South African ATS Contingency Plan

Applicable to FACA, FAJA and FAJO Flight information regions (FIRs)

Version 7.0

Prepared by

Air Traffic and Navigation Services (ATNS)

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1. Foreword

This Contingency Plan will come into effect as determined by the Civil Aviation Authority of South Africa (SACAA), who is the authority responsible for civil aviation operations in South Africa.

The Plan has been prepared in coordination with the International Civil Aviation Organization (ICAO) to meet the provisions of ICAO Annex 11 ─ *Air Traffic Services* Chapter 2 (2.32), to provide for the safe and orderly continuation of international flights through the Johannesburg, Cape Town and Oceanic FIR.

The Plan has been developed in coordination with the South African airspace management stakeholders and with the close co-operation and collaboration with IATA and the civil aviation authorities and air navigation service providers (ANSPs) responsible for the adjacent FIRs.

The Plan will be activated by promulgation of a NOTAM issued by ATNS NOTAM Office as far in advance as is practicable. However, when such prior notification is impracticable for any reason, the Plan will be put into effect through notification by the designated authority as authorized by SACAA or the United Nations. If this is also not practical, notification may be made by ICAO in accordance with arrangements made with SACAA.

Arrangements have been made with civil aviation authorities responsible for adjacent airspaces, and action on their part in the event of activation of the Plan will be in accordance with operational *Letters of Agreement (LOAs) and Letters of procedures (LOPs)* established between South Africa and adjacent States concerned. Aircraft flying through the Johannesburg, Cape Town and Oceanic FIR during activation and operation of the Johannesburg, Cape Town and Oceanic ATM 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.

It is to be understood that contingency arrangements that constitute a temporary deviation from the approved Regional Air Navigation Plan are subject to approval as necessary, by the President of the ICAO Council on behalf of the Council.

Proposed amendments to this plan shall be emailed to:

Mr. Colin Bryant

Operations System Specialist: ATM/cns Planning and Research

Email: colinb@atns.co.za

2. Version Control

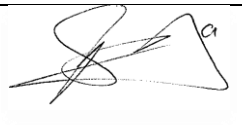
RECORD OF AMENDMENTS

Amendments to the ATM Contingency Plan for Cape Town, Johannesburg and Oceanic FIRs shall be recorded in the document itself and brought to the attention of all concerned. ***No amendments, handwritten or otherwise shall be made to the published version of the*** ATM Contingency Plan for Cape Town, Johannesburg and Oceanic FIRs

Amendment Number	**Effective Date**	**Date Entered**	**Date Entered**	**Paragraph/ Reference**
1	01 April 2011	New Issue	01 April 2011	
2	01 April 2013	2nd Issue	01 April 2013	
3	01 April 2014	3rd Issue	10 May 2014	
4	30th October 2016	4th Issue	30th September 2016	
5	18th July 2019	5th Issue	5th May 2019	RE-draft
6	18thJuly 2019	6th Issue	19th July 2020	Update
7	18th July 2020	7th Issue	25th August 2020	Update

3. Signatures

The following people shall be signatories to the Contingency Plan for Cape Town, Johannesburg and Oceanic FIRs.

DATE	NAME	DESIGNATE	SIGNATURE
24 August 2020	Simon Zwane (ATNS)	Senior Manager: Air Traffic Management Planning & Research	
24 August 2020	Sandile Maphanga (SACAA)	Senior Manager: Air Navigation Services	

4. ATM contingency plan for international flights to transit the airspace of the Cape Town, Johannesburg and Oceanic FIR

Effective: Date **18th July 2019** Time: **00h00**

4.1 Objective

This Air Traffic Management (ATM) Contingency Plan contains arrangements to ensure the continued safety of air navigation in the event of partial or total disruption of air traffic services in the Cape Town, Johannesburg and Oceanic FIR in accordance with ICAO Annex 11 ─ *Air Traffic Services,* Chapter 2, Section 2.32. The Contingency Plan provides the ATS procedures and contingency route structure using existing airways in most cases that will allow aircraft operators to transit the Cape Town, Johannesburg and Oceanic FIRs.

This Contingency Plan does not address arrangements for aircraft arriving and departing at airports within South Africa, or for domestic flight operations within the territory of South Africa.

4.2 States and flight information regions affected

Should the Civil Aviation Caretaker Authority for South Africa activate this Contingency Plan, adjacent States and civil aviation authorities responsible for air navigation services in the adjacent FIRs will be notified in accordance with the *Letters of Agreement* established between South Africa (ATNS) and adjacent FIRs concerned. The adjacent States' FIRs and ATS units directly affected by this Contingency Plan are as follows:

a) **State**: Mozambique

Name of FIR: Beira FIR

Name of ATS Unit: Maputo ACC/APP

b) **State**: Kingdom of eSwatini

Name of TMA: Matsapha TMA

Name of ACC: Matsapha APP.

c) **State**: Zimbabwe

Name of FIR: Harare FIR

Name of ACC: Harare ACC

d) **State**: Botswana

Name of FIR: Gaborone FIR

Name of ACC: Gaborone ACC/APP

e) **State**: Namibia

Name of FIR: Windhoek FIR

Name of ACC: Windhoek ACC

f) **State**: Angola

Name of FIR: Luanda FIR

Name of ACC: Luanda ACC

g) **State**: Argentina

Name of FIR: Ezeiza FIR

Name of ACC: Ezeiza ACC

h) **State**: Brazil

Name of FIR: Atlántico FIR

Name of ACC: Atlántico ACC

i) **State**: Mauritius

Name of FIR: Mauritius FIR

Name of ACC: Mauritius ACC

j) **State**: Australia

Name of FIR: Melbourne FIR

Name of ACC: Melbourne ACC

k) **State:** Lesotho

Name of APP: Maseru APP

The contact details of the civil aviation authorities and organizations concerned are contained in **Appendix A** to this document. These details will be kept up to date in accordance with *Letters of Agreement* and the Contingency Plan shall be updated accordingly**.**

5. Management of the Contingency plan

The contingency measures set out in this Plan are based on known, foreseeable or probable impact of interruptions in ATS, caused by natural occurrences or other circumstances, which, in one way or another may partially or totally disrupt the provision of ATS and/or related support services in the Cape Town, Johannesburg and Oceanic FIR, or make the airspace unavailable or unsafe for use.

The following arrangements have been put in place to support management of the Contingency Plan to ensure that international flights may continue in a safe and orderly manner through the Cape Town, Johannesburg and Oceanic FIR

5.1. Central Coordinating Committee

Whenever circumstances permit, as soon as practicable in advance of, or after a contingency event has occurred, the Project Coordinator of *ATNS* shall convene the Central Coordinating Committee (CCC) comprising representatives from:

1) SACAA;
2) ICAO ESAF Regional Office;
3) ATS providers within Cape Town, Johannesburg and Oceanic FIR;
4) UNSOA;
5) Representative from the airlines;
6) Other UN agencies and stakeholders considered necessary.

The Central Coordinating Committee (CCC) shall oversee the conduct of the Contingency Plan and in the event that the Cape Town, Johannesburg and Oceanic FIC premises are out of service for an extended period, make arrangements for and facilitate the temporary relocation of the Cape Town, Johannesburg and Oceanic FIC at the ***Temporary ACC*** *(SSS-* ***Disaster Recovery Plan Appendix H****) and the restoration of ATS services in accordance with the* ***Business Continuity Plan****. The terms of reference for the CCC will be determined by SACAA in consultation with applicable stakeholders and will be updated periodically and circulated to members of the CCC.*

Contact details of the CCC regional members are provided in **Appendix B** to this document.

5.2. Cape Town, Johannesburg and Oceanic ATM Operational Contingency Group

The Cape Town, Johannesburg and Oceanic ATM Operational Contingency Group (*CJOAOCG*) will be convened by the CCC with a primary responsibility to oversee 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 will be determined by the CCC. The *CJOAOCG* will include specialized personnel from the following disciplines:

- Air traffic services (ATS)
- Aeronautical telecommunication (COM)
- Aeronautical meteorology (MET)
- Aeronautical information services (AIS)
- Communication, navigation and surveillance (CNS)
- Air Traffic Management (ATM)
- Search and Ressue (SAR)

The tasks of the **CJOAOCG** shall include taking the following action:

i) review and update of the Cape Town, Johannesburg and Oceanic Contingency Plan as required;

ii) keep up to date of the contingency situation;

iii) organize contingency teams in each of the specialized areas;

iv) keep in contact with and update the ICAO ESAF 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 ATM organizations in Melbourne (Australia), Mozambique, Zimbabwe, Botswana, Namibia, Luanda, Ezeiza (Argentina), Mauritius, Lesotho and Atlántico (Brazil) of the contingency situation sufficiently in advance and/or as soon as practical thereafter; and

vii) Issue NOTAMs according to the corresponding contingency situation related to this plan or as otherwise required. If the situation is foreseeable sufficiently in advance, a NOTAM will be issued at least 48 hours in advance.

6. Contingency route structure

In the event of disruption of air traffic services provided by Cape Town, Johannesburg and Oceanic FIC, contingency routes will be introduced to ensure safety of flight and to facilitate limited flight operations commensurate with the prevailing conditions. Existing ATS routes form the basis of the contingency routes to be used, and a flight level assignment scheme shall be introduced to minimize potential points of conflict and to limit the number of aircraft operating simultaneously in the system under reduced air traffic services, including surveillance.

