

**INTERNATIONAL CIVIL AVIATION ORGANIZATION**

SIXTEENTH MEETING OF THE SAT (SAT 16)
(Recife, Brazil, 02 to 06 May 2011).

Agenda Item 3: *ATS contingency plan for the RSA airspace*
(Presented by South Africa)

SUMMARY

<i>This Information Paper presents changes to the RSA ATS contingency plan in accordance with APIRG Conclusion 17/66</i>
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1. INTRODUCTION

The outcome of the Seventeenth Meeting of the AFI Planning and Implementation Regional Group (APIRG/17), Burkina Faso, 2-6 August 2010, in particular discussions relating the development and promulgation of contingency plans and Conclusion 17/66 thereof, has reference

2. DISCUSSION

The importance of contingency arrangements, to ensure the safe and orderly continuity of International Civil Aviation, cannot be overemphasized. Accordingly, ICAO has taken a number of measures aimed at encouraging and supporting States in meeting their obligations with respect to provisions of Section 2.30 of Annex II to the Convention on International Civil Aviation. Such measures include Assembly Resolution A37-15 Appendix M: *Delimitation for air traffic services airspaces*, under which, inter alia, States providing air traffic services over the high seas are encouraged to enter into agreements to facilitate contingency planning, as well as the contingency plan template referred to in APIRG Conclusion 17/66.

CONCLUSION 17/66:**DEVELOPMENT AND PROMULGATION OF CONTINGENCY PLANS**

That:

- a) AFI States develop/update and promulgate contingency plans in accordance with Annex II and Annex 15 provisions.

- b) AFI States use available ICAO guidance material for the development and promulgation of contingency plans including the template at Appendix 3.4K to this report.
- c) ICAO Regional Offices carry out a survey on the status of development of contingency plans in the AFI region in order to take remedial actions as necessary; and
- d) ICAO Regional Offices expedite responses to States on matters related to development of contingency plans, as well processes for approval of contingency plans submitted by States.

3. ACTION BY THE MEETING

The meeting is invited to note the changes to the current RSA contingency plan and replace existing plan with the one provided below.

AIR TRAFFIC & NAVIGATION SERVICES



**ATM CONTINGENCY PLAN
FOR CAPE TOWN, JOHANNESBURG AND OCEANIC FIRs**

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ATM CONTINGENCY PLAN FOR CAPE TOWN, JOHANNESBURG AND OCEANIC FIRS

1. OBJECTIVE

- 1.1 This contingency plan contains arrangements to ensure the continued safety of air navigation in the event of partially or total disruption of air traffic services (ATS) and is related to ICAO Annex 11- *Air Traffic Services* Chapter 2, paragraph 2,28. This contingency plan contains arrangements to ensure the continuation of interim air traffic flow through the Cape Town, Johannesburg and Oceanic FIRs in the event of disruptions of air traffic services and related supporting services within the designated FIRs.

2. AIR TRAFFIC MANAGEMENT

ATS Responsibilities

- 2.1 Tactical ATC considerations during periods of overloading may require re-assignment of routes or portions thereof.
- 2.2 In the event that ATS cannot be provided within the Cape Town, Johannesburg and Oceanic FIRs, the SA-CAA shall publish a NOTAM indicating the following:
- a. The time and date of the beginning of the contingency measures.
 - b. Airspace available for overflying traffic and airspace to be avoided.
 - c. Details of facilities and services available and/or not available and any limits on ATS provision including an expected date of restoration of service.
 - d. Information on the provision of alternate services.
 - e. ATS Contingency routes.
 - f. Procedures to be followed by pilots.
 - g. Any other details with respect to the distribution and actions being taken.
- 2.3 In the event that the SACAA is unable to issue the NOTAM, the Botswana CAA will take action to issue the NOTAM upon notification by the SACAA or the ICAO ESAF Regional Office.

3. SEPARATION

Separation will be applied in accordance with the Procedures for Air Traffic Navigation Services-Air Traffic Management (PANS-ATM, Doc 4444) and the Regional Supplementary Procedures (Doc7030).

