AIP SUPPLEMENT
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20 FEB

AIRAC

KUALA LUMPUR FLIGHT INFORMATION REGION

KL INTERNATIONAL/SEPANG AIRPORT
UPGRADING OF KUALA LUMPUR INTERNATIONAL AIRPORT IMPLEMENTATION OF NEW RWY 15/33, INTEGRATION OF A SECOND MOVEMENT AREA, INTRODUCTION OF NEW/REVISED INSTRUMENT APPROACH PROCEDURES, SIDs, STARs AND IMPLEMENTATION OF SIMULTANEOUS PARALLEL OPERATIONS.

(This AIP Supplement replaces AIP Supplement 20/2011, AIP Supplement 01/2012 and AIP Supplement 12/2012)

1. INTRODUCTION

1.1 The existing KL International Airport (KLIA) at Sepang has been upgraded and expanded with the development of klia2 Terminal and Aircraft Parking Apron, a third Runway (RWY 15/33) and Dual Parallel Taxiway with associated connecting Taxiways, Lateral Taxiway connecting RWY 14R/32L and RWY 15/33, Taxiway connecting RWY 14R/32L and klia2 Terminal Apron, a second Control Tower (Tower West) and the implementation of Simultaneous Parallel Operations on KL International Airport, both for departure and arrival phase.

1.2 The purpose of this AIP Supplement is to notify the aviation industry of the new aerodrome details, physical characteristics of the new Runway 15/33 and movement area. Introduction of additional holding areas and new/revised instrument approach procedures, SIDs, STARs as well as the withdrawal of relevant information pertaining to the new aerodrome details are presented in an ICAO format similar to that applicable to the Aeronautical Information Publication.

1.3 This AIP Supplement supersedes any and all those information previously published in the following AIP Supplements: AIP SUPP 20/2011, AIP SUPP 01/2012 and AIP SUPP 12/2012 and shall replace the existing information as described in AIP Malaysia sub-sections related to KL INTERNATIONAL / SEPANG Airport, from WMKK AD 2.1 to WMKK AD 2.24.

2. APRON, MANOEUVRING , MOVEMENT AREAS, AERODROME DATA AND AIRCRAFT STANDS

2.1 Runway

The total length of RWY 15/33 is 3960M x 60M staggered northward 850M to the existing RWY 14R/32L with the same orientation. RESA 120M x 240M are provided at both ends of the Runway.

2.2 Main Taxiway

(i) Main Central Connecting Taxiways / Cross Taxiway
(ii) Parallel & Associated Connecting Taxiways

2.3 All new Aerodrome data and information pertaining to the upgraded airport are listed in **APPENDIX - A1** to **APPENDIX - A24**.

2.4 Aerodrome cartography

(i) Aerodrome / Heliport Chart and Aerodrome Chart are shown in **APPENDIX - B1** and **APPENDIX - B2**
(ii) For Aircraft Parking / Docking Chart - ICAO klia2 Terminal and Aerodrome Ground Movement Chart see **APPENDIX - B3**, **APPENDIX - B4, APPENDIX - B5**, **TABLE 1**, **TABLE 2** and **TABLE3**.

2.5 Revised Taxi Routes Charts for Arrival and Departure are listed in **APPENDIX - C1**, **APPENDIX - C2**, **APPENDIX - C3**, **APPENDIX - C4, APPENDIX - C5** and **APPENDIX - C6**.

2.6 Aerodrome Obstacle Chart – Type A for new Runway 15/33 is shown in **APPENDIX - D1**.

2.7 Parking Apron

The parking Apron provides for 68 Gates and 8 Remote Stands. New high mast lighting is installed at every aircraft parking stand.

