

### 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	Direction of cruising levels		Remarks Controlling unit Frequency
			Airspace classification	Odd	Even	
1	2	3	4	5		6
<b>UL307</b> <b>(RNAV 5)<sup>2,3</sup></b>  <b>▲ AVOGU</b> 200107.67S 021000.88E  <b>▲ EXIRI</b> 184232.34S 0195019.92E  <b>▲ EVESO</b> 181700.72S 0192801.37E  <b>▲ ABAPU</b> 174938.36S 0190201.59E	<u>329°</u> 148°	102	<u>FL460</u> <u>FL245</u>  Class A	↓	↑	For continuation see AIP Botswana  Bidirectional  ACC Windhoek 124.7 MHZ
		<u>328°</u> 148°				
	<u>326°</u> 145°	37.0				
<ol style="list-style-type: none"> <li>1. RNP = Required Navigation Performance; RNAV = area navigation specification</li> <li>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)</li> <li>3. GNSS Required</li> <li>4. Except in an emergency or due to weather, when flight plan on RNAV 5 route within FYWF 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.</li> <li>5. The flight crew shall advise ATC unit concerned without delay in the event that the aircraft is experiencing degradation of RNAV capabilities.</li> </ol>						

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				Odd	Even		
1	2	3	4	5		6	
<b>UL316</b> <b>(RNAV 5)<sup>2,3</sup></b>  <b>▲ UTANI</b> 271346.73S 0210034.80E  <b>▲ IBTOP</b> 270522.14S 0202349.99E  <b>▲ KELKY</b> 263214.69S 0180649.09E  <b>▲ ETBIR</b> 262256.93S 0173845.31E  <b>▲ UTVUM</b> 253944.37S 0153204.15E  <b>▲ DULGO</b> 250000.00S 0135908.00E						For continuation see AIP Botswana  Bidirectional  ACC Windhoek 124.7 MHZ  For continuation see AIP South Africa	
		302° 122°	33.9	FL460 FL245	↑		↓
		302° 123°	127.4	Class A			
		307° 127°	26.9				
		307° 127°	122.4				
		311° 131°	93.4				

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5. The flight crew shall advise ATC unit concerned without delay in the event that the aircraft is experiencing degradation of RNAV capabilities.

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>UL435</b> <b>(RNAV 5)<sup>2,3</sup></b>  <b>▲ BOPAN</b> 222412.00S 020000.00E  <b>▲ IMPIG</b> 214212.55S 0181606.03E  <b>▲ GETEM</b> 213920.88S 0180909.18E  <b>▲ IMGET</b> 212834.74S 0174310.08E  <b>▲ TIMAB</b> 210925.41S 0165729.01E  <b>▲ IXEPA</b> 193921.10S 0133248.32E  <b>▲ IBLOK</b> 184706.00S 0114005.00E						For continuation see AIP Botswana  Bidirectional  ACC Windhoek 124.7 MHz  For continuation see AIP South Africa
	<u>305°</u> 125°	105.6	<u>FL460</u> <u>FL245</u>  Class A	↑      ↓		
	<u>305°</u> 125°	7				
	<u>305°</u> 125°	26				
	<u>305°</u> 125°	47				
	<u>305°</u> 126°	212.2				
	<u>306°</u> 126°	119.2				

