INTERNATIONAL CIVIL AVIATION ORGANIZATION

Second meeting of the AFI Region e-TOD Working Group

(Dakar , Senegal, 19 July 2011)

Agenda Item 4: ANP/FASID Requirements related to e-TOD.

(Presented by the Secretariat)

SUMMARY

This Paper provides a follow-up of the APIRG/17 Conclusion17/90 (b) relevant to the proposed FASID Table at Appendix to be included as a requirement in the AFI FASID (Document 7474, Vol. II).

Action required in Paragraph 3

1. Introduction

1.1 The APIRG/17 Meeting held in Ouagadougou, Burkina Faso from 2-6 August 2011 reviewed and adopted Conclusion 17/90 emanating from the AIS/MAP Task Force 5 Meeting pertaining to the implementation of WGS-84 and electronic terrain and obstacle data (e-TOD) in the AFI Region .

2. Discussion.

2.1 The meeting is invited to note the relevant Conclusion17/90 (b) related to e-TOD Implementation and decide on follow-up actions to be taken by concerned parties including the deliverables and target dates of implementation pursuant to State letter ref. T2/7-0476 of 16 June 2011.

CONCLUSION17/90:IMPLEMENTATION OF WGS-84 AND ELECTRONIC TERRAIN AND OBSTACLE DATA:

b) That: The proposed FASID table at Appendix F be adopted for inclusion as a requirement in the AFI FASID (Document 7474, Vol. II);

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the deliberations of APIRG/17 Meeting;

b) Review and adopt the proposed amendment to include the Draft FASID Table prepared by the Secretariat to be included into the AFI FASID, Part VIII (AIS), with necessary amendments as appropriate;

……

Proposal for Amendment to the AFI Basic ANP (Doc 7474 Vol.II) for the introduction of a new Section related to eTOD

World Geodetic System – 1984 (WGS-84)

…

5.9 In order to ensure that quality (accuracy, resolution and integrity) and traceability requirements for the WGS-84 related geographical coordinate data are met, States must take measures to develop and introduce a quality system programme. This programme containing procedures, processes and resources should be in conformity with the International Organization for Standardization (ISO) 9000 series of quality assurance standards.

(Insert the following new Text)

Electronic Terrain and Obstacle Data (eTOD) Requirements

(FASID Table AIS 9)

6.1 Recognizing that significant safety benefits for international civil aviation will be provided by in-flight and ground-based applications that rely on quality electronic Terrain and Obstacle Data (eTOD), States should make every effort to implement the eTOD provisions in accordance with Chapter 10 of Annex 15 and Doc 9881.

6.2 FASID Table AIS-X sets out the requirements for the provision of Electronic Terrain and Obstacle Data (eTOD) to be provided by States.

6.3 The implementation of eTOD should involve different Administrations within and outside the Civil Aviation Authority i.e.: AIS, Aerodromes, Military, National Geographic and Topographic Administrations/Agencies, procedure designers, etc.

6.4 States, while maintaining the responsibility for data quality and availability, should consider to which extent the provision of electronic terrain and obstacle data could be delegated to national geodetic Institutes/Agencies, based on Service Level Agreement reflecting such delegation.

6.5 States should consider carefully the required level of details of collected terrain and obstacle data with particular emphasis on obstacle data and associated cost.

6.6 States should take into consideration the requirements for update/maintenance of data, especially related to obstacles.

6.7 States should work co-operatively with regard to the cross-border issue, for the sake of harmonization and more efficient implementation of eTOD.

(Renumber the following paragraphs)

FASID TABLE AIS-X — eTOD REQUIREMENTS

EXPLANATION OF THE TABLE

1 Name of the State, territory or aerodrome for which electronic Terrain and Obstacle Data (eTOD) are required with the designation of the aerodrome use:

RS — international scheduled air transport, regular use RNS — international non-scheduled air transport, regular use RG — international general aviation, regular use
AS — international scheduled air transport, alternate use

2 Runway designation numbers

3 Type of each of the runways to be provided. The types of runways, as defined in Annex 14, Volume 1, Chapter I, are:

NINST — non-instrument runway;
NPA — non-precision approach runway
PA1 — precision approach runway, Category I; PA2 — precision approach runway, Category II; PA3 — precision approach runway, Category III.

4 Requirement for the provision of Terrain data for Area 1, shown by an ‘‘X’’ against the State or territory to be covered.