3. NAVIGATION AND VISUAL AIDS

3.1 INFORMATION FOR ILS RUNWAY 15/33

3.1.1 Brief information for ILS Runway 15/33 are as follows:

ILS RWY 15	Coordinates	Ident / Frequency
Glide Path	024407.9500N 1014042.1165E	IWK / CH38x
Localizer	024222.1680N 1014156.3470E	110.100 MHz

ILS RWY 33	Coordinates	Ident / Frequency
Glide Path	024237.2222N 1014142.9697E	IWM / CH52x
Localizer	024426.0700N 1014033.2690E	111.500 MHz

3.1.2 PAPI is provided only at one side of each Runway

PAPI	LOCATION
Runway 15	Right Side
Runway 33	Left Side

3.2 APPROACH LIGHTING SYSTEM

3.2.1 The approach lighting system will be based on an ICAO CAT 1 precision approach lighting system. The length is 900M with barrettes spaced at intervals of 30M. The approach centerline barrettes are composed of four lights and the spacing between these lights is 1.5M. The Crossbars are located at a distance of 150M and 300M from the Threshold. Approach lighting system of RWY15/33 are not supplemented by capacitor discharge lights.

3.3 TAXIWAY CENTERLINE LIGHTS

3.3.1 Taxiway centerline lights are provided on taxiways and exit taxiways. The fixtures will be inset lights installed along the taxiway centerline.

3.4 TAXIWAY EDGE LIGHTS

3.4.1 Taxiway edge lights are installed only on the curves and not on the straight sections of the taxiways. Guidance for straight sections will be from taxiway centerline lights. They are elevated lights and offset 1M from the edge of the taxiway.

3.5 STOP BAR LIGHTS AND RUNWAY GUARD LIGHTS

3.5.1 Stop bars are installed at each entry to the Runway. Stop bars are located at 107.5M from the Runway centerline.

3.6 INFORMATION SIGNS / MANDATORY INSTRUCTION SIGNS

3.6.1 Aerodrome information signs and mandatory instruction signs are located between 8M and 15M from the defined runway pavement edge and between 11M and 21M from the defined taxiway pavement edge.

3.7 WIND DIRECTION INDICATOR

3.7.1 Wind direction indicators are provided on both ends of Runway 15/33.

4. NEW AND REVISED SIDs, STARs AND INSTRUMENT APPROACH CHARTS FOR RWY 14L/32R, RWY 14R/32L AND NEW RWY 15/33.

4.1 New and revised SIDs, STARs and Intrument Approach Charts for precision and non precision approach related to the upgraded KLIA are listed in WMKK AD 2.24 **APPENDIX - A22, APPENDIX - A23 and APPENDIX - A24.**

4.2 The following Charts pertaining to Sepang KL International Airport in AIP Malaysia are superseded and withdrawn:

WMKK AD 2 - 47 LUMPUR TMA/CTR

WMKK AD 2 - 49 RADAR VECTORING AREA CHART

WMKK AD 2 - 51 STANDARD RADAR DEPARTURE CHART - ALL RUNWAYS

5. NEW WAYPOINTS AND IFR HOLDINGS

5.1 WAYPOINTS

5.1.1 The following new waypoints are established:

IDENT	Phase of flight	Latitude	Longitude
ADGIP	IF Y RWY32L	023229N	1015000E
ADMOL	Arrival 14L/14R	030247N	1013120E
BEGIN	IF RWY33	023149N	1014901E
BELER	Arrival 32L/33	022132N	1013903E
BENRI	Arrival 14R/15	030708N	1010828E
BERBI	Arrival 32L/32R	022335N	1015558E
BOBIS	PMS Arrival 32L/32R	023039N	1022017E
BUKTI	IF Y RWY14R	025626N	1013356E
DARGU	IF RWY14L	025927N	1013334E
DOXER	IF RWY15	025546N	1013257E
EKUDA	Arrival 14R/15/32L/33	025420N	1012529E
GOKAD	Arrival 14L/14R - ATS Routes Y348,G582	032213N	1004438E
IRMEK	MAHF RWY 14L/14R/32R	025425N	1015951E
LENKI	Arrival 14L/14R - PMS Arrival 32L/32R	024456N	1015144E
LUVON	IF Z RWY32L	023056N	1015102E
MENIK	Arrival 14R/15	023543N	1013758E
MIDIK	IF Z RWY14R	025842 N	1013225E
MUNOV	Arrival 32L/32R - PMS Arrival 32L/32R	022957N	1020147E
NIVID	Arrival 14R/15	030136N	1012903E
NOBEK	Arrival 32L/33	021022N	1020024E
OLBON	Arrival 14L/14R	031932N	1013656E
OLSOS	PMS Arrival 32L/32R	023629N	1021622E
OSPOV	Arrival 32L/32R - PMS Arrival 32L/32R	024906N	1014856E
PONOX	Arrival 32L/32R	024227N	1020150 E
SUROP	Arrival 32L/33	022526N	1014452E
TUNKU	Arrival 32L/33	022616N	1015245E
UPSIR	MAHF RWY32L	025346N	1011606E