4. LEVEL RESTRICTIONS

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

5. OTHER MEASURES

Other measures related to the closure of airspace and the implementation of contingency plans within the Cape Town, Johannesburg and Oceanic FIRs is as follows:

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

6. TRANSITION TO CONTINGENCY SCHEME

During times of uncertainty when airspace closures seem possible, aircraft operations should be prepared for a possible change in routing while en-route.

In the event of airspace closure that has not been promulgated, ATC should, if possible, broadcast to all traffic what airspace has been closed and to standby for further instructions.

Note: ATNS should recognise that when closure of airspace and/or airports is promulgated, individual airlines might have different company requirements as to their alternative routings. ATC should be alert to respond to any requests by aircraft and react commensurate with safety.

7. TRANSFER OF CONTROL AND COORDINATION

Transfer of control and communications shall normally coincide with the transfer of control point. The transfer of control point is the Common FIR Boundary unless otherwise coordinated.

8. PILOT PROCEDURES

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- Rules of the Air Paragraph 3.8 and Appendix 2, Sections 2 and 3.

Pilots need to continuously listen out on the VHF emergency frequency 121.5MHz and should operate their transponders at all times during flight, regardless of whether the aircraft is within or outside airspace where secondary surveillance radar (SSR) is used for ATS purposes. Transponders should be set on a discreet code assigned by ATC or select code 2000 if ATC has not assigned a code.

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

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

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

9. OVERFLIGHT APPROVAL

Aircraft operators should obtain over flight approval from States/Territories/International Organisations for flights operating through their jurisdiction of airspace, where required. 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 approval.

10. CONTINGENCY UNIT

- 10.1 The national contingency unit assigned the responsibility of monitoring developments that may dictate the enforcement of the contingency plan and co-ordination contingency arrangements is:

Name of agency:	Air Traffic & Navigation Services (ATNS) PTY LTD.
Contact person:	Johnny Smit
Telephone:	+27 11 928 6526
Mobile:	+27 82 823 8450
Fax:	+27 11 395 1045
E-mail:	johnnys@atns.co.za
AFTN:	FAATMATS
SITA:	JNBXCYP

- 10.2 The national contingency unit will normally liaise through the ICAO Regional Office of accreditation as follows:

Name of Office:	Central Airspace management Unit (CAMU)
Contact person:	Sandile Maphanga
Telephone:	+27 11 928 6433
Mobile:	+27 82 085 3429
Fax:	+27 11 928 6420
E-mail:	sandilem@atns.co.za
AFTN:	FAJSCAMU
SITA:	JNBXCYP

- 10.3 In the event of the Republic of South Africa declaring contingency, the CAMU will advise the following ICAO Regional office representative and Contingency Units within neighbouring FIR's as per Letter of Procedure:

Contact person:	Seboleso Machobane Regional Officer Air Traffic Management
Name of Office:	ICAO ESAF Office, Nairobi
Telephone.	+254 20 762 2395
Telephone.	+254 20 762 2372
Residential Telephone:	+254 717 555 811
E-mail	seboleso.machobane@icao.unon.org

During a contingency situation, the National Contingency unit will liaise with the FIRs involved through the ICAO ESAF Regional Office.

The ICAO ESAF Regional Office will:

- a. Closely monitor the situation and coordinate with all affected States/Territories/International Organisations and the IATA Regional Office, so as to ensure air navigation services are provided to international aircraft operations in the AFI region;
- b. Take note of any incidents reported and take appropriate action;
- c. Provide assistance as required on any issue with the Civil Aviation Administration involved in the contingency plan; and

- d. Keep the President of the Council of ICAO, the Secretary General, C/RAO.D/ANB and C/ATM continuously informed on developments, including activation of the contingency plan.

11. ATS CONTINGENCY PLAN – CAPE TOWN, JOHANNESBURG AND JOHANNESBURG OCEANIC FIRS

11.1 Scenarios

Due to the nature of the geographical position of South Africa and the associated air traffic routes within the RSA, the following two scenarios are most likely to occur in the event of the degradation of air traffic services:

11.1.1 Airspace Availability for Landing and Over Flights with partial disruption of services.

The establishment of contingency procedures including contingency routes with the following services available, for relevant NOTAM action see APPENDIX B:

- a) Oceanic Service

Note: Communication Contingency Measures within the FAJO FIR (SA-AIP ENR 2.2.4).