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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>UL685</b> <b>(RNAV 5)<sup>2,3</sup></b>  <b>▲ VEDRY</b> 222838.52S 0172814.07E  <b>▲ OKSUN</b> 220626.00S 0165300.00E  <b>▲ UTROL</b> 220039.62S 0164355.36E  <b>▲ DUGNU</b> 200628.83S 0134134.35E  <b>▲ IBLOK</b> 184706.00S 0114005.00E						Bidirectional          ACC Windhoek 124.7 MHZ
	316°	39.7	FL460 FL245			
	124°		Class A	↑	↓	
	316°	10.3				
	136°					
315°	206					
315°	140.1					
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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>UL686</b> <b>(RNAV 5)<sup>2,3</sup></b>  <b>▲ VEDRY</b> 222838.52S 0172814.07E  <b>▲ APGIB</b> 233435.40S 0181008.57E  <b>▲ EPRIS</b> 235700.48S 0182432.66E  <b>▲ OKLAV</b> 243535.91S 0184824.59E  <b>▲ EPVEP</b> 250030.37S 0190354.43E  <b>▲ IBTOP</b> 270522.14S 0202349.99E  <b>▲ EGNOR</b> 272955.15S 0203940.57E						Bidirectional       ACC Windhoek 124.7 MHZ      For continuation see AIP South Africa
	<u>162</u> ° 343°	76.8	<u>FL460</u> <u>FL245</u>	Class A   ↓      ↑		
	<u>163</u> ° 343°	26.1				
	<u>164</u> ° 345°	44.5				
	<u>165</u> ° 346°	28.8				
	<u>165</u> ° 348°	144.8				
	<u>168</u> ° 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> 175722.00S 0194314.00E  <b>▲ EVESO</b> 181700.72S 0192801.37E  <b>▲ EGPAD</b> 200606.00S 0182854.00E  <b>▲ IMGET</b> 212834.74S 0174310.08E  <b>▲ APNIN</b> 220112.00S 0172448.00E  <b>▲ ERDES</b> 223627.00S 0170445.00E						Bidirectional   ACC Windhoek 124.7 MHZ
	<u>224°</u> 044°	24.5	FL460 FL245  Class A	↑  ↓		
	<u>215°</u> 037°	123.2				
	<u>217°</u> 039°	93.5				
	<u>219°</u> 039°	36.9				
	<u>219°</u> 040°	40.0				
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1	2	3	4	5		6
<b>UM429</b> <b>(RNAV 5)<sup>2,3</sup></b>  <b>▲ OTAVI</b> 190921.00S 0170329.00E  <b>▲ EVAGU</b> 180831.97S 0162039.60E	          <u>335°</u> <u>154°</u>	          73.5	          <u>FL460</u> <u>FL245</u>  Class A	          ↑	          ↓	          Bidirectional          ACC Windhoek 124.7 MHz
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				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> 210511.37S 0140042.78E  <b>▲ NEVEP</b> 202000.00S 0121404.44E						Bidirectional  ACC Windhoek 124.7 MHZ  For continuation see AIP South Africa
	<u>305°</u> 126°	211.1	<u>FL460</u> <u>FL245</u>  Class A	↑	↓	
	<u>306°</u> 126°	110.1				
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			Airspace classification	Odd	Even	
1	2	3	4	5		6
<b>UM437</b> <b>(RNAV 5)<sup>2,3</sup></b>  <b>▲ VEDRY</b> 222838.52S 0172814.07E  <b>▲ IBKIN</b> 215011.87S 0180247.85E  <b>▲ IMPIG</b> 214212.55S 0181606.03E  <b>▲ GEPOP</b> 205138.69S 0193904.94E  <b>▲ AVOGU</b> 200107.67S 0210000.88E  <b>▲ GENIX</b> 181224.00S 0232542.00E  <b>▲ IMDIP</b> 175400.00S 0234942.00E  <b>▲ TIGEL</b> 172800.20S 0242200.00E						Bidirectional  ACC Windhoek 124.7 MHZ  ↓      ↑  Class A  For continuation see AIP Botswana  Segment AVOGU – IMDIP in Gaborone FIR  For continuation see AIP Zambia
	<u>052°</u> 231°	50.3	<u>FL460</u> <u>FL245</u>			
	<u>068°</u> 248°	14.7	Class A			
	<u>068°</u> 247°	92.4				
	<u>067°</u> 245°	91.2				
	<u>062°</u> 239°	175.8				
	<u>059°</u> 238°	29.5				
	<u>057°</u> 237°	40.3				