5.1.2 The following waypoints already published by means of AIP SUPP 20/2011 (withdrawn by this AIP SUPP) remain in force:

IDENT	Phase of flight	Latitude	Longitude
ANSOP	IF RWY32R	023306N	1015114E
MANAN	IF RWY14L	025715N	1013502E

5.2 IFR HOLDINGS

5.2.1 New Holding areas for IFR aircraft are implemented.
The details are as follows:

HLDG ID/FIX/WPT COORDINATES	INBD TR (°MAG)	DIRECTION of PTN	MAX IAS (KTS)	MNM-MAX HLDG LVL FL/FT (MSL)	TIME (MIN) DIST OUBD	Controlling unit and frequency
BELER 022132N 1013903E	326°	Right	230	5 000 FT - FL 140	1 min	Lumpur Radar 125.850 MHz Lumpur Arrival 119.450 MHz
BENRI 030708N 1010828E	146°	Right	250	9 000 FT - FL 250	1 min 1.5 min above FL 140	Lumpur Radar 124.200 MHz
BOBIS 023039N 1022017E	326°	Right	250	11 000 FT - FL 250	1 min 1.5 min above FL 140	Lumpur Radar 121.250 MHz
EKUDA 025420N 1012529E	146°	Right	250	9 000 FT - FL 250	1 min 1.5 min above FL 140	Lumpur Radar 124.200 MHz
IRMEK R-055/19 DME VKL 025425N 1015951E	235°	Right	230	5 500 FT - FL 140	1min 23 DME VKL	Lumpur Radar 118.650 MHz
LENKI 024456N 1015144E	326°	Right	250	10 000 FT - FL 250	1 min 1.5 min above FL 140	Lumpur Radar 121.250 MHz
KIDOT R-346/20.4 DME VKL 030320N 1013922E	146°	Left	250	9 000 FT - FL 250	1 min 1.5 min above FL 140	Lumpur Radar 118.650 MHz
KUALA LUMPUR VKL VOR/DME 024328N 1014417E	153°	Left	230	6 000 FT - FL 140	1min	Lumpur Arrival 135.750 MHz Lumpur Arrival 119.450 MHz
KUALA LUMPUR VKL VOR/DME 024328N 1014417E	320°	Right	230	6 000 FT - FL 140	1min	Lumpur Arrival 135.750 MHz Lumpur Arrival 119.450 MHz
MENIK 023543N 1013758E	326°	Left	250	9 000 FT - FL 250	1 min 1.5 min above FL 140	Lumpur Radar 125.850 MHz
MUNOV 022957N 1020147E	236°	Left	210	7 000 FT - FL 140	1 min	Lumpur Radar 121.250 MHz Lumpur Arrival 135.750 MHz
NOBEK 021022N 1020024E	236°	Left	250	11 000 FT - FL 250	1 min 1.5 min above FL 140	Lumpur Radar 125.850 MHz
OLBON 031932N 1013656E	146°	Left	250	9 000 FT - FL 250	1 min 1.5 min above FL 140	Lumpur Radar 118.650 MHz
PONOX 024227N 1020150E	236°	Left	210	7 000 FT - FL 140	1 min	Lumpur Radar 121.250 MHz Lumpur Arrival 135.750 MHz
UPSIR R-290/30 DME VKL 025346N 1011606E	110°	Right	210	3 000 FT - FL 140	1 min 34 DME VKL	Lumpur Radar 124.200 MHz Lumpur Arrival 119.450 MHz

6. MODIFIED PARAGRAPHS OF AIP MALAYSIA ENR 1.5 AND ENR 1.6

6.1 According to the revised instrument flight procedures coding methodology applied to new/revised SIDs, STARs and IAC of Kuala Lumpur International Airport, Sepang, some sub-paragraphs pertaining AIP Malaysia ENR 1.5 "HOLDING, APPROACH AND DEPARTURE PROCEDURES" have been modi fied accordingly by those listed in **APPENDIX - H1** to **APPENDIX - H3**.
Other sub-paragraphs of AIP Malaysia ENR1.5 remain unchanged.

