

 <b>NCAA</b> NAMIBIA CIVIL AVIATION AUTHORITY	<b>REPUBLIC OF NAMIBIA</b>  <b>NAMIBIA CIVIL AVIATION AUTHORITY</b>  <b>AIRAC</b>  <b>AIP SUPPLEMENT</b>	Executive Director Namibia Civil Aviation Authority Private Bag 12003 Ausspannplatz WINDHOEK
Tel: +264 61 702082 Fax +264 61 702088  e-mail: <a href="mailto:aip@dca.com.na">aip@dca.com.na</a>  AFTN: FYWHYNYX		<b>AIRAC</b> <b>AIP SUP</b> S07/2018 13 September 2018

**REPLACING VOR IDENTIFIERS AND 4 LETTER LOCATION INDICATORS WITH 5LNC  
IN RNAV 5 AND ATS ROUTES**

Effective date: 8 November 2018

Validity Period: PERM

- Several of the Area Navigation (RNAV 5) and ATS Routes contain VOR's as waypoints.
- To ensure route integrity in the event of a ground based navigation aid failure (VOR or associated DME), the VOR identifiers are being replaced with 5 Letter Name Codes (5LNC)
- The 5LNC will use the same coordinates as the VOR identifier which they replace.
- The following table details the VOR identifier being replaced with the 5LNC and corresponding coordinates:

VOR	5LNC	Latitude	Longitude
Keetmanshoop (KTV)	KELKY	26 32 14.69 S	018 06 49.09 E
Ondangwa (OAV)	UNDON	17 52 36.00 S	015 56 57.00 E
Walvis Bay (WBV)	XALVI	22 58 55.59 S	014 38 40.48 E
Windhoek (WHV)	VEDRY	22 28 38.52 S	017 28 14.07 E

- Additionally, several RNAV 5 routes contain 4 letter location indicators as part of the route. These were originally used in error and must be replaced with 5LNC. Accordingly, the following table details the 5LNCs replacing the 4 letter location indicators:

LOCATION INDICATOR	5LNC	Latitude	Longitude
FYWE	ERDES	22 36 27.00 S	017 04 45.00 E
FYKM	XAKMU	17 38 03.01 S	024 10 35.99 E
FYRU	DUNRU	17 57 22.00 S	019 43 14.00 E

- Only those routes affected by this change appear in this AIP SUP.
- ANVAG and EPVEP waypoint data is also updated on several routes.
- This AIP SUP will be cancelled once the contents are incorporated in the AIP, expected March 2019.

## ENR 3. ATS ROUTES

### ENR 3.1 LOWER ATS ROUTES

Route designator Name of significant points Co-ordinates	Track MAG	<u>Upper limits</u> <u>Lower limits</u>	Lateral limits NM	Direction of cruising levels		Remarks Controlling unit Frequency
	(GEO) VOR RDL DIST (COP)	Minimum flight altitude Airspace classification		Odd	Even	
1	2	3	4	5		6
<b>A404</b>						
▲ XALVI 225855.59S 0143840.48E						Bi directional
△ UVKIK 225334.00S 0151011.00E	<u>094°</u> 273° 30.0NM					
△ UVGEN 223425.00S 0165724.00E	<u>092°</u> 272° 101.0NM					
△ VEDRY 222838.52S 0172814.07E	<u>092°</u> 272° 29.0NM	<u>FL 245</u> FL 145 Class A		↓	↑	ACC Windhoek 124.7MHz
▲ TAVAS 210100.00S 0210000.00E	<u>079°</u> 256° 216.5NM					For continuation See AIP Botswana

Route designator Name of significant points Co-ordinates	Track MAG	<u>Upper limits</u> Lower limits	Lateral limits NM	Direction of cruising levels		Remarks Controlling unit Frequency
	(GEO) VOR RDL DIST (COP)	Minimum flight altitude Airspace classification		Odd	Even	
1	2	3	4	5		6
Golf Six Five Three(G653)						
▲ VEDRY 222838.52S 0172814.07E						Bidirectional
△ MOKAK 224200.00S 0182035.00E	<u>119°</u> 298° 50.0NM					ACC Windhoek 124.7MHz
▲ ANTOR 230444.55S 0200000.00E	<u>116°</u> 296° 94.0NM	<u>FL 245</u> FL 145  Class A		↑	↓	Annually 01 NOV to 31 Jan of following year route segment MOKAK – ANTOR downgraded to Class E, FL145 to FL195 – HJ- due annual gliding season. ENR 5.5-1 refers for continuation See AIP Botswana