5 Requirement for the provision of Terrain data for Area 2 (TMA), shown by an ‘‘X’’ against the aerodrome to be covered.

6 Requirement for the provision of Terrain data for Area 2 (45 Km radius from the ARP), shown by an ‘‘X’’ against the aerodrome to be covered.

7 Requirement for the provision of Terrain data for Area 3, shown by an ‘‘X’’ against the aerodrome to be covered.

8 Requirement for the provision of Terrain data for Area 4, shown by an ‘‘X’’ against the runway threshold to be covered.

9 Requirement for the provision of Obstacle data for Area 1, shown by an ‘‘X’’ against the State or territory to be covered.

10 Requirement for the provision of Obstacle data for Area 2 (TMA), shown by an ‘‘X’’ against the aerodrome to be covered.

11 Requirement for the provision of Obstacle data for Area 2 (45 Km radius from the ARP), shown by an ‘‘X’’ against the aerodrome to be covered.

12 Requirement for the provision of Obstacle data for Area 3, shown by an ‘‘X’’ against the aerodrome to be covered.

13 Remarks (timetable for implementation)

Note: For Columns 4 to 12 use the following symbols:

X- Required but not implemented
XI- Required and implemented

STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED					REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	Area 4	
				TMA	45Km				TMA	45Km			
1	2	3	4	5	6	7	8	9	10	11	12	13	14
ALGERIA													
DAUA ADRAR/Touat RS	04 22	**NPA**											
DAAG ALGER/Houari Boumediene RS	05 23 09 27	NPA PA2 PA1 NPA											
DABB ANNABA/El Mellah RS	01 19 05 23	NPA PA1 NPA NINST											
DABC CONSTANTINE/Mohamed Boudiaf RS	14 32 16 34	NPA PA1 NPA PA1											
DAUG GHARDAIA/Noumérate RS	12 30	NPA PA1 NINST											
DAUH HASSI-MESSAOUD/Oued Irara RS	18 36 1 01 19	PA1 NPA											
DAUI IN-SALAH/ AS	05 23	NPA NPA											
DAOO ORAN/Es Sénia RS	07 25	NPA PA2											
DAAT TAMANRASSET/Aguennar AS	02 20 08 26	NPA PA1 NPA											

STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED					REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	Area 4	
				TMA	45Km				TMA	45Km			
DABS TEBESSA/Tébessa RS	11 29 12 30	NPA NPA NPA NINST											
DAON TLEMCEN/Zénata RS	09 27	NPA NPA											
DAUZ ZARZAITINE/In Amenas RS	05 23 15 33	NPA NPA											
ANGOLA													
FNHU HUAMBO/Albano Machado RS	11 29	NPA NPA											
FNLU LUANDA/4 de Fevereiro RS	05 23 07 25	NPA PA1											
BENIN													
DBBB COTONOU/Cadjehoun RS	06 24	NPA PA1											
BOTSWANA													
FBFT FRANCISTOWN/ Francistown RS	11 29	NINST NINST											
FBSK GABORONE/Sir Seretse Khama Intl RS	08 26	PA1 NPA											
FBKE KASANE/Kasane RS	08 26	NPA NINST											
FBMN MAUN/Maun RS	08 26	NINST NINST											

STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED					REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	Area 4	
				TMA	45Km				TMA	45Km			
FBSP SELEBI-PHIKWE/Selebi-Phikwe RS	12 30	NINST PA1 NINST											
BURKINA FASO													
DFOO BOBO-DIOULASSO/Bobo-Dioulasso RS	06 24	PA1 NPA											
DFFD OUAGADOUGOU/Ouagadougou RS	04L 22R	PA1 NPA											
BURUNDI													
HBBA BUJUMBURA/Bujumbura RS	18 36	PA1 NPA											
CAMEROON													
FKKD DOUALA/Douala RS	12 30	NPA PA2											
FKKR GAROUA/Garoua RS	09 27	PA1 NPA											
FKKL MAROUA/Salak RS	13 31	NPA NINST											
FKKN N'GAOUNDERE/N'Gaoundere AS	03 21	NPA NINST											
FKYS YAOUNDE/Nsimalen RS	01 19	NINST PA2											
CAPE VERDE													
GVFM PRAIA/Francisco Mendes RS	**04 22**	NPA NINST											
GVAC SAL I./Amilcar Cabral RS	**01 19 07 25**	PA1 NPA											
CENTRAL AFRICAN REPUBLIC													

STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED					REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	Area 4	
				TMA	45Km				TMA	45Km			
FEFF BANGUI/M'Poko RS	17 35	NPA PA1											
FEFT BERBERATI/Berberati RS	17 35	NPA NINST											
CHAD													
FTTJ N'DJAMENA/N'Djamena RS	05 23	PA1 NPA											
COMOROS													
FMCV ANJOUAN/Ouani RS	10 28	NPA NPA											
FMCZ DZAOUDZI/Pamanzi, Mayotte I. RS	16 34	NINST NPA											
FMCH MORONI/Prince Said IbrahimHahaia RS	02 20	PA1 NPA											
CONGO													
FCBB BRAZZAVILLE/Maya-Maya RS	06 24	PA1 NPA											
FCPP POINTE NOIRE/Agostino Neto RS	17 35	NPA NPA											
COTE D'IVOIRE													
DIAP ABIDJAN/Felix Houphouet Boigny Intl RS	03 21	NPA PA2											
DIBK BOUAKE/Bouake RS	03 21	NPA PA1											
DEMOCRATIC REPUBLIC OF THE CONGO													
FZNA GOMA/Goma RS	18 36	NINST NPA											

STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED					REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	Area 4	
				TMA	45Km				TMA	45Km			
FZAA KINSHASA/N'Djili RS	**06** **24**	NPA PA1											
FZIC KISANGANI/Bangoka AS	**13** **31**	NPA NPA											
FZQA LUBUMBASHI/Luano AS	**07** **25**	PA1 NPA											
FZWA MBUJI MAYI/Mbuji Mahi AS	**17** **35**	NPA NINT											
DJIBOUTI													
HDAM DJIBOUTI/Ambouli RS	**09** **27**	NPA PA1											
EGYPT 21													
HEBL ABU-SIMBEL/Abu-Simbel RS	**15L** **33R** **15L** **33R**	NPA NPA NPA NPA											
HEAX ALEXANDRIA/Alexandria RS	**04** **22** **18** **36**	NPA NPA NPA NPA											
HESN ASWAN/Aswan RS	**17** **35**	NPA PA1											
HECA CAIRO/Cairo Intl RS	**05L** **23R** **05R** **23L** **16** **34**	PA2 PA2 PA2 PA2 NPA NPA											
HEGN HURGHADA/Hurghada RS	**16** **34**	NPA PA1											
HELX LUXOR/Luxor RS	**02** **20**	NPA PA1											
HEMM MERSA-MATRUH/Mersa-Matruh RS	**15** **33**	NPA NPA											
HESH SHARM EL SHEIKH/Sharm El Sheikh RS	**04L** **22R** **04R** **22L**	PA1 NINST											

STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED					REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	Area 4	
				TMA	45Km				TMA	45Km			
HESC ST. CATHERINE/St. Catherine RS	**17** **35**	NPA NINST											
HETB TABA/Taba RS	**04** **22** **14** **32**	NINST NPA											
EQUATORIAL GUINEA													
FGSL MALABO/Malabo RS	**05** **23**	PA1 NPA											
ERITREA													
HHAS ASMARA/Asmara Intl RS	**07** **25** **12** **30**	PA1 NPA											
HHSB ASSAB/Assab RS	**12** **30**	NPA NINST											
ETHIOPIA													
HAAB ADDIS ABABA/Bole Intl RS	**07** **25**	NPA PA1											
HADR DIRE DAWA/Dire Dawa Intl RS	**15** **33**	NINST NPA											
FRANCE (ILE DE LA REUNION)													
FMME SAINT-DENIS/Gilot La Reunion RS	**12** **30** **14** **32**	NINST NPA PA1 NINST											
GABON													
FOON FRANCEVILLE/M'Vengue RS	**15** **33**	PA1 NPA											
FOOL LIBREVILLE/Leon M'Ba RS	**16** **34**	PA1 NPA											
FOOG PORT GENTIL/Port Gentil RS	**03** **21**	NPA PA1											

STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED					REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	Area 4	
				TMA	45Km				TMA	45Km			
GAMBIA													
GBYD BANJUL/Banjul Intl RS	**14 32**	NPA PA1											
GHANA													
DGAA ACCRA/Kotoka Intl RS	**03 21**	NPA PA1											
DGSI KUMASI/Kumasi RS	**02 20**	NPA NPA											
DGLE TAMALE/Tamale RS	**05 23**	NPA NPA											
GUINEA													
GUCY CONAKRY/Gbessia RS	**06 24**	PA1 NPA											
GUXN KANKAN/Diankana RS	**10 28**	NPA NINST											
GULB LABE/Tata RS	**06 24**	NINST NINST											
GUNZ N'ZEREKORE/Konia RS	**18 36**	NPA NINST											
GUINEA-BISSAU													
GGOV BISSAU/Osvaldo Vieira Intl RS	**03 21**	NPA PA1											
KENYA													
HKEL ELDORET/Eldoret Intl RS	**08 26**	PA2 NPA											
HKMO MOMBASA/Moi Intl RS	**03 21 15 33**	NPA PA1											

STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED					REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	Area 4	
				TMA	45Km				TMA	45Km			
HKJK NAIROBI/Jomo Kenyatta Intl RS	**06** **24**	PA2 NPA											
LESOTHO													
FXMM MASERU/Moshoeshoe I. Intl RS	**04** **22**	NINST PA1											
LIBERIA													
GLRB MONROVIA/Roberts Intl RS	**04** **22**	PA2 NPA											
LIBYAN ARAB JAMAHIRIYA													
HLLB BENGHAZI/Benina RS	**15L** **33R** **15R** **33L**	PA1 NPA NPA PA1											
HLLS SEBHA/Sebha RS	**13** **31**	PA1 NPA											
HLLT TRIPOLI/Tripoli Intl RS	**06** **24** **09** **27** **18** **36**	PA1 PA2											
MADAGASCAR													
FMMI ANTANANARIVO/Ivato RS	**11** **29**	PA1 NPA											
FMNA ANTSIRANANA/Arrachart RS	**13** **31**	NPA NINST											
FMNM MAHAJANGA/Amborovy RS	**14** **32**	NPA NINST											
FMNN NOSY-BE/Fascene RS	**05** **23**	NPA PA1											
FMMS SAINTE-MARIE/Sainte-Marie RS	**01** **19**	NPA NPA											
FMMT TOAMASINA/Toamasina RS	**01** **19**	NPA PA1											

STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED					REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	Area 4	
				TMA	45Km				TMA	45Km			
FMSD TOLAGNARO/Tolagnaro RS	**07 25**	NPA NPA											
MALAWI													
FWCL BLANTYRE/Chileka RS	**10 28**	PA1NPA NPA											
FWLI LILONGWE/Lilongwe Intl RS	**14 32**	PA1 NPA											
MALI													
GABS BAMAKO/Senou RS	**06 24**	PA1 NPA											
GAGO GAO/Gao RS	**07 25**	NPA NINST											
GAKY KAYES/Kayes RS	**08 26**	NPA NINST											
GAKL KIDAL/Kidal RS	**10 28**	NPA NINST											
GAMB MOPTI-BARBE/Mopti-Barbe RS	**05 23**	NPA NINST											
GANR NIORO/Nioro RS	**08 26**	NPA NINST											
GATB TOMBOUCTOU/ Tombouctou RS	**07 25**	PA1 NPA											
MAURITANIA													
GQPA ATAR/Atar RS	**04 22**	NPA NINST											
GQNI NEMA/Nema RS	**10 28**	NINST NPA											
GQPP NOUADHIBOU/Nouadhibou RS	**03 21**	PA1 NPA											

STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED					REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	Area 4	
				TMA	45Km				TMA	45Km			
GQNN NOUAKCHOTT/Nouakchott RS	**05 23**	PA1 NPA											
GQPZ ZOUERATE/Zouerate RS	**28 10**	NPA NPA											
MAURITIUS													
FIMP MAURITIUS/Sir Seewoosagur Ramgoolam Intl RS	**14 32**	PA1 NPA											
MOROCCO													
GMAD AGADIR/Al Massira RS	**10 28**	NPA PA1											
GMTA AL HOCEIMA/Cherif Al Idrissi RS	**18 36**	PA1 NINST											
GMMN CASABLANCA/Mohammed V RS	**17 35**	NPA PA2											
GMFK ERRACHIDIA/Moulay Ali Cherif AS	**13 31**	NPA PA1											
GMFF FES/Saïss RS	**10 28**	NPA PA1											
GMMX MARRAKECH/Ménara RS	**10 28**	PA1 NPA											
GMMZ OUARZAZATE/Ouarzazate RS	**12 30**	NPA PA1											
GMFO OUJDA/Angads RS	**06 24**	PA1 NINST											
GMME RABAT/Salé RS	**04 22**	PA1 NPA											
GMTT TANGER/Ibnou-Batouta RS	**10 28**	NPA PA1											
GMAT TAN-TAN/Plage Blanche RS	**14 22**	NPA NINST											

STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED					REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	Area 4	
				TMA	45Km				TMA	45Km			
GMTN TETOUAN/Saniat-Rimel RS	**06 24**	NPA NINST											
MOZAMBIQUE													
FQBR BEIRA/Beira RS	**12 30 06 24**	PA1 NPA											
FQMA MAPUTO/Maputo Intl RS	**05 23**	NPA PA1											
NAMIBIA													
FYKT KEETMANSHOOP/Keetmanshop RS	**04 22 18 36**	NPA NPA											
FYWB WALVIS BAY/Walvis Bay RS	**09 27 12 30**	NPA NPA											
FYWH WINDHOEK/Hosea KutakoWindhoek RS	**08 26 16 34**	PA1 NPA											
NIGER													
DRZA AGADES/Sud RS	**07 25**	NPA NINST											
DRRN NIAMEY/Diori Hamani Intl RS	**09R 27L 09L 27R**	PA1 NPA											
DRZR ZINDER/Zinder AS	**06 24**	NPA NINST											
NIGERIA													
DNAA ABUJA/Nnamdi Azikiwe RS	**04 22**	NPA PA1											
DNCA CALABAR/Calabar RS	**03 21**	NPA PA1											
DNIL ILORIN/Ilorin AS	**05 23**	PA1 NPA											

STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED					REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	Area 4	
				TMA	45Km				TMA	45Km			
DNKA KADUNA/Kaduna RS	**05** **23**	PA1 NPA											
DNKN KANO/Mallam Aminu Kano Intl RS	**06** **24** **05** **23**	PA2 PA2											
DNMM LAGOS/Murtala Muhammed RS	**01L** **19R** **01R** **19L**	PA2 PA2 NPA PA2											
DNMA MAIDUGURI/Maiduguri RS	**05** **23**	PA2 NPA											
DNPO PORT HARCOURT/Port Harcourt Intl RS	**03** **21**	NPA PA1											
DNSO SOKOTO/Abubakar Saddiq III Intl RS	**08** **26**	PA1 NPA											
RWANDA													
HRYR KIGALI/Gregoire Kayibanda RS	**10** **28**	NPA PA1											
SAO TOME AND PRINCIPE													
FPST SAO TOME/Sao Tomé RS	**11** **29**	PA1 NPA											
SENEGAL													
GOGS CAP SKIRING/Cap Skiring RS	**15** **33**	NINST NPA											
GOOY DAKAR/Leopold Sedar Senghor Intl RS	**18** **36** **03** **21**	PA2 NPA											
GOSS SAINT LOUIS/Saint Louis RS	**18** **36**	NPA NINST											
GOTT TAMBACOUNDA/Tambacounda RS	**06** **24**	NPA NPA											
GOGG ZIGUINCHOR/Ziguinchor RS	**10** **28**	NINST NPA											

STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED					REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	Area 4	
				TMA	45Km				TMA	45Km			
SEYCHELLES													
FSIA MAHE/Seychelles Intl RS	13 31	NPA PA1											
SIERRA LEONE													
GFLL FREETOWN/Lungi RS	12 30	NPA PA1											
SOMALIA													
HCMI BERBERA/Berbera AS	05 23	NINST NINST											
HCMV BURAO/Burao RS	13 31	NINST NINST											
HCMH HARGEISA/Hargeisa RS	06 24	NPA NPA											
HCMK KISIMAYU/Kisimayu AS	05 23	NPA PA1											
HCMM MOGADISHU/Mogadishu RS	05 23	NPA PA1											
SOUTH AFRICA													
FAAB ALEXANDER BAY/Alexander Bay RS	01 19 07 25 11 29	NPA NINST											
FABL BLOEMFONTEIN/Bloemfontein AS	02 20 12 30	PA1 NPA NINST NINST											
FACT CAPE TOWN/Cape Town RS	01 19 16 34	PA1 NPA											
FADN DURBAN/Durban RS	05 23	NPA PA1											

STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED					REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	Area 4	
				TMA	45Km				TMA	45Km			
FAJS JOHANNESBURG/Johannesburg RS	**03L** **21R** **03R** **21L** **15** **33**	PA2 MINST PA2 PA2 NINST NINST											
FAGM JOHANNESBURG/Rand RS	**18** **36**	NPA NPA											
FALA LANSERIA/Lanseria RS	**06L** **24R** **06R** **24L** **17** **35**	NPA NINST											
FAUP UPINGTON/Upington RS	**01** **19** **08** **26**	NPA NPA											
SPAIN													
GCLP GRAN CANARIA/Gran Canaria, Canary I. RS	**03L** **21R** **03R** **21L**	PA1 NPA NINST NINST											
GCHI HIERRO/Hierro, Canary I. RS	**16** **34**	NPA NINST											
GCLA LA PALMA/La Palma, Canary I. RS	**01** **19**	NPA NINST											
CGRR LANZAROTE/Lanzarote, Canary I. RS	**04** **22**	NPA NPA											
GEML MELILLA/Melilla RS	**15** **33**	NPA NINST											
GCFV FUERTEVENTURA/ Fuerteventura, Canary I. RS	**01** **19**	PA1 NPA											
GCXO TENERIFE NORTE/Los Rodeos, Canary I. RS	**12** **30**	NPA NPA											
GCTS TENERIFE SUR/Reina Sofia, Canary I. RS	**08** **26**	PA1 NPA											
SUDAN													
HSSJ JUBA/Juba RS	**13** **31**	PA1 NINST											

STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED					REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	Area 4	
				TMA	45Km				TMA	45Km			
HSKA KASSALA/Kassala AS	**02** **20**	NINST NINST											
HSSS KHARTOUM/Khartoum RS	**18** **36**	PA1 NPA											
HSPN PORT SUDAN/Port Sudan Intl RS	**18** **36**	NPA PA1											
SWAZILAND													
FDMS MANZINI/Matsapha RS	**07** **25**	NPA NINST											
TOGO													
DXXX LOME/Tokoin RS	**05** **23**	NPA PA1											
DXNG NIAMTOUGOU/Niamtougou RS	**03** **21**												
TUNISIA PA1 NPA													
DTTJ DJERBA/Zarzis RS	**09** **27**	PA1 NPA											
DTMB MONASTIR/Habib Bourguiba RS	**08** **26**	PA1 NPA											
DTTX SFAX/Thyna RS	**15** **33**	NPA NPA											
DTKA TABARKA/7 NOVEMBRE RS	**09** **27**	NPA PA1											
DTTZ TOZEUR/Nefta RS	**09** **27**	PA1 NPA											
DTTF GAFSA/Ksar RS	**05** **23**	PA1 NPA											
DTTA TUNIS/Carthage RS	**01** **19** **11** **29**	NPA PA1 NPAINST PA1NPA											

STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED					REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	Area 4	
				TMA	45Km				TMA	45Km			
UGANDA													
HUEN ENTEBBE/Entebbe Intl RS	**17 35**	PA1 NPA											
UNITED REPUBLIC OF TANZANIA													
HTDA DAR-ES-SALAAM/Dar-Es-Salaam RS	**05 23**	PA1 NPA											
HTKJ KILIMANJARO/Kilimanjaro Intl RS	**09 27**	PA1 NPA											
HTZA ZANZIBAR/Zanzibar RS	**18 36**	NINST NPA											
WESTERN SAHARA													
GSAI EL AAIUN/El Aaiun RS	**04 22**	NPA PA1											
GSMA SMARA/Smara RS	**17 35**	NINST NINST											
GSVO VILLA CISNEROS/Villa Cisneros RS	**04 22**	NINST NPA											
ZAMBIA													
FLLI LIVINGSTONE/Livingstone Intl RS	**10 28 15 33**	NPA PA1 NPA											
FLLS LUSAKA/Lusaka Intl RS	**10 28**	PA1 NPA											
FLMF MFUWE/Mfuwe RS	**08 26**	NPA NPA											
FLND NDOLA/Ndola RS	10L 28R 10R 28L	NPA PA1 NPA											

STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED					REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	Area 4	
				TMA	45Km				TMA	45Km			
ZIMBABWE													
FVBU BULAWAYO/Bulawayo RS	13 31	NPA NPA											
FVHA HARARE/Harare RS	06 24	PA1 PA1											
FVFA VICTORIA FALLS/Victoria Falls RS	12 30	PA1 NINST											