6.2 Radio failure procedures described in AIP Malaysia ENR 1.6 "RADAR, SERVICES AND PROCEDURES" have been modified to be match up with the new SIDs, STARs, IACs system of Kuala Lumpur International Airport, Sepang. Sub-paragraphs 2.6 "KL International Airport, Sepang" and 2.11 "Procedures to be adopted in the event of failure of Kuala Lumpur VOR/DME (VKL)" published in AIP Malaysia ENR 1.6 section are superseded by those listed in **APPENDIX - I1** and **APPENDIX - I2**. Other sub-paragraphs of AIP Malaysia ENR 1.6 remain unchanged.

7. IMPLEMENTATION

7.1 This AIP Supplement and relevant charts will become effective on 01 MAY 2014 at 0001 UTC. A trigger NOTAM will be issued to alert users on the implementation of changes to operation, procedures and facilities.

8. CANCELLATION

8.1 This AIP Supplement will remain current until the information is published in AIP Malaysia.

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AIRCRAFT PARKING/DOCKING - STAND POSITION AT KLIA2 TERMINAL APRON							
TERMINAL	**APRON**	**AIRCRAFT STANDS**		**Aircraft Type**	**WGS-84**		**VDGS**
		Contact Stand	**Remote**		**LATITUDE**	**LONGITUDE**	
Main	NORTH	**J1**		A320	02° 44' 37.9251"N	101° 41' 16.8696"E	Provided
	(WTN)	**J3**		A320	02° 44' 38.7163" N	101° 41' 18.0373" E	Provided
	121.725 MHz	**J5**		A320	02° 44' 39.5083" N	101° 41' 19.2052" E	Provided
	Lumpur Ground	**J7**		A320	02° 44' 40.3008" N	101° 41' 20.3726" E	Provided
	WAC1	**J9**		A320	02° 44' 41.0925" N	101° 41' 21.5405" E	Provided
		J11		A320	02° 44' 41.8856" N	101° 41' 22.7080" E	Provided
		J13		A320	02° 44' 42.7072" N	101° 41' 23.8626" E	Provided
		J15		A320	02° 44' 43.4990" N	101° 41' 25.0302" E	Provided
		J17		A320	02° 44' 44.2908" N	101° 41' 26.1979" E	Provided
	EAST		**J2**	A320	02° 44' 33.1276" N	101° 41' 16.0049" E	Not Provided
	(WTE)	**J4**		A320	02° 44' 33.9199" N	101° 41' 17.1725" E	Provided
	122.550 MHz	**J6**		A320	02° 44' 34.7103" N	101° 41' 18.3401" E	Provided
	Lumpur Ground	**J8**		A320	02° 44' 35.5025" N	101° 41' 19.5069" E	Provided
	WAC2	**J10**		A320	02° 44' 36.2944" N	101° 41' 20.6752" E	Provided
		J12		A320	02° 44' 37.0867" N	101° 41' 21.8430" E	Provided
		J14		A320	02° 44' 37.8777" N	101° 41' 23.0082" E	Provided
		J16		A320	02° 44' 38.6702" N	101° 41' 24.1777" E	Provided
		J18		A320	02° 44' 39.4621" N	101° 41' 25.3454" E	Provided
		J20		A320	02° 44' 40.2546" N	101° 41' 26.5127" E	Provided
		J22		A320	02° 44' 41.0466" N	101° 41' 27.6801" E	Provided
	WEST	**K1**		A320	02° 44' 29.9165" N	101° 41' 05.0558" E	Provided
	(WTW-1)	**K3**		A320	02° 44' 29.1249" N	101° 41' 03.8885" E	Provided
	121.725 MHz	**K5**		A320	02° 44' 28.3347" N	101° 41' 02.7189" E	Provided
	Lumpur Ground	**K7**		A320	02° 44' 27.5416" N	101° 41' 01.5524" E	Provided
	WAC1	**K9**		A320	02° 44' 26.7507" N	101° 41' 00.3834" E	Provided
		K11		A320	02° 44' 25.9589" N	101° 40' 59.2165" E	Provided
		K13		A320	02° 44' 25.1665" N	101° 40' 58.0501" E	Provided
	WEST		**K20**	B747	02° 44' 19.1509" N	101° 40' 58.3942" E	Not Provided
	(WTW-2)	**K22L**		A320	02° 44' 21.5752" N	101° 40' 55.9667" E	Provided
	121.725 MHz	**K22**		B747	02° 44' 21.3787" N	101° 40' 56.8990" E	Provided
	Lumpur Ground	**K22R**		A320	02° 44' 21.4215" N	101° 40' 57.0376" E	Provided
	WAC1		**K24**	B747	02° 44' 23.6039" N	101° 40' 55.4068" E	Not Provided
	SOUTH	**K2**		A320	02° 44' 28.9234" N	101° 41' 09.8014" E	Provided
	(WTS)	**K4**		A320	02° 44' 28.1326" N	101° 41' 08.6358" E	Provided
	122.550 MHz	**K6**		A320	02° 44' 27.3408" N	101° 41' 07.4676" E	Provided
	Lumpur Ground	**K8**		A320	02° 44' 26.5491" N	101° 41' 06.2994" E	Provided
	WAC2	**K10**		A320	02° 44' 25.7579" N	101° 41' 05.1314" E	Provided
		K12		A320	02° 44' 24.9664" N	101° 41' 03.9628" E	Provided
		K14		A320	02° 44' 24.1740" N	101° 41' 02.7958" E	Provided
		K16		A320	02° 44' 23.3827" N	101° 41' 01.6281" E	Provided
		K18		A320	02° 44' 22.5901" N	101° 41' 00.4600" E	Provided

