



INTERNATIONAL CIVIL AVIATION ORGANIZATION

MIDDLE EAST OFFICE

SECOND FLEXIBLE ATS ROUTE MANAGEMENT WORKSHOP

(Dubai, UAE, 15-17 February 2011)

SUMMARY OF DISCUSSIONS

1. INTRODUCTION

1.1 The workshop was conducted at the initiative of IATA with the support of ICAO and CANSO with the aim of promoting the early implementation of the Global Air Navigation Plan (GANP) Objectives on a global basis. The workshop was attended by a total of fifty one (51) participants from fifteen (15) States, and eight (8) Organizations and Corporations. The list of participants and speakers is available in **Appendix A** to this Summary of Discussions. Captain Alan Stealey, Divisional Senior Vice President Flight Operations Emirates Air Lines opened the workshop.

1.2 Mr. Don Harris from IATA Montreal acted as the chairperson of the workshop and Ms. Tanja Grobotek from IATA, Mr. Volker Meyer from Jeppesen and Mr. Saud Al Adhoobi, RO/ATM ICAO MID, were the Secretaries that supported the workshop.

1.3 In the Global Air Navigation Plan (Doc.9750), ICAO introduced the concept of dynamic and flexible ATM as one of its Strategic Objective. Global Plan Initiative (GPI-7) states that routes need not be fixed to pre-determined waypoints, except where required for control purposes. GPI-8 enhances the implementation process with Collaborative Decision-Management techniques to organize airspace in a collaborative manner involving all stakeholders to accommodate user-defined flexible routings.

1.4 iFlex intends to build on these Strategic Objectives and transition into a more dynamic environment that remains agile enough to address daily flight operations variables, yet remains responsive to Air Traffic Management (ATM) and Operators' needs. Flexibility is derived from the design of the airspace and opportunities exist in almost all operating environments, whether dense and short-haul or sparse traffic flows and long-haul flights.

1.5 Specifically, environmental benefits in fuel burn and CO₂ avoidance are significant in longer-range flights. This is evident in the two sampled long-haul flight routings – that of Emirates Airlines flying from Dubai to Sao Paolo and Delta Airlines on the Atlanta to Johannesburg leg. Flying across the South Atlantic airspace, and the recent activation of the AORRA (a random route area), there remain a limited number of access points available for entering and exiting this airspace, especially on the north western and western boundaries (Dakar, Atlantico, Rochambeau and Piarco FIR's). The relative lack of a supporting infrastructure (lack of transition waypoints/routings) substantially limits the ability to accomplish route efficiencies sought after by the ICAO Global roadmap. Besides finding ways and means to identify the major challenges on long-haul operations, a collaborative process involving all stakeholders in the context of an end-to-end flight routing was necessitated by means of a workshop setting.

1.6 iFlex Solution: In order to realize the fuel savings and Carbon Emission reductions envisioned by the creation of the AORRA, both additional AORRA entry waypoints, transitions to domestic/continental airspace and additional crossing opportunities for the EUROSAM corridor are required. The two 'demo' flights deployed as proving flights for the iFLEX concept are estimated to yield approximately 2,3 million kgs CO₂.

2. DISCUSSIONS

2.1 On the first day of the workshop, participants were provided with a presentation, from IATA introducing the iFlex background, concept and objectives. IATA was of the view that iFLEX operations would be implemented with the highest levels of safety by using previously proven ATM procedures and by incorporating lessons learned from previous Flexible Route implementations. In this regard it was noted that the planned trials would be limited to two airlines (**Delta** and **Emirate** Airlines) on two routes thus allowing for an orderly and gradual introduction for flexible route operations. The participants were presented with briefings from the following:

- a) Emirates Airlines on Dubai (DXB) to Sao Paulo (GRU) user preferred routes to achieve maximum efficiencies and carbon emissions savings based on prevailing wind models.
- b) Delta Airlines on Atlanta (ATL) to Johannesburg (JNB) user preferred routes to achieve maximum efficiencies and carbon emissions savings based on prevailing wind models. Delta provided a briefing on changes to airspace infrastructure that were agreed at Workshop 1 and the positive affect these changes are having on Delta's operations.
- c) CANSO on Best Practices from previous Flex Route implementations in Australia and Canada.
- d) IATA introducing Civil – Military cooperation.

2.2 On the second day, the workshop broke out into three break out sessions groups as follows:

- 1) Breakout session (1) exploring ways and means of cooperating with State military organizations on Flexible Use of Airspace (FUA).
- 2) Breakout session (2) consisted of the following FIRs Luanda, Kinshasa, Brazzaville, and Accra FIRs to finalize airspace infrastructure changes which were initiated at Workshop 1.
- 3) Breakout session (3) was to develop proposed changes in airspace infrastructure which will support iFLEX operations over continental Africa and parts of the Middle East. The group agreed to implement a number of new waypoints, transition routes and temporary airways which will allow for flexible routing options over Africa and parts of the Middle East.

In this regard Breakout session (3) also discussed the possibility of opening the segment between OZT (Ouarzazate) VOR to GAO VOR (Niamey). ENNA, Algeria was working with the concerned authorities to expedite approval for this fixed ATS route. It was also noted that there would be significant migration of traffic to this new route when open, from those that they are currently operating on such as UR977 and UM372 via BULIS on the GMMM (Casablanca) and GOOO (Dakar FIR/UIR) boundary.

The three break-out groups met at the end of each the day to review the individual proposals and to harmonize individual proposals.

2.3 On the third and last day, the breakout Groups met to review the work achieved and began drafting the workshop summary of discussions.

2.4 The work achieved during the breakout sessions are contained in **Appendices B and C** to the Summary of Discussions.

3 RECOMMENDATIONS

3.1 AORRA ICAO and IATA had agreed during the course of Workshop 1 to conduct a feasibility study to determine if it would be operationally advantageous and feasible to move the AORRA boundary northward.

3.2 The Group put forth a recommendation that the AORRA boundary will be moved northward to be within the Radar coverage of Accra ACC and Roberts FIR VHF coverage. ICAO and IATA would be presented this conclusion and be asked to consider it during their deliberations.

3.3 Future Action/Proposals for iFLEX for Waypoints, UT Airways and Transitions:

- a) Individual FIR agencies to conduct safety assessment and to confirm the findings of the Dubai Route Conference representatives that operations utilizing the new waypoints, transition routes and temporary airways created herein may be performed safely and in accordance with existing ATM procedures. The safety assessments would be conducted using ICAO guidelines and procedures. Individual FIR agencies would then report any safety related issues to workshop 3.
- b) The members from ASECNA agreed to coordinate with ASECNA headquarters regarding proposed airspace changes to the Dakar ACC, Ouagadougou ACC, Douala ACC and Abidjan ACC and indicate agreement by 25 February 2011 to IATA SO&I AFI Regional Office, Mr. Konate.

Mr. Konate will coordinate airspace changes requirements with ASECNA (Dakar and Abidjan ACC and HQ).

- c) IATA and ICAO to coordinate proposed airspace changes with Entebbe, Nairobi, Addis, Asmara, Cairo, Tripoli, Amman and Sana'a FIR's as they were not represented at the meeting.

Mr. Konate and Ms. Sayed will coordinate airspace changes requirements with above FIRs.

- d) IATA to submit all proposed route and FIR/UTA/TMA crossings to Jeppesen for Latitudes/Longitudes; bearings and distances. Jeppesen will forward calculated values back to the IATA as follows:
- For AORRA entry/exit points and EUR SAM corridor crossing points by 25 February 2011 for forwarding to ANSP's involved.
 - Continental routings by 4 March 2011.
- e) ANSP's will obtain the agreed 5-letter name codes during Paris meeting in preparation for publishing the same as follows:
- AORRA entry/exit points and EUR SAM corridor crossing points to be published under AIRAC 10 March 2011 AIRAC Cycle with effective date 2 June 2011.
 - Continental routings to be published under AIRAC 7 April 2011 AIRAC Cycle with effective date 30 June 2011. Those ANSPs who are unable to access web based ICARD system, 5NLC's will be obtained from ICAO.
- FIR to ensure coordination of 5NLC's for boundaries crossings with neighboring FIRs.
- f) A trial period will allow Delta Airlines and Emirates Airline to commence participating with trial flights as follows:
- AORRA entry/exit points and EUR SAM corridor crossing points from 7 April 2011 through 2 June 2011.
 - A trial period for continental routings from 5 May 2011 through 30 June 2011.
- g) The trial will be conducted on the basis of agreed upon procedures for flexible route operations. IATA will present working papers at the third workshop detailing proposed set of procedures.
- h) Convene a joint meeting with Atlantico, Piarco, Cayenne-Rochambeau, and Dakar to reach further agreements to complete and harmonize implementation of iFlex infrastructure improvements allowing for more efficient routes and environmental savings in the South Atlantic airspace.
- i) IATA to present an Information Paper to update the SAT meeting in May 2011. The IP will outline the outcome of iFlex workshops in building the required infrastructure to support 'demo' flights.

3.4 The third Flexible ATS Route Management Workshop will be held at the ICAO EUR/NAT Offices in Paris from 8 to 10 March, 2011, with its Provisional Agenda:

Agenda Item 1: Welcome, Introductions and Logistics

Agenda Item 2: Briefing on the aims of the iFLEX program

IATA will brief the Workshop on the origin, aims and objectives of the iFLEX Program.

Agenda Item 3: Best practices briefings and demonstrations

CANSO will brief the Workshop on Flexible Route initiatives that have been implemented in other Regions and States. The briefing will highlight successes and procedural requirements that have been developed in support of Flex Route implementation. CANSO industry partners will also provide ATM demonstrations as used in order to support implementation.

Agenda Item 4: Briefing on Dubai – Sao Paulo operations

Emirates Airlines as a volunteer airline will brief the workshop on operations on the Dubai – Sao Paulo route and v.v. The briefing will highlight challenges faced in today's environment and present iFLEX options that would allow Emirates to gain operational efficiencies reduce fuel consumption and carbon emissions.

Agenda Item 5: Briefing on Atlanta– Johannesburg operations

Delta Airlines as a volunteer airline will brief the Workshop on operations on the Atlanta - Johannesburg route and v.v. The briefing will highlight challenges faced in today's environment and present iFLEX options that would allow Delta Airlines to gain operational efficiencies reduce fuel consumption and carbon emissions.

Agenda Item 6: Develop ATM procedures to support Flex Route operations

This session will consider strategies that will support the use of Flexible Routes on demonstration flights between Dubai and Sao Paulo and Atlanta and Johannesburg and v.v. ATM system experts and airline representatives will collaborate to develop the necessary ATM procedures to support the use of Flexible Routes.

Agenda Item 7: Develop pilot and dispatcher procedures to support Flex Route operations

This session will consider, if required, what special procedures may need to be developed for pilots and dispatchers in support of implementing Flex Route operations.

Agenda Item 8: Any other business

Any other matters not specifically provided for and covered under the above agenda items, might be addressed under this agenda item.

iFLEX/2-2011
Appendix A to the Report

LIST OF PARTICIPANTS

NAME	TITLE & ADDRESS
STATES ALGERIA- ENNA Mr. Nadjib Khiali	Head of Air Traffic Service National Establishment of Air Navigation (ENNA) 1 Avenue of Independence, Algiers, Algeria Tel: (213) 661 4089 22 Fax: (213) 216 72130 Email: nadjib-khiali@enna.dz nadjib.khiali@hotmail.com
Mr. Nazim Chennaoui	Head of Navigation Studies and Development Service Air Navigation National Establishment (ENNA) Air Traffic Department 1 Avenue of Independence, Algiers, Algeria Tel: (213) 771 071145 Fax: (213) 216 77395 Email: chennaoui.nazim@yahoo.fr nazimch83@yahoo.fr
ANGOLA - ENANA Mr. Amilcar Soeiro Nascimento	Chief of Airspace Division ENANA Luanda International Airport, P O Box 841, CCR Tel: (244) 923 308525 Fax: (244) 222 651038 Email : amilcarnascimento@hotmail.com
Mr. Manuel Nzakimuena	Director Air Navigation ENANA – EP Luanda International Airport, P O Box 841, CCR Tel: (244) 222 651023 Fax: (244) 222 651038 Email: nmanuel@enana-ao.com

NAME	TITLE & ADDRESS
ANGOLA - INAVIC Mr. Arquimedes Ferraira	Air Navigation Director INAVIC Rua Miguel De Melo 96 6° Andar P O Box 569, Luanda, CCR Email : arquimedesf@gmail.com
BAHRAIN Mr. Saleem Mohamed Hassan	Chief Air Traffic Management Civil Aviation Affairs P.O. Box 586 KINGDOM OF BAHRAIN Fax: (973) 17 321 992 Tel: (973) 17 321 117 Mobile: (973) 39 608 860 Email: saleemmh@caa.gov.bh
GHANA Mr. Albert Aidoo Taylor	Director, Air Traffic Services Ghana Civil Aviation Authority Private Mail Bag Kotoka International Airport Accra, Ghana Tel: (233-30) 2776079 Fax: (233-30) 2773293 Email: ataylor@gcaa.com.gh
Mr. Kenneth Kofi Kwawukume	Kenneth Kofi Kwawukume Ghana Civil Aviation Authority Private Mail Bag Kotoka International Airport Accra, Ghana Tel: (233-30) 2776171 Ext: 1352 Fax: (233-30) 27769401 Email: kookwawukume@yahoo.co.uk
IRAN Mr. Ahmad Kaveh Firouz	Expert in Charge of Area Control Centre Training Dept Iran Airports Company Tel: +98 21 445 44 120 Fax: +98 214 454 4114 Email: ahmadkavehfirouz@gmail.com

NAME	TITLE & ADDRESS
Mr. Morad Esmaili	Deputy of Supervisory on Aeronautical Operations Bureau Civil Aviation Organisation of Iran Tel: +98 21 660 73 534 Fax: +98 21 446 65 576 Email: moradesmaeili@yahoo.com
KAZAERONAVIGATSIA (KAZAKHSTAN) Mr. Sergey Kulnazarov	Director General RSE "Kazaeronavigatsia"
Mr. Marat Dautaliyev	Managing Director of Economics
Mr. Sergali Parmanov	Head of ATM Division
Mr. Vyacheslav Skiteikin	Head of Technical Department
Mr. Kairat Tlenshin	Head of International Department Email: tlenshin@ans.kz
MEXICO Rodrigo Bruce Magallon de la Teja	Air Traffic Services Director SENEAM Av. 602 No. 161, Zona Federal A.I.C.M., Deleg. Venustiano Carranza, Mexico, D.F. 15620 Tel: +52 (55) 5786 5513 Fax: +52 (55) 2598 0065 Email: dta_seneam@sct.gob.mx Email: rbrucemt@gmail.com
NIGERIA - NAMA Mr. R.O. Raheem	Ag. Director – Ops Nigerian Airspace Management Agency (N.A.M.A.) Murtala Muhammed Int'l Airport, P.M.B. 21084, Ikeja, Lagos Tel: +234 805 309 8219 Tel: +234 803 348 9757 Email: leorasko@yahoo.com

NAME	TITLE & ADDRESS
Mr. J.A Shoremekun	GM Airspace Planning Nigerian Airspace Management Agency (N.A.M.A.) Murtala Muhammed Int'l Airport, P.M.B. 21084, Ikeja, Lagos Tel: +234 805 509 6110 Email: shoremekun.jacob@yahoo.com Email: JShoremekun@namahqtr.net
Mr. H.I. Jibrin,	Assistant GM Airspace Planning Nigerian Airspace Management Agency (N.A.M.A.) Murtala Muhammed Int'l Airport, P.M.B. 21084, Ikeja, Lagos Tel: +234 805 509 6153 Fax: Email : haskejibrin@yahoo.co.uk
Mr. John C. Onyegiri	GM Safety Mgmt. Systems/Quality Assurance Nigerian Airspace Management Agency Murtala Muhammed Airport, P.M.B. 21084,Ikeja – Lagos, Nigeria Mobile: +234 805 509 6138 Mobile: +234 803 349 4892 Email: jonyegiri@namahqtr.net Email: john.onyegiri@yahoo.com
Roberts FIR Mr. Adourahamane Soumah	Air Traffic Control Officer Roberts FIR Tel: +2316745534 Email: abdstozo@yahoo.fr
REPUBLIC DEMOCRATIC OF CONGO (DRC) – KINSHASA Mr. Biduaya Lukengu Raphael	
Mr. Muanda Mayala	
Mr. Makabu Kiboko	

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NAME	TITLE & ADDRESS
<p>RVA – DRC ANSP</p> <p>Mr. Pascal Izai</p>	<p>Air Navigation Director RVA Crois. Des av. Kabasele Tshamala et Aerodromes de N’dolo B.P. 6574, Kinshasa / N’Dolo Republique Democratique Du Congo Tel: +243 99 816 39 45 Email: izai_pascal@yahoo.fr</p>
<p>SAUDI ARABIA</p> <p>Mr. Aon Abdullah Al-Garni</p>	<p>GM.ATC ANS.GACA P O Box 40217 Jeddah 21499 Kingdom of Saudi Arabia Tel: +966 505 772 984 Fax: +966 264 02855 Email: aonabdul@yahoo.com</p>
<p>Mr. Atif Mohamed Al-Harhi</p>	<p>ATC, Operation GACA P O Box 7084, Makkah 21955, Kingdom of Saudi Arabia Tel: +966 233 8505 Fax: +966 268 54021 Email: ahatsa@hotmail.com</p>
<p>Mr. Mohamed Ayesh Hassan</p>	<p>ATC Supervisor GACA P O Box 6326, Jeddah 21442, Kingdom of Saudi Arabia Tel: +966 504 680 400 Fax: +966 268 54011 Email: m.ayesh@hotmail.com</p>
<p>Mr. Majid Ibrahim Mirza</p>	<p>Executive ACC Controller GACA P O Box 112346, Jeddah 21371, Kingdom of Saudi Arabia Tel: +966 555 629982 Fax: +966 268 54011 Email: abumurhaf@hotmail.com</p>

NAME	TITLE & ADDRESS
SUDAN Mr. Bushara Bushara	Airspace Management D. Director Sudan CAA Khartoum Airport P O Box 94, Khartoum, Sudan Tel: +249 9121 77845 Email: busharanasr@gmail.com
UNITED ARAB EMIRATES Mr. Talal Hussain Al Hammadi	Acting Airspace Coordinator GCAA P O Box 666, Abu Dhabi, UAE Tel: +971 2 599 6890 Fax: +971 2 599 6883 Email: thammadi@szc.gcaa.ae
ORGANIZATIONS ASECNA Mr. Serge Moufouma	Head of Air Navigation Service ASECNA P O Box 218, Brazzaville Tel: (242) 06 992 0454 Fax: (242) 22 282 0050 Email: moufouma@yahoo.fr congoena@asecna bh
Mr. Saadou Mahamane	Air Traffic Controller Instructor / Head of ATC Training ASECNA BP 1096, Niamey, Niger Tel: (227) 9697 7967 Fax: (227) 20 73 55 12 Email: saadoumarafal@yahoo.fr
Mr. Tadeadjim Mornan	Air Traffic Controller Instructor ASECNA BP 205, Nouakchott, Mauritania Tel: (222) 46737159 (222) 3623 0813 Email: luwehn@yahoo.fr
Mr. Sylvain Nziengui	Air Traffic Controller Instructor ASECNA BP 2252, Libreville, Gabon Tel: (241) 7235536 (241) 031 09587 Email: sadionna@yahoo.fr