Route designator Name of significant points Co-ordinates	Track MAG	<u>Upper limits</u> <u>Lower limits</u>	Lateral limits NM	Direction of cruising levels		Remarks Controlling unit Frequency
	(GEO) VOR RDL DIST (COP)	Minimum flight altitude Airspace classification		Odd	Even	
1	2	3	4	5		6
<b>Romeo Nine Eight Seven(R987)</b>						
▲ ANVAG 172330.12S 0154922.08E						For continuation see AIP Angola
△ VEDRY 222838.52S 0172814.07E	<u>171°</u> 354° 320NM					Bidirectional
△ LONOD 231800.00S 0173600.00E	<u>185°</u> 005° 50.0NM					ACC Windhoek 124.7MHz
△ PARAG 250700.00S 0175400.00E	<u>185°</u> 005° 110NM					
△ KELKY 263214.00S 0180648.00E	<u>188°</u> 008° 86.0NM					
▲ KEBAT 273000.00S 0181800.00E	<u>187°</u> 007° 58.0NM					
		<u>FL 245</u> FL 145 Class A		↓	↑	Annually 01 NOV to 31 Jan of following year route segment LONOD – KEBAT downgraded to Class E, FL145 to FL195 – HJ- due annual gliding season. ENR 5.5-1 refers.  For continuation see AIP South Africa

**ENR 3.3 AREA NAVIGATION (RNAV) ROUTES**

Route designator (RNP/RNAV <sup>1</sup> ) Name of significant points Coordinates	Track DEG MAG	Geodesic DIST NM	Upper Limit Lower Limit  Airspace classification	Direction of cruising levels		Remarks Controlling unit Frequency
				Odd	Even	
1	2	3	4	5		6
<b>UL316</b> <b>(RNAV 5)<sup>2,3</sup></b>  <b>▲ UTANI</b> 271346.73S0210034.80E  <b>▲ IBTOP</b> 270522.14S0202349.99E  <b>▲ KELKY</b> 263214.69S 0180649.09E  <b>▲ ETBIR</b> 262256.93S0173845.31E  <b>▲ UTVUM</b> 253944.37S0153204.15E  <b>▲ DULGO</b> 250000.00S0135908.00E						For continuation see AIP Botswana
	<u>302°</u> 122°	33.9	<u>FL460</u> <u>FL245</u>			Bidirectional
	<u>302°</u> 123°	127.4	Class A	↑	↓	ACC Windhoek 124.7 MHZ
	<u>307°</u> 127°	26.9				
	<u>307°</u> 127°	122.4				For continuation see AIP South Africa
	<u>311°</u> 131°	93.4				

1. RNP = Required Navigation Performance; RNAV = area navigation specification

2. RNAV 5 represents aircraft and operating requirements, including a 5NM lateral performance as detailed in the *Performance Based Navigation (PBN) Manual* (Doc 9613)

3. GNSS Required

4. Except in an emergency or due to weather, when flight plan on RNAV 5 route within FYWH FIR, request for direct track not permitted. When deviating for weather, aircraft can expect clearance direct to next en-route waypoint once clear of weather.