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			Airspace classification	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> 220112.00S 0190230.00E  <b>▲ IMKED</b> 213112.00S 0204106.00E  <b>▲ GESAR</b> 212524.00S 0210000.00E	<u>085°</u> 264°  <u>084°</u> 263°  <u>083°</u> 263°	91.9	<u>FL460</u> <u>FL245</u>  Class A	↓	↑	Bidirectional  ACC Windhoek 124.7 MHZ  For continuation see AIP Botswana
		96.9				
		18.6				
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			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> 214930.00S 0183342.00E  <b>▲ OKRED</b> 210042.00S 0195312.00E  <b>▲ TIMED</b> 201848.00S 0210000.00E	<u>070°</u> 248°	72.6	<u>FL460</u> <u>FL245</u>	↓	↑	Bidirectional  ACC Windhoek 124.7 MHZ	
		89.1	Class A				
	<u>068°</u> 247°	75.6					
	<u>067°</u> 246°						
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			Airspace classification	Odd	Even	
1	2	3	4	5		6
<b>UM998</b> <b>(RNP 10)</b>  <b>▲ BUGRO</b> 175012.07S 0222601.41E  <b>▲ AVIPU</b> 175606.00S 0222847.99E  <b>▲ EPRAL</b> 184042.00S 0224812.00E	<u>166°</u> 346°	5.8	<u>UNL</u> FL245  Class A	↓		Unidirectional South East bound  Gaborone Area West 127.1 MHZ  For continuation see AIP Botswana
		48.0				
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			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> 233908.62S 0171234.74E  <b>▲ UTSAL</b> 234616.34S 0174100.30E  <b>▲ EPRIS</b> 235700.48S 0182432.66E  <b>▲ GABSI</b> 241947.05S 0200005.54E	120°	147.7	FL460 FL245  Class A	↓		Unidirectional East bound  ACC Windhoek 124.7 MHZ  For continuation see AIP Botswana
		27.1				
		41.5				
		90.6				
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1	2	3	4	5		6	
<b>UN182</b> <b>(RNAV 5)<sup>2,3</sup></b>  <b>▲ UTRIS</b> 231005.27S 0200014.62E  <b>▲ AXODO</b> 224257.21S 0181936.53E  <b>▲ VEDRY</b> 222838.52S 0172814.07E  <b>▲ NETOG</b> 222007.65S 0163539.51E  <b>▲ APGEK</b> 215704.98S 0141755.10E  <b>▲ ETUDU</b> 214000.00S 0124321.18E						Unidirectional West bound	
	299°	97.1	FL460 FL245  Class A		↓	Segment VEDRY to ETUDU is bidirectional	
	299°	49.8					
	292° 112°	49.6					
	292° 113°	130.3			↑	↓	ACC Windhoek 124.7 MHz
	293° 114°	89.9					For continuation see AIP South Africa

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1	2	3	4	5		6
<b>UN183</b> <b>(RNAV 5)<sup>2,3</sup></b>  <b>▲ XORAK</b> 235111.24S 0200010.25E  <b>▲ APGIB</b> 233435.40S 0181008.57E  <b>▲ EGRED</b> 232930.82S 0173814.81E  <b>▲ XOTEK</b> 232459.07S 0171017.96E  <b>▲ UVARA</b> 230814.11S 0153111.17E  <b>▲ XALVI</b> 225855.59S 0143840.48E  <b>▲ NIBEK</b> 225805.00S 0131209.00E						For continuation see AIP Botswana
	293°	102.6	FL460 FL245  Class A			Unidirectional West bound XORAK to XALVI  ACC Windhoek 124.7 MHz
	293°	29.8				
	293°	26.1			↓	
	293°	93.1				
	294°	49.5				
	284° 104°	80.1			↑	
					Segment XALVI to NIBEX is bidirectional. For continuation see AIP South Africa	
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<b>UN184</b> <b>(RNAV 5)<sup>2,3</sup></b> <b>▲ DUPKI</b> 214300.60S 0210000.50E  <b>▲ IMKED</b> 213112.00S 0204106.00E  <b>▲ OKRED</b> 210042.00S 0195312.00E  <b>▲ GEPOP</b> 205138.69S 0193904.94E  <b>▲ EKBOL</b> 202220.34S 0185345.72E  <b>▲ EGPAD</b> 200606.00S 0182854.00E  <b>▲ OTAVI</b> 190921.00S 0170329.00E  <b>▲ TIKEM</b> 184730.76S 0162717.57E  <b>▲ IMGAG</b> 183330.00S 0160448.00E  <b>▲ EVUVI</b> 172410.17S 0142122.15E						For continuation see AIP Botswana  Bidirectional  ACC Windhoek 124.7 MHz  For continuation see AIP Angola			
	<u>315°</u> 135°	21.3	FL460 FL245  Class A	↑	↓				
	<u>315°</u> 135°	54.3							
	<u>314°</u> 134°	16.2							
	<u>314°</u> 134°	51							
	<u>314°</u> 134°	28							
	<u>314°</u> 134°	99.0							
	<u>311°</u> 131°	40.6							
	<u>311°</u> 131°	25.5							
	<u>313°</u> 133°	120.9							