The contingency route structure for international flights is detailed in **Appendix C** to this document**.** Additional contingency routes will be introduced as and when circumstances require, such as in the case of volcanic ash clouds formation.

Regarding domestic operations, 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 curtail or restart domestic operations will be made by the ATNS.

Aircraft on long-haul international flights and special operations (e.g. Search and Rescue (SAR), State aircraft, humanitarian flights, etc.), shall be afforded priority for levels starting from FL290 and above.

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

International operators may elect to route around the Cape Town, Johannesburg and Oceanic FIR if this will satisfy operational requirements of their companies. In such instances, the contingency routes to be used will be provided by States providing air traffic services in the adjacent FIRs concerned.

7. Air traffic management and contingency procedures

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

During the contingency critical period, air traffic services (ATS), including air traffic control (ATC) may not be available, particularly with regard to availability of communications and surveillance services. In cases where such services are not available, a NOTAM will be issued by ATNS or adjacent ACCs, providing the relevant information, including an expected date and time of resumption of services. The Contingency Plan provides for limited flight information and alerting services to be provided by adjacent ACCs.

Flight information service (FIS) and flight monitoring will be provided by the designated ATS authorities for the adjacent FIRs on the contingency routes that enter their respective FIRs. A chart depicting the airspace arrangement is provided in **Appendix D** to this document.

The primary means of air-ground communication in FAJO airspace will be by HF radio except for aircraft operating automatic dependent surveillance (ADS) and controller/pilot data link communication (CPDLC) systems where this has been established and is fully operational. **Where CPDLC has been established, this will become the primary means of communication, with HF as secondary**. In the case of automatic position reporting, this will replace voice position reporting and CPDLC and/or HF will become the secondary means of communication.

7.2 ATS Responsibilities

During the early stages of a contingency event, the Cape Town, Johannesburg and Oceanic FIC may become overloaded which may require tactical action to be taken in order to re-route aircraft on alternative routes that are not included in this Plan.

In the event that ATS cannot be provided in the Cape Town, Johannesburg and Oceanic FIR, a NOTAM shall be issued indicating the following, as a minimum requirement:

a) 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, APP, TWR, OCEANIC and FIS), including an expected date of restoration of services if available;

d) Flight level allocation scheme (FLAS) if different from those defined in **Appendix C** of this document;

e) Information on the provisions made for alternative services;

f) Any changes to the ATS contingency routes contained in this Plan;

g) Any special procedures to be followed by neighbouring ATS units not covered by this Plan;

h) Any special procedures to be followed by pilots; and

i) Any other details with respect to the disruption and actions being taken that aircraft operators may find useful.

If the South Africa International NOTAM Office is unable to issue the NOTAM, the (alternate) International NOTAM Office at Nairobi will take action to issue the NOTAM pertaining to the closure of airspace upon notification by State or ICAO ESAF Regional Office. Sample NOTAMs can be seen at **Appendix E**

7.3 Aircraft Separation

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).

The minimum longitudinal separation applicable will be 15 minutes.

The route structure provides for a minimum lateral separation of 50 nautical miles. In cases where this is, and for crossing routes, standard vertical separation shall be applied between all aircraft transiting the Cape Town, Johannesburg and Oceanic FIR.

7.4 Flight level restrictions

Where possible, aircraft on long-haul international flights shall be given priority with respect to the assignment of cruising levels.

7.5 Operational restrictions

VFR flights shall not operate in the Cape Town, Johannesburg and Oceanic FIR if there are extensive disruptions to ATS facilities, except in special cases such as State aircraft, medivac flights, and any other essential flights authorized by ATNS.

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

IFR commercial flights will receive a high priority together with State and medivac flights.

7.6 Other measures

Other measures related to the limited availability of airspace and the implementation of the contingency scheme within the Cape Town, Johannesburg and Oceanic FIR may be taken as follows:

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

7.7 Aircraft position reporting

Pilots will continue to make routine position reports in line with normal ATC reporting procedures. Pilots shall also use the IFBP VHF frequency 126.9 MHz when making routine position reports.

7.8 Procedures to be followed by Cape Town, Johannesburg and Oceanic FIC and adjacent ATS Units

Cape Town, Johannesburg and Oceanic FIC and adjacent ATS units will follow their emergency operating procedures and activate the appropriate level of contingency procedures in line with operational *Letters of Agreement and/or Letters of Procedures*. These procedures shall include the following:

a) The Cape Town, Johannesburg and Oceanic FIC, on determining that air traffic services may be reduced due to a contingency event, will inform pilots accordingly. In the event of incapacitation of the operations room/building, the appropriate emergency procedures will apply and time permitting, controllers will make an emergency evacuation transmission on the radio frequency or frequencies 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 the Cape Town, Johannesburg and Oceanic FIC via the AFTN using normal procedures;

c) On notification of a contingency situation by State, ICAO or the appropriate alternate authority of an adjacent FIR, the ATS authorities operating the ACCs of the adjacent FIRs will activate the contingency procedures in accordance with their respective *Letters of Agreement and or Letters of Procedures*.

d) The adjacent APP/ACCs responsible for aircraft entering and transiting the Cape Town, Johannesburg and Oceanic FIR must communicate to concerned ATS units not less than 30 minutes beforehand, the estimated time over the Cape Town, Johannesburg and Oceanic FIR boundary entry points;

e) The adjacent APP/ACCs responsible for aircraft entering the Cape Town, Johannesburg and Oceanic FIR will instruct pilots to maintain the last flight level assigned and speed (Mach number technique if applicable) or as per flight level scheme allocation in force while overflying the Cape Town, Johannesburg and Oceanic FIR;

f) The adjacent APP/ACCs responsible for aircraft entering the Cape Town, Johannesburg and Oceanic FIR will not authorize any change in flight level or speed (Mach number technique, if applicable) later than **10 minutes** before the aircraft enters the Cape Town, Johannesburg and Oceanic FIR, except in the case specified in (h) below;

g) The adjacent ACCs responsible for aircraft entering the Cape Town, Johannesburg and Oceanic FIR will inform all aircraft, prior to entering the Cape Town, Johannesburg and Oceanic FIR, that they must communicate with the next (downstream) ATC unit at least **10 minutes** before the estimated time over the Cape Town, Johannesburg and Oceanic FIR boundary exit points, or as may be agreed by the accepting ATS unit downstream; and

h) Operators may also choose to route around the Cape Town, Johannesburg and Oceanic FIR, and the controlling authorities of the neighbouring FIRs concerned will provide alternative contingency routes as appropriate.

i) In the event of a public health emergency affecting Cape Town, Johannesburg and Oceanic FIR, Air Traffic Controllers will act in accordance with the (a) **Appendix F** to this contingency plan **or** (b) in the Airport Emergency Planning Manual (*as the case may be*), as well as other information and instructions provided by the competent civil aviation authority, in close coordination with public health emergency authorities.

***Note 1**: A mechanism should be established to coordinate information and instructions between the civil aviation authority, ATS units and public health emergency authorities in order to alleviate any ambiguity on the reporting structure between the three entities.*

***Note 2**: ATS units should recognize that when closures of airspace or airports are promulgated, individual airlines might have different company requirements regarding alternative routing arrangements. In this regard, ATS units should endeavour to accommodate such requests within the confines of safety rules and procedures.*

7.9 Transition to contingency scheme

During times of uncertainty (*severe weather, volcanic ash, reported seismic activity, etc.*) when airspace closure seems most likely, aircraft operators should be prepared for a possible change in routing while en-route, familiarization with the alternative routes outlined in this Contingency Plan, as well as those which may be promulgated by South Africa (ATNS) via NOTAM or other form of aeronautical information.

In the event of airspace closure that has not been promulgated, Cape Town, Johannesburg and Oceanic FIC and adjacent ATS units should, to the extent possible, broadcast to all aircraft under their jurisdiction, what airspace is being closed and to standby for further instructions.

If circumstances lead to the closure of the Cape Town, Johannesburg and Oceanic FIR and no contingency routes are available throughout that FIR, aircraft will be required to route around the Cape Town, Johannesburg and Oceanic FIR. As much warning as possible will be provided by ATNS in the event of the complete closure of Cape Town, Johannesburg and Oceanic FIR.

7.10 Adjustment of Coordination Requirements

ATNS and adjacent ATS providers concerned will review the effectiveness of current coordination requirements and procedures in light of contingency operations or airspace closure, and make any necessary adjustments to the Cape Town, Johannesburg and Oceanic Contingency Plan.

8. Pilot and operator procedures

8.1 Filing of flight plans

Flight planning requirements for the Cape Town, Johannesburg and Oceanic FIR are to be followed in accordance with the ICAO the PANS-ATM (Doc 4444).

8.2 Overflight approval

In a contingency situation, flights may be re-routed at short notice and it may not be possible for operators to give the required advanced notice in a timely manner to obtain overflight approval. *However, the current requirements and procedures for overflight approval of the Cape Town, Johannesburg and Oceanic FIR as provided for in South Africa by the Department of Transport shall continue to be applicable*.