In the possible event of the Johannesburg HF system becoming unserviceable, aircraft operating in this airspace are required to maintain last assigned flight level until clearing the Johannesburg area of responsibility, unless a level change has been approved through one of the following communication sources:-

- I. Airborne traffic operating within this airspace over the Atlantic Ocean should contact Luanda FIC on frequency 8903, 8960, 5565, 13294Khz, or contact “Springbok Johannesburg” on frequency 5532, 8933, 11354, 13330, 17925 or 21943kHz for relay purposes to Johannesburg Oceanic.***
- II. Aircraft equipped with ADS/CPDLC operating within this airspace are requested to contact Johannesburg Oceanic.***
 - FANS1 equipped aircraft should log in at address – FAJO.***
 - FANS/A equipped aircraft should log in at address – JNBCAYA.***

- b) Area Control
- c) Flight Information Service
- d) Approach Control
- e) Aerodrome Control

11.1.2 Airspace Available But No Services at All; Possible Actions By Airspace Users.

- a) Avoidance of airspace;
- b) Flight level allocation scheme through FIR;
- c) Co-ordination with adjacent FIRs;
- d) NOTAM action (See Appendix B).

12 BASIC PRINCIPLES

12.1.1 The present plan is based on the following principles:

12.1.1 Only international civil aviation operations, conducted in accordance with IFR in the upper airspace of Cape Town, Johannesburg and Oceanic FIRs and performed along the contingency air traffic routes established as described in paragraph 5 below, are catered for by this plan.

12.1.2 Air Traffic Services are assumed to be limited or not available within the FIRs mentioned.

12.1.3 A flight level allocation scheme is applied so that over points of crossing or converging traffic, vertical separation will always be provided.

13 SYSTEM OF CONTINGENCY ATS ROUTES (SEE APPENDIX C AND D)

13.1 A system of contingency ATS routes is established as follows:

13.1.1 Aircraft routing from Luanda FIC Oceanic FIR to Johannesburg Oceanic FIR will be guided through the ATS route network of the FIR, according to the following:

TERBA – BOSNI – ILDER – IMPOK – GEVIN – UBVER – UVGOD - IMLUT- CTV
FL 270 or FL350.

13.1.2 Aircraft going from Johannesburg Oceanic FIR to Luanda FIC Oceanic FIR will be guided through the ATS route network of the FIR, according to the following:

CTV – IMLUT – UVGOD – UBVER – GEVIN – IMPOK – ILDER – BOSNI - TERBA,
FL 280 or FL380.

13.1.3 Aircraft routing from Brasília FIR to Johannesburg FIR will be guided through the ATS route network of the FIR, according to the following:

CIDER (Random route through the AORRA), enter Cape Town FIR at ITGIV – ANTEM
–CTV - UZ2, FL290 or FL390.

13.1.4 Aircraft going from Johannesburg FIR to Brasília FIR will be guided through the ATS route network of the FIR, according to the following:

UQ10 - CTV – ANTEM (Random route through the AORRA), ITGIV – CIDER FL 280
or FL360.

13.1.5 Aircraft going from Ezeiza FIR to Cape Town FIR will be guided through the ATS route network of the FIR, according to the following:

MUNES - (Random route through the AORRA) – ITLIK - ANTEM, FL270 or FL370.

13.1.6 Aircraft going from Cape Town FIR to Ezeiza FIR will be guided through the ATS route network, according to the following:

ANTEM - ITLIK - (Random route through the AORRA) - MUNES, FL320.

13.1.7 Aircraft going from Johannesburg FIR to Mauritius FIR will be guided through the ATS route network of the FIR, according to the following:

UG853 – HGV – WDV – PMV – DNV - UA402 – UVBOB – ESRET - APLUK - ETMOS FL290 or FL330.

13.1.8 Aircraft going from Mauritius FIR to Johannesburg FIR will be guided through the ATS route network of the FIR, according to the following:

ETMOS – APLUK – ESRET – UVBOB – GYV - UZ29 – BEBAS - STV, FL280 or FL340.

13.1.9 Aircraft going from Cape Town FIR to Mauritius FIR will be guided through the ATS route network of the FIR, according to the following:

UA402-OKNAS-NETIK-DNV-UVBOB-ESRET-APLUK-ETMOS, FL290 or FL350.