Route designator (RNP/RNAV <sup>1</sup> ) Name of significant points Coordinates	Track DEG MAG	Geodesic DIST NM	Upper Limit Lower Limit  Airspace classification	Direction of cruising levels		Remarks Controlling unit Frequency
				Odd	Even	
1	2	3	4	5		6
<b>UL685</b> <b>(RNAV 5)<sup>2,3</sup></b>  <b>▲ VEDRY</b> 222838.52S 0172814.07E  <b>▲ OKSUN</b> 220626.00S0165300.00E  <b>▲ UTROL</b> 220039.62S0164355.36E  <b>▲ DUGNU</b> 200628.83S0134134.35E  <b>▲ IBLOK</b> 184706.00S0114005.00E						Bidirectional   ACC Windhoek 124.7 MHZ   For continuation see AIP South Africa
	316° 124°	39.7	FL460 FL245  Class A	↑	↓	
	316° 136°	10.3				
	315° 135°	206				
	315° 135°	140.1				

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3. GNSS Required

4. Except in an emergency or due to weather, when flight plan on RNAV5 route within FYWH FIR, request for direct track not permitted. When deviating for weather, aircraft can expect clearance direct to next en-route waypoint once clear of weather.

Route designator (RNP/RNAV <sup>1</sup> ) Name of significant points Coordinates	Track DEG MAG	Geodesic DIST NM	Upper Limit Lower Limit	Direction of cruising levels		Remarks Controlling unit Frequency	
			Airspace classification	Odd	Even		
1	2	3	4	5		6	
<b>UL686</b> <b>(RNAV 5)<sup>2,3</sup></b>  <b>▲ VEDRY</b> 222838.52S 0172814.07E  <b>▲ APGIB</b> 233435.40S0181008.57E  <b>▲ EPRIS</b> 235700.48S0182432.66E  <b>▲ OKLAV</b> 243535.91S0184824.59E  <b>▲ EPVEP</b> 250030.37S0190354.43E  <b>▲ IBTOP</b> 270522.14S0202349.99E  <b>▲ EGNOR</b> 272955.15S0203940.57E						Bidirectional       ACC Windhoek 124.7 MHZ     For continuation see AIP South Africa	
		162° 343°	76.8	FL460 FL245			
		163° 343°	26.1	Class A	↓		↑
		164° 345°	44.5				
		165° 346°	28.8				
		165° 348°	144.8				
	168° 348°	28.4					
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Route designator (RNP/RNAV <sup>1</sup> ) Name of significant points Coordinates	Track DEG MAG	Geodesic DIST NM	Upper Limit Lower Limit	Direction of cruising levels		Remarks Controlling unit Frequency
			Airspace classification	Odd	Even	
1	2	3	4	5		6
<b>UM427</b> <b>(RNAV 5)<sup>2,3</sup></b>  <b>▲ DUNRU</b> 175722.00S0194314.00E  <b>▲ EVESO</b> 181700.72S0192801.37E  <b>▲ EGPAD</b> 200606.00S0182854.00E  <b>▲ IMGET</b> 212842.00S0174306.00E  <b>▲ APNIN</b> 220112.00S0172448.00E  <b>▲ ERDES</b> 223627.00S0170445.00E	   224° 044°  215° 037°  217° 039°  219° 039°  219° 040°	   24.5  123.2  93.5  36.9  40.0	   FL460 FL245  Class A	   ↑  ↓	Bidirectional   ACC Windhoek 124.7 MHZ	
1. RNP = Required Navigation Performance; RNAV = area navigation specification 2. RNAV 5 represents aircraft and operating requirements, including a 5NM lateral performance as detailed in the <i>Performance Based Navigation (PBN) Manual (Doc 9613)</i> 3. GNSS Required 4. Except in an emergency or due to weather, when flight plan on RNAV 5 route within FYWH FIR, request for direct track not permitted. When deviating for weather, aircraft can expect clearance direct to next en-route waypoint once clear of weather.						



Route designator (RNP/RNAV <sup>1</sup> ) Name of significant points Coordinates	Track DEG MAG	Geodesic DIST NM	<u>Upper Limit</u> <u>Lower Limit</u>  Airspace classification	Direction of cruising levels		Remarks Controlling unit Frequency
1	2	3	4	5		6
<b>UM429</b> <b>(RNAV 5)<sup>2,3</sup></b>  <b>▲ OTAVI</b> 190921.00S0170329.00E  <b>▲ ANVAG</b> 172330.12S0154922.08E	          <u>335°</u> 154°	          127.8	          <u>FL460</u> <u>FL245</u>  Class A	          ↑	          ↓	          Bidirectional   ACC Windhoek 124.7 MHZ
1. RNP = Required Navigation Performance; RNAV = area navigation specification 2. RNAV 5 represents aircraft and operating requirements, including a 5NM lateral performance as detailed in the <i>Performance Based Navigation (PBN) Manual</i> (Doc 9613) 3. GNSS Required 4. Except in an emergency or due to weather, when flight plan on RNAV 5 route within FYWH FIR, request for direct track not permitted. When deviating for weather, aircraft can expect clearance direct to next en-route waypoint once clear of weather.						