AIRCRAFT PARKING/DOCKING - STAND POSITION AT KLIA2 TERMINAL APRON							
TERMINAL	**APRON**	**AIRCRAFT STANDS**		**Aircraft Type**	**WGS-84**		**VDGS**
		Contact Stand	**Remote**		**LATITUDE**	**LONGITUDE**	
Satellite	NORTH **(WSN)** **122.550 MHz** Lumpur Ground WAC2	**P1**		A320	02° 44' 25.7376" N	101° 41' 20.9604" E	Provided
		P3		A320	02° 44' 26.5283" N	101° 41' 22.1282" E	Provided
		P5		A320	02° 44' 27.3206" N	101° 41' 23.2967" E	Provided
		P7		A320	02° 44' 28.1124" N	101° 41' 24.4635" E	Provided
		P9		A320	02° 44' 28.9041" N	101° 41' 25.6310" E	Provided
		P11		A320	02° 44' 29.6952" N	101° 41' 26.7991" E	Provided
		P13		A320	02° 44' 30.4874" N	101° 41' 27.9660" E	Provided
		P15		A320	02° 44' 31.2787" N	101° 41' 29.1341" E	Provided
		P17		A320	02° 44' 32.0715" N	101° 41' 30.3017" E	Provided
		P19		A320	02° 44' 32.8632" N	101° 41' 31.4697" E	Provided
		P21		A320	02° 44' 33.6556" N	101° 41' 32.6375" E	Provided
	EAST **(WSE)** **130.750 MHz** Lumpur Ground WAC3		**P2**	B747	02° 44' 22.3117" N	101° 41' 23.2842" E	Not Provided
		P4L		A320	02° 44' 22.9040" N	101° 41' 24.6393" E	Provided
		P4		B747	02° 44' 24.0665" N	101° 41' 24.7941" E	Provided
		P4R		A320	02° 44' 24.2706" N	101° 41' 24.8781" E	Provided
		P6L		A320	02° 44' 24.5424" N	101° 41' 27.0556" E	Provided
		P6		B747	02° 44' 25.7046" N	101° 41' 27.2097" E	Provided
		P6R		A320	02° 44' 25.9094" N	101° 41' 27.2940" E	Provided
		P8L		A320	02° 44' 26.1807" N	101° 41' 29.4713" E	Provided
		P8		B747	02° 44' 27.3435" N	101° 41' 29.6265" E	Provided
		P8R		A320	02° 44' 27.5477" N	101° 41' 29.7105" E	Provided
		P10L		A320	02° 44' 27.8192" N	101° 41' 31.8869" E	Provided
		P10		B747	02° 44' 28.9817" N	101° 41' 32.0424" E	Provided
		P10R		A320	02° 44' 29.1858" N	101° 41' 32.1267" E	Provided
		P12L		A320	02° 44' 29.4573" N	101° 41' 34.3035" E	Provided
		P12		B747	02° 44' 26.7279" N	101° 41' 36.7886" E	Provided
		P12R		A320	02° 44' 30.8240" N	101° 41' 34.5429" E	Provided
	WEST **(WSW)** **122.550 MHz** Lumpur Ground WAC2		**Q1**	A320	02° 44' 21.5340" N	101° 41' 14.7576" E	Not Provided
		Q3		A320	02° 44' 20.7423" N	101° 41' 13.5898" E	Provided
		Q5		A320	02° 44' 19.9503" N	101° 41' 12.4231" E	Provided
		Q7		A320	02° 44' 19.1582" N	101° 41' 11.2538" E	Provided
		Q9		A320	02° 44' 18.3673" N	101° 41' 10.0869" E	Provided
		Q11		A320	02° 44' 17.5742" N	101° 41' 08.9185" E	Provided
		Q13		A320	02° 44' 16.7833" N	101° 41' 07.7522" E	Provided
		Q15		A320	02° 44' 15.9902" N	101° 41' 06.5857" E	Provided
		Q17		A320	02° 44' 15.1998" N	101° 41' 05.4160" E	Provided
		Q19		A320	02° 44' 14.4085" N	101° 41' 04.2480" E	Provided
		Q21		A320	02° 44' 13.6164" N	101° 41' 03.0805" E	Provided