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NAME	TITLE & ADDRESS
Mr. Vincent Gosso	Air Traffic Controller Instructor ASECNA BP 70 N'Djamena, Tchad Tel: (235) 66 44 98 80 Email: gsovincent@yahoo.fr
CANSO Mr. Greg McDonald	Senior Operational Specialist Air services Australia P O Box 1093, Tullamarine VIC 3042, Australia Tel: (61 3) 9339 2516 Email: Greg.Mcdonald@AirservicesAustralia.com
IATA – CANADA Don Harris	Senior ATM Consultant Infrastructure Strategy, SO&I IATA, Montreal 14 Cairnwell Close, Halifax, NS , Canada 3380A6 Tel: (1 902) 479 2109 Email: harrisd@iata.org
Mr. Bernard Gonsalves	Email: gonsalvesb@iata.org
Joel Morin	Nav Canada 316 Twin Brooks Dr., Edmonton ATS, T6J 6S4, Canada Tel: (1 780) 434 8410 Email: morin.joel@gmail.com
DELTA AIR LINES INC Mr. Tom Holder	Manager Flight Operations Africa Delta Air Lines Inc Department 026 P O Box 20706, Atlanta, GA 30320-60001 Tel: (1 404) 790 5786 Fax: (1 404) 677 2550 Email: tom.holder@delta.com

NAME	TITLE & ADDRESS
EMIRATE AIR LINES Mr. Bob Everest	Vice President Flight Operations Support Emirates Airlines, Dubai Flight Operations Dept. P O Box 686 Dubai, U.A.E Tel: 00971-4-708 4300 Fax: 00971-4-286 4085 Email: bob.everest@emirates.com
Mr. Grant Wilson	Manager Aeronautical Services & ATM Emirates Airlines, Dubai Flight Operations Dept. P O Box 686 Dubai, U.A.E Tel: 00971-4-708 4302 Fax: 00971-4-286 4085 Email: grant.wilson@emirates.com
Mr. Douglas Michael	Aeronautical Services Manager Emirates Airlines, Dubai Flight Operations Dept P O Box 686 Dubai, U.A.E Tel: 00971-4- 708 4305 Fax: 00971-4-286 4085 Email: doug.michael@emirates.com
Mr. Tomonori Tsuruzono	Aeronautical Services Manager Emirates Airlines, Dubai Flight Operations Dept. P O Box 686 Dubai, U.A.E Tel: 00971-4- 708 5595 Fax: 00971-4-286 4085 Email: tomonori.tsuruzono@emirates.com
IATA – JOHANNESBURG Mr. Gaoussou Konate	Regional Director - SO&I, Africa International Air Transport Association No.88 Stella Street Ground Floor, Sandown Mews East , Sandown, Sandton, Pvt Bag X9916 PostNet Suite 167, Sandton , South Africa 2146 Tel: +27 11 523 2732 Fax: + 27 11 523 2701 / 04 Email: KonateG@iata.org

NAME	TITLE & ADDRESS
Mrs. Tanja Grobotek	Assistant Director, Africa Safety, Operations & Infrastructure International Air Transport Association No.88 Stella Street Ground Floor, Sandown Mews East , Sandown, Sandton, Pvt Bag X9916 PostNet Suite 167, Sandton South Africa 2146 Tel: +27 (11) 523 2714 Fax: +27 (11) 523 2704 Email: GrobotekT@iata.org
IFALPA Capt. Georges Dib	Regional Vice President Mid/East International Federation of Airline Pilot Association (IFALPA) Daccache St Matar Building 1 st floor Hadeth – Beirut, Lebanon Tel: +961 3 288104 Fax: +961 1 623611 Email (1): dibg@mea.com.lb
IFATCA – Amman Mr. Hisham Bazian	EVP AFM Tel: +962 6 412 2943 Email: bazian007@yahoo.com
JEPPESEN Mr. Volker Meyer	Manager International Relations Jeppesen GmbH Frankfurter Str. 233, 63263 New-Isenburg, Germany Tel: +49 6102 50 7240 Fax: +49 6102 50 7239 Email: Volker.meyer@jeppesen.com
Mr. Werner Kurz	Director International Relations Jeppesen GmbH Frankfurter Str. 233, 63263 New-Isenburg, Germany Tel: +49 6102 50 8170 Fax: +49 6102 50 7239 Email: Werner.Kurz@jeppesen.com

1.2 Accra FIR

i) Within Accra FIR below new Entry/Exit/FIR boundaries waypoints were established:

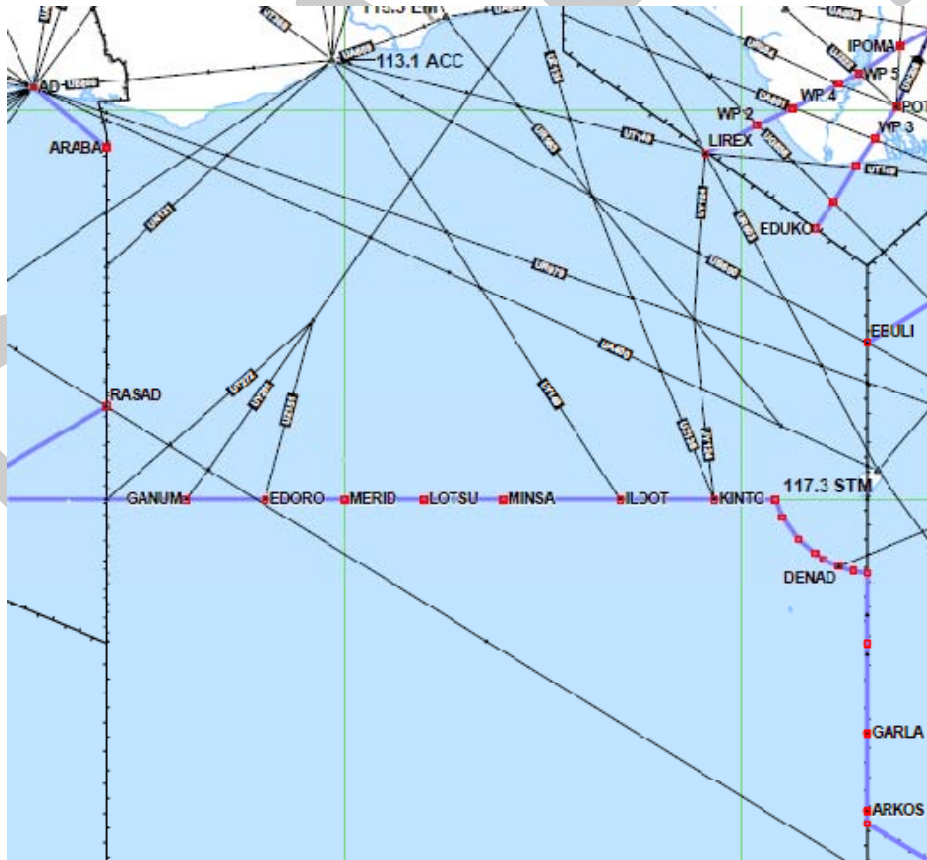
- New AORRA Entry/Exit Way points

Working 5NLC	Existing 5NLC	Latitude	Longitude
MERID ¹	TBA	N 00 00 00.00	E 000 00 00.00
LOTSU ¹	TBA	N 00 00 00.00	E 001 00 00.00
MINSA ¹	TBA	N 00 00 00.00	E 002 00 00.00
GARLA ¹	68LV	S 03 00 00.00	E 006 35 00.00
ARKOS ¹	17LV	S 04 00 00.00	E 006 35 00.00

- New FIR Entry/Exit Way points

Working 5NLC	Existing 5NLC	Latitude	Longitude	Comment
ARABA ¹	TBA	N 04 30 26.00	W 003 00 00.00	Dakar FIR boundary
EDUKO ⁴	TBA	N 03 29 18.42	E 005 54 23.63	Kano FIR boundary

ii) Within Accra FIR it is acceptable to file in ICAO FPL filed 15 a direct (DCT) segment from any FIR boundary waypoint to any FIR boundary waypoint.



¹ 5NLC obtained by Accra FIR

⁴ 5NLC obtained by Kano FIR

1.3 Brazzaville FIR; Libreville UTA

i) Within Brazzaville FIR & Libreville UTA new Entry/Exit/FIR boundaries waypoints were established:

- New AORRA Entry/Exit Way points

Working 5NLC	Existing 5NLC	Latitude	Longitude
GARLA ¹	68LV	S 03 00 00.00	E 006 35 00.00
ARKOS ¹	17LV	S 04 00 00.00	E 006 35 00.00
EKBOB ²	TBA	S 05 00 00.00	E 008 00 00.00
NERUP ²	TBA	S 05 28 34.79	E 009 00 00.00
TIMAK ²	TBA	S 05 20 00.00	E 010 00 00.00

- New I-FLEX Way points

Working 5NLC	Existing 5NLC	Latitude	Longitude	Comment
SAVON ³	TBA	S 02 03 28.14	E 010 26 29.45	New waypoint on UR526 (DCT UTAKA)
POLAR ³	TBA	S 03 05 44.98	E 010 52 03.57	New waypoint on UR526 (DCT UTAKA)

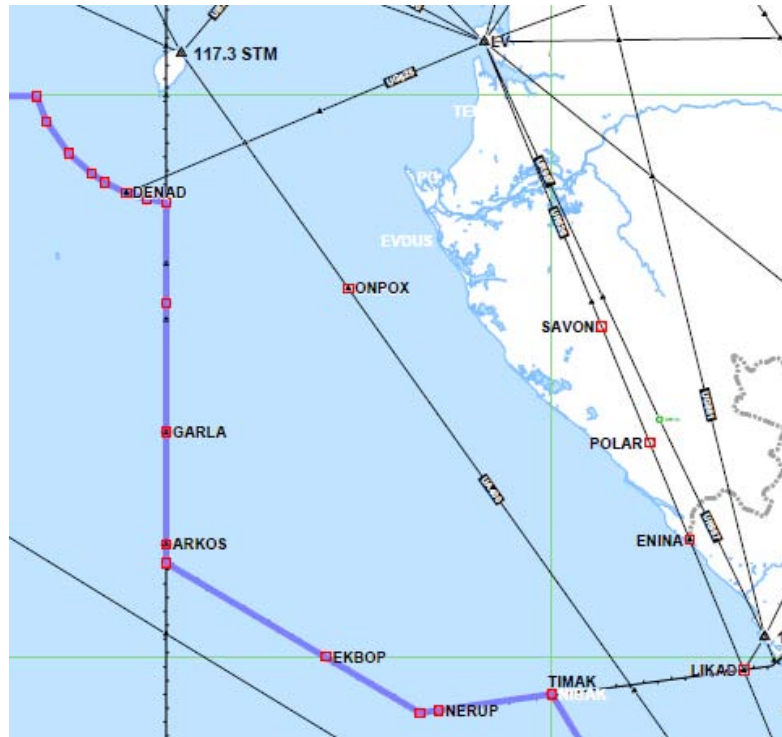
ii) Within Brazzaville FIR it is acceptable to file in ICAO FPL filed 15 a direct (DCT) segment as follows:

- ONPOX DCT GARLA¹
- ONPOX DCT ARKOS¹
- SAVON³ DCT ARKOS¹
- SAVON³ DCT EKBOB²
- SAVON³ DCT NERUP²
- POLAR³ DCT NERUP²
- POLAR³ DCT TIMAK²
- ENINA DCT TIMAK²

¹ 5NLC obtained by Accra FIR

² 5NLC obtained by Luanda FIR

³ 5NLC obtained by Brazzaville FIR



1.4 Luanda FIR

i) Within Luanda FIR new Entry/Exit/FIR boundaries waypoints were established:

- New AORRA Entry/Exit Way points

Working 5NLC	Existing 5NLC	Latitude	Longitude
EKBOB ²	TBA	S 05 00 00.00	E 008 00 00.00
NERUP ²	TBA	S 05 28 34.79	E 009 00 00.00
TIMAK ²	TBA	S 05 20 00.00	E 010 00 00.00
TETUX ²	TBA	S 06 00 00.00	E 010 25 00.00
NIDUS ²	TBA	S 07 00 00.00	E 011 00 00.00

- Rejected Transition¹

Working 5NLC	Existing 5NLC	Latitude	Longitude
"LUA01"	TBA	S 04 24 52.23	E 007 00 00.00

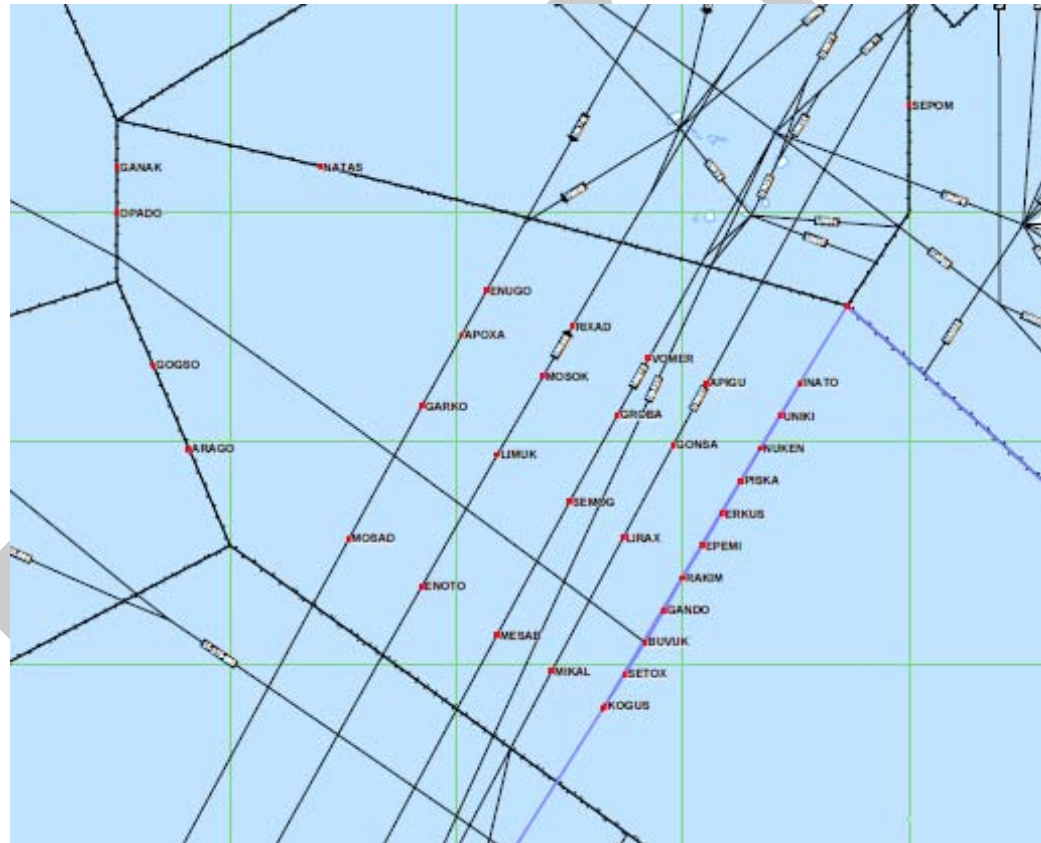
ii) Within Luanda FIR it is acceptable to file in ICAO FPL filed 15 a direct (DCT) segment as follows:

- LKAD DCT TETUX²
- LIKAD DCT NIDUS²
- VCA(VOR) DCT TETUX²
- VCA(VOR) DCT NIDUS²



2) Piarco (TTZP); Cayenne Rochambeau (SOOO); Dakar (GOOO) and Sal (GVSC) FIR's DCT segments

It has been reiterated that implementation of new FIR boundaries / iFLEX as listed in items 1) to 2) of the Report on First Flexible ATS Route Management Workshop held in Dakar, Senegal, 11-13 January 2011, will be implemented effective 7 April* 2011 with AIP Supplement published AIRAC 10 March 2011.



* Implementation date revised from 30 June 2011 to 7 April 2011 during the Third Flexible ATS Route Management Workshop held in Paris, France, 8 – 10 March 2011

APPENDIX C

It has been agreed that new routings as listed in items below will be implemented effective 5 May 2011

¹ with AIP Supplement published AIRAC 7 April 2011.