With regard to other FIRs, aircraft operators are to obtain overflight approval from States responsible for such airspaces in accordance with the procedures and requirements of such States.

Coordination for special arrangements to expedite flight approvals for aircraft transiting the Cape Town, Johannesburg and Oceanic FIR in a contingency situation may be coordinated with DoT/ATNS and adjacent ATS units on a case by case basis, as addressed in the *Letters of Agreement/Letter of Procedure*. Aircraft operators should note however that overflight approval remains the responsibility of the State whose territory is to be overflown.

8.3 Pilot operating procedures

Aircraft overflying the Cape Town, Johannesburg and Oceanic FIR shall follow 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 (FLAS) applicable to the route(s) being flown as specified in **Appendix C** to this document;

b) Flights are to file flight plans using the Contingency Routes specified in **Appendix C** to this document, according to their airport of origin, routing and destination;

c) Pilots are to keep a continuous watch on the specified contingency radio frequencies as specified in the *Letters of Agreement/Letter of procedure a*nd transmit position information and estimates in accordance with normal ATC position reporting procedures using the English language;

d) Pilots are to maintain during their entire flight time within Cape Town, Johannesburg and Oceanic FIR, the flight level last assigned by the last ACC or ATS unit responsible for the provision of ATC service, prior to the aircraft entering the Cape Town, Johannesburg and Oceanic FIR. If the last assigned flight level does not correspond to the flight level allocation scheme (FLAS) applicable to the Cape Town, Johannesburg and Oceanic Contingency Plan, the pilot should establish contact with the ATS unit responsible for the provision of service to clarify, and if unable, shall adjust to the FLAS as soon as possible once in the contingency airspace. The pilot shall, under no circumstances, change this level and Mach number, except in cases of emergency and for flight safety reasons. In addition, the last SSR transponder assigned shall be maintained or, if no transponder has been assigned, transmit on SSR code 2000;

e) Aircraft are to reach the flight level last assigned by the responsible ACC at least **10 minutes** before entering the Cape Town, Johannesburg and Oceanic FIR or as otherwise instructed by the appropriate ATC unit in accordance with the *Letters of Agreement/Letter of Procedure* as outlined in **Appendix C.**

f) Pilots are to include in their last position report prior to entering the Cape Town, Johannesburg and Oceanic FIR, the estimated time over the entry point of the Cape Town, Johannesburg and Oceanic FIR and the estimated time of arrival over the relevant exit points of the Cape Town, Johannesburg and Oceanic FIR;

g) Pilots are to contact the next adjacent ACC as soon as possible, and at the latest, **10 minutes** before the estimated time of arrival over the FIR boundary exit points of Cape Town, Johannesburg and Oceanic FIR;

h) Whenever in-flight emergencies and/or flight safety reasons make it impossible to maintain the flight level assigned for transit of Cape Town, Johannesburg and Oceanic FIR, pilots are to climb or descend well to the right of the centerline of the contingency route, and if deviating outside the Cape Town, Johannesburg and

Oceanic FIR, to immediately inform the ACC responsible for that airspace. Pilots are to make blind transmissions on 121.5 MHz and 126.9 MHz of the relevant emergency level change message, indicating the aircraft call sign, the aircraft position, the flight levels being vacated and crossed, etc.);

i) Recognizant of the fact that not all operational circumstances can be addressed by this Contingency Plan, pilots are to maintain a high level of alertness when operating in the Cape Town, Johannesburg and Oceanic contingency airspace and take appropriate action to ensure safety of flight; and

j) Pilots should maintain continuous listening watch on VHF emergency frequency 121.5 MHz and IFBP frequency 126.9 MHz at all times when operating in the Cape Town, Johannesburg and Oceanic contingency airspace.

k) In the event of a public health emergency affecting Cape Town, Johannesburg and Oceanic FIR, pilots will be provided with information and instructions on action to be taken based on advice provided by the competent civil aviation authority, in close coordination with public health emergency authorities **(Appendix F)**.

8.4 Interception of civil aircraft

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 ICAO Annex 2 to the Chicago Convention –***Rules of the Air***, *paragraph 3.8 and Appendix 2*.

Should conditions prevailing in the airspace over the territory and territorial waters of South Africa during contingency period result in the interception of civil aircraft by military aircraft, the pilot shall immediately take the following action:

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 air traffic services 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 121.5 MHz, giving the identity of the intercepted aircraft and the nature of the flight. If no contact has been established and if practicable, repeat this call on the NATO Combined Distress and 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;

e) if equipped with ADS-B or ADS-C, select the appropriate emergency functionality, if available, unless otherwise instructed by the appropriate air traffic services unit;

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

***NOTE*:**

The above interception procedures are consistent with provisions contained in Annex 2 (Section 3.8) to the Chicago Convention.

9. Public health emergencies

The requirement for inclusion of public health emergencies in the ATM contingency plan was agreed by the ICAO Council and has been included in Annex 11 to the Chicago Convention through *Amendment 47* to the Annex. Details of action to be taken by the South African civil aviation authority, pilots, and airport users in the event of a public health emergency are contained in *(a)* ***Appendix F*** *to this contingency plan* ***or*** *(b) in the Airport Emergency Planning Manual (as the case may be).*

10. Volcanic ash contingency plan

Action to be taken by Cape Town, Johannesburg and Oceanic ACC in the event of volcanic ash activity affecting flight operations in the Cape Town, Johannesburg and Oceanic FIR is detailed in Appendix I to this contingency plan.

11. Communication procedures

11.1 Procedures for Reduced/Loss of Radio Communication

When operating within the contingency airspace of Cape Town, Johannesburg and Oceanic FIR, pilots should use normal radio communication procedures where ATS services are available or as otherwise notified by NOTAM.

If communication is lost on the normal ATS frequencies allocated, pilots should try the next applicable frequency, e.g. if en-route contact is lost then try the next appropriate handover frequency. It should be expected that loss of communication may be temporary. As such, if following the loss of communication pilots are still unable to establish two-way radio communication on other frequencies, pilots should consider periodic attempts on the frequency on which two-way radio communication was lost. In any case, in the absence of two-way communication with ATC, pilots should continue to make routine position reports on the appropriate frequencies, and broadcast positions on the specified contingency frequencies.

11.2 Communication frequencies

*A list of frequencies to be used for the contingency routes and the ATS units providing flight information service (FIS) and air-ground communication monitoring for the Cape Town, Johannesburg and Oceanic FIR is detailed at **Appendix G** to this document*.

12. Aeronautical information support services

12.1 Aeronautical Support Information Services (AIS)

NOTAM services will be used optimally to mitigate against loss of radio and other forms of communication in Cape Town, Johannesburg and Oceanic FIR. NOTAMs will be used as necessary to support coordination and operational procedures that would be established before, during and after any contingency phase.

In the event of unavailability of AIS services for South Africa (ATNS), NOTAM services will be provided by neighboring AIS authorities in accordance with *Letters of Agreement*.

12.2 Meteorological Services (MET)

It is expected that the South African MET services would continue to be available in the event of an ATS contingency situation. However, should ATS services for the Cape Town, Johannesburg and Oceanic 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 Cape Town, Johannesburg and Oceanic FIR will be provided to the extent possible through the adjacent ATS authorities.

13. Search and rescue

13.1 Notification and Coordination

The SAR authority responsible for the Cape Town, Johannesburg and Oceanic FIR is:

Name: SASAR Secretariat - Director General: Transport

Address: Private Bag X193

Pretoria, South Africa 0001

Tel: +27 12 309 3520

Fax: +27 12 309 3101

AFTN: FAZZARCC

E-mail: modibap@dot.gov.za

The SAR Point of Contact (SPOC) is:

Name: ARCC Chief

Tel: +27 82 823 8493 or +27 63 505 4164

Fax: +27 11 975 4593

AFTN: FAZZARCC

E-mail: arcc@atns.co.za

14. Responsibility of the accredited ICAO regional office (ESAF)

The ICAO ESAF Regional Office which is accredited to the State of South Africa will:

a) Closely monitor the situation and coordinate with all affected States and organizations including the IATA Regional Office, to ensure to the extend practical the continuity of air navigation and the provision of air navigation services to international air traffic in the AFI Region area of accreditation;

b) Note any incidents reported and provide support to SACAA in taking appropriate action;

c) Aid as necessary on any issues with the Civil Aviation Administrations involved with and supporting the Cape Town, Johannesburg and Oceanic Contingency Plan; and

Keep the President of the Council of ICAO, the Secretary General, Director Air Navigation Bureau, and Chief Air Traffic Management in Montreal continuously informed on developments, including activation and termination of the Cape Town, Johannesburg and Oceanic Contingency Plan.

15. Appendices

15.1 Appendix A

Contact details for all concerned States, IATA and accredited ICAO Regional Office.