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4. Except in an emergency or due to weather, when flight plan on RNAV 5 route within FYWF 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. The flight crew shall advise ATC unit concerned without delay in the event that the aircraft is experiencing degradation of RNAV capabilities.

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>UN185</b> <b>(RNAV 5)<sup>2,3</sup></b> <b>▲ VEDRY</b> 222838.52S 0172814.07E  ΔUTULO 231445.05S 0173549.05E  ΔEGRED 232930.82S 0173814.81E  ΔUTSAL 234616.34S 0174100.30E  ΔDUTPU 242936.04S 0174805.10E  ΔUDPOB 250117.52S 0175311.47E  <b>▲ KEBAT</b> 273000.00S 0181800.00E	184°	47.0	FL460 FL245  Class A	↓		Unidirectional South bound
	184°	15.0				Windhoek ACC 124.7 MHz
	185°	17.0				
	185°	44.0				
	186°	32.2				
	187°	151.1				
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 FYWF 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. The flight crew shall advise ATC unit concerned without delay in the event that the aircraft is experiencing degradation of RNAV capabilities.						

Route designator (RNP/RNAV 1) 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	010°	68.9	FL460 FL245  Class A	↓		For continuation see AIP South Africa  Unidirectional North bound  ACC Windhoek 124.7 MHZ
	008°	82.8				
	007°	35.4				
	006°	48.3				
	005°	14.4				
	005°	14.9				
	037°	45.8				

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 FYWF 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. All flights Transiting FYWF FIR above FL245 are restricted to published routes. Flights planned via UN186/UT943 north bound are required to change from odd to even FL and are to indicate even FL required from position ATUPI to accommodate traffic flow north of Windhoek FIR. South bound traffic to anticipate FL change from odd to even FL at VEDRY (WHV).

6. The flight crew shall advise ATC unit concerned without delay in the event that the aircraft is experiencing degradation of RNAV capabilities.

Route designator (RNP/RNAV 1) 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>UN187</b> <b>(RNAV 5)<sup>2,3</sup></b>  <b>▲ VEDRY</b> 222838.52S 0172814.07E  <b>▲ ERBIL</b> 214317.86S 0170513.09E  <b>▲ TIMAB</b> 210925.41S 0165729.01E  <b>▲ TIKEM</b> 184730.76S 0162717.57E  EVAGU 180831.97S 0162039.60E  <b>▲ ANVAG</b> 172330.12S 0154922.08E						Bidirectional  ACC Windhoek 124.7 MHZ  For continuation see AIP Angola	
	<u>347°</u> 166°	50	<u>FL460</u> <u>FL245</u>	Class A	↑		↓
	<u>359°</u> 179°	34.5					
	<u>359°</u> 177°	144.2					
	<u>359°</u> 179°	39.3					
<u>334°</u> 154°	53.9						

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 *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 FYWF 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. The flight crew shall advise ATC unit concerned without delay in the event that the aircraft is experiencing degradation of RNAV capabilities.