Route designator (RNP/RNAV <sup>1</sup> ) Name of significant points Coordinates	Track DEG MAG	Geodesic DIST NM	Upper Limit Lower Limit  Airspace classification	Direction of cruising levels		Remarks Controlling unit Frequency
				Odd	Even	
1	2	3	4	5		6
<b>UM431</b> <b>(RNAV 5)<sup>2,3</sup></b>  <b>▲ VEDRY</b> 222838.52S 0172814.07E  <b>▲ EGRIX</b> 210511.37S0140042.78E  <b>▲ NEVEP</b> 202000.00S0121404.44E	<u>305°</u> 126°	211.1	<u>FL460</u> <u>FL245</u>  Class A	↑	↓	Bidirectional  ACC Windhoek 124.7 MHZ  For continuation see AIP South Africa
		110.1				
		<u>306°</u> 126°				
1. RNP = Required Navigation Performance; RNAV = area navigation specification 2. RNAV 5 represents aircraft and operating requirements, including a 5NM lateral performance as detailed in the <i>Performance Based Navigation (PBN) Manual</i> (Doc 9613) 3. GNSS Required 4. Except in an emergency or due to weather, when flight plan on RNAV 5 route within FYWH FIR, request for direct track not permitted. When deviating for weather, aircraft can expect clearance direct to next en-route waypoint once clear of weather.						



Route designator (RNP/RNAV <sup>1</sup> ) Name of significant points Coordinates	Track DEG MAG	Geodesic DIST NM	Upper Limit Lower Limit  Airspace classification	Direction of cruising levels		Remarks Controlling unit Frequency
				Odd	Even	
1	2	3	4	5		6
<b>UM438</b> <b>(RNAV 5)<sup>2,3</sup></b>  <b>▲ VEDRY</b> 222838.52S 0172814.07E  <b>▲ DUNLO</b> 220112.00S0190230.00E  <b>▲ IMKED</b> 213112.00S0204106.00E  <b>▲ GESAR</b> 212524.00S0210000.00E	085° 264°  084° 263°  083° 263°	91.9	FL460 FL245	↓	↑	Bidirectional  ACC Windhoek 124.7 MHZ  For continuation see AIP Botswana
		96.9	Class A			
		18.6				
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Route designator (RNP/RNAV <sup>1</sup> ) Name of significant points Coordinates	Track DEG MAG	Geodesic DIST NM	Upper Limit Lower Limit	Direction of cruising levels		Remarks Controlling unit Frequency
			Airspace classification	Odd	Even	
1	2	3	4	5		6
<b>UM439</b> <b>(RNAV 5)<sup>2,3</sup></b>  <b>▲ VEDRY</b> 222838.52S 0172814.07E  <b>▲ GEPAS</b> 214930.00S0183342.00E  <b>▲ OKRED</b> 210042.00S0195312.00E  <b>▲ TIMED</b> 201848.00S0210000.00E						Bidirectional  ACC Windhoek 124.7 MHZ  For continuation see AIP Botswana
	<u>070°</u> 248°	72.6	<u>FL460</u> FL245	↓	↑	
	<u>068°</u> 247°	89.1	Class A			
	<u>067°</u> 246°	75.6				
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Route designator (RNP/RNAV <sup>1</sup> ) Name of significant points Coordinates	Track DEG MAG	Geodesic DIST NM	Upper Limit Lower Limit	Direction of cruising levels		Remarks Controlling unit Frequency
			Airspace classification	Odd	Even	
1	2	3	4	5		6
<b>UN181</b> <b>(RNAV 5)<sup>2,3</sup></b> <b>▲ XALVI</b> 225855.59S 0143840.48E <b>▲ APDEM</b> 233908.62S0171234.74E <b>▲ UTSAL</b> 234616.34S0174100.30E <b>▲ EPRIS</b> 235700.48S0182432.66E <b>▲ GABSI</b> 241947.05S0200005.54E						Unidirectional East bound  ACC Windhoek 124.7 MHZ  For continuation see AIP Botswana
	120°	147.7				
	119°	27.1	FL460 FL245	↓		
	119°	41.5	Class A			
	119°	90.6				
1. RNP = Required Navigation Performance; RNAV = area navigation specification 2. RNAV 5 represents aircraft and operating requirements, including a 5NM lateral performance as detailed in the <i>Performance Based Navigation (PBN) Manual</i> (Doc 9613) 3. GNSS Required 4. Except in an emergency or due to weather, when flight plan on RNAV 5 route within FYWH FIR, request for direct track not permitted. When deviating for weather, aircraft can expect clearance direct to next en-route waypoint once clear of weather.						