13.1.11 Aircraft going from Mauritius FIR to Cape Town FIR will be guided through the ATS route network of the FIR, according to the following:

UA402 – ETMOS – APLUK – ESRET – UVBOB – DNV – NETIK - OKNAS, FL380.

10.1.12 Aircraft routing from Johannesburg FIR to Melbourne FIR will be guided through the ATS route network of the FIR, according to the following:

RBV – EXSOX - IORRA (random route through the IORRA), FL290 or FL370.

13.1.13 Aircraft routing from Melbourne FIR to Johannesburg FIR will be guided through the ATS route network of the FIR, according to the following:

(Random route through the IORRA), enter Johannesburg FIR at ANVED - DNV, FL320 or FL380.

13.1.14 Aircraft routing from Windhoek FIR to Johannesburg FIR will be guided through the ATS route network of the FIR, according to the following:

WHV - KTV – KEBAT - EGTAR - UQ11 - UQ19 - AVAGO, FL350.

13.1.15 Aircraft routing from Johannesburg FIR to Windhoek FIR will be guided through the ATS route network of the FIR, according to the following:

UZ6 - UQ11 – EGTAR – KTV - WHV, FL320.

13.1.16 Aircraft routing from Windhoek FIR to Cape Town FIR will be guided through the ATS route network of the FIR, according to the following:

WHV – KTV – KEBAT - AGV - NVV – WY - CTV, FL290.

13.1.17 Aircraft routing from Cape Town FIR to Windhoek FIR will be guided through the ATS route network of the FIR, according to the following:

CTV- WY- NVV- AGV- KEBAT- KTV -WHV, FL300.

13.1.18 Aircraft routing from Johannesburg FIR to FQBR FIR will be guided through the ATS route network of the FIR, according to the following:

CL - GIDEL - UG653 – ORNAD - VMA, FL270.

13.1.19 Aircraft routing from FQBR FIR to Johannesburg FIR will be guided through the ATS route network of the FIR, according to the following:

VMA – ORNAD - UG653 - GIDEL – CL - WIV, FL260.

13.1.20 Aircraft routing from Johannesburg FIR to FVHA FIR will be guided through the ATS route network of the FIR, according to the following:

HBV - UA405 – GWV – VMV FL330.

13.1.21 Aircraft routing from FVHA FIR to Johannesburg FIR will be guided through the ATS route network of the FIR, according to the following:

VMV - UA405 – GWV - HBV FL280.

13.1.22 Aircraft routing from Johannesburg FIR to FBGR FIR will be guided through the ATS route network of the FIR, according to the following:

HBV – FTV - VLS, FL270 or FL290.

13.1.23 Aircraft routing from FBGR FIR to Johannesburg FIR will be guided through the ATS route network of the FIR, according to the following:

VLS – FTV - HBV, FL260.

13.2 The system of contingency ATS routes within the South African area of responsibility has been established to ensure that adequate diversionary airfields are available in the event that either Johannesburg and/or Cape Town are not available for landing.

14 PROCEDURES TO BE FOLLOWED BY ATS UNITS

14.1 Within South Africa filed flight plan messages shall continue to be transmitted through the AFTN and processed by Cape Town and Johannesburg ACC as per normal procedure.