State/Organization	Point of contact	Telephone	E-mail
Djibouti	Djibouti APP/TWR	Tel: +253 342130 Tel: +253 340977	twr@aeroport-jib.aero
Ethiopia	Addis ACC/FIC	Tel: +251 11 6611156/7 Tel: +251 11 6650519	caa.eats@ethionet.et
Kenya	Nairobi ACC/FIC	Tel: +254 20827101	jomo@kcaa.or.ke
India	Mumbai FIC	Tel: +912 226 828002 Tel: +912 226 828088	dat@dgca.nic.in
Seychelles	Seychelles ACC/FIC	Tel: + 248 4384000	atcc@scaa.sc
Yemen	Sana'a ACC/FIC	Tel: +967 1345914 Tel: +967 1344672	anccns1@gmail.com
IATA	Mr. Seda Protus	Tel : +2711 5232737	sedap@iata.org
ICAO	Mr. M. Belayneh, Regional Director	Tel: +254 20 762 2395 Fax: +254 20 762 1092	MBelayneh@icao.int
	Mr. B Sekwati Deputy Regional Director	Tel: +254 20 762 2370 Fax: +254 20 762 1092	BSekwati@icao.int
	Miss Keziah Ogutu RO ATM/SAR	Tel: +254 20 762 2372 Fax: +254 20 762 1092	kogutu@icao.int
	Mr. D Labrosse RO ATM/SAR	Tel: +254 20 762 2368 Fax: +254 20 762 1092	Dlabrosse@icao.int

15.2 Appendix B

Contact details of the CCC members

State/Organization	Point of contact	Telephone	E-mail
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UNSOA	To be notified	To be notified	To be notified

15.3 Appendix C

Contingency route structure during partial or total unavailability of the Cape Town, Johannesburg and Oceanic FIR

REGIONAL CONTIGENCY ROUTES (AFI SOUTH) **UNAVAILABILITY OF FYWF (WINDHOEK FIR) - EXCLUDING HIGH SEAS AREA**					
FACT to FNAN	CTV-UVGOD-RANDOM ROUTING to FNAN FIR	CAR 1	FPL FL	AS PER LOP	FAJO/FYWF
FBGR	AGRAM/BUGRO-MNV - UM998 - ETOSA	CAR 2	FPL FL	AS PER LOP	FAJA/FBGR/FNAN
	MNV - BUGRO/AGRAM-TURN VIA FNAN/ NEW ROUTE	CAR 3	FPL FL	AS PER LOP	FAJA/FBGR/FNAN
FNAN TO FACT	RANDOM ROUTE AVOIDING FYWF FIR to UVGOD on FAJO FIR	CAR 4	FPL FL	AS PER LOP	FAJO/FNAN
	BUGRO UM998 GBV ETOSA UZ10 PEDIL UQ19 AVAGO	CAR 5	FPL FL	AS PER LOP	FAJA/FBGR/FLFI/ FNAN
UNAVAILABILITY OF FBGR (GABORONE FIR)					
	TFC TO AND FROM THE NORTH TO RSA (FVHA) ROUTE VIA GWV	CAR 6	FPL FL	AS PER LOP	FAJA/FBGR/FVHF/ FLFI
	FAOR TO FYWH ROUTE VIA UPV	CAR 7	FPL FL	AS PER LOP	FAJA/FYWF
UNAVAILABILITY OF FVHF (HARARE FIR)					
FROM FAOR TO EAST AFRICA	JSV – EGMEN - UQ2 – EPSEK - UM307 – GESAS - UG656 - VTZ	CAR 8	FPL FL	AS PER LOP	FAJA/FQBE/FWLL
FAOR-TO THE NORTH	RUDAS - UM731 – EXIMI - UY95 - KSV	CAR 9	FPL FL	AS PER LOP	FAJA/FBGR/FLFI

UNAVAILABILITY OF FQBE (BEIRA FIR) – EXCLUDING AIRSPACE OVER HIGH SEAS					
JSV TO EGSOX	UQ4-UQ21-EGSOX-FREE RTE	CAR 10	FPL FL	AS PER LOP	FAJA
	EGSOX- 3030S40E-TO NEW PT ON FMMM FIR	CAR 11	FPL FL	AS PER LOP	FAJA/FMMM
	TAVLA-UM215-VLS	CAR 12	FPL FL	AS PER LOP	FAJA/FBGR/FVHF
UNAVAILABILITY OF AIRSPACE OVER SWAZILAND					
	JSV – PKV - ANVAK - VMA	CAR 13	FPL FL	AS PER LOP	FAJA/FQBE
	VMA – DUTGI – PKV - JSV	CAR 14	FPL FL	AS PER LOP	FAJA/FQBE
	PKV – UZ36 – UQ28-GETOK-TGV	CAR 15	FPL FL	AS PER LOP	FAJA
UNAVAILABILITY OF AIRSPACE OVER LESOTHO					
	JSV – GEROX – UQ28 – GETOK or AS TACTICALLY MANAGED BY FAJA/FACA ATS	CAR 16	FPL FL	AS PER LOP	FAJA
UNAVAILABILITY OF FLFI (LUSAKA FIR)					
	JSV – UQ25 - RUDAS – UG853 – MNV – BUGRO – VUE – UB733	CAR 17	FPL FL	AS PER LOP	FAJA/FBGR/FNAN
	JSV – UQ6 -GWV – VMV – UR409 – LNV – UR409	CAR 18	FPL FL	AS PER LOP	FAJA/FVHF/FQBE/ FWLL
	FYWH – MNV – UA404 –VHA – UB400 - RETAR	CAR 19	FPL FL	AS PER LOP	FYWF/FBGR/ FVHF
	GSV – UB400	CAR 20	FPL FL	AS PER LOP	FBGR/FVHF
	GSV – KULBU	CAR 21	FPL FL	AS PER LOP	FBGR/FVHF
	GSV – MNV - BUGRO	CAR 22	FPL FL	AS PER LOP	FBGR/FNAN

UNAVAILABILITY OF FWLL (LILONGWE FIR)					
	VMA – VSB – MB – UA 405	CAR 23	FPL FL	AS PER LOP	FQBE/FVHF/FLFI
	VMA – BEIRA – UG657 TO DAR	CAR 24	FPL FL	AS PER LOP	FQBE/HTDA
	TFC OUT OF LUSAKA – VLS – UR 779 – MB – DCT DAR	CAR 25	FPL FL	AS PER LOP	FLFI/FQBE/HTDA
	SEYCHELLES – DAR – UG424 - LUSAKA	CAR 26	FPL FL	AS PER LOP	HTDA/FLFI
UNAVAILABILITY OF FNAN (LUANDA FIR) – EXCLUDING AIRSPACE OVER HIGH SEAS					
	CTV – UVGOD –IMPOK – FREE RTE TO PT ON FCCC FIR	CAR 27	FPL FL	AS PER LOP	FAJA/FYWH/FAJO
	ETMIT – UM214 - MBY	CAR 28	FPL FL	AS PER LOP	FAJA/FBGR/FLFI
UNAVAILABILITY OF FACA & FAJA (CAPE TOWN & JOHANNESBURG FIRs) EXCLUDING AIRSPACE OVER HIGH SEAS					
	FQMA TO LUANDA VMA – UB529 - KURLA	CAR 29	FPL FL	AS PER LOP	FVHF/FBGR/FQBE
	FDMS – FQMA VMS – TONKA - VMA	CAR 30	FPL FL	AS PER LOP	FDMS

South Africa Internal CR routes to avoid FAJA and FACA individual sectors		
CR	**Sector Avoided**	**Routing**
CR01 – YSSY- FAOR	To the south of ACC E:	EGVOL – ELV – NIDOX – UZ4 – TEVAR – UZ2 – NIBEX
CR02 – YSSY – FAOR	To the north of ACC E	ETMOS – VMA – ANVAK – UT125 – PKV – UT446 – OKPIT
CR03 – SBGL – FAOR	To the south of ACC W	IMKAM – GEXIP – EGTIL – UZ2 – NIBEX
CR04 – OMDB – FACT	To the west of ACC W	DANAM – GABMU – UP305-UT434 – GBV – ESPUV – SSV – UQ60 – NEXIT – UQ23 – OKLOK
CR05 – FIMP – FACT	To the south of ACC E	ETMOS – EGVOL – PEV – OKRAV – UQ49 – ESRUK – UQ51 – GETEN
CR06 – FACT – NORTH EAST UZ30 – UQ61 – UQ59 - ESPUV	To the north of ACC Cen and ACC NW	

CR's to/from FACT with FAJA ATS partial availability

	Transit – To/from FACT (FAJA unavailable)		
CR7	TEXAB – ABV - XUDAN	West 280, 340, 360 East 330, 390, 410	15 Minutes
CR8	APKEK – SSV - ESPUV	West 330, 350 East 360,380	15 Minutes
CR9	EGTIL – NIBEX – EGMEN - EPSEK	West 380, 400 East 330,350	15 Minutes
CR10	OKLOL – IMLID – DUNSA - EGSOX	West 330, 350 East 380, 400	15 Minutes
CR11	ANVAK – PKV – XARMA - ETMIT	West 300, 320 East 290, 310	15 Minutes

15.4 Appendix D

NB – For detailed route information shown in the graphics please refer to **Appendix C**