Route designator (RNP/RNAV <sup>1</sup> ) Name of significant points Coordinates	Track DEG MAG	Geodesic DIST NM	Upper Limit Lower Limit  Airspace classification	Direction of cruising levels		Remarks Controlling unit Frequency
				Odd	Even	
1	2	3	4	5		6
<b>UN182</b> <b>(RNAV 5)<sup>2,3</sup></b>  <b>▲ UTRIS</b> 231005.27S0200014.62E  <b>▲ AXODO</b> 224257.21S0181936.53E  <b>▲ VEDRY</b> 222838.52S 0172814.07E  <b>▲ NETOG</b> 222007.65S0163539.51E  <b>▲ APGEK</b> 215704.98S0141755.10E  <b>▲ ETUDU</b> 214000.00S0124321.18E	   299°  299°  292° 112°  292° 113°  293° 114°	   97.1  49.8  49.6  130.3  89.9	     FL460 FL245  Class A	       ↑      ↓	   ↓    ↓      ↓	Unidirectional West bound  Segment VEDRY to ETUDU is bidirectional  ACC Windhoek 124.7 MHz  For continuation see AIP South Africa
1. RNP = Required Navigation Performance; RNAV = area navigation specification 2. RNAV 5 represents aircraft and operating requirements, including a 5NM lateral performance as detailed in the <i>Performance Based Navigation (PBN) Manual (Doc 9613)</i> 3. GNSS Required 4. Except in an emergency or due to weather, when flight plan on RNAV 5 route within FYWH FIR, request for direct track not permitted. When deviating for weather, aircraft can expect clearance direct to next en-route waypoint once clear of weather.						

Route designator (RNP/RNAV <sup>1</sup> ) Name of significant points Coordinates	Track DEG MAG	Geodesic DIST NM	Upper Limit Lower Limit  Airspace classification	Direction of cruising levels		Remarks Controlling unit Frequency
				Odd	Even	
1	2	3	4	5		6
<b>UN183</b> <b>(RNAV 5)<sup>2,3</sup></b>  <b>▲ XORAK</b> 235111.24S0200010.25E  <b>▲ APGIB</b> 233435.40S0181008.57E  <b>▲ EGRED</b> 232930.82S0173814.81E  <b>▲ XOTEK</b> 232459.07S0171017.96E  <b>▲ UVARA</b> 230814.11S0153111.17E  <b>▲ XALVI</b> 225855.59S 0143840.48E  <b>▲ NIBEK</b> 225805.00S0131209.00E						For continuation see AIP Botswana
	293°	102.6				Unidirectional West bound XORAK to XALVI
	293°	29.8			↓	
	293°	26.1		<u>FL460</u> <u>FL245</u>		ACC Windhoek 124.7 MHz
	293°	93.1		Class A		
	294°	49.5				
	<u>284°</u> 104°	80.1		↑	↓	Segment XALVI to NIBEX is bidirectional. For continuation see AIP South Africa

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3. GNSS Required
4. Except in an emergency or due to weather, when flight plan on RNAV 5 route within FYWH FIR, request for direct track not permitted. When deviating for weather, aircraft can expect clearance direct to next en-route waypoint once clear of weather.