Explanatory notes for tables

- i) 5NLCs in italic font are new and have been issued by ICAO on States behalf or ANSPs applied to ICAO;
- ii) Magnetic variation, magnetic bearing and distances between existing waypoints/5NLCs have not been calculated as FIRs already have this data;
- iii) TBA” indicates where 5NLCs needs to be obtained by ANSP/State

- 1) YF – POVIN – POTOL – IPOBA – ROFER – TWARG – SEB – HORUY – DANAD – NABRED – IMARAD
Proposed route designator UQ596; Bidirectional

POSITION 5NLC	COMMENT	LATITUDE	LONGITUDE	VARIATION	MAGNETIC BEARING	DISTANCE IN NM	FIR
YF		N 14 44 41.4	W 017 28 29.2		066°/245°	144.70NM	Dakar FIR
<i>NASVO</i>	X UR865	N 16 03 12.82	W 015 22 26.71	W7.08	065°/244°	66.01N	Dakar FIR Senegal
<i>UBOPU</i>	Dakar UTA/Nouakchott UTA	N 16 38 36.00	W 014 24 24.00	W6.58	064°/244°	22.82NM	Dakar FIR Senegal
POVIN		N 16 50 48	W 014 04 16		064°/245°	48.34NM	Dakar FIR
MONUK		N 17 16 06	W 013 21 12		070°/250°	108.46NM	Dakar FIR
<i>POSIV</i>	X UM372/UR722	N 18 03 11.25	W 011 38 46.58	W5.26	070°/250°	70.59NM	Dakar FIR Mauritania
<i>DEKET</i>	X UG851	N 18 33 20.70	W 010 31 37.84	W4.77	070°/250°	129.61NM	Dakar FIR Mauritania
<i>TAPUS</i>	X UM122/UR977	N 19 27 39.44	W 008 27 19.63	W3.91	070°/250°	139.44NM	Dakar FIR Mauritania
<i>UNAGA</i>	X UT365	N 20 26 09.23	W 006 12 51.18	W3.06	070°/250°	45.01NM	Dakar FIR Mauritania
<i>VOSNU</i>	X UR866	N 20 43 35.78	W 005 28 35.78	W2.8	070°/250°	97.40NM	Dakar FIR
POTOL		N 21 20 40	W 003 52 15		069°/249°	171.40NM	Dakar FIR/ Niamey FIR

Implementation date has been revised from 30 June to 5 May 2011 during iFLEX WS3 held in Paris 10 to 13 March 2011

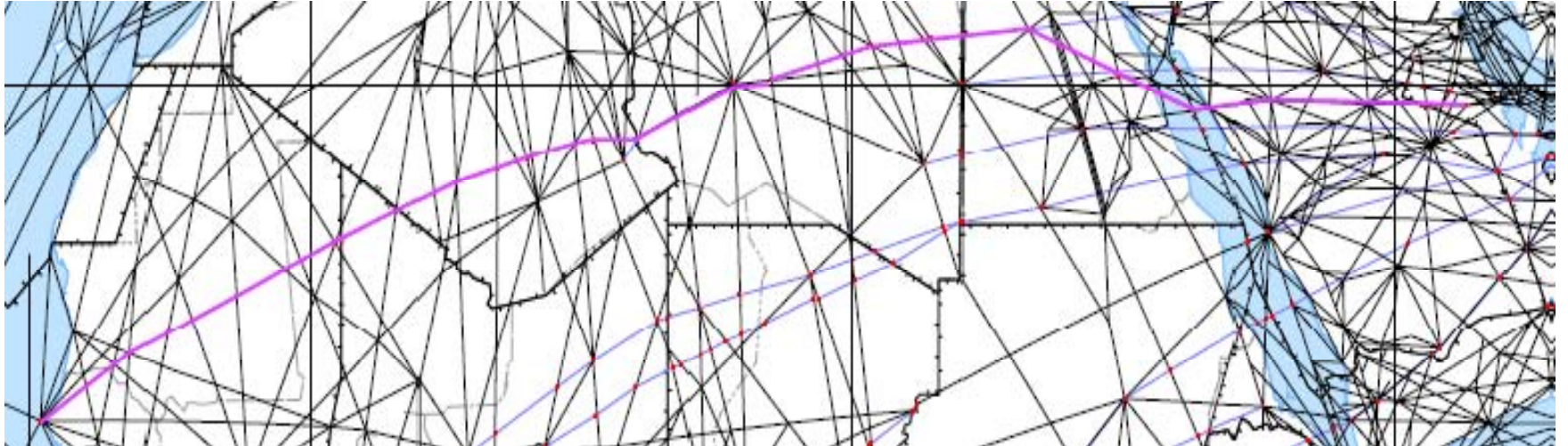
IPOBA		N 22 28 36	W 001 02 54		069°/249°	101.58NM	Niamey FIR / Algiers FIR
ADEVI	X UJ63	N 23 06 25.09	E 000 39 11.14	W0.94	069°/250°	60.55NM	Algiers FIR
ROFER		N 23 28 26	E 001 40 29		073°/256°	108.06NM	Algiers FIR
BEVON	X UM114	N 24 00 17.55	E003 33 03.29	W0.25	074°/254°	54.75NM	Algiers FIR
GOSTU	X UJ62	N 24 15 54.37	E 004 30 26.24	W0.04	074°/254°	24.22NM	Algiers FIR
SUVUS	X UA604	N 24 22 41.93	E 004 55 53.97	E0.05	074°/254°	13.96NM	Algiers FIR
LARIM	X UA615	N 24 26 34.87	E 005 10 35.69	E0.1	074°/254°	41.98NM	Algiers FIR
ENONI	X UG855	N 24 38 06.68	E 005 54 52.40	E0.22	074°/254°	71.96NM	Algiers FIR
BERTI		N 24 57 22	E 007 11 05		087°/267°	50.62NM	Algiers FIR
OMEKO	X UM998	N 24 59 34.01	E 008 06 44.34	E0.64	087°/267°	46.44NM	Algiers FIR
BAVLU	X UB730	N 25 01 16.81	E 008 57 49.62	E0.79	087°/267°	13.31NM	Algiers FIR
RUDRO	X UJ61	N 25 01 43.04	E 009 12 28.61	E0.83	087°/267°	15.63NM	Algiers FIR
UNDIL	X UJ53	N 25 02 11.98	E 009 29 40.42	E0.87	087°/268°	29.37NM	Algiers FIR
TWARG		N 25 03 01	E 010 02 00		063°/245°	266.04NM	Algiers FIR / Tripoli FIR
SEB	VOR	N 26 59 44.21	E 014 27 35.05		084°/263°	96.07NM	Tripoli FIR
HORUJ		N 27 09 06	E 016 14 42		071°/252°	119.03NM	Tripoli FIR
ULIKI	X UM215	N 27 42 51.59	E 018 23 01.27	E2.34	072°/252°	61.70NM	Tripoli FIR
RAKDA	X W857	N 27 59 34.42	E 019 30 02.47	E2.5	072°/252°	8.38NM	Tripoli FIR
RUKON	X UM7	N 28 01 48.05	E 019 39 10.01	E2.53	072°/253°	67.20NM	Tripoli FIR
DAYFA		N 28 19 18	E 020 52 36		080°/261°	66.07NM	Tripoli FIR
GOLSU	X W856	N 28 26 25.88	E 022 07 04.26	E2.85	081°/262°	63.75NM	Tripoli FIR
KUNDA	X UM732	N 28 32 40.05	E 023 19 04.91	E3	082°/262°	15.22NM	Tripoli FIR
VEGAD	X R2	N 28 34 03.75	E 023 36 17.94	E3.03	082°/262°	78.66NM	Tripoli FIR
TUKAM	FIR	N 28 40 41.31	E 025 05 21.86	E3.2	082°/263°	159.22NM	Tripoli FIR / Cairo FIR/ Cairo FIR
DANAD		N 28 51 06	E 028 06 09		108°/289°	72.38NM	Cairo FIR (HECC)
OTEGU	X P557	N 28 23 54.57	E 029 22 24.14	E3.55	109°/289°	7.35NM	Cairo FIR (HECC)
SEVDO	X B12	N 28 21 06.60	E 029 30 06.28	E3.55	109°/289°	8.36NM	Cairo FIR (HECC)

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ORKUL	X L321	N 28 17 54.87	E 029 38 51.85	E3.56	109°/289°	29.84NM	Cairo FIR (HECC)
VEKUM	X UP751	N 28 06 25.98	E 030 10 03.44	E3.58	109°/290°	54.49NM	Cairo FIR (HECC)
VUTER	X W8	N 27 45 09.98	E 031 06 43.35	E3.61	110°/290°	68.17NM	Cairo FIR (HECC)
NABED		N 27 18 01	E 032 17 06		107°/288°	76.94NM	Cairo FIR (HECC)
ROTUD	X R650	N 26 50 23.79	E 033 37 34.98	E3.63	108°/288°	35.68NM	Cairo FIR (HECC)
MIVOX	X V730	N 26 37 19.66	E 034 14 41.23	E3.63	108°/289°	86.46NM	Cairo FIR (HECC)
IMRAD	IMRAD to ALMAL via A145	N 26 05 00.	E 035 44 00				Cairo FIR (HECC) / Jeddah FIR (OEJD)
ALMAL		N 26 15 53	E 048 21 08				Jeddah FIR (OEJD) - A145EASTBOUND ONLY

Note:

- Needs to be discussed with Tripoli FIR
- Needs to be discussed with Cairo FIR
- Needs to be discussed with Jeddah FIR if A145 can be bidirectional East of LXR.



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2) DANAD - METSA – ASH – ULOVO
Proposed route designator UQ597; Eastbound

POSITION 5NLC	COMMENT	LATITUDE	LONGITUDE	VARIATION	MAGNETIC BEARING	DISTANCE IN NM	FIR
DANAD	- connecting to proposed route No 1	N 28 51 06	E 028 06 09		071°/252°	54.62NM	Cairo FIR (HECC)
MISUK		N 29 05 07	E 029 06 21		075°/255°	5.51NM	Cairo FIR (HECC)
1. TBA	X B12	N 29 06 10.93	E 029 12 31.57	E3.59	075°/255°	6.51NM	Cairo FIR (HECC)
KUNKI		N 29 07 26	E 029 19 49		082°/263°	68.53NM	Cairo FIR (HECC)
2. TBA	X W727	N 29 11 49.13	E 030 37 55.81	E3.69	083°/263°	34.19NM	Cairo FIR (HECC)
3. TBA	X W8	N 29 13 43.36	E 031 16 56.41	E3.73	083°/263°	20.20NM	Cairo FIR (HECC)
4. TBA	X A727	N 29 14 45.50	E 031 39 59.91	E3.75	083°264°	49.12NM	Cairo FIR (HECC)
KAMIS		N 29 17 00	E 032 36 06		081°/261°	26.58NM	Cairo FIR (HECC)
5. TBA	X V603	N 29 19 21.53	E 033 06 22.59	E3.81	081°/261°	23.57NM	Cairo FIR (HECC)
6. TBA	X A791	N 29 21 21.32	E 033 33 15.23	E3.83	081°/262°	75.16NM	Cairo FIR (HECC)
METSA	FIR	N 29 27 07	E 034 59 03				Amman FIR (OJAC) / Cairo FIR (HECC)
PETRA		N 29 42 06	E 036 22 10				Amman FIR (OJAC)
DEESA	FIR via UB411	N 29 45 09	E 036 41 02				Jeddah FIR (OEJD) / Amman FIR (OJAC)
ASH	VOR via UB411	N 30 07 22	E 038 47 53				Jeddah FIR (OEJD)
AJF	VOR via G669	N 29 47 21.72	E 040 04 17.91		107°/287°	73.41NM	Jeddah FIR (OEJD)
SITOD		N 29 21 43	E 041 23 13		111°/291°	46.06NM	Jeddah FIR (OEJD)
ORSAL		N 29 02 35	E 042 11 07		105°/286°	36.73NM	Jeddah FIR (OEJD)
7. TBA	X A424	N 28 50 34.29	E 042 50 41.82	E3.59	106°/286°	40.31NM	Jeddah FIR (OEJD)
8. TBA	X V20	N 28 37 10.19	E 043 33 57.02	E3.51	106°/286°	11.37NM	Jeddah FIR (OEJD)
9. TBA	X UT514	N 28 33 20.89	E 043 46 07.03	E3.48	106°/287°	74.23NM	Jeddah FIR (OEJD)

LOKOK		N 28 07 57	E 045 05 12			Jeddah FIR (OEJD)
KMC	VOR via UP559	N 27 52 46.2	E 045 33 24.4			Jeddah FIR (OEJD)
ULOVO	via UP559	N 27 48 30	E 045 54 20			Jeddah FIR (OEJD)

Note:

- Needs to be discussed with Cairo FIR if can A145 can be BD E of LXR
- Needs to be discussed with Amman FIR



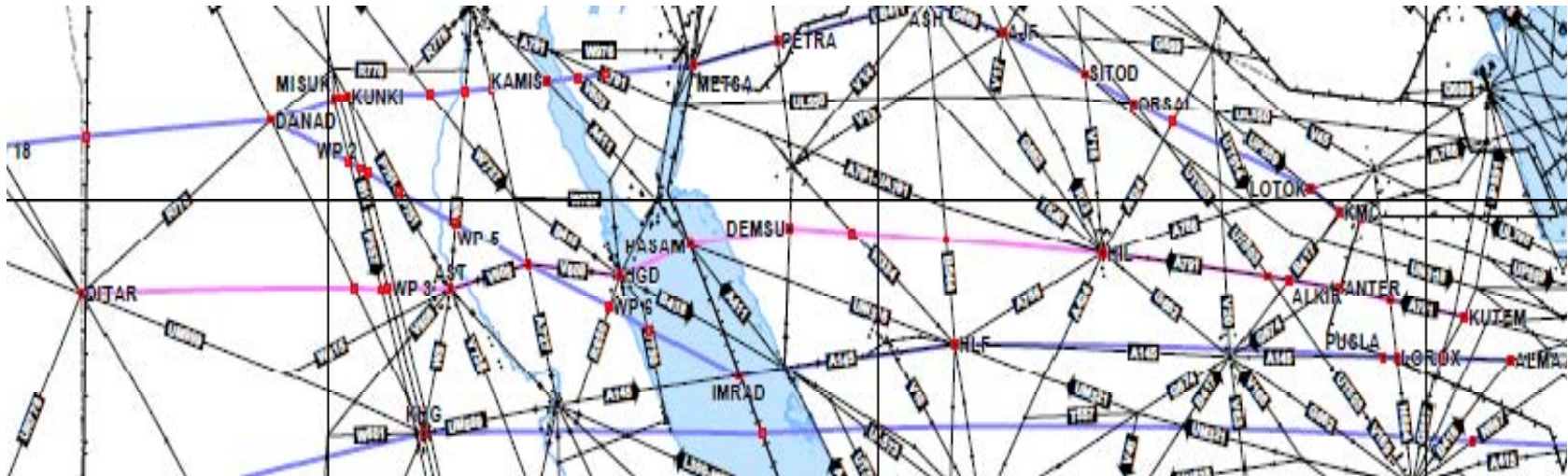
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- 3) DITAR – NABED – PASAM – HIL - ANTER - KUTEM
Proposed route designator UQ598; Westbound
Time restrictions

POSITION 5NLC	COMMENT	LATITUDE	LONGITUDE	VARIATION	MAGNETIC BEARING	DISTANCE IN NM	FIR
DITAR	FIR	N 26 59 03	E 025 00 00		085°/267°	238.45NM	Tripoli FIR (HLLL) / Cairo FIR (HECC)
10. TBA	X A145	N 27 02 37.91	E 029 26 58.20	E3.46	087°/267°	23.66NM	Cairo FIR (HECC)
11. TBA	X P557	N 27 02 31.61	E 029 53 28.21	E3.49	087°/267°	5.95NM	Cairo FIR (HECC)
12. TBA	X B12	N 27 02 29.23	E 030 00 08.90	E3.5	087°/267°	6.40NM	Cairo FIR (HECC)
13. TBA	X L321	N 27 02 26.33	E 030 07 18.27	E3.5	087°/268°	48.79NM	Cairo FIR (HECC)
AST	VOR	N 27 01 52.24	E 031 01 56.42				Cairo FIR (HECC)
NABED		N 27 18 01	E 032 17 06				Cairo FIR (HECC)
HGD	VOR	N 27 10 39.9	E 033 47 47.0		067°/248°	63.71NM	Cairo FIR (HECC)
PASAM	FIR	N 27 30 45	E 034 55 42		079°/260°	88.33NM	Cairo FIR (HECC) / Jeddah FIR (OEJD)
DEMSU		N 27 41 49	E 036 34 21		089°/269°	54.96NM	Jeddah FIR (OEJD)
14. TBA	X W334	N 27 39 26.46	E 037 36 12.15	E3.7	089°/270°	81.24NM	Jeddah FIR (OEJD)
15. TBA	X B544	N 27 35 05.30	E 039 07 31.69	E3.64	090°/272°	136.77NM	Jeddah FIR (OEJD)
HIL	VOR HIL to KUTEM via A791	N 27 25 30.300	E 041 40 58.044				Jeddah FIR (OEJD)

Note:

- Needs to be discussed with Cairo FIR if A145 can be bidirectional East of LXR



- 4) DJA – TWARG
Proposed route designator UQ853; Bidirectional

POSITION 5NLC	COMMENT	LATITUDE	LONGITUDE	VARIATION	MAGNETIC BEARING	DISTANCE IN NM	FIR
DJA		N 24 17 15.82	E 009 27 12.03		035°/214°	55.54NM	Algiers FIR (DAAR)
TWARG		N 25 03 01	E 010 02 00				Algiers FIR (DAAR) / Tripoli FIR (HLL)

Note:

Needs to be discussed with Tripoli FIR



5) KFR - KHG

5a) Proposed route designator UQ599; Bidirectional

POSITION 5NLC	COMMENT	LATITUDE	LONGITUDE	VARIATION	MAGNETIC BEARING	DISTANCE IN NM	FIR
KFR	VOR	N 24 09 14.04	E 023 18 28 14		075°/255°	94.87NM	Tripoli FIR (HLLL)
ALSEP	FIR	N 24 29 19.50	E 025 00 00.00	E2.91	075°/256°	101.72NM	Tripoli FIR (HLLL) / Cairo FIR (HECC)
16. TBA	X R2	N 24 49 35.59	E 026 49 26.01	E3.11	076°/257°	119.50NM	Cairo FIR (HECC)
17. TBA	X V608	N 25 11 41.09	E 028 58 43.90	E3.31	077°/258°	88.94NM	Cairo FIR (HECC)
KHG	VOR	N 25 26 54.2	E 030 35 26.9				Cairo FIR (HECC)

Note:

- Needs to be discussed with Tripoli FIR
- Needs to be discussed with Cairo FIR;

5 b) Proposed route designator UQ595; Eastbound (Jeddah FIR)

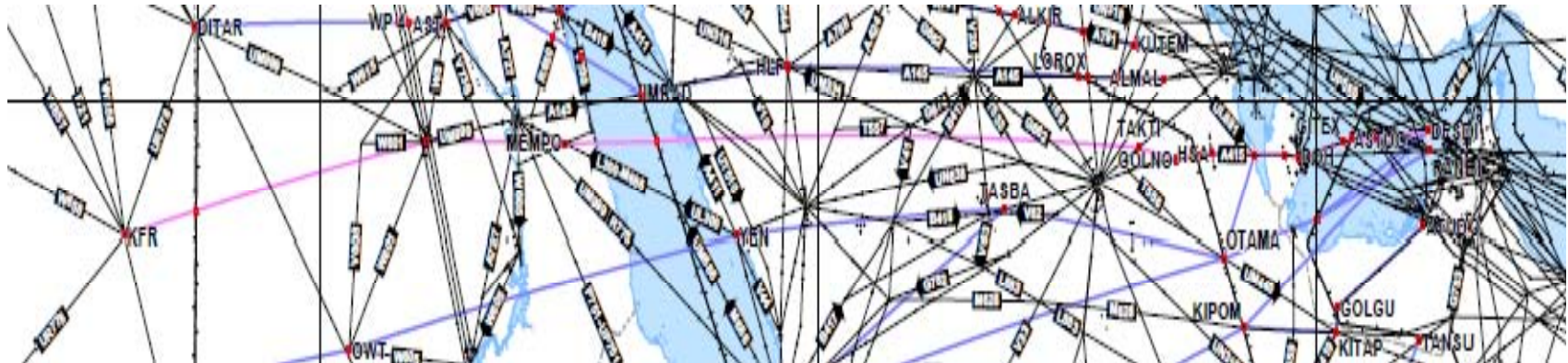
POSITION 5NLC	COMMENT	LATITUDE	LONGITUDE	VARIATION	MAGNETIC BEARING	DISTANCE IN NM	FIR
KHG	VOR	N 25 26 54.2	E 030 35 26.9		087°/267°	74.92NM	Cairo FIR (HECC)
18. TBA	X V738	N 25 26 47.18	E 031 58 13.16	E3.49	087°/267°	37.54NM	Cairo FIR (HECC)
19. TBA	X A727	N 25 26 26.12	E 032 39 41.59	E3.51	087°/267°	6.28NM	Cairo FIR (HECC)
20. TBA	X W605	N 25 26 21.45	E 032 46 37.72	E3.51	087°/267°	12.04NM	Cairo FIR (HECC)
21. TBA	X P751/UP751	N 25 26 11.58	E 032 59 55.71	E3.52	087°/268°	49.82NM	Cairo FIR (HECC)
MEMPO		N 25 25 18	E 033 54 57		084°/265°	117.28NM	Cairo FIR (HECC)
KIRET	FIR	N 25 29 55.22	E 036 04 26.12	E3.54	085°/265°	50.06NM	Cairo FIR (HECC) / Jeddah FIR (OEJD)
22. TBA	X A411	N 25 31 27.31	E 036 59 44.55	E3.53	085°/265°	24.63NM	Jeddah FIR (OEJD)
23. TBA	X UT510	N 25 32 04.95	E 037 26 57.50	E3.52	085°/265°	17.46NM	Jeddah FIR (OEJD)