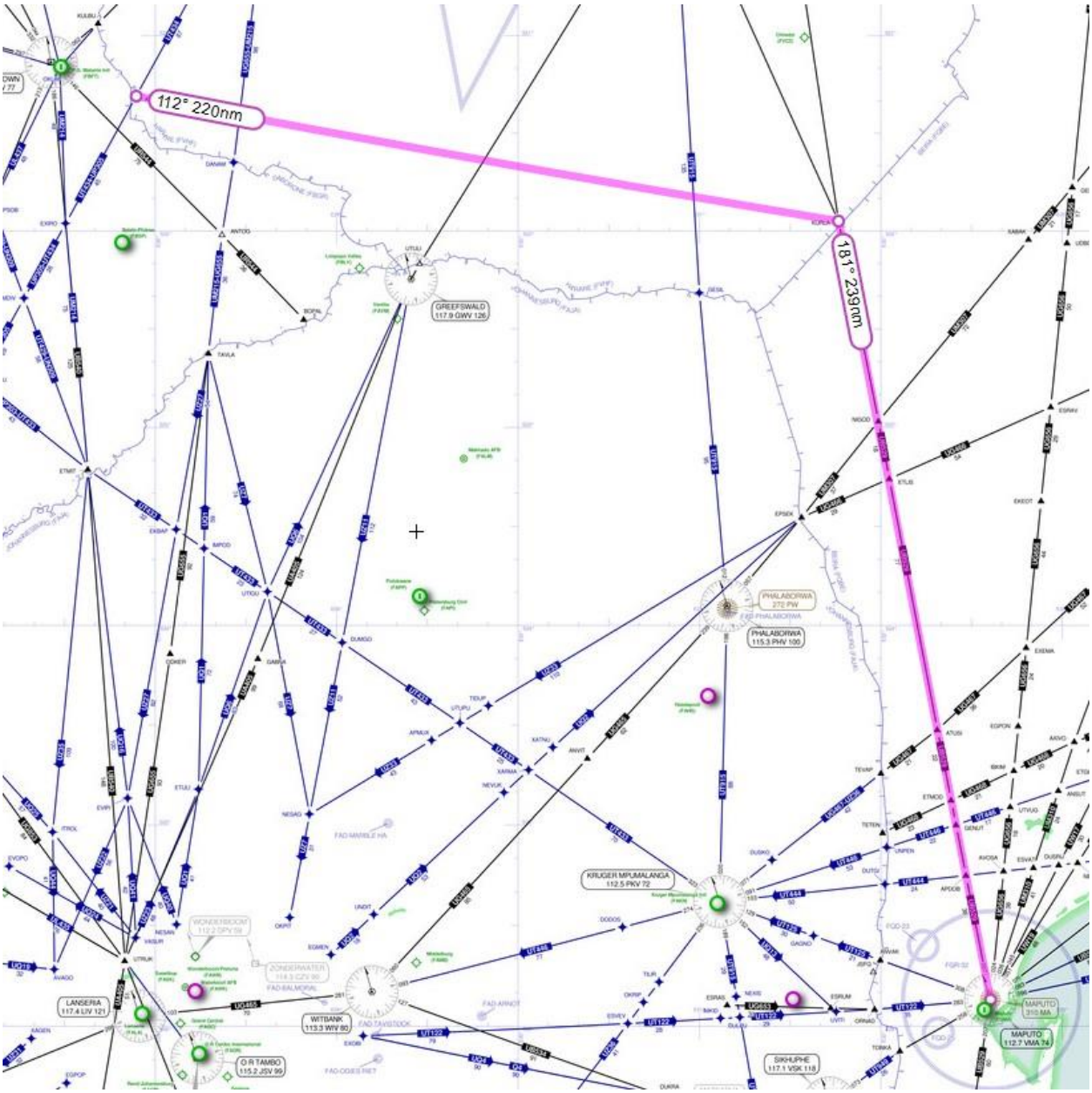

FIG 1 – CR29 (FQMA to FNLU) AVOIDING FAJA

FIG 2 – CR30 (FDMS to FQMA) AVOIDING FAJA

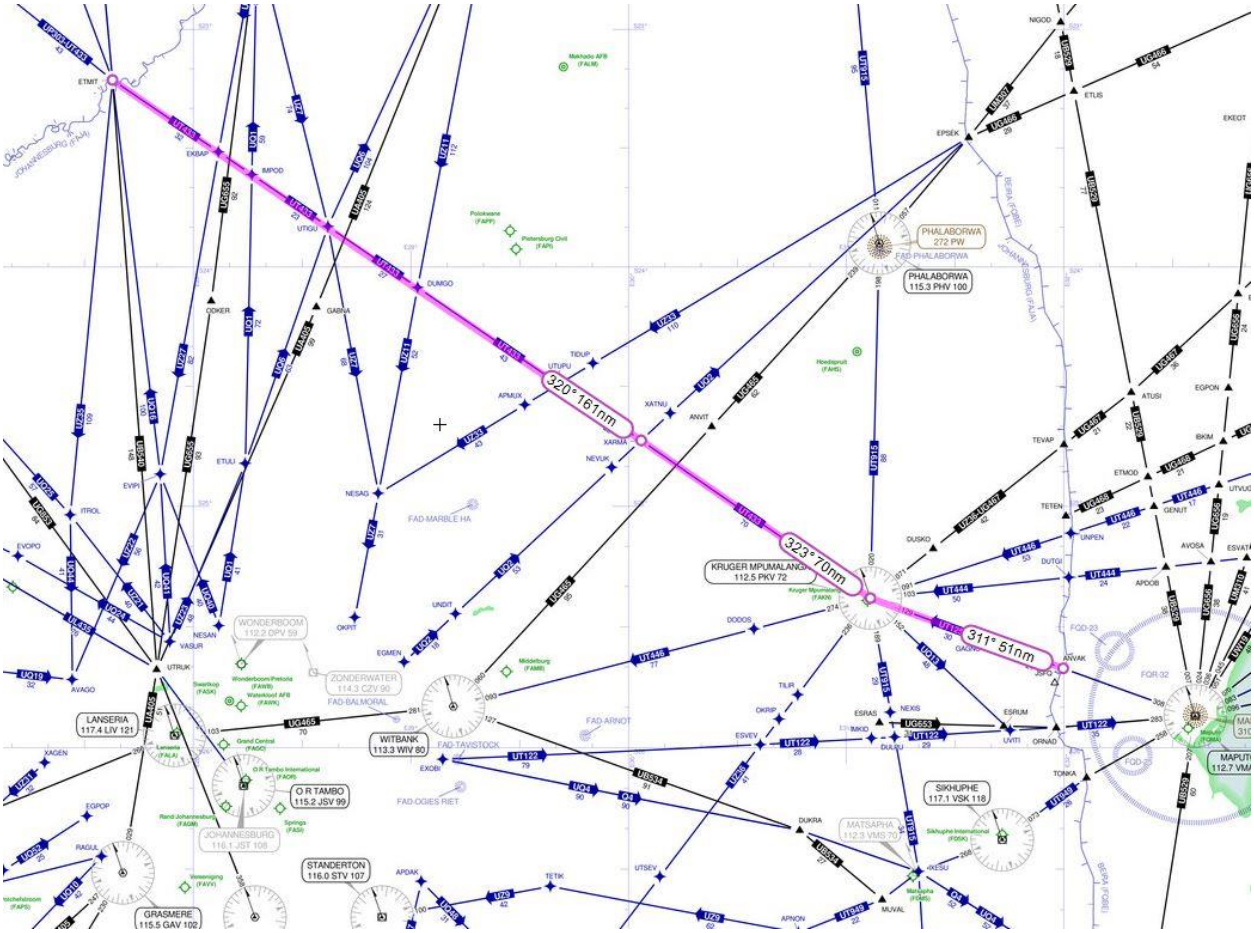

Fig 3 – Mozambique to Botswana with FAJA ATS partial availability

Fig4 – FACT to EPSEK with FAJA ATS partial availability

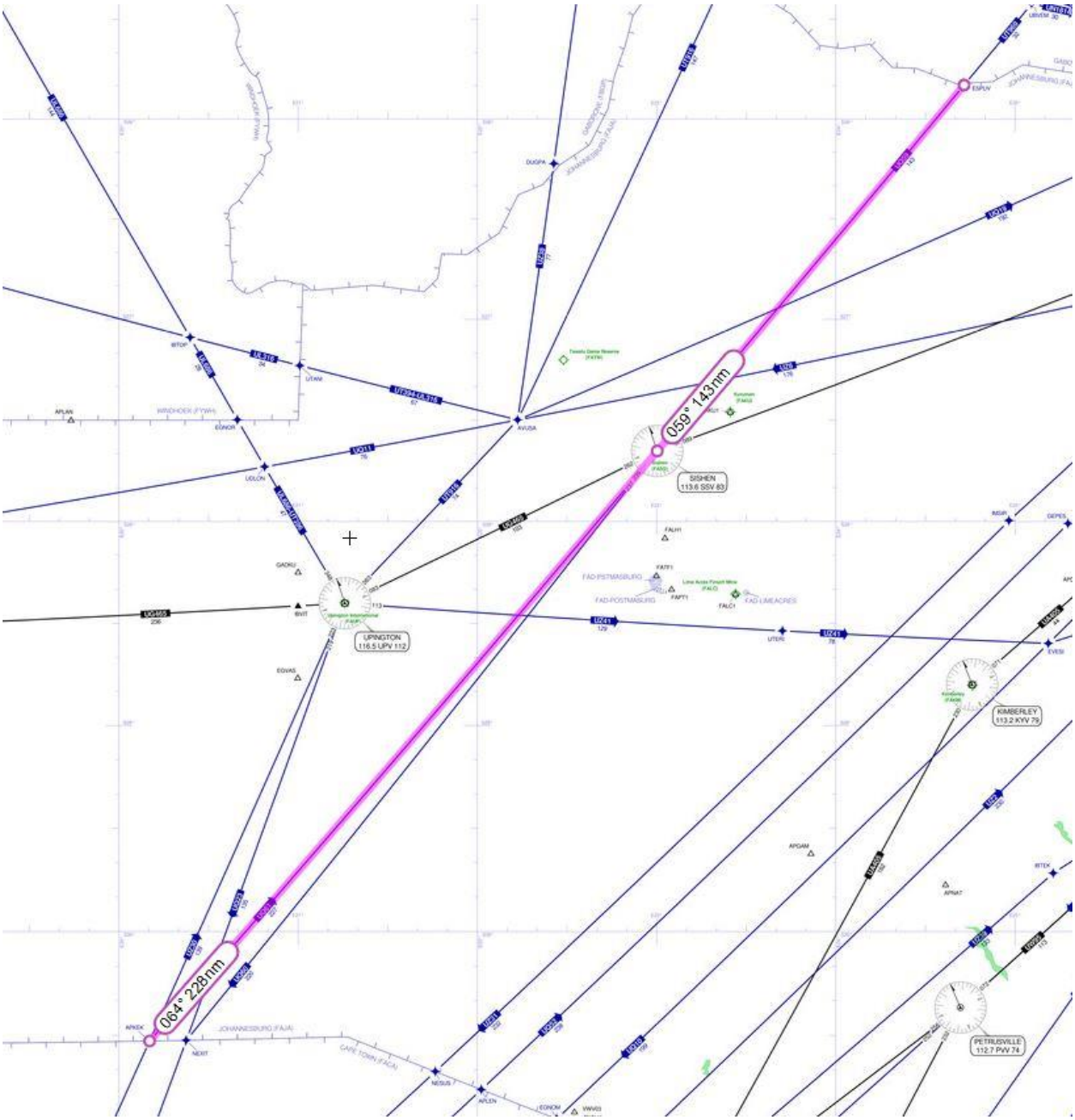

Fig 5 – FACT to ESPUV with FAJA ATS partial availability

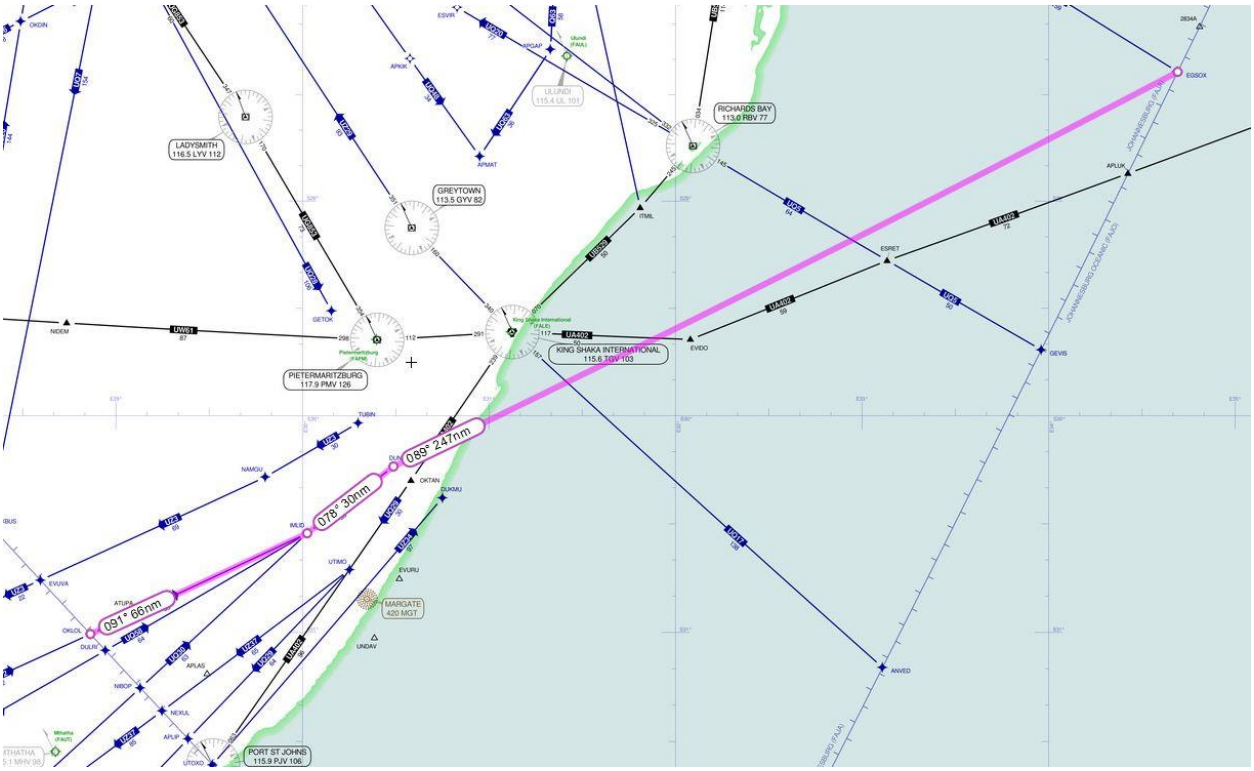

Fig 6 – FACT to EGSOX with FAJA ATS partial availability

Fig 7 – FACT to XUDAN with FAJA ATS partial availability

15.5 Appendix E

SAMPLE NOTAMS

CAPE TOWN, JOHANNESBURG AND OCEANIC FIR CONTINGENCY NOTAM

SCENARIO 1: PARTIAL UNAVAILABILITY OF THE AIRSPACE

UNAVAILABILITY OF AIRSPACE IN CAPE TOWN, JOHANNESBURG AND OCEANIC FIR WEST OF LONGITUDE 047 00 00 E

NOTAM ……. .WEF …… TO …….. AIRSPACE WEST OF LONGITUDE 047 00 00E UNAVAILABLE WITHIN THE CAPE TOWN, JOHANNESBURG AND OCEANIC FLIGHT INFORMATION REGION. ALL FLIGHTS SHALL COMPLY WITH THE REQUIREMENT TO SELECT SPECIFIC CONTINGENCY ROUTES AND FLIGHT LEVELS APPLICABLE TO THE CONTINGENCY ROUTES AS DETAILED HERE BELOW. ADJACENT AREA CONTROL CENTRES OF SANAA, MUMBAI AND SEYCHELLES WILL ALLOCATE ONLY THE CONTINGENCY ROUTES AND FLIGHT LEVELS SPECIFIED AS FOLLOWS:

A) **CR5** (UB413) ZIZAN-EGROV-MERMI-DAROT-EGTUL-EMALU-AVIMO: EASTBOUND FL370/390 WESTBOUND FL 280/340/400. MINIMUM LONGITUDINALSEPARATION APPLICABLE IS 15 MINUTES.