Route designator (RNP/RNAV <sup>1</sup> ) Name of significant points Coordinates	Track DEG MAG	Geodesic DIST NM	Upper Limit Lower Limit	Direction of cruising levels		Remarks Controlling unit Frequency
			Airspace classification	Odd	Even	
1	2	3	4	5		6
UN185 (RNAV 5) <sup>2,3</sup> ▲ VEDRY 222838.52S 0172814.07E						Unidirectional South bound
△ UTULO 231445.05S 0173549.05E	184°	47.0				
△ EGRED 232930.82S 0173814.81E	184°	15.0	FL460 FL245			Windhoek ACC 124.7 MHz
△ UTSAL 234616.34S 0174100.30E	185°	17.0	Class A		↓	
△ DUTPU 242936.04S 0174805.10E	185°	44.0				
△ UDPOB 250117.52S 0175311.47E	186°	32.2				
▲ KEBAT 273000.00S 0181800.00E	187°	151.1				For continuation see AIP of South Africa

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2. RNAV 5 represents aircraft and operating requirements, including a 5NM lateral performance as detailed in the *Performance Based Navigation (PBN) Manual (Doc 9613)*
3. GNSS Required
4. Except in an emergency or due to weather, when flight plan on RNAV 5 route within FYWH FIR, request for direct track not permitted. When deviating for weather, aircraft can expect clearance direct to next en-route waypoint once clear of weather.

Route designator (RNP/RNAV <sup>1</sup> ) Name of significant points Coordinates	Track DEG MAG	Geodesic DIST NM	Upper Limit Lower Limit	Direction of cruising levels		Remarks Controlling unit Frequency
			Airspace classification	Odd	Even	
1	2	3	4	5		6
<b>UN186</b> <b>(RNAV 5)<sup>2,3</sup></b>  <b>▲ NEVAR</b> 273048.34S 0174957.79E  <b>▲ ETBIR</b> 262256.93S 0173845.31E  <b>▲ EVOMO</b> 250128.20S 0172534.16E  <b>▲ EPSAG</b> 242639.91S 0172001.25E  <b>▲ APDEM</b> 233908.62S 0171234.74E  <b>▲ XOTEK</b> 232459.07S 0171017.96E  <b>▲ ATUPI</b> 231013.74S 0170755.40E  <b>▲ VEDRY</b> 222838.52S 0172814.07E						For continuation see AIP South Africa  Unidirectional North bound  ACC Windhoek 124.7 MHZ
	010°	68.9				
	008°	82.8	FL460 FL245			
	007°	35.4	Class A	↓		
	006°	48.3				
	005°	14.4				
	005°	14.9				
	037°	45.8				

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2. RNAV 5 represents aircraft and operating requirements, including a 5NM lateral performance as detailed in the *Performance Based Navigation (PBN) Manual (Doc 9613)*
3. GNSS Required
4. Except in an emergency or due to weather, when flight plan on RNAV 5 route within FYWH FIR, request for direct track not permitted. When deviating for weather, aircraft can expect clearance direct to next en-route waypoint once clear of weather.

Route designator (RNP/RNAV <sup>1</sup> ) Name of significant points Coordinates	Track DEG MAG	Geodesic DIST NM	Upper Limit Lower Limit  Airspace classification	Direction of cruising levels		Remarks Controlling unit Frequency
				Odd	Even	
1	2	3	4	5		6
<b>UN187</b> <b>(RNAV 5)<sup>2,3</sup></b> <b>▲ VEDRY</b> 222838.52S 0172814.07E <b>▲ UTSEX</b> 215954.57S 0171822.44E <b>▲ UNLIL</b> 211111.49S 0170138.38E <b>▲ ANVAG</b> 172330.12S 0154922.08E						Bidirectional  ACC Windhoek 124.7 MHZ  For continuation see AIP Angola
	<u>355°</u> 174°	30.3	<u>FL460</u> <u>FL245</u>	↑	↓	
	<u>354°</u> 173°	51.4	Class A			
	<u>354°</u> 171°	238.9				
1. RNP = Required Navigation Performance; RNAV = area navigation specification 2. RNAV 5 represents aircraft and operating requirements, including a 5NM lateral performance as detailed in the <i>Performance Based Navigation (PBN) Manual</i> (Doc 9613) 3. GNSS Required 4. Except in an emergency or due to weather, when flight plan on RNAV 5 route within FYWH FIR, request for direct track not permitted. When deviating for weather, aircraft can expect clearance direct to next en-route waypoint once clear of weather.						