- 14.2 The adjacent FIRs, Angola / Luanda, Namibia / Windhoek, Botswana / Gaborone, Zimbabwe / Harare, Mozambique / Beira, Mauritius / Plaisance, Australia / Melbourne, Argentina / Ezeiza, Brazil / Atlantico etc, shall be responsible for:
- a) Transmitting of flight plans and estimate messages, to the extent practicable, through the AFTN, to Johannesburg Oceanic and/or Johannesburg FIR:
 - I. A current flight plan message, at least one (1) hour before the aircraft's estimated time of arrival over the relevant entry point of the Johannesburg Oceanic and/or Johannesburg FIR.
 - II. An estimated message for the relevant entry point of Johannesburg Oceanic FIR and/or Johannesburg FIR, at least thirty (30) minutes before the aircraft's estimated time of arrival over that point.
 - b) Transmitting, through the AFTN, to the ACC serving the first FIR which an aircraft will enter after departing or transiting the Johannesburg Oceanic and/or Johannesburg FIR, an estimate message for the aircraft over the relevant exit point of the Johannesburg Oceanic and/or Johannesburg FIR, as soon as the aircraft's last position report has been received, containing the aircraft's estimated time of arrival over the exit point.
 - c) Applying a longitudinal separation of at least twenty (20) minutes over the relevant entry point of Johannesburg Oceanic and/or Johannesburg FIR, between aircraft flying at the same flight level and following the same contingency air traffic route and instructing the respective pilot-in-command to maintain the flight level and the Mach number assigned throughout the Johannesburg Oceanic and/or Johannesburg FIR.
 - d) Not authorising any flight level or Mach number changes of any aircraft transiting through the Cape Town, Johannesburg and Oceanic FIRs, within a period of ten (10) minutes before entering Cape Town, Johannesburg and Johannesburg Oceanic FIRs.
 - e) Aircraft intending to enter the Cape Town, Johannesburg or Johannesburg Oceanic FIRs shall include in the last position report with the adjacent FIR the estimated time of arrival over the relevant entry point of the Cape Town, Johannesburg or Johannesburg Oceanic FIRs and an estimated time of arrival at destination (for flights terminating within South Africa), on the contingency air traffic route used.
 - f) The adjacent FIRs, Angola / Luanda, Namibia / Windhoek, Botswana / Gaborone, Zimbabwe / Harare, Mozambique / Beira, Mauritius / Plaisance, Australia / Melbourne, Argentina / Ezeiza, Brazil / Atlantico etc, shall be responsible for informing aircraft inbound to the Johannesburg/Cape Town and Johannesburg Oceanic FIR's of contingency measures within the Johannesburg/Cape Town and Johannesburg Oceanic FIR's. Neighbouring FIR's shall in turn advise South Africa the intentions of the affected flight.

15 PROCEDURES TO BE FOLLOWED BY AIRCRAFT

- 15.1 All aircraft transiting through the Cape Town, Johannesburg and Johannesburg Oceanic FIR's shall strictly comply with the following:

- a) To operate along or as close as possible to the centreline of the assigned contingency air traffic route;
- b) Pilots shall adhere to the IATA Inflight Broadcast Procedures (IFBP) and maintain a continuous listening watch on the VHF frequency 126.9 MHz as well as the published VHF and / or HF frequencies as per SA-AIP (Reference ENR 2.1). Suitably equipped aircraft may communicate with the appropriate sector via ADS/CPDLC or SATCOM. Pilots shall report their position over all compulsory reporting points established along the respective contingency air traffic route. In the event of an emergency, traffic shall transmit blind on these published frequencies at the commencement and completion of any manoeuvre.
- c) Except in cases of emergencies and for flight safety reasons, aircraft operating within South African airspace shall maintain the last assigned Flight Level until clearing the South African area of responsibility, unless a level change have been approved through one of the means as prescribed in paragraph 7.1 (b).
- d) An aircraft experiencing an emergency or for flight safety reasons, that are unable to maintain an assigned flight level, shall climb or descend well to the right of the centreline of the contingency air traffic route being flown. Aircraft shall transmit on the IBFP VHF frequency 126.9 MHz as well as on the published frequencies at the commencement and completion of any manoeuvre. All transmissions shall comprise of the following: aircraft callsign, the aircraft position, the flight levels being vacated and crossed, etc.).
- e) Aircraft shall maintain an assigned flight level at least ten (10) minutes before entering the neighbouring FIR.
- f) Aircraft intending to enter the Cape Town, Johannesburg or Johannesburg Oceanic FIRs shall include in the last position report with the adjacent FIR the estimated time of arrival over the relevant entry point of the Cape Town, Johannesburg or Johannesburg Oceanic FIRs and an estimated time of arrival at destination (for flights terminating within South Africa), on the contingency air traffic route used
- g) Pilots shall contact the adjacent FIR at least ten (10) minutes before the estimated time of arrival over the relevant entry point of the adjacent FIR.
- h) To display navigation and anti-collision lights at all times during the transit of Cape Town, Johannesburg and Johannesburg Oceanic FIR's.
- i) Pilots shall maintain own longitudinal separation of twenty (20) minutes from the preceding aircraft at the same cruising level.