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>UN188</b> <b>(RNAV 5)<sup>2,3</sup></b>  <b>▲ XUDAN</b> 273041.21S 0161006.65E  <b>▲ APGAS</b> 263300.90S 0155000.70E  <b>▲ UTVUM</b> 253944.37S 0153204.15E  <b>▲ IMRUG</b> 250107.99S 0151910.81E  <b>▲ UNPIN</b> 241054.35S 0150229.10E  <b>▲ ANSUX</b> 234611.61S 0145422.10E  <b>▲ XALVI</b> 225855.59S 0143840.48E						For continuation see AIP South Africa  Bidirectional  Traffic routing south bound will fly at an EVEN level  Traffic routing north bound will fly at an ODD level  ACC Windhoek 124.7 MHZ	
	<u>001°</u> 180°	60.7	FL460 FL245  Class A	↓	↑		
	<u>000°</u> 179°	56.0					
	<u>359°</u> 178°	40.5					
	<u>358°</u> 178°	52.7					
	<u>358°</u> 177°	25.9					
	<u>357°</u> 176°	49.7					
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 FYWF 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. The flight crew shall advise ATC unit concerned without delay in the event that the aircraft is experiencing degradation of RNAV capabilities.							

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>UN190</b> <b>(RNAV 5)<sup>2,3</sup></b>  <b>▲ OKDOL</b> 170748.00S 0124442.00E  <b>▲ IXEPA</b> 193921.10S 0133248.32E  <b>▲ DUGNU</b> 200628.83S 0134134.35E  <b>▲ EGRIX</b> 210511.37S 0140042.78E  <b>▲ APGEK</b> 215704.98S 0141755.10E  <b>▲ XALVI</b> 225855.59S 0143840.48E						For continuation see AIP Angola  Bidirectional  ACC Windhoek 124.7 MHZ
	<u>172°</u> 354°	159.1	<u>FL460</u> <u>FL245</u>	Class A  ↓      ↑		
	<u>174°</u> 354°	28.5				
	<u>174°</u> 355°	61.7				
	<u>174°</u> 355°	54.6				
	<u>175°</u> 356°	65.1				
<ol style="list-style-type: none"> <li>1. RNP = Required Navigation Performance; RNAV = area navigation specification</li> <li>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)</li> <li>3. GNSS Required</li> <li>4. Except in an emergency or due to weather, when flight plan on RNAV 5 route within FYWF 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.</li> <li>5. The flight crew shall advise ATC unit concerned without delay in the event that the aircraft is experiencing degradation of RNAV capabilities.</li> </ol>						

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>UN559</b> <b>(RNAV 5)<sup>2,3</sup></b>  <b>▲ APDOV</b> 244218.80S 0195959.18E  <b>▲ OKLAV</b> 243535.91S 0184824.59E  <b>▲ DUTPU</b> 242936.04S 0174805.10E  <b>▲ EPSAG</b> 242639.91S 0172001.25E  <b>▲ UNPIN</b> 241054.35S 0150229.10E  <b>▲ ANTEP</b> 240000.00S 0133604.00E						For continuation see AIP South Africa  Bidirectional  ACC Windhoek 124.7 MHz  For continuation see AIP South Africa
	<u>290°</u> 111°	65.7	<u>FL460</u> <u>FL245</u>	↑	↓	
	<u>291°</u> 111°	55.5				
	<u>291°</u> 111°	25.8				
	<u>291°</u> 112°	127.0				
	<u>292°</u> 113°	80.1				

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 FYWF 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. The flight crew shall advise ATC unit concerned without delay in the event that the aircraft is experiencing degradation of RNAV capabilities.

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	  142°  119°	  49.6  105.7	  <u>FL460</u> <u>FL245</u>  Class A	  ↓  	  	Unidirectional East bound  Windhoek ACC 124.7 MHz  For continuation see AIP Botswana
<ol style="list-style-type: none"> <li>1. RNP = Required Navigation Performance; RNAV = area navigation specification</li> <li>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)</li> <li>3. GNSS Required</li> <li>4. Except in an emergency or due to weather, when flight plan on RNAV 5 route within FYWF 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.</li> <li>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</li> <li>6. The flight crew shall advise ATC unit concerned without delay in the event that the aircraft is experiencing degradation of RNAV capabilities.</li> </ol>						