B) **CR6** (UR401) AXINA- AMPEX-EPSIV-EVEBU-EKBEL-SUHIL: EASTBOUND FL350/410 WESTBOUND FL340/360/400. 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.

SCENARIO 2: PARTIAL UNAVAILABILITY OF THE AIRSPACE

UNAVAILABILITY OF AIRSPACE IN CAPE TOWN, JOHANNESBURG AND OCEANIC FIR EAST OF LONGITUDE 047 00 00 E

NOTAM ……. .WEF …… TO …….. AIRSPACE EAST OF LONGITUDE 047 00 00E UNAVAILABLE WITHIN THE CAPE TOWN, JOHANNESBURG AND OCEANIC FLIGHT INFORMATION REGION. ALL FLIGHTS SHALL COMPLY WITH THE REQUIREMENT TO SELECT SPECIFIC CONTINGENCY ROUTES AND FLIGHT LEVELS APPLICABLE TO THE CONTINGENCY ROUTES AS DETAILED HEREBELOW. ADJACENT AREA CONTROL CENTRES OF NAIROBI, ADDIS ABABA, SANAA AND SEYCHELLES WILL ALLOCATE ONLY THE CONTINGENCY ROUTES AND FLIGHT LEVELS SPECIFIED AS FOLLOWS:

A) **CR3** (UM665) ITLOX- RAGGS-TULAP-MANDERA (MAV): EASTBOUND FL350/390/410 WESTBOUND FL280/340/400. MINIMUM LONGITUDINAL SEPARATION APPLICABLE IS 15 MINUTES.

B) **CR4** (UN303/UR775/UR780) APKAK-MOGUD-SOLUL-ALNAB-HARGA-NAPGO: EASTBOUND FL350/390/410 WESTBOUND FL280/340/400. MINIMUM LONGITUDINAL SEPARATION APPLICABLE IS 15 MINUTES.

C) **CR8** (UG657/UA405/UB312) ASKEN-HARGA-EGROV-PAKER: EASTBOUND FL310/330 WESTBOUND FL300. MINIMUM LONGITUDINAL SEPARATION APPLICABLE IS 15 MINUTES.