Route designator (RNP/RNAV <sup>1</sup> ) Name of significant points Coordinates	Track DEG MAG	Geodesic DIST NM	Upper Limit Lower Limit	Direction of cruising levels		Remarks Controlling unit Frequency
			Airspace classification	Odd	Even	
1	2	3	4	5		6
<b>UN188</b> <b>(RNAV 5)<sup>2,3</sup></b>						For continuation see AIP South Africa
▲ XUDAN 273041.21S0161006.65E						
▲ APGAS 263300.90S0155000.70E	<u>001°</u> 180°	60.7				Bidirectional
▲ UTVUM 253944.37S0153204.15E	<u>000°</u> 179°	56.0				Traffic routing south bound will fly at an EVEN level
▲ IMRUG 250107.99S0151910.81E	<u>359°</u> 178°	40.5	<u>FL460</u> <u>FL245</u>  Class A	↓	↑	Traffic routing north bound will fly at an ODD level
▲ UNPIN 241054.35S0150229.10E	<u>358°</u> 178°	52.7				
▲ ANSUX 234611.61S0145422.10E	<u>358°</u> 177°	25.9				ACC Windhoek 124.7 MHZ
▲ XALVI 225855.59S 0143840.48E	<u>357°</u> 176°	49.7				

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3. GNSS Required
4. Except in an emergency or due to weather, when flight plan on RNAV 5 route within FYWH FIR, request for direct track not permitted. When deviating for weather, aircraft can expect clearance direct to next en-route waypoint once clear of weather.

Route designator (RNP/RNAV <sup>1</sup> ) Name of significant points Coordinates	Track DEG MAG	Geodesic DIST NM	Upper Limit Lower Limit	Direction of cruising levels		Remarks Controlling unit Frequency
			Airspace classification	Odd	Even	
1	2	3	4	5		6
<b>UN190</b> <b>(RNAV 5)<sup>2,3</sup></b>  <b>▲ OKDOL</b> 170748.00S0124442.00E  <b>▲ IXEPA</b> 193921.10S0133248.32E  <b>▲ DUGNU</b> 200628.83S0134134.35E  <b>▲ EGRIX</b> 210511.37S0140042.78E  <b>▲ APGEK</b> 215704.98S0141755.10E  <b>▲ XALVI</b> 225855.59S 0143840.48E						For continuation see AIP Angola  Bidirectional  ACC Windhoek 124.7 MHZ
	172° 354°  174° 354°  174° 355°  174° 355°  175° 356°	159.1  28.5  61.7  54.6  65.1	FL460 FL245  Class A	↓  ↑		
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Route designator (RNP/RNAV <sup>1</sup> ) Name of significant points Coordinates	Track DEG MAG	Geodesic DIST NM	Upper Limit Lower Limit  Airspace classification	Direction of cruising levels		Remarks Controlling unit Frequency
				Odd	Even	
1	2	3	4	5		6
<b>UP301</b> <b>(RNAV 5)<sup>2,3</sup></b> <b>▲ VEDRY</b> 222838.52S 0172814.07E <b>△ EGMAS</b> 225947.23S 0181007.55E <b>▲ USUNO</b> 232906.00S 0200000.00E						Unidirectional East bound  Windhoek ACC 124.7 MHz  For continuation see AIP Botswana
	142°	49.6	FL460 FL245	↓		
	119°	105.7	Class A			