24. TBA	X UL573	N 25 32 28.58	E 037 46 15.35	E3.51	085°/265°	13.47NM	Jeddah FIR (OEJD)
25. TBA	X B418	N 25 32 45.08	E 038 01 08.95	E3.5	085°/266°	47.32NM	Jeddah FIR (OEJD)
SENB		N 25 33 31	E 038 53 28		084°/264°	18.26NM	Jeddah FIR (OEJD)
26. TBA	X B412	N 25 34 20.88	E 039 13 38.48	E3.45	084°/264°	13.05NM	Jeddah FIR (OEJD)
27. TBA	X B544	N 25 34 54.82	E 039 28 03.84	E3.43	084°/265°	52.02NM	Jeddah FIR (OEJD)
GOMRA		N 25 36 56	E 040 25 34				Jeddah FIR (OEJD)
ROSUL		N 25 39 45	E 042 15 19		090°/270°	45.61NM	Jeddah FIR (OEJD)
28. TBA	X B417	N 25 37 10.24	E 043 05 42.14	E3.18	090°/271°	44.51NM	Jeddah FIR (OEJD)
29. TBA	X V63	N 25 34 22.45	E 043 54 50.73	E3.09	091°/271°	35.93NM	Jeddah FIR (OEJD)
SOKOP		N 25 31 55	E 044 34 29		090°/270°	50.83NM	Jeddah FIR (OEJD)
30. TBA	X G662	N 25 29 22.03	E 045 30 36.14	E2.92	090°/271°	36.37NM	Jeddah FIR (OEJD)
31. TBA	X V169/UT503	N 25 27 19.41	E 046 10 43.65	E2.84	091°/271°	26.33NM	Jeddah FIR (OEJD)
32. TBA	X UN694	N 25 25 43.81	E 046 39 45.45	E2.79	091°/271°	13.75NM	Jeddah FIR (OEJD)
33. TBA	X G667; G782	N 25 24 51.58	E 046 54 55.14	E2.75	091°/271°	10.22NM	Jeddah FIR (OEJD)
34. TBA	X G663	N 25 24 11.74	E 047 06 11.20	E2.73	091°/271°	12.59NM	Jeddah FIR (OEJD)
35. TBA	G B418	N 25 23 21.52	E 047 20 03.41	E2.7	091°/271°	21.43NM	Jeddah FIR (OEJD)
TAKTI		N 25 21 53	E 047 43 40		099°/279°	49.32NM	Jeddah FIR (OEJD)
GOLNO		N 25 11 55	E 048 36 58				Jeddah FIR (OEJD)
KIREN	FIR	N 25 14 47	E 049 07 24				Jeddah FIR (OEJD) / Bahrain FIR (OBBR)
HSA	VOR	N 25 16 44.91	E 049 29 02.54				Bahrain FIR (OBBR)
SALWA	via A415	N 25 15 38	E 050 30 48				Bahrain FIR (OBBR)
LAGNO	via A 415	N 25 16 13	E 051 15 18				Bahrain FIR (OBBR)
DOH	VOR; via A 415	N 25 14 01.11	E 051 34 37.85				Bahrain FIR (OBBR)
GITEX	via A 415	N 25 26 09	E 052 38 32				Bahrain FIR (OBBR)
ASTOG	FIR	N 25 28 22	E 052 50 25		076°/257°	22.66NM	Bahrain FIR (OBBR) / Emirates FIR(OMAE)

36. TBA	X N563	N 25 32 51.62	E 053 14 58.15	E2.02	102°/283°	12.45NM	Emirates FIR (OMAE)
LOPOM	NRP	N 25 29 41	E 053 28 17		082°/262°	17.06NM	Emirates FIR (OMAE)
37. TBA	X N571	N 25 31 21.23	E 053 47 03.19	E1.95	082°/263°	8.68NM	Emirates FIR (OMAE)
38. TBA	X L768	N 25 32 11.29	E 053 56 36.26	E1.93	083°/263°	8.42NM	Emirates FIR (OMAE)
39. TBA	X T712	N 25 32 59.27	E 054 05 52.39	E1.92	083°/263°	16.33NM	Emirates FIR (OMAE)
40. TBA	X G666	N 25 34 30.62	E 054 23 51.17	E1.89	083°/263°	16.93NM	Emirates FIR (OMAE)
DESDI	NRP	N 25 36 03	E 054 42 30				Emirates FIR (OMAE)

Note:

Needs to be discussed with Cairo FIR



6) ROB – ERMIT – TUXID - NEBRA - ILDOR – *KARUK (N2210E02500)* – OWT – *ORMOL(N2359E03655)* – YEN

6a) Proposed route designator UQ594; Bidirectional

POSITION 5NLC	COMMENT	LATITUDE	LONGITUDE	VARIATION	MAGNETIC BEARING	DISTANCE IN NM	FIR
ROB		N 06 13 52.1	W 010 21 56.5		056°/231°	84.26NM	Roberts FIR (GLRB)
<i>AREMA</i>	X UV207	<i>N 07 14 36.37</i>	<i>W 009 22 56.06</i>	<i>W6.83</i>	<i>051°/230°</i>	<i>27.69NM</i>	Roberts FIR (GLRB)
41. TBA	X UB729	<i>N 07 34 32.30</i>	<i>W 009 03 29.26</i>	<i>W6.6</i>	<i>050°/230°</i>	<i>66.02NM</i>	Roberts FIR (GLRB)
ERMIT		N 08 22 00	W 008 17 00		068°/248°	245.91NM	Roberts FIR (GLRB) /Dakar FIR (GOOO) (Abidjan UTA)
<i>RATEK</i>	X UG851	<i>N 09 30 03.87</i>	<i>W 006 06 25.80</i>	<i>W5</i>	<i>068°/247°</i>	<i>65.57NM</i>	Dakar FIR (GOOO) (Abidjan UTA)
TUXID		N 10 00 23.37	W 005 07 28.94		061°/241°	94.20NM	Dakar FIR (GOOO) (Abidjan UTA) / Niamey FIR (DRRR)
<i>MOVOX</i>	X UA601	<i>N 10 52 36.39</i>	<i>W 003 47 44.82</i>	<i>W3.92</i>	<i>061°/240°</i>	<i>60.48NM</i>	Niamey FIR (DRRR)
<i>ONTIK</i>	X UA614/UM104	<i>N 11 25 56.86</i>	<i>W 002 56 18.91</i>	<i>W3.55</i>	<i>060°/240°</i>	<i>100.07NM</i>	Niamey FIR (DRRR)
OG	VOR via UG854	N 12 20 46.6	W 001 30 46.2				Niamey FIR (DRRR)
BULSA	Niamey UTA via UG854	N 12 39 01	W 000 32 19				Niamey FIR (DRRR)
DEKAS		N 12 48 50	W 000 00 29				Niamey FIR (DRRR)
NY	VOR	N 13 29 00	E 002 12 23		060°/239°	86.57NM	Niamey FIR (DRRR)
<i>SERAG</i>	X UM114	<i>N 14 15 29.47</i>	<i>E 003 27 35.01</i>	<i>W1.44</i>	<i>059°/239°</i>	<i>77.11NM</i>	Niamey FIR (DRRR)
DAMNA	Niamey UTA	N 14 56 34	E 004 35 00		059°/239°	120.59NM	Niamey FIR (DRRR)
OSLEK		N 16 00 00.00	E 006 21 21.98		059°/240°	112.39NM	Niamey FIR (DRRR)
AS	VOR	N 16 58 30.18	E 008 01 23.78		063°/242°	192.94NM	Niamey FIR (DRRR)
NEBRA		N 18 28 36	E 011 00 21		073°/253°	29.31NM	Niamey FIR (DRRR)

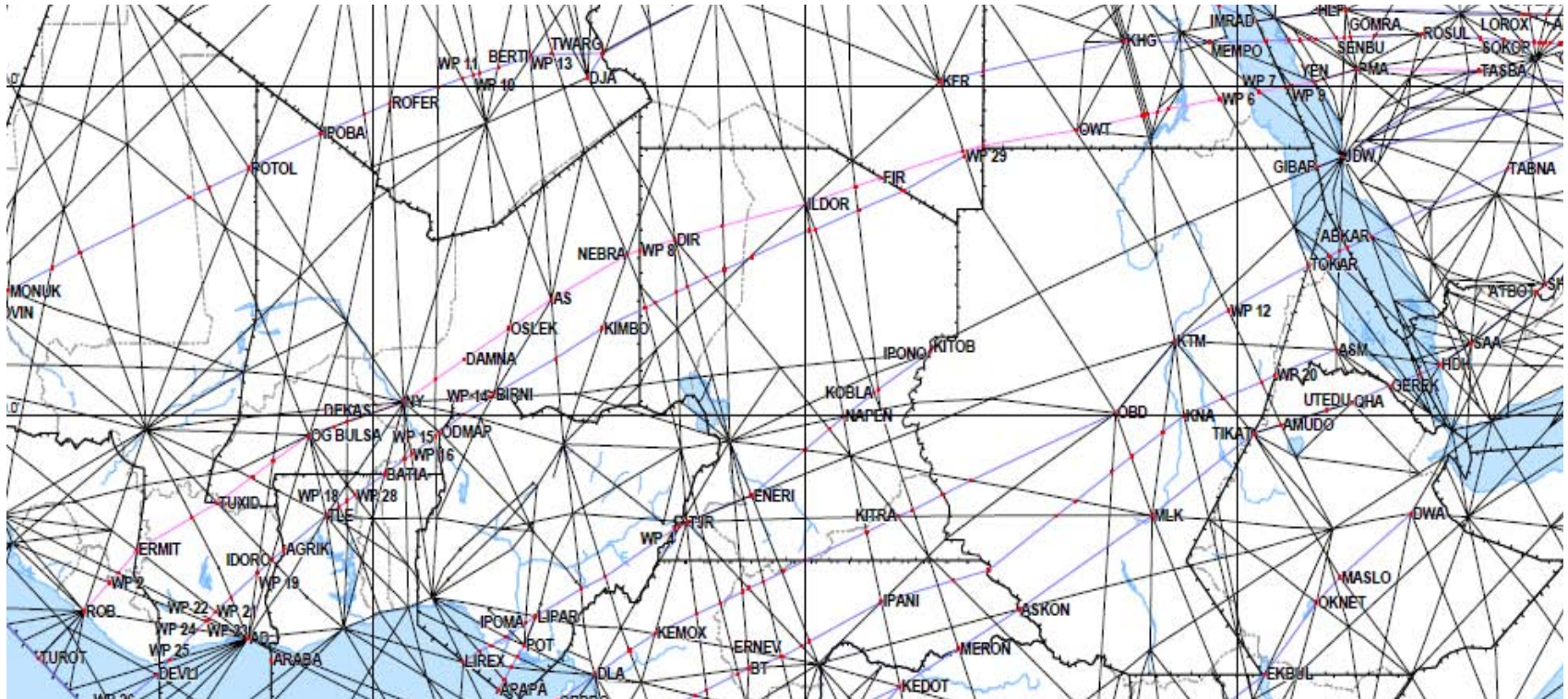
NAMIS	FIR	N 18 36 42.65	E 011 30 00.00	E0.58	073°/255°	81.63NM	Niger Niamey FIR (DRRR) / N'Djamena FIR (FTTT)
DIR		N 18 58 53.3	E 012 52 49.8		075°/255°	110.70NM	N'Djamena FIR (FTTT)
KELOS	X UA403	N 19 26 02.24	E 014 46 15.68	E1.17	075°/256°	088.98NM	N'Djamena FIR (FTTT)
ILDOR		N 20 09 37	E 018 01 19		070°/250°	115.30NM	N'Djamena FIR (FTTT)
KILDO	X UM215	N 20 45 16.71	E 019 58 07.80	E2.04	070°/251°	58.31NM	N'Djamena FIR (FTTT)
LIGAT	FIR	N 21 02 48.47	E 020 57 32.75	E2.2	071°/251°	190.16NM	N'Djamena FIR (FTTT) / Tripoli FIR (HLLL)
TISIX	X B21	N 21 57 31.47	E 024 12 55.28	E2.67	071°/251	45.47NM	Tripoli FIR (HLLL)
KARUK	FIR	N 22 10 02.11	E 025 00 00.00	E2.77	080°/262°	208.34NM	Tripoli FIR (HLLL) / Cairo / Cairo FIR (HEEC)
OWT	NDB	N 22 34 46.24	E 028 43 13.06		076°/256°	144.84NM	Cairo Fir (HECC)
42. TBA	X P557	N 23 04 11.12	E 031 16 45.38	E3.31	076°256°	5.80NM	Cairo FIR (HECC)
43. TBA	X B12	N 23 05 18.64	E 031 22 55.35	E3.32	076°/256°	5.95NM	Cairo FIR (HECC)
44. TBA	X L321	N 23 06 27.74	E 031 29 15.46	E3.32	076°/256°	22.17NM	Cairo FIR (HECC)
45. TBA	X A727	N 23 10 42.90	E 031 52 52.34	E3.34	076°/256°	22.35NM	Cairo FIR (HECC)
46. TBA	X W605	N 23 14 56.49	E 032 16 41.97	E3.36	076°/257°	114.92NM	Cairo FIR (HECC)
47. TBA	X UP751	N 23 35 42.99	E 034 19 36.46	E3.41	077°257°	86.57NM	Cairo FIR (HECC)
48. TBA	X R775/UM998	N 23 50 17.46	E 035 52 36.17	E3.42	077°/258°	58.36NM	Cairo FIR (HECC)
ORMOL	FIR	N 23 59 35.25	E 036 55 29.15	E3.41	078°/259°	61.87NM	Cairo FIR (HECC) / Jeddah FIR(OEJD)
YEN	VOR	N 24 08 58.37	E 038 02 18.90				Jeddah FIR(OEJD)

Note:

- Needs to be discussed with Tripoli FIR;
- Needs to be discussed with Cairo FIR;
- FIR crossing in Khartoum depending on flow?
- FIR crossing at TONBA (for No6 & No7) to support Westbound infrastructure??

6b) Proposed route designator UQ593; Eastbound

POSITION 5NLC	COMMENT	LATITUDE	LONGITUDE	VARIATION	MAGNETIC BEARING	DISTANCE IN NM	FIR
TASBA	Connect no No. 8 TASBA via B148 to PMA	N 24 30 59	E 044 30 28		268°/087°	262.75NM	Jeddah FIR (OEJD)
PMA	VOR	N 24 32 51.28	E 039 42 18.89		271°/089°	28.78NM	Jeddah FIR (OEJD)
<i>RADNI</i>		N 24 34 09	E 039 10 47		245°/065°	67.37NM	Jeddah FIR (OEJD)
YEN	VOR	N 24 08 58.37	E 038 02 18.90				Jeddah FIR (OEJD)



- 7) URUBI – *ALNEX (N2050E02123) - KARUK (N2210E02500)*
Proposed route designator UQ592; Bidirectional

POSITION 5NLC	COMMENT	LATITUDE	LONGITUDE	VARIATION	MAGNETIC BEARING	DISTANCE IN NM	FIR
UBUBI		N 02 18 52.98	W 009 43 55.98		062°/241°	40.61NM	Roberts FIR (GLRB)
49. TBA	X UR991	N 02 43 25.19	W 009 11 30.27	W8.33	061°/240°	126.93NM	Roberts FIR (GLRB)
DEVLI		N 04 00 00	W 007 30 00		055°/234°	139.43NM	Roberts FIR (GLRB) / Dakar FIR (GOOO) (Abidjan UTA)
KOMET	X UB600	N 05 33 37.89	W 005 46 05.89	W6N	054°/234°	24.58NM	Dakar FIR (GOOO) (Abidjan UTA)
50. TBA	X UV207	N 05 50 06.61	W 005 27 43.59	W5.8	054°/234°	8.59NM	Dakar FIR (GOOO) (Abidjan UTA)
51. TBA	X UB729	N 05 55 52.11	W 005 21 17.98	W5.73	054°/234°	19.65NM	Dakar FIR (GOOO) (Abidjan UTA)
52. TBA	X UR979	N 06 09 01.71	W 005 06 35.91	W5.58	054°/233°	44.27NM	Dakar FIR (GOOO) (Abidjan UTA)
53. TBA	X UG851	N 06 38 39.16	W 004 33 25.92	W5.24	053°/233°	79.28NM	Dakar FIR (GOOO) (Abidjan UTA)
54. TBA	X UA614/UM104	N 07 31 36.90	W 003 33 51.77	W4.67	053°/233°	45.52NM	Dakar FIR (GOOO) (Abidjan UTA)
IDORO	X UG859	N 08 01 57.65	W 002 59 33.15		058°/238°	34.41NM	Dakar FIR (GOOO) (Abidjan UTA)
AGRIK	FIR	N 08 22 15.61	W 002 31 27.84	W4.13	058°/237°	122.78NM	Dakar FIR (GOOO) (Abidjan UTA) / Accra FIR (DGAC)
TLE		N 09 34 24.59	W 000 50 49.68		061°/241°	36.13NM	Accra FIR (DGAC)
55. TBA	X UR983	N 09 53 44.89	W 000 19 51.77	W3.15	061°/241°	21.76NM	Accra FIR (DGAC)
56. TBA	X UA603	N 10 05 22.20	W 000 01 11.27	W3.02	061°/241°	21.41NM	Accra FIR (DGAC)
57. TBA	X UR984	N 10 16 47.34	E 000 17 12.65	W2.9	061°/241°	81.32NM	Accra FIR (DGAC)
BATIA		N 11 00 00	E001 27 18		058°/238°	57.33NM	Accra FIR (DGAC) / Niamey FIR (DRRR)
58. TBA	X UA608	N 11 32 24.40	E 002 15 31.96	W2.17	058°/238°	17.56NM	Niamey FIR (DRRR)
59. TBA	X UR981	N 11 42 18.34	E 002 30 20.53	W2.08	058°/238°	67.61NM	Niamey FIR (DRRR)
60. TBA	X UM114	N 12 20 17.99	E 003 27 31.95	W1.75	058°/238°	12.13NM	Niamey FIR (DRRR)

ODMAP		N 12 27 05.87	E 003 37 49.52		059°/239°	134.35NM	Niamey FIR (DRRR) / Kano FIR (DNKK)
61. TBA	X UG854	N 13 38 55.71	E 005 34 21.35	W1.1	059°/239°	13.30NM	Kano FIR (DNKK)
BIRNI		N 13 45 59.400	E 005 45 57.200		062°/242°	161.84NM	Kano FIR (DNKK) / Niamey FIR (DRRR)
62. TBA	X UA604	N 15 03 50.15	E 008 12 21.33	W0.4	062°/242°	118.87NM	Niamey FIR (DRRR)
KIMBO		N 16 00 00	E 010 01 00		064°/244°	94.85NM	Niamey FIR (DRRR)
63. TBA	FIR	N 16 41 03.53	E 011 30 00.00	E0.37	064°/244°	12.71NM	Niamey FIR (DRRR) / N'Djamena FIR (FTTT)
64. TBA	X UM998	N 16 46 30.88	E 011 41 58.70	E0.41	064°/244°	21.13NM	N'Djamena FIR (FTTT)
65. TBA	X UT237	N 16 55 33.34	E 012 01 54.59	E0.48	064°/244°	57.25NM	N'Djamena FIR (FTTT)
66. TBA	X UG727	N 17 19 53.34	E 012 56 04.64	E0.68	064°/244°	26.60NM	N'Djamena FIR (FTTT)
67. TBA	X UA607/UM731	N 17 31 06.59	E 013 21 19.29	E0.76	064°/245°	42.32NM	N'Djamena FIR (FTTT)
68. TBA	X UG862	N 17 48 51.16	E 014 01 35.73	E0.9	065°/245°	49.79NM	N'Djamena FIR (FTTT)
69. TBA	X UA403	N 18 09 32.93	E 014 49 08.98	E1.06	065°/245°	94.99NM	N'Djamena FIR (FTTT)
70. TBA	X UR778	N 18 48 28.75	E 016 20 23.03	E1.35	065°/245°	112.24NM	N'Djamena FIR (FTTT)
71. TBA	X UM214	N 19 33 30.65	E 018 09 05.52	E1.69	065°/245°	7.26NM	N'Djamena FIR (FTTT)
72. TBA	X UG655	N 19 36 23.15	E 018 16 09.41	E1.71	065°/245°	107.03M,	N'Djamena FIR (FTTT)
73. TBA	X UM215	N 20 18 36.92	E 020 01 47.54	E2.02	065°/246°	82.47NM	N'Djamena FIR (FTTT)
ALNEX	FIR	N 20 50 07.80	E021 23 03.94	E2.24	066°/246°	172.06NM	N'Djamena FIR (FTTT) / Tripoli FIR (HLLL)
74. TBA	X B21	N 21 53 46.10	E 024 14 26.81	E2.67	066°/246°	45.32NM	Tripoli FIR (HLLL)
KARUK	FIR	N 22 10 02.11	E 025 00 00.00	E2.77			Tripoli FIR (HLLL) / Cairo FIR (HECC)

Note:

- Needs to be discussed with Tripoli FIR;
- Needs to be discussed with Cairo FIR;
- FIR crossing in Khartoum depending on flow?