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>UP306</b> <b>(RNAV 5)<sup>2,3</sup></b>  <b>▲ XAKMU</b> 173803.01S 0241035.99E  <b>▲ NERIB</b> 174242.00S 0234441.99E  <b>▲ AVIPU</b> 175606.00S 0222847.99E  <b>▲ EPTAR</b> 180354.00S 0214311.99E  <b>▲ EXERA</b> 180530.00S 0213305.99E  <b>▲ NETEN</b> 181106.00S 0210000.00E  <b>▲ GEREX</b> 180240.68S 0201233.72E  <b>▲ DUNRU</b> 175722.00S 0194314.00E	<u>266°</u> 086°	25.2	FL460 FL245  Class A	↑      ↓		For continuation see AIP Botswana   Bidirectional   ACC Windhoek 124.7 MHZ
	<u>266°</u> 086°	73.8				
	<u>267°</u> 087°	44.3				
	<u>268°</u> 088°	9.8				
	<u>267°</u> 088°	32.1				
	<u>288°</u> 108°	46				
	<u>288°</u> 108°	28				
	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 FYWF 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. The flight crew shall advise ATC unit concerned without delay in the event that the aircraft is experiencing degradation of RNAV capabilities.					

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>UP684</b> <b>(RNAV 5)<sup>2,3</sup></b>  <b>▲ IMLAN</b> 245907.98S 0201941.19E  <b>▲ EPVEP</b> 250030.37S 0190354.43E  <b>▲ UDPOB</b> 250117.52S 0175311.47E  <b>▲ EVOMO</b> 250128.20S 0172534.16E  <b>▲ IMRUG</b> 250107.99S 0151910.81E  <b>▲ DULGO</b> 250000.00S 0135908.00E	<u>284°</u> 104°	69.1	<u>FL460</u> <u>FL245</u>  Class A	↑	↓	For continuation see AIP Botswana  Bidirectional  ACC Windhoek 124.7 MHZ  For continuation see AIP South Africa
	<u>284°</u> 105°	64.4				
	<u>285°</u> 105°	25.2				
	<u>285°</u> 106°	115.1				
	<u>286°</u> 107°	72.9				

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 *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 FYWF 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. The flight crew shall advise ATC unit concerned without delay in the event that the aircraft is experiencing degradation of RNAV capabilities.

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>UQ83</b> <b>(RNAV 5)<sup>2,3</sup></b>  <b>▲ EPNON</b> 175242.00S 0201806.00E  <b>▲ GEREX</b> 180240.68S 0201233.72E  <b>▲ EXIRI</b> 184232.34S 0195019.92E  <b>▲ EKBOL</b> 202220.34S 0185345.72E  <b>▲ GETEM</b> 213920.88S 0180909.18E  <b>▲ IBKIN</b> 215011.87S 0180247.85E	<u>215°</u> 035°  <u>215°</u> 036°  <u>216°</u> 038°  <u>218°</u> 040°  <u>220°</u> 040°	11.3	FL460 FL245  Class A	↑	↓	For continuation see AIP Angola  Bidirectional  ACC Windhoek 124.7 MHz
		45.00				
		112.9				
		87.3				
		12.3				
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 FYWF 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. The flight crew shall advise ATC unit concerned without delay in the event that the aircraft is experiencing degradation of RNAV capabilities.						

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>UT941</b> <b>(RNAV 5)<sup>2,3</sup></b>  <b>▲ AGRAM</b> 180004.02S 0213958.33E  <b>▲ EXEDU</b> 185600.00S 0222800.00E	331°	72	<u>FL460</u> <u>FL245</u>  Class A		↑	For continuation see AIP Angola/ Botswana  Unidirectional North-West bound
<p>1. RNP = Required Navigation Performance; RNAV = area navigation specification</p> <p>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)</p> <p>3. GNSS Required</p> <p>4. Except in an emergency or due to weather, when flight plan on RNAV 5 route within FYWF 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.</p> <p>5. The flight crew shall advise ATC unit concerned without delay in the event that the aircraft is experiencing degradation of RNAV capabilities.</p>						