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3. GNSS Required
4. Except in an emergency or due to weather, when flight plan on RNAV 5 route within FYWH FIR, request for direct track not permitted. When deviating for weather, aircraft can expect clearance direct to next en-route waypoint once clear of weather.
5. Aircraft planning FYWH to FBSK FL245 to FL460 must plan the following route: FYWH DCT VEDRY UP301 GENUD DCT ETBED DCT GBV DCT FBSK

Route designator (RNP/RNAV 1) Name of significant points Coordinates	Track DEG MAG	Geodesic DIST NM	Upper Limit Lower Limit  Airspace classification	Direction of cruising levels		Remarks Controlling unit Frequency	
				Odd	Even		
1	2	3	4	5		6	
<b>UP306</b> <b>(RNAV 5)<sup>2,3</sup></b>  <b>▲ XAKMU</b> 173803.01S0241035.99E  <b>▲ NERIB</b> 174242.00S0234441.99E  <b>▲ AVIPU</b> 175606.00S0222847.99E  <b>▲ EPTAR</b> 180354.00S0214311.99E  <b>▲ EXERA</b> 180530.00S0213305.99E  <b>▲ NETEN</b> 181106.00S0210000.00E  <b>▲ DUNRU</b> 175722.00S0194314.00E						For continuation see AIP Botswana   Bidirectional    ACC Windhoek 124.7 MHZ	
		<u>266°</u> 086°	25.2				
		<u>266°</u> 086°	73.8	<u>FL460</u> FL245	↑		↓
		<u>267°</u> 087°	44.3	Class A			
		<u>268°</u> 088°	9.8				
		<u>267°</u> 088°	32.1				
	<u>288°</u> 108°	74.6					

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3. GNSS Required

4. Except in an emergency or due to weather, when flight plan on RNAV 5 route within FYWH FIR, request for direct track not permitted. When deviating for weather, aircraft can expect clearance direct to next en-route waypoint once clear of weather.

Route designator (RNP/RNAV <sup>1</sup> ) Name of significant points Coordinates	Track DEG MAG	Geodesic DIST NM	Upper Limit Lower Limit  Airspace classification	Direction of cruising levels		Remarks Controlling unit Frequency
				Odd	Even	
1	2	3	4	5		6
<b>UT943</b> <b>(RNAV 5)<sup>2,3</sup></b> <b>▲ VEDRY</b> 222838.52S 0172814.07E  △ OMATA 204858.00S 0171544.00E  △ OTAVI 190921.00S 0170329.00E  <b>▲ UNLOK</b> 172330.00S 0165108.09E	   <u>005°</u> 184°  <u>004°</u> 182°  <u>003°</u> 181°	   100.0  100.0  106.0	   <u>FL460</u> <u>FL245</u>  Class A	↓	↑	Bidirectional   ACC Windhoek 124.7MHz   For continuation See AIP Angola
1. RNP = Required Navigation Performance; RNAV = area navigation specification  2. RNAV 5 represents aircraft and operating requirements, including a 5NM lateral performance as detailed in the <i>Performance Based Navigation (PBN) Manual</i> (Doc 9613)  3. GNSS Required  4. Except in an emergency or due to weather, when flight plan on RNAV 5 route within FYWH FIR, request for direct track not permitted. When deviating for weather, aircraft can expect clearance direct to next en-route waypoint once clear of weather.						







Route designator (RNP/RNAV <sup>1</sup> ) Name of significant points Coordinates	Track DEG MAG	Geodesic DIST NM	Upper Limit Lower Limit  Airspace classification	Direction of cruising levels		Remarks Controlling unit Frequency
				Odd	Even	
1	2	3	4	5		6
<b>UZ438</b> <b>(RNAV 5)<sup>2,3</sup></b>  <b>▲ KELKY</b> 263214.69S 0180649.09E  <b>▲ APGAS</b> 263300.90S 0155000.70E  <b>▲ NIGAM</b> 263356.20S 0143710.00E						Bidirectional  ACC Windhoek 124.7 MHZ  For continuation see AIP South Africa
	<u>286°</u> 107°	123.0	<u>FL460</u> FL245  Class A	↑	↓	
	<u>286°</u> 106°	65.5				

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