D) **CR9** (UG657/UA405/UM651) ASKEN-HARGA-IMVEB-OKTOB: EASTBOUND FL310/330 WESTBOUND FL320/380. 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.

SCENARIO 3: PARTIAL UNAVAILABILITY OF THE AIRSPACE

UNAVAILABILITY OF AIRSPACE IN CAPE TOWN, JOHANNESBURG AND OCEANIC FIR SOUTH OF LATITUDE 07 00 00N

NOTAM ……. .WEF …… TO …….. AIRSPACE SOUTH OF LATITUDE 07 00 00N UNAVAILABLE WITHIN THE CAPE TOWN, JOHANNESBURG AND OCEANIC FLIGHT INFORMATION REGION. ALL AIRCRAFT SHALL COMPLY WITH THE REQUIREMENT TO SELECT SPECIFIC CONTINGENCY ROUTES AND FLIGHT LEVELS APPLICABLE TO THE CONTINGENCY ROUTES AS DETAILED HEREBELOW. ADJACENT AREA CONTROL CENTRES OF ADDIS ABABA, SANAA, MUMBAI AND SEYCHELLES WILL ALLOCATE ONLY THE CONTINGENCY ROUTES AND FLIGHT LEVELS SPECIFIED AS FOLLOWS:

A) **CR6** (UR401) AXINA- AMPEX-EPSIV-EVEBU-EKBEL-SUHIL: EASTBOUND FL350/410 WESTBOUND FL340/360/400. MINIMUM LONGITUDINAL SEPARATION APPLICABLE IS 15 MINUTES.

B) **CR7** (UR403) MUSBI-DAROT-AXIKU-BOMIX: EASTBOUND FL350 WESTBOUND FL300/360. MINIMUM LONGITUDINAL SEPARATION APPLICABLE IS 15 MINUTES.

C) **CR8** (UG657/UA405/UB312) ASKEN-HARGA-EGROV-PAKER: EASTBOUND FL310/330 WESTBOUND FL300. MINIMUM LONGITUDINAL SEPARATION APPLICABLE IS 15 MINUTES.

D) **CR9** (UG657/UA405/UM651) ASKEN-HARGA-IMVEB-OKTOB: EASTBOUND FL310/330 WESTBOUND FL320/380. 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.

SCENARIO 4: PARTIAL UNAVAILABILITY OF THE AIRSPACE

UNAVAILABILITY OF AIRSPACE IN CAPE TOWN, JOHANNESBURG AND OCEANIC FIR NORTH OF LATITUDE 07 00 00N

NOTAM ……. .WEF …… TO …….. AIRSPACE NORTH OF LATITUDE 07 00 00N UNAVAILABLE WITHIN THE CAPE TOWN, JOHANNESBURG AND OCEANIC FLIGHT INFORMATION REGION. ALL AIRCRAFT SHALL COMPLY WITH THE REQUIREMENT TO SELECT SPECIFIC CONTINGENCY ROUTES AND FLIGHT LEVELS APPLICABLE TO THE CONTINGENCY ROUTES AS DETAILED HEREBELOW. ADJACENT AREA CONTROL CENTRES OF NAIROBI, SANAA AND SEYCHELLES WILL ALLOCATE ONLY THE CONTINGENCY ROUTES AND FLIGHT LEVELS SPECIFIED AS FOLLOWS:

A) **CR3** (UM665) ITLOX- RAGGS-TULAP-MANDERA (MAV): EASTBOUND FL350/390/410 WESTBOUND FL280/340/400. MINIMUM LONGITUDINAL SEPARATION APPLICABLE IS 15 MINUTES.

B) **CR4** (UN303/UR775/UR780) SOLUL-MOGDU-APKAK: EASTBOUND FL350/390/410 WESTBOUND FL280/340/400. MINIMUM LONGITUDINAL SEPARATION APPLICABLE IS 15 MINUTES.

C) **CR10** (UG450/UL303) KESOM-TULAP-MOGDU-ESTOK: EASTBOUND FL330 WESTBOUND FL320. 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.

SCENARIO 5: UNAVAIBILITY OF ATS IN CAPE TOWN, JOHANNESBURG AND OCEANIC FIR

NOTAM ……..WEF …… TO …….. CAPE TOWN, JOHANNESBURG AND OCEANIC FIC TEMPORARILY UNABLE TO PROVIDE AIR TRAFFIC SERVICE IN THE ENTIRE AIRSPACE WITHIN THE CAPE TOWN, JOHANNESBURG AND OCEANIC FIR. ALL AIRCRAFT SHALL COMPLY WITH REQUIREMENT TO SELECT SPECIFIC CONTINGENCY ROUTES AND FLIGHT LEVELS APPLICABLE TO THE CONTINGENCY ROUTES IN ACCORDANCE WITH THE FLIGHT LEVEL ALLOCATION SCHEME (FLAS) DETAILED HEREBELOW. ADJACENT AREA CONTROL CENTRES OF NAIROBI, ADDIS ABABA, SANAA, MUMBAI AND SEYCHELLES WILL ALLOCATE ONLY THE CONTINGENCY ROUTES AND FLIGHT LEVELS SPECIFIED AS FOLLOWS:

A) **CR1** (UG450) KESOM-TULAP-MOGDU-KATHY-EMALU-AMPEX-NABAM-ORLID: EASTBOUND FL330 WESTBOUND FL320. MINIMUM LONGITUDINAL SEPARATION APPLICABLE IS 15 MINUTES.

B) **CR2** (UB400) ITMAR-RAGGS-MOGDU-BUBEN-VEDET: EASTBOUND FL290/310 WESTBOUND FL360/380. MINIMUM LONGITUDINAL SEPARATION APPLICABLE IS 15 MINUTES.

C) **CR3** (UM665) ITLOX- RAGGS-TULAP-MANDERA (MAV): EASTBOUND FL350/390/410 WESTBOUND FL280/340/400. MINIMUM LONGITUDINAL SEPARATION APPLICABLE IS 15 MINUTES.

D) **CR4** (UN303/UR775/UR780) APKAK-MOGDU-SOLUL-ALNAB-HARGA-NAPGO: EASTBOUND FL350/390/410 WESTBOUND FL280/340/400. MINIMUM LONGITUDINAL SEPARATION APPLICABLE IS 15 MINUTES.

E) **CR5** (UB413) AVIMO-EMALU-EGTUL-DAROT-MERMI-EGROV-ZIZAN: EASTBOUND FL370/390 WESTBOUND FL 280/340/400. MINIMUM LONGITUDINAL SEPARATION APPLICABLE IS 15 MINUTES.

F) **CR6** (UR401) AXINA- AMPEX-EPSIV-EVEBU-EKBEL-SUHIL: EASTBOUND FL350/410 WESTBOUND FL340/360/400. MINIMUM LONGITUDINAL SEPARATION APPLICABLE IS 15 MINUTES.

G) **CR7** (UR403) MUSBI-DAROT-AXIKU-BOMIX: EASTBOUND FL350 WESTBOUND FL300/360. MINIMUM LONGITUDINAL SEPARATION APPLICABLE IS 15 MINUTES.

H) **CR8** (UG657/UA405/UB312) ASKEN-HARGA-EGROV-PAKER: EASTBOUND FL310/330 WESTBOUND FL300. MINIMUM LONGITUDINAL SEPARATION APPLICABLE IS 15 MINUTES.

I) **CR9** (UG657/UA405/UM651) ASKEN-HARGA-IMVEB-OKTOB: EASTBOUND FL310/330 WESTBOUND FL320/380. MINIMUM LONGITUDINAL SEPARATION APPLICABLE IS 15 MINUTES.

J) **CR10** (UG450/UL303) KESOM-TULAP-MOGDU-ESTOK: EASTBOUND FL330

WESTBOUND FL320. 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.

15.6 Appendix F

PUBLIC HEALTH EMERGENCIES

The following guidelines should be used in the event of any report of possible communicable diseases received by ATC:

15.6.1 Pilot in Command Actions

a) The pilot in command of an aircraft may take such emergency measures in flight as may be necessary for the health and safety of persons on board.

b) 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 the aircraft, promptly notify the nearest Air Traffic Service Unit (ATSU), the information listed below:

i. Aircraft identification;

ii. Departure aerodrome;

iii. Destination aerodrome;

iv. Estimated time of arrival;

v. Number of persons on board;

vi. Number of suspected case(s) on board;

vii. Nature of the public health risk, if known and

viii. Any special handling required by the flight by ATC and Airport Authorities.