- FIR crossing at TONBA (for No6 & No7) to support Westbound infrastructure



10) SALWA – OTAMA – TASBA – ULABI - GIPAB
Proposed route designator UQ591; Eastbound
OPTION – TIME RTE

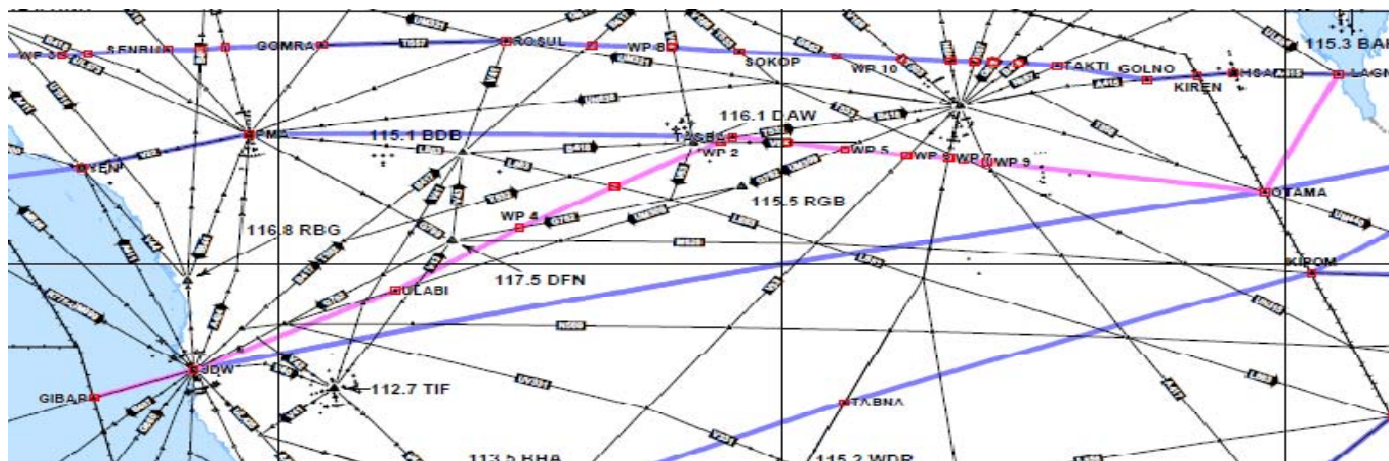
POSITION 5NLC	COMMENT	LATITUDE	LONGITUDE	VARIATION	MAGNETIC BEARING	DISTANCE IN NM	FIR
SALWA	CRP	N 25 15 38	E 050 30 48				Bahrain (OB BB)
75. TBA	x great circle between HSA and BAT	N 24 50 45.84	E 050 17 43.63	E2.27	203°/023°	27.49NM	Bahrain (OB BB)
76. TBA	x Bahrain CTA, Dammam CTA	N 24 19 21.73	E 050 01 21.58	E2.22	203°/023°	34.68NM	Bahrain (OB BB)
OTAMA	FIR	N 23 51 47	E 049 47 07		274°/093°	131.25NM	Bahrain (OB BB) / Jeddah FIR (OEJD)
AKJ		N 24 04 05.51	E 047 24 28.80		277°/096°	18.50NM	Jeddah FIR (OEJD)
RESAL		N 24 06 49	E 047 04 27		278°/097°	24.52NM	Jeddah FIR (OEJD)
77.	X G667	N 24 11 09.19	E 046 38 03.90	E2.63	277°/097°	23.89NM	Jeddah FIR (OEJD)
78. TBA	X V33	N 24 15 18.31	E 046 12 19.69	E2.69	277°/097°	36.18NM	Jeddah FIR (OEJD)
79. TBA	X G782/UM309	N 24 21 27.32	E 045 33 17.82	E2.78	277°/096°	34.63NM	Jeddah FIR (OEJD)
80. TBA	X V62	N 24 27 11.10	E 044 55 52.76	E2.86	276°/096°	23.49NM	Jeddah FIR (OEJD)
TASBA		N 24 30 59	E 044 30 28		237°/057°	7.81NM	Jeddah FIR (OEJD)
81. TBA	X V62	N 24 27 02.80	E 044 23 04.17	E2.92	237°/057°	20.56NM	Jeddah FIR (OEJD)
82. TBA	X V63	N 24 16 39.00	E 044 03 37.40	E2.93	237°/056°	43.01NM	Jeddah FIR (OEJD)
83. TBA	X L883	N 23 54 45.91	E 043 23 06.66	E2.96	236°/056°	49.53NM	Jeddah FIR (OEJD)
84. TBA	X G782	N 23 29 20.51	E 042 36 44.28	E2.99	236°/056°	23.87NM	Jeddah FIR (OEJD)
85. TBA	X M628	N 23 17 00.37	E 042 14 29.65	E3.01	236°/055°	70.32NM	Jeddah FIR (OEJD)
ULABI		N 22 40 22	E 041 09 22		238°/057°	20.02NM	Jeddah FIR (OEJD)
LADGO		N 22 30 30.26	E 040 50 31.25		240°/060°	105.00NM	Jeddah FIR (OEJD)
JDW	VOR JDW to GIBAP via UT267	N 21 42 36.65	E 039 09 47.79				Jeddah FIR (OEJD)

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GIBAP	FIR	N 35 36 59	E 054 30 55			Jeddah FIR (OEJD) / Khartoum FIR (HSSS)
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Note:

- 143AE – OPTION – TIME RTE



11) EDUKO – POT - LIPAR

Proposed route name UQ590;Bidirectional

POSITION 5NLC	COMMENT	LATITUDE	LONGITUDE	VARIATION	MAGNETIC BEARING	DISTANCE IN NM	FIR
EDUKO	New FIR; 5NLC obtained by NAMA	N 03 29 18.42	E 005 54 23.63		037°/217°	25.13NM	Accra FIR (DGAC) / Kano FIR (DNKK)
86. TBA	X UG856	N 03 50 09.51	E 006 08 34.19	W2.88	037°/217°	36.66NM	Kano FIR (DNKK)
87. TBA	X UT149	N 04 20 34.31	E 006 29 16.34	W2.67	037°/217°	19.50NM	Kano FIR (DNKK)
88. TBA	X UA601	N 04 36 44.87	E 006 40 17.83	W2.55	037°/217°	30.60NM	Kano FIR (DNKK)
POT		N 05 02 07.20	E 006 57 36.65				Kano FIR (DNKK)
LIPAR		N 06 02 42.21	E 007 24 26.04				Kano FIR (DNKK)

Notes:

- NAMA rejected APAPA and replaced it with EDUKO; GCAA agreed

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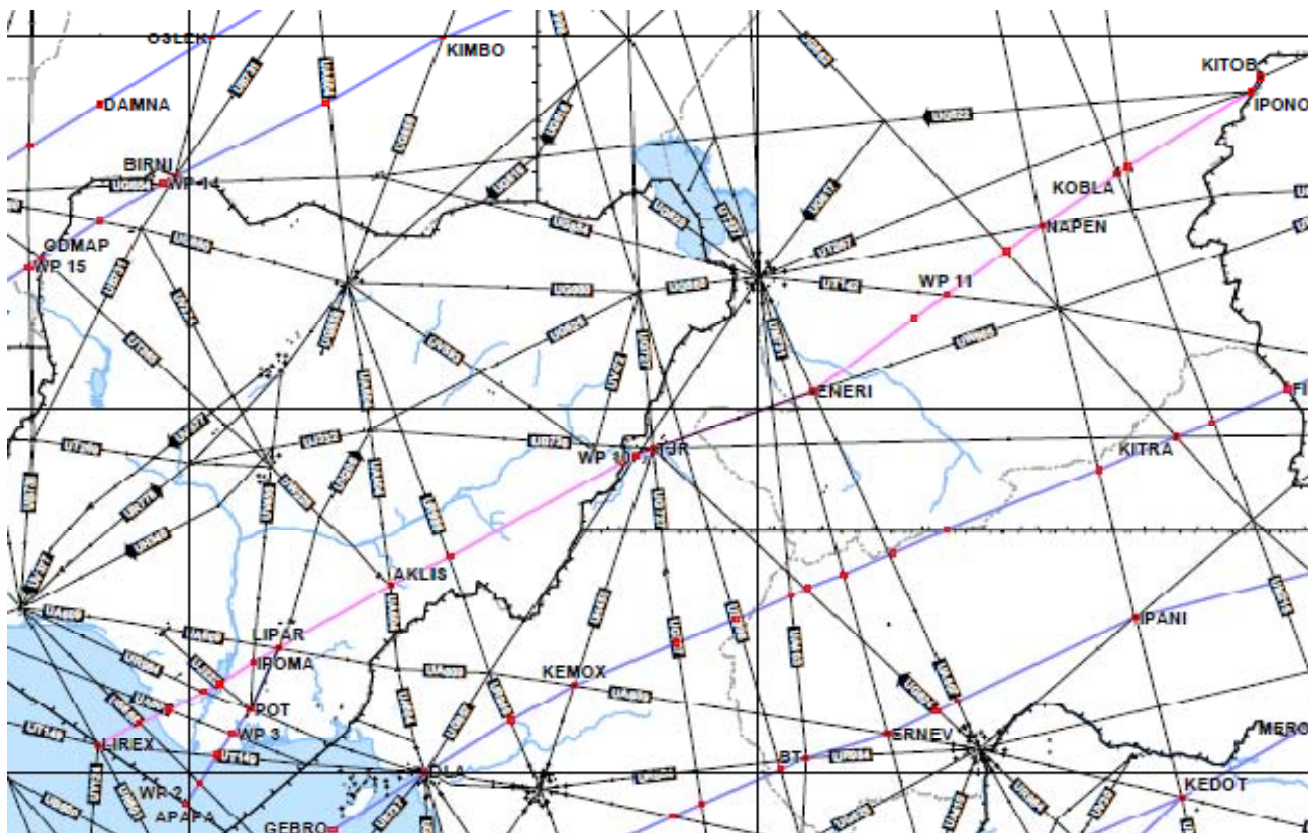


10) LIREX – IPONO
Proposed route designator UQ589; Bidirectional

POSITION SNLC	COMMENT	LATITUDE	LONGITUDE	VARIATION	MAGNETIC BEARING	DISTANCE IN NM	FIR
LIREX	FIR	N 04 26 14.46	E 004 32 57.23				Accra FIR (DGAC) / Kano FIR (DNKK)
89. TBA	X UG856						Kano FIR (DNKK)
90. TBA	X UA601						Kano FIR (DNKK)
POSAD	X UR984	N 05 20 38.20	E 006 10 39.30				Kano FIR (DNKK)
ENBRO	X UJ222	N 05 30 30.46	E 006 25 56.25				Kano FIR (DNKK)
IPOMA	X UV456	N 05 48 38.000	E 007 00 03.400				Kano FIR (DNKK)
LIPAR	X H206; X V717; X A609	N 06 02 42.218	E 007 24 26.046				Kano FIR (DNKK)
ERATO		N 06 34 05.01	E 008 05 43.58				Kano FIR (DNKK)
GBK	VOR						Kano FIR (DNKK)
ETNIS	X UB736	N 07 47 39.95	E 009 59 31.77				Kano FIR (DNKK)
ETRIS	X UG857	N 09 22 00.90	E 012 54 57.70				Kano FIR (DNKK)/ N'Djamena FIR (FTTT)
TJR	VOR UW605	N 09 20 03.7	E 013 20 40.4		070°/250°	161.03NM	N'Djamena FIR (FTTT)
ENERI	UW605	N 10 16 03	E 015 53 42		052°/232°	119.51NM	N'Djamena FIR (FTTT)
91. TBA	UTA limit	N 11 29 03.88	E 017 3006.98	E0.85	052°/232°	35.07NM	N'Djamena FIR (FTTT)
92. TBA	X UT142	N 11 50 23.66	E 017 58 33.89	E0.97	052°/232°	71.51NM	N'Djamena FIR (FTTT)
93. TBA	X UG862	N 12 33 44.00	E 018 56 48.03	E1.21	052°/232°	41.47NM	N'Djamena FIR (FTTT)
NAPEN		N 12 58 46	E 019 30 43		054°/234°	86.25	N'Djamena FIR (FTTT)
KOBLA		N 13 48 03	E 020 43 29		050°/230°	11.14NM	N'Djamena FIR (FTTT)
94. TBA	X UM215	N 13 55 02.43	E 020 52 25.56	E1.65	050°/230°		N'Djamena FIR (FTTT)
IPONO	FIR then via	N 15 06 21	E 022 24 36				N'Djamena FIR (FTTT) / Khartoum (HSSS)

Note:

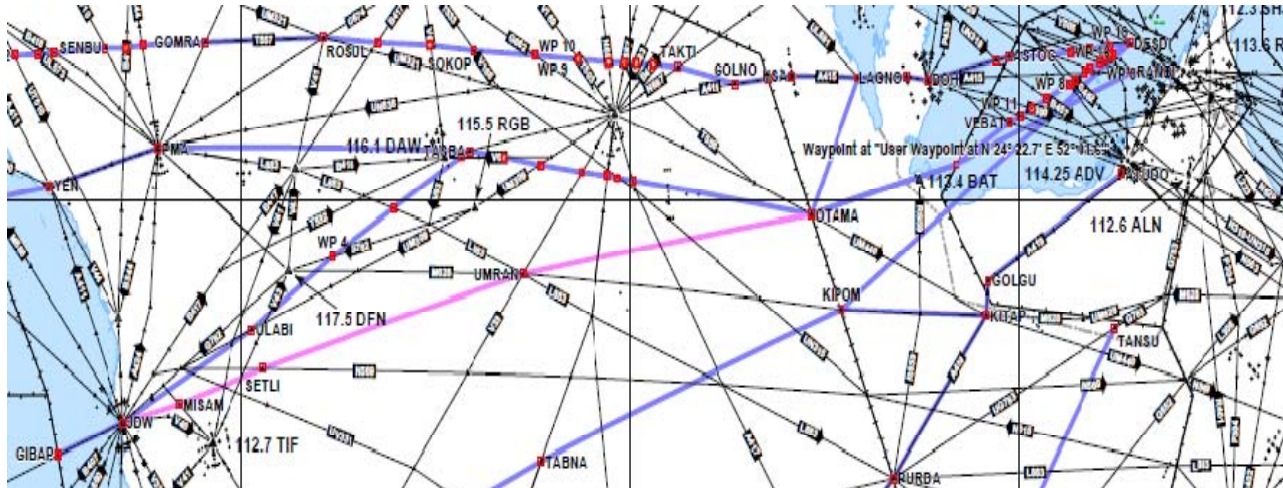
- NAMA revised routing within their airspace on 09 March 2011, therefore coordinates were calculated by NAMA and no time was available for verification of calculation by Jeppesen



- 11) JDW - OTAMA
 11a) JDW - UMRAN OTAMA
 Proposed route designator **UQ588**; Eastbound
 Time restriction

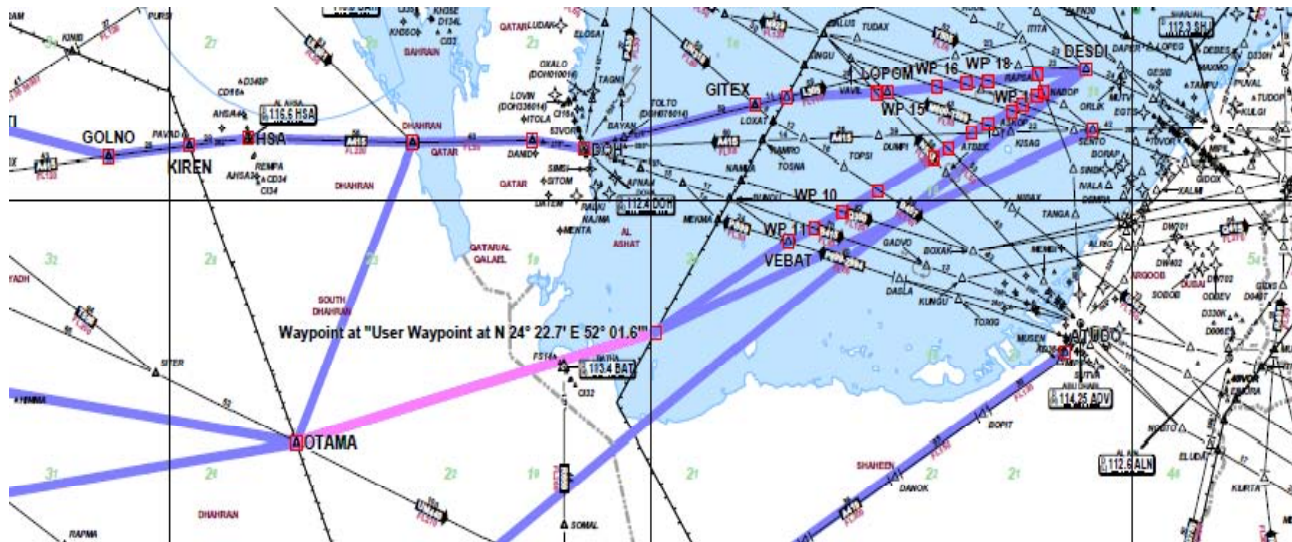
POSITION 5NLC	COMMENT	LATITUDE	LONGITUDE	VARIATION	MAGNETIC BEARING	DISTANCE IN NM	FIR
JDW	VOR	N 21 42 36.654	E 039 09 47.798		073°/254°	49.48NM	Jeddah (OEJD)
MISAM	CRP	N 21 54 15	E 040 01 53		070°/250°	38.67NM	Jeddah (OEJD)
95. TBA	X UV331	N 22 05 34.68	E 040 41 41.32	E3.03	070°/250°	17.38NM	Jeddah (OEJD)
96. TBA	X V43	N 22 10 37.03	E 040 59 36.98	E3.01	070°/250°	19.16NM	Jeddah (OEJD)
SETLI	CRP	N 22 16 08	E 041 19 24		072°/254°	230.35NM	Jeddah (OEJD)
UMRAN	CRP	N 23 15 08	E 045 20 23		078°/258°	64.90NM	Jeddah (OEJD)
97. TBA	X UG667	N 23 25 28.35	E 046 30 00.28	E2.55	078°/259°	53.17NM	Jeddah (OEJD)
98. TBA	X A417	N 23 33 33.41	E 047 27 10.61	E2.45	079°/259°	26.36NM	Jeddah (OEJD)
99. TBA	X UN315	N 23 37 26.06	E 047 55 33.62	E2.39	079°/260°	103.35NM	Jeddah (OEJD)
OTAMA	CRP	N 23 51 48	E 049 47 07				Jeddah (OEJD) / Bahrain Fir (OBBB)

