficiency of flight operations.

Article 8: Conduct of Regular Contingency Exercises

(Name of State/FIR/ACC) and (Name of State/FIR/ACC) shall ensure regular conduct of ATM contingency exercises at least once in two years (biennially). The objective of the exercise is to ensure that both parties are adequately sensitized on the contingency procedures.

Article 9: Re-currency Trainings for ATC on Contingency Procedures

Each State/FIR/ACC shall ensure regular training and retraining of her ATCOs on ATM contingency procedures as well as contingency routes.

Article 10: CNS/ATM Capacity of (State/FIR/ACC) assigned to provide ATS in the designated airspace

The delegated state (Name of delegated State/FIR/ACC) hereby confirms that she has capacity to provide ATS (ATC Service, Flight Information Service, Alerting Service) in the affected State/FIR or airspace.

Article 11: Responsibility for issuance of NOTAM for activation and termination of the contingency plan

(State/FIR/ACC) shall be responsible for the issuance of NOTAM for commencement or activation and deactivation of a contingency plan.

Article 12: Responsibility for En Route Navigation Charges under Contingency

The responsibility for the collection of en-route navigation charges shall lie with (Name of State/FIR/ACC) during the period of level 2 Contingency.

Article 13: Clear description of the airspace or sector or FIR or Route to be delegated

The affected airspace or airspace under contingency as described below shall be delegated to (Name of State/FIR/ACC):

i) Coordinates, boundary points,
ii) Vertical and lateral limit
iii) Upper or lower airspace
iv) Type of flight operations (VFR, IFR or both),
v) ATS Routes or Contingency Routes, etc.

Article 14: Implementation of Air Traffic Flow Management

(Name of Delegated State/FIR/ACC) shall where practicable, activate the ATFM or flow control measures during level 2 contingency when traffic volume is expected to exceed ATM capacity.

Article 15: Authorization of MOU for Implementation

(Name of State/FIR/ACC) and (Name of second State/FIR/ACC) hereby authorize the implementation of contingency plan in accordance with this MOU in the event of a level 2 contingency.

(Name of State/FIR/ACC)	(Name of State/FIR/ACC)
Name ----------	Name----------
Designation ----------	Designation ----------
Date ----------	Date----------