15.6.2 Air Traffic Service Unit's Actions

a. The ATSU, upon receipt of information from a pilot regarding a suspected case(s) of a communicable disease on board an aircraft, shall as soon as possible notify the following parties of the information as received in point 15.6.1 b:

i. The destination Aerodrome;

ii. The next ATSU sector that the Aircraft will operate through;

iii. The Aircraft Operator

iv. The SACAA (CA12-27 form may be used for notification) and

v. In cases where the destination Aerodrome is not manned, the local Port Health Authority or other relevant Health Services serving the destination Aerodrome.

b. An ATSU serving the destination Aerodrome shall upon receipt of notification of a suspected case(s) of communicable disease, or other public health risk on board an aircraft, from another ATSU or from an Aircraft or Aircraft Operator, forward this notification as soon as possible to:

- The Airport Authority;
- The local Port Health Authority (PHA) (unless this notification has been delegated to the Airport Authority);
- The Airline Operator (unless they have been notified previously)

c. Apart from the initial pilot notification to an ATSU, operational Air Traffic Control communication channels should as far as practicable not be used to pass messages from the operator or PHA to the crew.

d. The PHA is expected to contact the airline representative or operating agency and aerodrome authority, if applicable, for subsequent coordination with the aircraft concerning clinical details and aerodrome preparation.

e. The Airport Authority shall instruct the ATSU at the destination Aerodrome of any additional handling that may be required including applicable remote parking procedures if required.

f. AFTN (urgency message), telephone, facsimile or other means of communication may be used. Although not formally applicable until November 2009, its immediate implementation is advised.

15.6.3 Arrival at Airport – Parking Position of Aircraft

The pilot in command (PIC) shall be advised where to park the aircraft – such information will normally be communicated to the PIC by Air Traffic Control after receipt from the Airport Authority. The allocation of the applicable parking stand will usually be taken by the PHA in consultation with Airline and Airport Authorities. This may be on a remote stand or, depending on the situation, on the apron with or without an air bridge attached. The aircraft arrival should be managed by a system that is as close to routine as possible: using a remote stand is not mandatory.

15.7 Appendix G

1. A list of frequencies to be used for the contingency routes and the ATS units providing flight information service (FIS) and air-ground communication monitoring for the Cape Town, Johannesburg and Oceanic FIR is as follows:

   Cape Town, Johannesburg and Oceanic Flight Information Centre (FIC)

   a) Day: HF 13315, 11291, 17961Khz

   b) Night: HF 8879, 8861, 6535, 5565, 3476 Khz

2. In the event of these frequencies are not being available, aircraft are to contact Mauritius Control on the following frequencies:

   Seychelles Area Control Centre (ACC)

   a) Primary: HF 5634 Khz, 8879 Khz

   b) Secondary: 3476 Khz, 13306 Khz

15.8 Appendix H

As the ATNS disaster recovery document is being finalized at the time of publication of this document, a link to the DR document will be provided in due course.

15.9 Appendix I

VOLCANIC ASH CONTINGENCY PLAN

1. ORIGINATING ACC ACTIONS DURING PRE-ERUPTION PHASE

In the event of a pre-eruption volcanic activity, a volcanic eruption occurring, or a volcanic ash cloud being reported which could pose a hazard to aviation, Johannesburg and/or Cape Town Area Control Centre or FAJO, on receiving information of such an occurrence, should carry out the following:

a. Define an initial, precautionary danger area. The size of the danger area should encompass a volume of airspace in accordance with the information available, aiming to avoid undue disruption of flight operations. If the eruption has not commenced or if no information on upper winds is available, the circle should be centred on the estimated location of the volcanic activity. The size of the initial precautionary danger area should encompass a reasonable volume of airspace in accordance with the limited information available aiming to avoid undue disruption of flight operations.

b. Although ATC would not normally initiate a clearance through a danger area, it will inform aircraft about the potential hazard and continue to provide normal services. It is the responsibility of the pilot-in-command to determine the safest course of action area.

c. Johannesburg and/or Cape Town Area Control Centre will advise the CAMU and associated South African Weather Service (SAWS).

d. Johannesburg, FAJO and/or Cape Town Area Control Centre shall alert flights already within the danger area and offer assistance to enable aircraft to exit the area in the most expeditious and appropriate manner.
Pilots should be provided with all necessary information required to make safe and efficient decisions in dealing with the hazards in the defined area. Aircraft that are close to the danger area should be offered assistance to keep clear of the area. Tactically re-clear flights which would penetrate the danger area onto routes that will keep them clear.

e. Johannesburg, FAJO and/or Cape Town Area Control Centre shall immediately notify other affected Area Control Centres of the event and the location and dimensions of the danger area. The Area Control Centres 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. It is also expected that adjacent Area Control Centres will be asked to reroute flights not yet coordinated to keep them clear of the danger area.

Note: It should be noted that pilots may make the decision not to completely avoid the danger area based on e.g. visual observations.

f. Johannesburg and/or Cape Town Area Control Centre shall, through the CAMU, implement flow management measures if necessary, to maintain the required level of safety.

g. Johannesburg and/or Cape Town Area Control Centre shall inform the NOTAM office that the appropriate AIS messages are originated in accordance with Annex 15 and disseminated as soon as possible in accordance with the provisions of Annex 15.

2. **ADJACENT ACC ACTIONS DURING PRE-ERUPTION PHASE**

Adjacent ACC will when advised,

a. 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 except:

i. If one or more routes are affected by the danger area, suggest re-routings to the affected aircraft onto routes clear of the danger area; and

ii. Initiate plotting of the affected area.

3. **ORIGINATING ACC ACTIONS DURING ERUPTION PHASE**

During the start of eruption phase the Johannesburg and/or Cape Town Area Control Centre should:

a. Ensure that a NOTAM is originated to define a danger area delineated cautiously to encompass a volume of airspace in accordance with the limited information available. In determining the area, information on upper winds should be considered, 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 SAWS, who should issue appropriate MET messages in accordance with ICAO Annex 3.

c. Based on these forecasts and in cooperation with aircraft operators and the adjacent Area Control Centres 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 Annex 15. Otherwise, CAMU to begin CDM planning for the ongoing eruption phase in conjunction with aircraft operators, the appropriate ATFM unit and the affected Area Control Centres.

4. **ADJACENT ACC ACTIONS DURING ERUPTION PHASE**

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

a. Maintain close liaison with the appropriate ATFM 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 cooperation 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 ATFM unit and ACCs concerned.

e. During the start of eruption phase, depending on the impact of the volcanic ash, the CAMU should organise the exchange of latest information on the developments with the associated VAACs, ANSPs, MWOs and operators concerned to support CDM.

Note: The VAA/VAG should be used to publish appropriate MET and AIS messages in accordance with Annex 3 and Annex 15; and plan and apply appropriate ATFM measures.

5. During the on-going eruption phase commences with the issuance of the first complete VAA by the lead VAAC in accordance with Annex 3. 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.

6. The VAA/VAG should be used to:

a. Publish appropriate MET and AIS messages in accordance with Annex 3 and Annex 15; and
b. Plan and apply appropriate ATFM measures.

7. During the on-going eruption phase but should not be considered mandatory:

a. Area Control Centres affected by the movement of the ash should ensure that appropriate AIS messages are originated in accordance with Annex 15. ACCs concerned and the appropriate ATFM unit 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 ATFM unit may take the initiative to organise teleconferences to exchange latest information on

the developments, to support CDM, with the VAACs, ANSPs and MWOs and operators concerned.

c. ACCs and ATFM units should be aware that for 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. Area Control Centres and ATFM units should revert to normal operations as soon as practical.

8. AIR TRAFFIC CONTROL PROCEDURES

If volcanic ash is reported or forecast in the FIR for which the ACC is responsible, the following procedures should be followed:

a. Relay all available information immediately to pilots whose aircraft could be affected to ensure that they are aware of the approximate horizontal and vertical extent of the ash contamination;

b. If requested, suggest appropriate rerouting 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 or indeed by the naked eye depending on the angle of the sun;

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 SRA;

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 ACC has been advised by an aircraft that it has entered an area of ash contamination and indicates that a distress situation exists, consider the aircraft to be in an emergency situation and

   i) Do not initiate any climb clearances to turbine-powered aircraft until the aircraft has exited the area of ash contamination; and
   ii) Do not attempt to provide vectors without pilot concurrence.

g. Solicit pilot reports for the characteristics of the ash cloud including cloud base, top, layers and the presence of sulphur. Disseminate Special AIREPs in accordance with established procedures.

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.

9. The recovery phase

The recovery phase commences with the issuance of the first VAA containing the statement “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 non-eruptive state.
The Handbook on the International Airways Volcano Watch (Doc 9766) does not differentiate consistently between these different phases, which are functionally quite different. The Regional VA Contingency Plan lists the appropriate actions in the respective sections.
The recovery phase commences with the issuance of the first VAA/VAG containing the statement “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-eruptive state and the airspace is no longer affected by volcanic ash. Consequently, appropriate MET and AIS messages should be issued in accordance with Annex 3 [*Meteorological Services for International Air Navigation*] and Annex 15 [*Aeronautical Information Services*], respectively.

ACCs/FICs and ATFM units should revert to normal operations as soon as practical.

Although the four distinct phases herein describe actions to be undertaken during an actual volcanic event, they are based on a theoretical scenario. Actual eruptions may not always be distinct with respect to ATM actions to be undertaken. Similarly, an eruption may occur without any pre-eruptive activity, or may cease and restart more than once. Hence, the first observation may be the presence of an ash cloud, which is already some distance away from the volcano. It is essential that the contingency planning prepares the ATM system for an appropriate response depending on the actual conditions.

10. **WORLD ORGANIZATION OF VOLCANO OBSERVATORIES**

WOVO is the organization of and for volcano observatories of the world. Members of institutions that are engaged in volcano surveillance and, in most cases, are responsible for warning authorities and the public about hazardous volcanic unrest.

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