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11b) OTAMA – *KARIN (N2422E05201)*
 Proposed route designator UQ587; Bidirectional

POSITION 5NLC	COMMENT	LATITUDE	LONGITUDE	VARIATION	MAGNETIC BEARING	DISTANCE IN NM	FIR
OTAMA	FIR	N 23 51 48	E 049 47 07		074°/254°	126.82NM	Jeddah (OEJD) / Bahrain Fir (OBBB)
<i>KARIN</i>	FIR	N 24 22.7	E 052 01.6	E1.98			Bahrain Fir (OBBB) / Emirates FIR(OMAE)



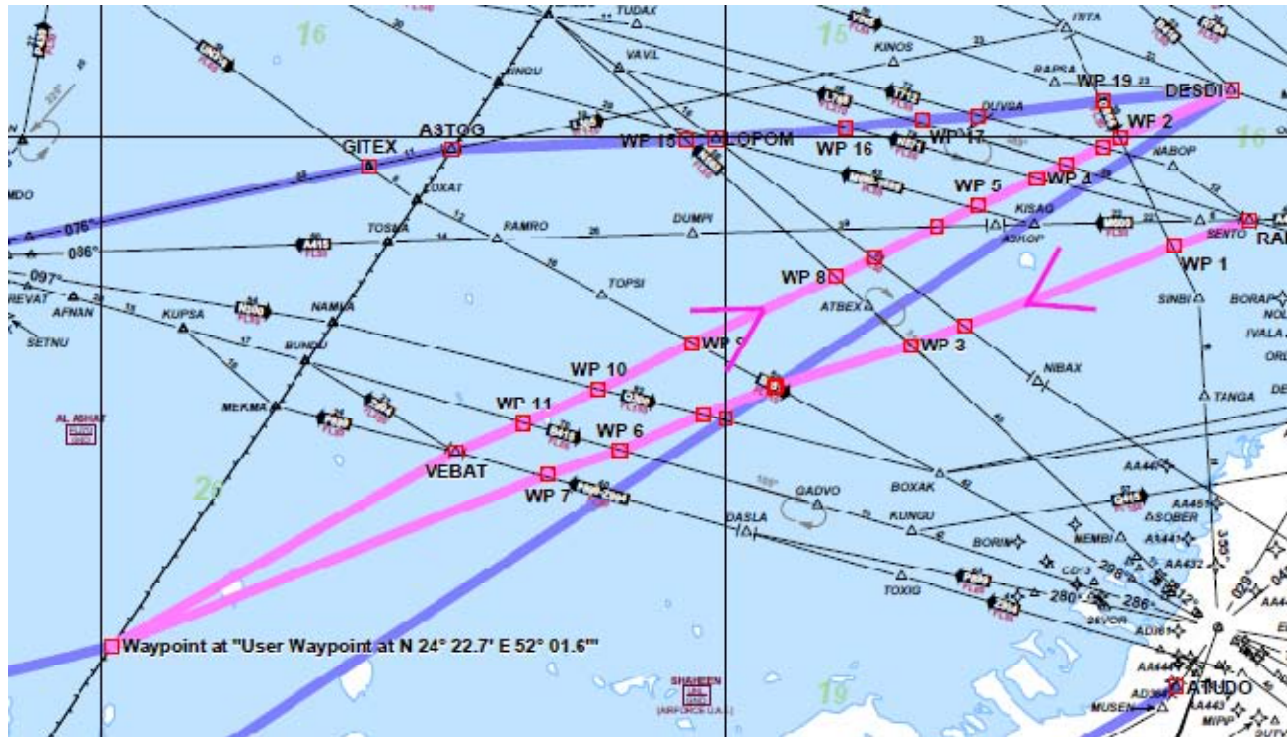
11c) *KARIN (N2422E05201)* – DESDI
Proposed route designator UQ586; Eastbound

POSITION 5NLC	COMMENT	LATITUDE	LONGITUDE	VARIATION	MAGNETIC BEARING	DISTANCE IN NM	FIR
<i>KARIN</i>	FIR	N 24 22.7	E 052 01.6	E1.98	058°/238°	51.85NM	Bahrain Fir (OBBB) / Emirates FIR(OMAE)
VEBAT		N 24 48 30	E 052 51 00		057°/237°	8.35NM	Emirates FIR(OMAE)
	X B415	N 24 52 48.26	E 052 58 52.87	E 1.94	057°/237°	9.58NM	Emirates FIR(OMAE)
KIPOD		N 24 57 44	E 053 07 56		063°/243°	14.90NM	Emirates FIR(OMAE)
NAGRA		N 25 04 07	E 053 22 46		064°/244°	9.25NM	Emirates FIR(OMAE)
<i>100.TBA</i>	XN318	N 25 07 53.83	E 053 32 04.64	E1.91	064°/244°	12.02NM	Emirates FIR(OMAE)
<i>101.TBA</i>	XN563	N 25 12 47.62	E 053 44 11.20	E1.9	064°/244°	5.46NM	Emirates FIR(OMAE)
<i>102.TBA</i>	XG462	N 25 15 00.82	E 053 49 41.74	E1.9	064°/244°	7.90NM	Emirates FIR(OMAE)
<i>103.TBA</i>	XA415	N 25 18 12.76	E 053 57 39.89	E1.89	064°/244°	6.73NM	Emirates FIR(OMAE)
<i>104.TBA</i>	XM600; T599	N 25 20 56.12	E 054 04 27.43	E1.89	064°/244°	9.60NM	Emirates FIR(OMAE)
<i>105.TBA</i>	XN571	N 25 24 48.72	E 054 14 09.59	E1.88	064°/244°	3.97NM	Emirates FIR(OMAE)
<i>106.TBA</i>	XL768	N 25 26 24.64	E 054 18 10.31	E1.87	064°/244°	5.54NM	Emirates FIR(OMAE)
<i>107.TBA</i>	XT712	N 25 28 38.36	E 054 23 46.53	E1.87	064°/244°	2.63NM	Emirates FIR(OMAE)
<i>108.TBA</i>	X G666	N 25 29 41.84	E 054 26 26.41	E1.87	064°/245°	15.85NM	Emirates FIR(OMAE)
DESDI	NRP	N 25 36 03	E 054 42 30				Emirates FIR(OMAE)

11d) RANBI - *KARIN (N2422E05201*
Proposed route designator UQ585; Westbound

POSITION 5NLC	COMMENT	LATITUDE	LONGITUDE	VARIATION	MAGNETIC BEARING	DISTANCE IN NM	FIR
RANBI		N 25 19 08	E 054 45 00		245°/065°	10.52NM	Emirates FIR(OMAE)
109.TBA	X G666	N 25 14 59.52	E 054 34 19.31	E1.81	245°/065°	28.11NM	Emirates FIR(OMAE)
110.TBA	X G462	N 25 03 52.01	E 054 05 51.49	E1.83	245°/065°	7.44NM	Emirates FIR(OMAE)
111.TBA	X N563	N 25 00 54.49	E 053 58 20.50	E1.84	245°/065°	5.92NM	Emirates FIR(OMAE)
XAKUM		N 24 58 33	E 053 52 22		249°/069°	10.61NM	Emirates FIR(OMAE)
112.TBA	X N685	N 24 55 03.47	E 053 41 20.44	E1.86	249°/069°	8.75NM	Emirates FIR(OMAE)
113.TBA	X N300	N 24 52 10.00	E 053 32 15.18	E1.87	249°/069°	13.23NM	Emirates FIR(OMAE)
114.TBA	X B415	N 24 47 46.63	E 053 18 31.40	E1.88	249°/069°	10.53NM	Emirates FIR(OMAE)
115.TBA	C P899; X994	N 24 44 16.13	E 053 07 36.50	E1.9	249°/068°	63.90NM	Emirates FIR(OMAE)
<i>KARIN</i>	FIR	N 24 22.7	E 052 01.6	E1.98			Emirates FIR(OMAE) / Bahrain Fir (OBBB)

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12) EBULI – OBD – KTM – TOKAR – *TBA (N1842E03919)*

Proposed route designator UQ584; Bidirectional

POSITION 5NLC	COMMENT	LATITUDE	LONGITUDE	VARIATION	MAGNETIC BEARING	DISTANCE IN NM	FIR
EBULI		N 02 00 38	E 006 35 00		062°/242°	58.85NM	Sao Tome TMA
<i>MURIM</i>	X UG856 Sao Tome TMA / - Libreville UTA	N 02 31 26.52	E 007 25 11.01		062°/241°	59.74NM	Sao Tome TMA / Brazzaville FIR (FCCA)
<i>GEBRO</i>	Libreville UTA/Douala UTA	N 03 02 41	E 008 16 10		060°/239°	105.03NM	Brazzaville FIR (FCCA)
DLA	VOR	N 03 59 38.1	E 009 44 36.5		061°/241°	94.88NM	Brazzaville FIR (FCCA)
EPASI	X UR986	N 04 48 23.6	E 011 06 14.0		059°/239°	70.13NM	Brazzaville FIR (FCCA)
KEMOX		N 05 25 53	E 012 05 45		067°/247°	106.45NM	Brazzaville FIR (FCCA)
<i>116.TBA</i>	X UG727	N 06 09 01.24	E 013 43 29.12	W0.59	067°/247°	60.75NM	Brazzaville FIR (FCCA)
	X UM998	N 06 33 30.64	E 014 39 22.75	W0.32	067°/247°	57.00NM	Brazzaville FIR (FCCA)
<i>117.TBA</i>	X UA403	N 06 56 23.10	E 015 31 53.87	W0.08	067°/247°	15.03NM	Brazzaville FIR (FCCA)
<i>118.TBA</i>	X UG624	N 07 02 24.09	E 015 45 45.64	W0.02	067°/247°	38.69NM	Brazzaville FIR (FCCA)
<i>119.TBA</i>	X UM731	N 07 17 51.38	E 016 21 28.24	E0.14	067°/246°	47.51NM	Brazzaville FIR (FCCA)
<i>120.TBA</i>	X UA607	N 07 36 46.39	E 017 05 23.17	E0.33	066°/246°	58.62NM	Brazzaville FIR (FCCA)
<i>NASED</i>	FIR	N 08 00 00.00	E 017 59 39.73	E0.56	066°/246°	235.65NM	Brazzaville FIR (FCCA) / N'Djamena Fir (FTTT)
KITRA		N 09 32 09	E 021 38 54		065°/245°	38.58NM	N'Djamena FIR (FTTT)
<i>121.TBA</i>	X UM215/UG655	N 09 47 41.89	E 022 14 40.97	E1.50	065°/245°	76.11NM	N'Djamena FIR (FTTT)
<i>KISAL</i>	FIR	N 10 18 11.05	E 023 25 26.26	E1.73	065°/245°	72.28NM	N'Djamena FIR (FTTT) / Khartoum FIR (HSSS)
<i>122.TBA</i>	X UT142	N 10 46 53.76	E 024 32 50.49	E1.93	065°/246°	361.81NM	Khartoum FIR (HSSS)
OBD	VOR	N 13 06 40.52	E 030 13 35.27				Khartoum FIR (HSSS)

	UA410/UG660						
KTM		N 15 33 57.92	E 032 33 12.15		062°/240°	136.71NM	Khartoum FIR (HSSS)
123.TBA	X UT124	N 16 36 34.58	E 034 39 34.43	E2.94	060°/241°	201.37NM	Khartoum FIR (HSSS)
TOKAR	FIR	N 18 06 24.00	E 037 48 12.00		065°/245°	26.45NM	Khartoum FIR (HSSS) / Asmara (HHAA)
124.TBA	X UV790	N 18 16 38.28	E 038 14 03.67	E2.91	065°/245°	26.14NM	Asmara (HHAA)
125.TBA	X UB413	N 18 26 37.37	E 038 39 28.57	E2.89	065°/245°	22.81NM	Asmara (HHAA)
126.TBA	X UG650	N 18 35 17.32	E 039 01 41.50	E2.87	065°/245°	17.74NM	Asmara (HHAA)
OTEMA	FIR	N 18 42 00.00	E 039 19 00.00	E2.86			Asmara (HHAA) / Jeddah (OEJD)

Note:

Sao Tome needs to confirm agreement

12a) N18 42; E039 19 - TABNA – TABNA – KIPOM – DESDI

Proposed route designator N/A;

Note: This route has been initially agreed as Eastbound, however it has been deleted afterwards and decided to discuss it separately

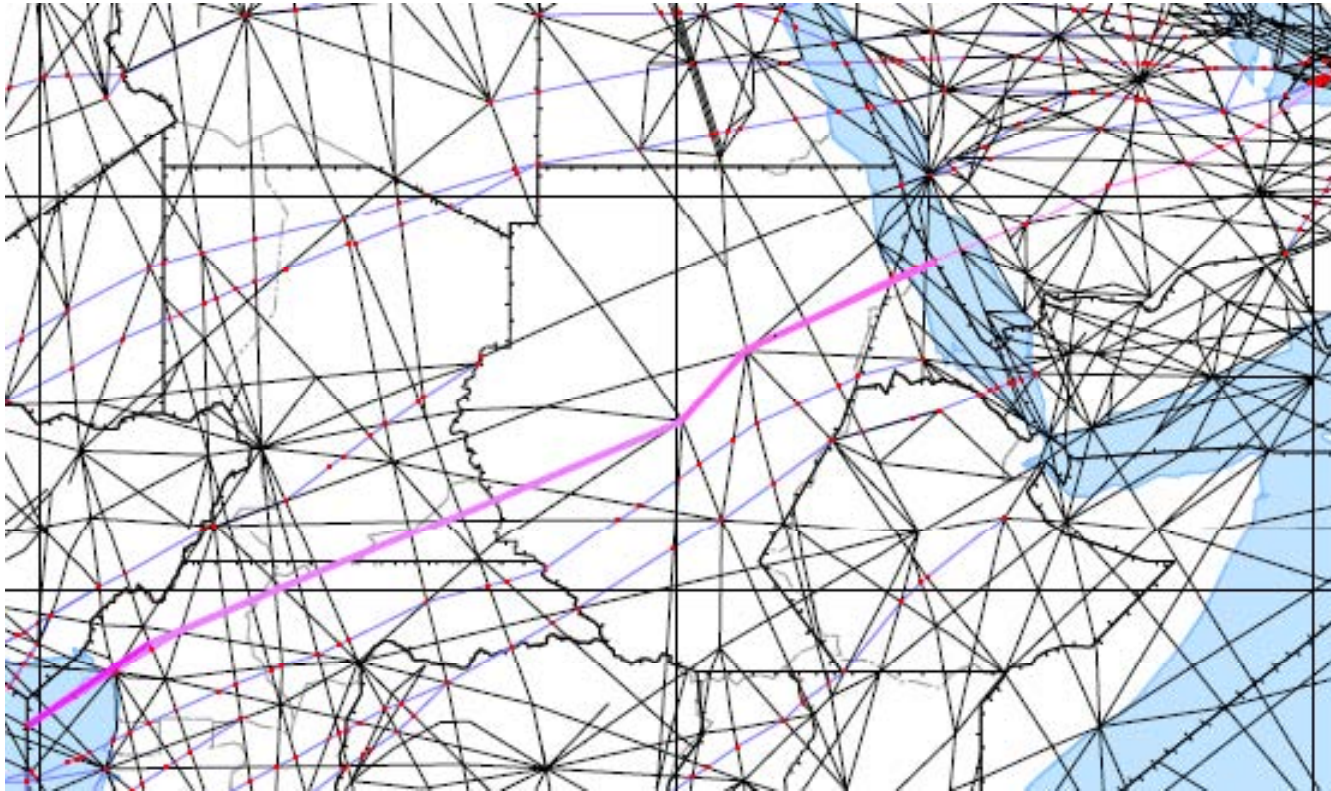
POSITION 5NLC	COMMENT	LATITUDE	LONGITUDE	VARIATION	MAGNETIC BEARING	DISTANCE IN NM	FIR
DESDI	CRP	N 25 36 03	E 054 42 30	E1.85	234°/054°	31.03NM	Emirates FIR (OMAE)
	XG666/T712						Emirates FIR (OMAE)
	XL768						Emirates FIR (OMAE)
	XN571						Emirates FIR (OMAE)
KISAG	NRP	N 25 18 34	E 054 14 08	E1.86	241°/061°	24.19NM	Emirates FIR (OMAE)
	XG462						Emirates FIR (OMAE)
ATBEX	NRP	N 25 07 39	E 053 50 19	E1.87	234°/054°	16.90NM	Emirates FIR (OMAE)
KAPUM	X B457	N 24 58 15	E 053 34 50	E1.88	234°/053°	113.24NM	Emirates FIR (OMAE)
	X Q300 & NEW 11D						Emirates FIR (OMAE)