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>UT942</b> <b>(RNAV 5)<sup>2,3</sup></b>  <b>▲ EPNON</b> 175242.00S 0201806.00E  <b>▲ DUMPO</b> 184248.00S 0210000.00E	148°	63.8	<u>FL460</u> <u>FL245</u>  Class A	↓		For continuation see AIP Angola/ Botswana  Unidirectional South-East bound
<p>1. RNP = Required Navigation Performance; RNAV = area navigation specification</p> <p>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)</p> <p>3. GNSS Required</p> <p>4. Except in an emergency or due to weather, when flight plan on RNAV 5 route within FYWF 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.</p> <p>5. The flight crew shall advise ATC unit concerned without delay in the event that the aircraft is experiencing degradation of RNAV capabilities.</p>						

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  <b>△ OMATA</b> 204858.00S 0171544.00E  <b>△ OTAVI</b> 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	
<ol style="list-style-type: none"> <li>1. RNP = Required Navigation Performance; RNAV = area navigation specification</li> <li>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)</li> <li>3. GNSS Required</li> <li>4. Except in an emergency or due to weather, when flight plan on RNAV 5 route within FYWF 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.</li> <li>5. All flights Transiting FYWF FIR above FL245 are restricted to published routes. Flights planned via UN186/UT943 north bound are required to change from odd to even FL and are to indicate even FL required from position ATUPI to accommodate traffic flow north of Windhoek FIR. South bound traffic to anticipate FL change from odd to even FL at VEDRY (WHV).</li> <li>6. The flight crew shall advise ATC unit concerned without delay in the event that the aircraft is experiencing degradation of RNAV capabilities.</li> </ol>						

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>UT945</b> <b>(RNAV 5)<sup>2,3</sup></b>  <b>▲ XALVI</b> 225855.59S 0143840.48E  △ UVKIK 225334.00S 0151011.00E  △ UVGEN 223425.00S 0165724.00E  △ VEDRY 222838.52S 0172814.07E  <b>▲ TAVAS</b> 210100.00S 0210000.00E	   <u>094°</u> 273°  <u>092°</u> 272°  <u>092°</u> 272°  <u>079°</u> 256°	   30.0  101.0  29.0  216.5	   <u>FL460</u> <u>FL245</u>  Class A	   ↓  ↑	Bidirectional   ACC Windhoek 124.7MHz   For continuation See AIP Botswana	
<ol style="list-style-type: none"> <li>1. RNP = Required Navigation Performance; RNAV = area navigation specification</li> <li>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)</li> <li>3. GNSS Required</li> <li>4. Except in an emergency or due to weather, when flight plan on RNAV 5 route within FYWF 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.</li> <li>5. The flight crew shall advise ATC unit concerned without delay in the event that the aircraft is experiencing degradation of RNAV capabilities.</li> </ol>						

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>UY719</b> <b>(RNAV 5)<sup>2,3</sup></b>  <b>▲ ERDES</b> 223627.00S 0170445.00E  <b>▲ IBKIN</b> 215011.87S 0180247.85E	          <u>061°</u> 240°	          71.3	          <u>FL460</u> <u>FL245</u>  Class A	          ↓                      ↑	          Bidirectional  ACC Windhoek 124.7MHz	
<ol style="list-style-type: none"> <li>1. RNP = Required Navigation Performance; RNAV = area navigation specification</li> <li>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)</li> <li>3. GNSS Required</li> <li>4. Except in an emergency or due to weather, when flight plan on RNAV 5 route within FYWF 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.</li> <li>5. The flight crew shall advise ATC unit concerned without delay in the event that the aircraft is experiencing degradation of RNAV capabilities.</li> </ol>						

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	<u>286°</u> 107°	123.0	<u>FL460</u> FL245  Class A	↑	↓	Bidirectional  ACC Windhoek 124.7 MHZ  For continuation see AIP South Africa
		<u>286°</u> 106°				

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 FYWF 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. The flight crew shall advise ATC unit concerned without delay in the event that the aircraft is experiencing degradation of RNAV capabilities.