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	X B415						Emirates FIR (OMAE)
	X P899; Z994						Emirates FIR (OMAE)
	FIR	N 23 53 09.62	E 051 53 08.28	E1.92	235°/054°	108.00NM	Emirates FIR (OMAE) / Jeddah (OEJD)
	X R659						Jeddah (OEJD)
	XUM440						Jeddah (OEJD)
KIPOM	CRP	N 22 53 16	E 050 15 18	E1.99	244°/063°	111.76NM	Jeddah (OEJD)
	X UN315						Jeddah (OEJD)
ALRIK	CRP	N 22 06 31.365	E 048 25 35.238	E2.13	252°/070°	164.16NM	Jeddah (OEJD)
	X T530						Jeddah (OEJD)
TABNA	CRP	N 21 18 42.3	E 045 36 52.6	E2.41	243°/062°	186.19NM	Jeddah (OEJD)
	XV331						Jeddah (OEJD)
BSH	VOR	N 19 58 39.613	E 042 37 28.373	E2.00	246°/064°	94.97NM	Jeddah (OEJD)
QUN	VOR	N 19 22 11.3	E 041 04 29.4	E3.00	247°/067°	48.73NM	Jeddah (OEJD)
ABKAR	CRP	N 19 05 11	E 040 16 12	E2.81	244°/064°	58.95NM	Jeddah (OEJD)
186. TBA	FIR	N 18 42	E 039 19	E2.86			Jeddah (OEJD) / Asmara (HHAA)

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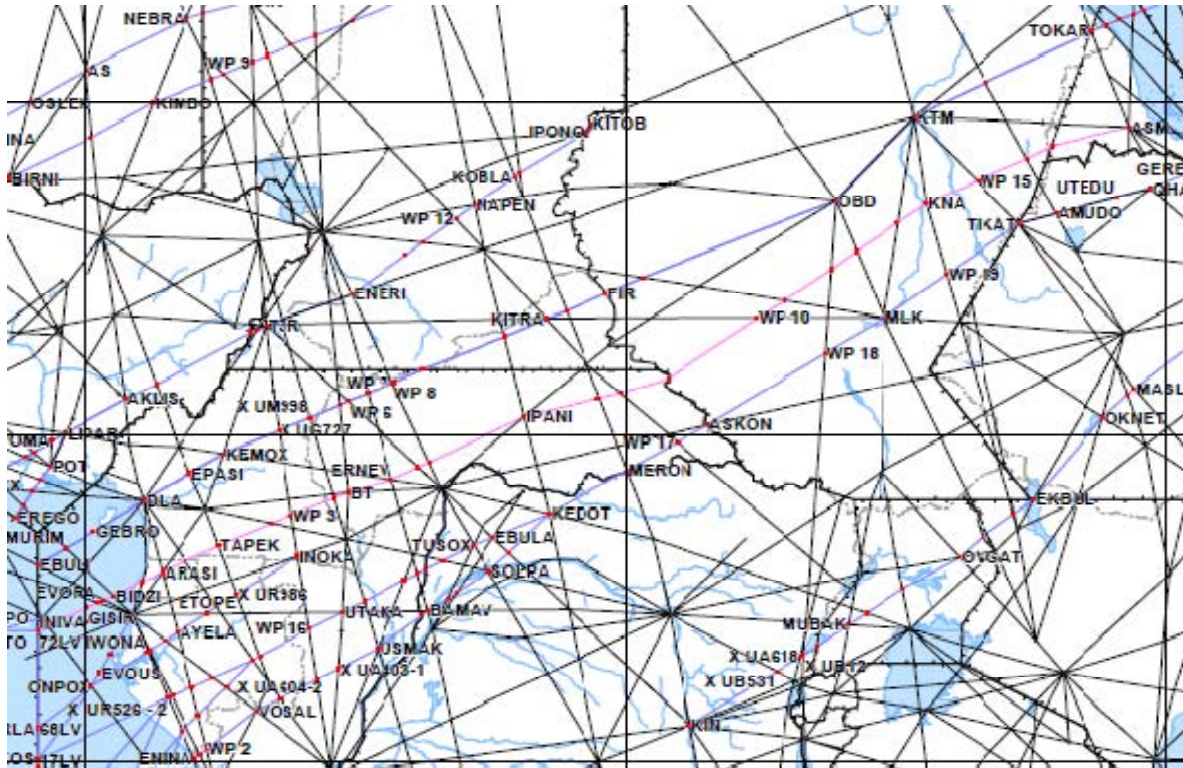
13) STM – IPANI – *KITEK (N0555e02506)* – KNA – ASM
Proposed route designator UQ583; Bidirectional

POSITION SNLC	COMMENT	LATITUDE	LONGITUDE	VARIATION	MAGNETIC BEARING	DISTANCE IN NM	FIR
STM		N 00 22 42.41	E 006 43 01.41		071°/250°	89.21NM	Sao Tome TMA
GULEP	Sao Tome TMA/ Libreville UTA	N 00 57 44	E 008 05 00		072°/252°	16.41NM	Sao Tome TMA / Brazzaville FIR (Brazzaville FCCC)
<i>NKEDE</i>	X UB600	N 01 03 34.94	E 008 20 19.25	W2.98	072°/252°	23.53NM	Brazzaville FIR (FCCC)
<i>BIDZI</i>	X UG856	N 01 11 57.92	E 008 42 17.21	W2.84	072°/252°	64.70NM	Brazzaville FIR (FCCC)
KINDA		N 01 35 00	E 009 42 42		072°/251°	36.39NM	Brazzaville FIR (FCCC)
ARASI	Libreville UTA / Duala UTA	N 01 48 02	E 010 16 39		067°/247°	45.86NM	Brazzaville FIR (FCCC)
<i>127.TBA</i>	X UA604	N 02 07 52.22	E 010 58 00.00	W2.00	067°/247°	65.50NM	Brazzaville FIR (FCCC)
TAPEK		N 02 36 10	E 011 57 05		069°/248°	104.61NM	Brazzaville FIR (FCCC)
<i>128.TBA</i>	X UA610	N 03 17 10.68	E 013 33 21.41	W1.11	068°/248°	36.43NM	Brazzaville FIR (FCCC)
<i>129.TBA</i>	X UG727	N 03 31 25.60	E 014 06 55.00	W0.93	068°/248°	81.42NM	Brazzaville FIR (FCCC)
<i>130.TBA</i>	X UM998	N 04 03 11.58	E 015 21 58.62	W0.55	068°/248°	27.15NM	Brazzaville FIR (FCCC)
BT		N 04 33 02	E 013 43 02		074°/253°	80.72NM	Brazzaville FIR (FCCC)
ERNEV		N 04 37 12	E 017 04 24		064°/244°	53.06NM	Brazzaville FIR (FCCC)
<i>131.TBA</i>	X UG624	N 05 00 49.73	E 017 52 02.84	E0.15	064°/244°	20.63NM	Brazzaville FIR (FCCC)
<i>132.TBA</i>	X UA607	N 05 09 59.92	E 018 10 35.05	E0.24	064°/243°	188.01NM	Brazzaville FIR (FCCC)
IPANI		N 06 33 08	E 021 00 00	▲	070°/250°	137.04NM	Brazzaville FIR (FCCC)
<i>133.TBA</i>	X UG655/UM215	N 07 16 57.08	E 023 10 37.92	E1.41	070°/250°	30.63NM	Brazzaville FIR (FCCC)
<i>134.TBA</i>	X UG862	N 07 26 39.67	E 023 39 53.16	E1.50	070°/250°	90.99NM	Brazzaville FIR (FCCC)
<i>KITEK</i>	FIR	N 07 55 18.67	E 025 06 54.83	E1.75	054°/234°	177.07NM	Brazzaville FIR (FCCC) / Khartoum FIR (HSSR)
<i>135.TBA</i>	X UB736	N 09 34 45.94	E 027 35 11.15	E2.17	054°/234°	59.92NM	Khartoum FIR (HSSR)

136.TBA	X UT142	N 10 08 11.28	E 028 25 40.47	E2.29	054°/234°	118.27NM	Khartoum FIR (HSSR)
137.TBA	X UB607	N 11 13 46.06	E 030 05 51.23	E2.48	054°/234°	49.78NM	Khartoum FIR (HSSR)
138.TBA	X UB612	N 11 41 12.10	E 030 48 14.30	E2.55	054°/234°	90.18NM	Khartoum FIR (HSSR)
139.TBA	X UB527	N 12 30 37.88	E 032 05 22.93	E2.65	054°/235°	56.99NM	Khartoum FIR (HSSR)
KNA		N 13 01 40.72	E 032 54 23.19		066°/246°	97,71NM	Khartoum FIR (HSSR)
140.TBA	X UR611	N 13 37 32.48	E 034 27 40.67	E2.73	066°/246°	93.29NM	Khartoum FIR (HSSR)
141.TBA	X UT124	N 14 11 13.96	E 035 57 10.85	E2.72	066°/246°	33.36NM	Khartoum FIR (HSSR)
DASNO	FIR	N 14 23 08.67	E 036 29 17.37	E2.71	066°/247°	150.20NM	Khartoum FIR (HSSR) / Asmara
ASM		N 15 17 06	E 038 54 06				

Note:

- Initially calculated from 72LV, however this proposition was not acceptable to Sao Tome, option STM ARASI proposed to Sao Tome and Libreville ATC
 - o Sao Tome needs to confirm agreement
 - o Libreville ACC agreed with revision
- Coordinate changes of 5NLCs with ICAO WSAF and LV ACC
 - o GISIR and EVORA to be realised as existing 5NLC is now used instead for TMA limit and crossing with UR797
 - o OBOTA to be realised as existing 5NLC is now used
 - o Revise coordinates for GISIR; EVORA; NKEDE; BIDZI and OBOTA

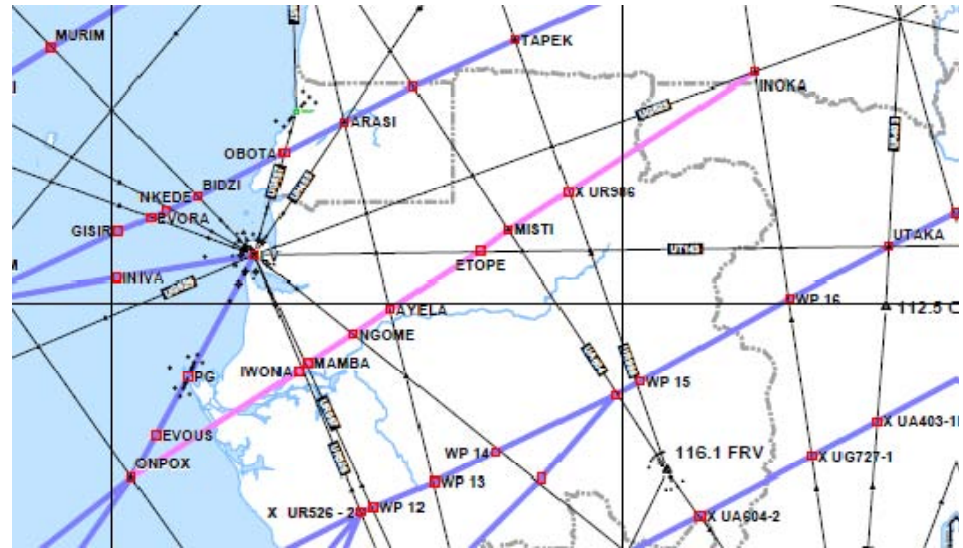


14) ONPOX - MISTI – - INOKA
Proposed route designator UQ582; Bidirectional

POSITION 5NLC	COMMENT	LATITUDE	LONGITUDE	VARIATION	MAGNETIC BEARING	DISTANCE IN NM	FIR
ONPOX		S 01 43 12.00	E 008 11 48.00		060°/240°	119.20NM	Brazzaville FCCC
<i>IWONA</i>	X UR526	S 00 37 16.98	E 009 51 10.50		060°/240°	3.12NM	
<i>MAMBA</i>	X UR987	S 00 35 33.52	E 009 53 46.36		060°/240°	32.91NM	
<i>NGOME</i>	X UG 856	S 00 17 21.22	E 010 21 11.72		059°/239°	26.77NM	
<i>AYELA</i>	X UG861	S 00 02 32.71	E 010 43 29.96		059°/239°	59.82NM	
<i>ETOPE</i>	X UT143	N 00 30 33.00	E 011 33 20.86		059°/239°	23.74NM	
MISTI	UTA boundary	N 00 43 41	E 011 53 08		059°/239°	42.13NM	
142.TBA	X UR986	N 01 06 34.18	E 012 28 31.03	W1.83	059°/238°	130.15NM	
INOKA		N 02 17 13	E 014 17 54				

Note: Brazzaville FIR will accept ICAO FPL filed 15 ad direct (DCT) segment as follows:

- a) ONPOX DCT GARLA
- b) ONPOX DCT ARKOS



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- 15) SAVON - UTAKA - TUSOX - KEDOT - MERON – ASKON – MLK – TIKAT – AMUNDO – GEREK – HDT – A419
Proposed route designator UT419; Bidirectional

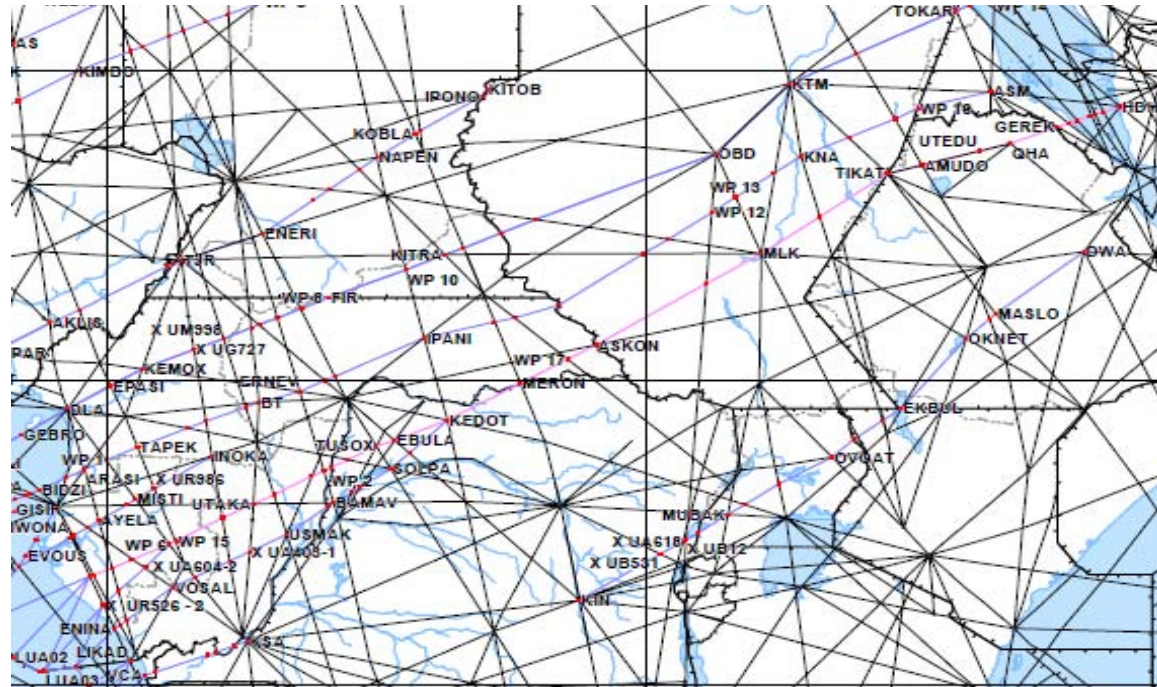
POSITION 5NLC	COMMENT	LATITUDE	LONGITUDE	VARIATION	MAGNETIC BEARING	DISTANCE IN NM	FIR
SAVON	X UR526	S 02 03 28.14	E 010 26 29.45	W3.23	067°/247°	7.19NM	Brazzaville FIR (FCCC)
143.TBA	X UR987	S 02 00 13.41	E 010 32 54.38	W3.18	067°/246°	39.08NM	Brazzaville FIR (FCCC)
144.TBA	X UG861	S 01 42 34.46	E 011 07 46.51	W2.91	066°/246°	40.57NM	Brazzaville FIR (FCCC)
145.TBA	X UG856	S 01 24 14.51	E 011 43 57.62	W2.65	066°/245°	78.21NM	Brazzaville FIR (FCCC)
146.TBA Same as route No 16	X UA604	S 00 48 52.43	E 012 53 41.84	W2.15	065°/245°	14.56NM	Brazzaville FIR (FCCC)
147.TBA	X UR986	S 00 42 17.13	E 013 06 40.78	W2.07	065°/245°	101.99NM	Brazzaville FIR (FCCC)
148.TBA	X UG727	S 00 03 51.99	E 014 37 35.35	W1.47	065°/244	66.02NM	Brazzaville FIR (FCCC)
UTAKA		N00 33 44.50	E 015 36 26.10		062°/242°	44.03NM	Brazzaville FIR (FCCC)
149.TBA	X UM998	N 00 55 16.63	E 016 14 49.68	0.88W	062°/241°	84.68NM	Brazzaville FIR (FCCC)
150.TBA	X UA410	N 01 36 40.55	E 017 28 41.75	0.46W	061°/241°	23.51NM	Brazzaville FIR (FCCC)
151.TBA	X UM731	N 01 48 09.66	E 017 49 12.55	0.34W	061°/241°	18.50NM	Brazzaville FIR (FCCC)
AGTOM	FIR	N 01 57 11.96	E 018 05 21.62	0.26W	061°/241°	27.65NM	Brazzaville FIR (FCCC) / Kinshasa FIR (FZZA)
NENTU	X UA610	N 02 10 42.00	E 018 29 30.00		065°/245	66.16NM	Kinshasa FIR (FZZA)
TUSOX		N 02 38 36.000	E 019 29 30.000		070°/250°	37.01NM	Kinshasa FIR (FZZA)
EBULA		N 02 51 12.000	E 020 04 18.000		066°/246°	11.88NM	Kinshasa FIR (FZZA)
ENBAK	X ATS GEM - LISALA	N 02 55 59.00	E 020 15 10.95	E0.42	066°/246°	97.35NM	Kinshasa FIR (FZZA)
KEDOT		N 03 35 06.000	E 021 44 24.000		059°/239°	159.41NM	Kinshasa FIR (FZZA)
MERON		N 04 55 00.000	E 024 02 42.000		059°/238°	102.95NM	Kinshasa FIR (FZZA) / Brazzaville FIR (FCCC)

152.TBA	X UG862	N 05 46 49.93	E 025 32 01.11	E1.58	058°/238°	61.62NM	Brazzaville FIR (FCCC)
ASKON	FIR	N 06 17 44.81	E 026 25 36.56		056°/236°	245.65NM	Brazzaville FIR (FCCC) / Khartoum FIR (HSSR)
153.TBA	X UB600	N 08 29 20.05	E 029 54 48.57	E2.24	056°/237°	121.59NM	Khartoum FIR (HSSR)
MLK		N 09 33 47.50	E 031 39 11.63		052°/232°	135.23NM	Khartoum FIR (HSSR)
154.TBA	X UA727	N 10 53 44.74	E 033 30 05.41	E2.52	052°/232°	154.77NM	Khartoum FIR (HSSR)
TIKAT	W19	N 12 24 24.60	E 035 38 13.60		W19	W19	Khartoum FIR (HSSR) / Addis (HAAR)
AMUDO Not part of W19!	W19	N 12 42 42.81	E 036 43 30.62				Addis (HAAR)
UTEDU	W19	N 13 12 26.99	E 038 32 02.16		W19	W19	Addis (HAAR)
QHA	VOR	N 13 28 21.980	E 039 31 29.093		066°/246°	92.90NM	Addis (HAAR)
GEREK	FIR	N 14 03 18	E 041 00 00		067°/247°	22.27NM	Addis (HAAR) / Asmara (HHAA)
155.TBA	X W180	N 14 11 08.99	E 041 21 27.76	E2.23	067°/247°	17.19NM	Asmara FIR (HHAA)
156.TBA	X UV790	N 14 17 11.14	E 041 38 02.54	E2.21	067°/247°	28.20NM	Asmara FIR (HHAA)
157.TBA	X UR775	N 14 27 02.76	E 042 05 16.44	E2.17	067°/247°	7.16NM	Asmara FIR (HHAA)
SOKEK	FIR	N 14 29 32.45	E 042 12 11.63	E2.16	067°/247°	48.54NM	Asmara FIR (HHAA) / Sanna FIR (OYSC)
HDH	VOR	N 14 46 22.10	E 042 59 11.10				Sanna FIR (OYSC)

Note:

- Brazzaville FIR will accept ICAO FPL filed 15 ad direct (DCT) segment as follows:
 - a) SAVON DCT ARKOS
 - b) SAVON DCT EKBOB
 - c) SAVON DCT NERUP
- Needs to be coordinated with Addis FIR
- Needs to be coordinated with Asmara FIR
- Needs to be coordinated with Sanna FIR

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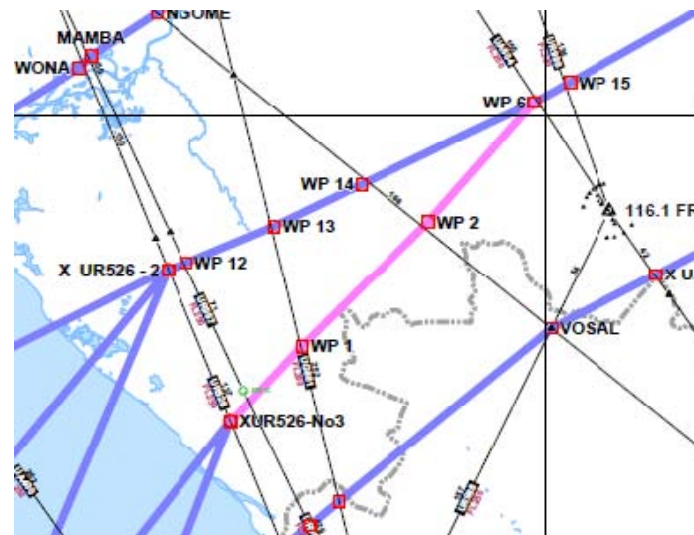
- 16) POLAR - UTAKA - TUSOX - KEDOT - MERON – ASKON – MLK – TIKAT – AMUNDO – GEREK – HDT – A419
 Proposed route designator UQ581; Bidirectional

POSITION 5NLC	COMMENT	LATITUDE	LONGITUDE	VARIATION	MAGNETIC BEARING	DISTANCE IN NM	FIR
POLAR	X UR526	S 03 05 44.98	E 010 52 03.57	W3.40	045°/225°	11.68NM	Brazzaville FIR (FCCC)
158.TBA	X UR987	S 02 57 00.07	E 010 59 51.01	W3.31	045°/225°	30.65NM	Brazzaville FIR (FCCC)
159.TBA	X UG861	S 02 34 02.88	E 011 20 16.64	W3.09	045°/224°	69.11NM	Brazzaville FIR (FCCC)
160.TBA	X UG856	S 01 42 16.54	E 012 06 17.59	W2.61	044°/224°	71.26NM	Brazzaville FIR (FCCC)
148. TBA Same as route No 15	X UA604	S 00 48 52.43	E 012 53 41.84	W2.15			Brazzaville FIR (FCCC)

Note:

- Brazzaville FIR will accept ICAO FPL filed 15 ad direct (DCT) segment as follows:
 - a) POLAR DCT NERUP
 - b) POLAR DCT TIMAK

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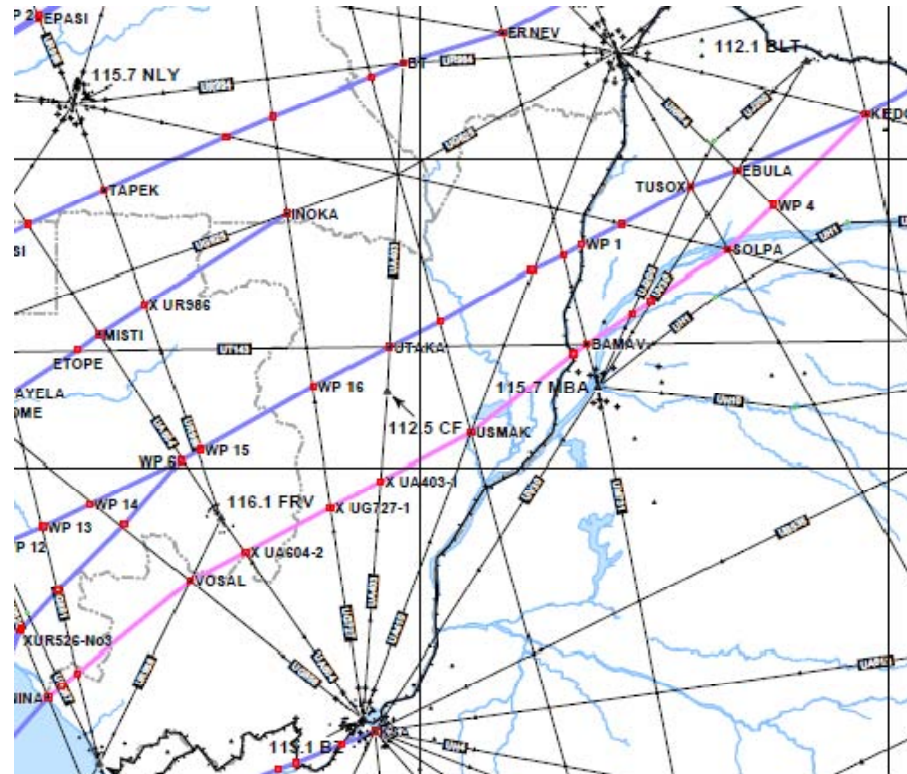
17) ENINA – USMAK – BAMAV – SOLPA – KEDOT
Proposed route designator UQ580; Bidirectional

POSITION 5NLC	COMMENT	LATITUDE	LONGITUDE	VARIATION	MAGNETIC BEARING	DISTANCE IN NM	FIR
ENINA	X UR526	S 03 57 44.00	E 011 13 26.00		054°/234°	13.79NM	Brazzaville FCCC)
161.TBA	X UR987	S 03 48 58.43	E 011 24 07.49		054°/234°	15.47NM	Brazzaville FCCC)
162.TBA	X UG861	S 03 39 08.71	E 011 36 06.84		054°/233°	112.05NM	Brazzaville FCCC)
VOSAL	X UG856&UR998	S 02 27 53.00	E 013 02 50.00		065°/244°	47.79NM	Brazzaville FCCC)
163.TBA	X UA604	S 02 05 33.19	E 013 45 06.10		064°/244°	75.12NM	Brazzaville FCCC)
164.TBA	X UG727	S 01 30 24.99	E 014 51 30.15		064°/244°	43.13NM	Brazzaville FCCC)
165.TBA	X UA403	S 01 10 13.67	E 015 29 36.45		064°/243°	79.37NM	Brazzaville FCCC)
USMAK	X UM998 & UA410	S 00 33 03.00	E 016 39 43.00		054°/233°	98.95NM	Brazzaville FCCC)
NUVIS	FIR	N 00 27 35.39	E 017 58 00.00	W0.55	053°/233°	13.16NM	Brazzaville FIR (FCCC)
BAMAV		N 00 35 39.11	E018 08 24.51		056°/236°	15.42NM	Brazzaville (FCCC) / Kinshasa FIR (FZZA)
BIDAS	X ATS AMBUD - MBANDAKA	N 00 44 19.35	E 018 21 10.33	W0.40	056°/236°	26.66NM	Kinshasa FIR (FZZA)
VORAG	X UJ200	N 00 59 18.34	E 018 43 13.94	W0.28	056°/236°	20.62NM	Kinshasa FIR (FZZA)
KORAS	X UV30	N 01 10 53.54	E 019 00 17.80	W0.18	056°/236°	68.37NM	Kinshasa FIR (FZZA)
SOLPA		N 01 49 18.00	E 019 56 54.00		045°/225°	49.13NM	Kinshasa FIR (FZZA)
GARIK	X UR984	N 02 23 50.98	E 020 31 57.27	E0.34	045°/225°	19.17NM	Kinshasa FIR (FZZA)
MIMPO	X ATS GEM - LISALA	N 02 37 19.71	E 020 45 38.51	E0.42	045°/225°	82.22NM	Kinshasa FIR (FZZA)
KEDOT	& new	N 03 35 06.00	E 021 44 24.00				Kinshasa FIR (FZZA)

Note:

- Brazzaville FIR will accept ICAO FPL filed 15 ad direct (DCT) segment as follows:
- a) ENINA DCT TIMAK

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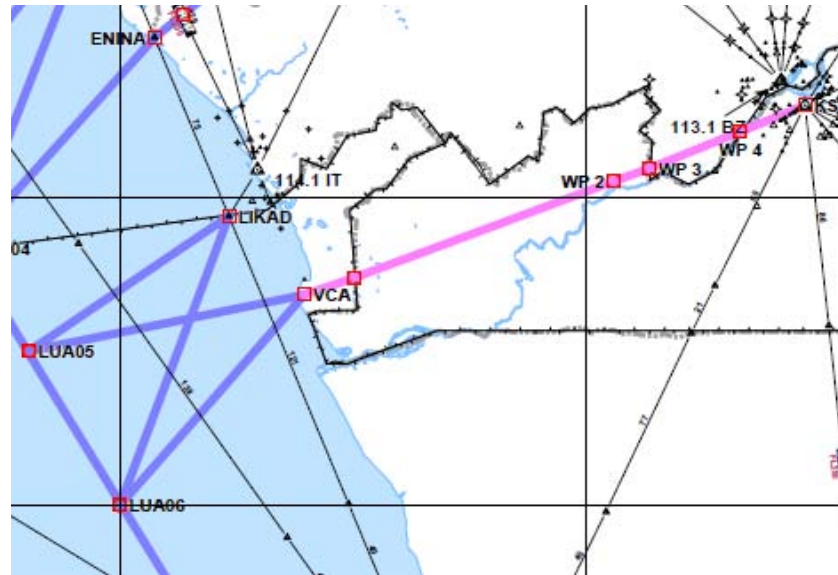
18) VCA – KSA
Proposed route name UB535 Bidirectional

POSITION 5NLC	COMMENT	LATITUDE	LONGITUDE	VARIATION	MAGNETIC BEARING	DISTANCE IN NM	FIR
VCA	VOR	S 05 38 04	E 012 11 22		073°/253°	20.90NM	Luanda FIR (FNAN)
TILAP	FIR	S 05 30 38.69	E 012 30 58.31	W3.63	073°/252°	105.98NM	Luanda FIR (FNAN) / Kinshasa FIR (FZZA)
KEMER	TMA limit	S 04 52 53.46	E 014 10 17.77	W2.88	072°/252°	16.15NM	Kinshasa FIR (FZZA)
INALO	FIR	S 04 47 05.84	E 014 25 24.78	W2.77	072°/252°	38.67NM	Kinshasa FIR (FZZA) / Brazzaville FIR (FCCC)
EBNON	FIR	S 04 33 12.31	E 015 01 35.20	W2.51	072°/252°	25.17NM	Brazzaville FIR (FCCC) / Kinshasa FIR (FZZA)
KSA		S 04 24 08.80	E 015 25 07.10				Kinshasa FIR (FZZA)

Note:

- ICAO Dakar needs to confirm availability of route designator UB535
- Luanda FIR will accept ICAO FPL filed 15 ad direct (DCT) segment as follows:
 - a) VCA (VOR) DCT TETUX
 - b) VCA (VOR) DCT NIDUS

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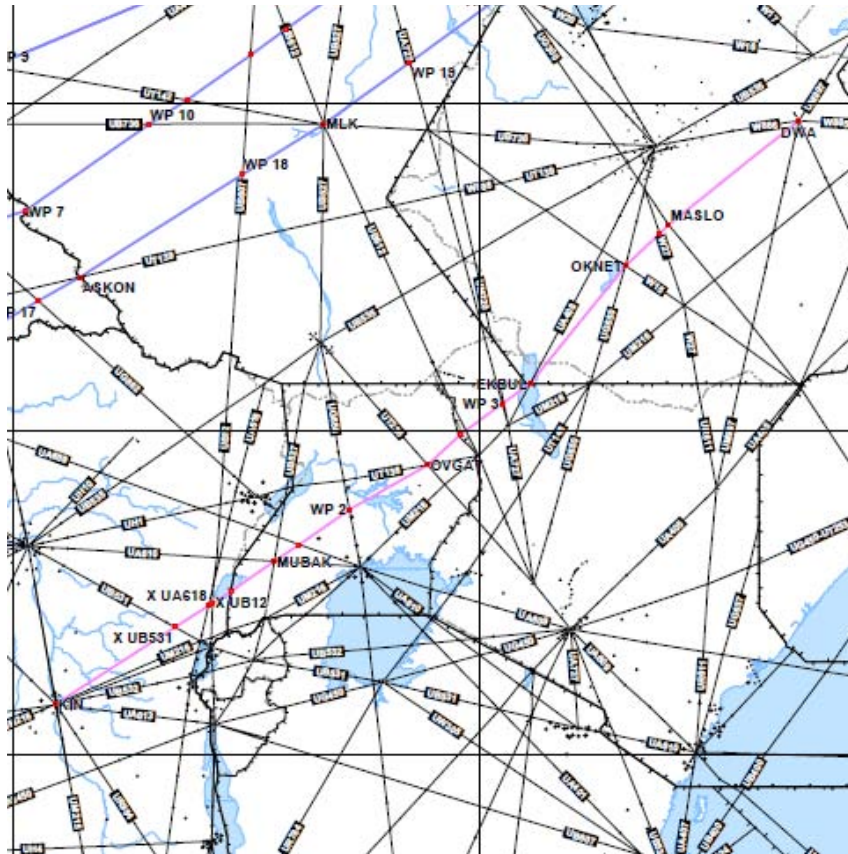
19) KIN - MUBAK - OVGAT – *KEROG (N0249E03436)*– EKBUL – OKNET – MASLO – DWA
Proposed route designator UQ579; Bidirectional

POSITION 5NLC	COMMENT	LATITUDE	LONGITUDE	VARIATION	MAGNETIC BEARING	DISTANCE IN NM	FIR
KIN		S 02 55 00	E 025 54 00		058°/236°	140.29NM	Kinshasa FIR (FZZA)
<i>LISUK</i>	X AT5 KGI - BKU	S 01 37 54.68	E 027 51 20.39	E0.7	056°/236°	42.20NM	Kinshasa FIR (FZZA)
<i>MEVAR</i>	X UB531	S 01 14 41.82	E 028 26 36.02	E0.81	056°/236°	53.69NM	Kinshasa FIR (FZZA)
<i>NEBLO</i>	X UA618	S 00 45 09.04	E 029 11 26.82	E0.94	056°/236°	5.78NM	Kinshasa FIR (FZZA)
<i>SABLI</i>	X UB12	S 00 41 58.02	E 029 16 16.66	E0.95	056°/236°	20.88NM	Kinshasa FIR (FZZA)
<i>TAREM</i>	FIR	S 00 30 28.49	E 029 33 42.82	E1.0	056°/236°	74.25NM	Kinshasa FIR (FZZA) / Entebbe FIR (HIEC)
MUBAK		N 00 10 24	E 030 35 43		057°/237°	39.32NM	Entebbe FIR (HIEC)
<i>166.TBA</i>	X UA609	N 00 31 23.42	E 031 08 58.54	E1.21	057°/237°	75.95NM	Entebbe FIR (HIEC)
<i>167.TBA</i>	X UG656	N 01 11 55.23	E 032 13 13.45	E1.32	057°/237°	117.96NM	Entebbe FIR (HIEC)
OVGAT		N 02 14 48.92	E 033 53 04.94		050°/230°	54.89NM	Entebbe FIR (HIEC)
<i>KEROG</i>	FIR	N 02 49 09.09	E 034 36 00.45	E1.49	050°/230°	10.35NM	Entebbe FIR (HIEC) / Nairobi (HKNA)
<i>168.TBA</i>	X UB612	N 02 55 37.31	E 034 44 06.26	E1.49	050°/230°	58.26NM	Nairobi (HKNA)
<i>169.TBA</i>	X UA727	N 03 32 01.63	E 035 29 42.96	E1.54	050°/230°	45.05NM	Nairobi (HKNA)
EKBUL		N 04 00 09.20	E 036 05 01.63		037°/217°	194.73NM	Nairobi (HKNA) / Addis FIR (HAAA)
OKNET		N 06 32 17.50	E 038 07 48 30		045°/225°	60.24NM	Addis FIR (HAAA)
<i>170.TBA</i>	X W27	N 07 14 00.45	E 038 51 41.51	E1.74	045°/225°	15.83NM	Addis FIR (HAAA)
MASLO		N 07 24 57.50	E 039 03 14.80		050°/230°	212.61NM	Addis FIR (HAAA)
DWA	VOR	N 09 38 16.03	E 041 50 55.99				Addis FIR (HAAA)

Note:

- Needs to be coordinated with Entebbe FIR
- Needs to be coordinated with Nairobi FIR
- Needs to be coordinated with Addis FIR; restricted area around GWZ FL290)

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- 20) DUDRI - TANSU
Proposed route designator UQ578; Bidirectional
Level Restriction FL300/320

POSITION SNLC	COMMENT	LATITUDE	LONGITUDE	VARIATION	MAGNETIC BEARING	DISTANCE IN NM	FIR
DUDRI	CRP	N 19 00 00	E 052 00 00		030°/211°	54.16NM	Jeddah (OEJD) / Sanaa (OYSC) / Bahrain (OB BB)
171.TBA	X UL 425	N 19 46 10.81	E 052 30 14.17	E1.24	031°/211°	29.14NM	Bahrain (OB BB)
172.TBA	XN324	N 20 10 59.19	E 052 46 37.30	E1.26	031°/211°	41.39NM	Bahrain (OB BB)
173.TBA	XL556	N 20 46 10.93	E 053 10 02.97	E1.29	031°/211°	31.98NM	Bahrain (OB BB)
174.TBA	XL883	N 21 13 20.21	E 053 28 16.46	E1.31	031°/211°	23.17NM	Bahrain (OB BB)
175.TBA	XN315	N 21 32 59.50	E 053 41 32.97	E1.33	031°/211°	40.75NM	Bahrain (OB BB)
176.TBA	X N569	N 22 07 30.77	E 054 05 02.51	E1.37	031°/211°	22.28NM	Bahrain (OB BB)
177.TBA	XUM440	N 22 26 21.75	E 054 17 58.01	E1.39	031°/211°	18.03NM	Bahrain (OB BB)
TANSU	CRP	N 22 41 36	E 054 28 28				UAE (OMAE)/Bahrain (OB BB)

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