AIRCRAFT PARKING/DOCKING - STAND POSITION AT KLIA2 TERMINAL APRON							
TERMINAL	APRON	AIRCRAFT STANDS		Aircraft Type	WGS-84		VDGS
		Contact Stand	Remote		LATITUDE	LONGITUDE	
Satellite	SOUTH **(WSS) 130.750 MHz** Lumpur Ground WAC3		**Q2**	**B747**	02° 44' 18.1800" N	101° 41' 17.1778" E	Not Provided
		Q4		**B747**	02° 44' 17.6436" N	101° 41' 15.1370" E	Provided
		Q6		**B747**	02° 44' 16.2784" N	101° 41' 13.1253" E	Provided
		Q8		**B747**	02° 44' 14.9141" N	101° 41' 11.1117" E	Provided
		Q10		**B747**	02° 44' 13.5492" N	101° 41' 09.0983" E	Provided
		Q12		**B747**	02° 44' 12.1838" N	101° 41' 07.0839" E	Provided
		Q14		**B747**	02° 44' 10.8643" N	101° 41' 05.1393" E	Provided
			Q16	**A330**	02° 44' 09.5857" N	101° 41' 03.2528" E	Not Provided
			Q18	**A330**	02° 44' 08.3483" N	101° 41' 01.4276" E	Not Provided

WMKK AD 2.1 AERODROME LOCATION INDICATOR AND NAME

WMKK - KL INTERNATIONAL / SEPANG

WMKK AD 2.2 AERODROME GEOGRAPHICAL AND ADMINISTRATIVE DATA

1	**ARP coordinates and site at AD**	LAT 024436N LONG 1014153E (WGS84) Site: RWY 14R threshold centerline
2	**Direction and distance from city**	Bearing 180 deg/43 KM from Kuala Lumpur
3	**Elevation/Reference temperature**	21.15M (70 feet) / 32° C
4	**Geoid Undulation (ARP)**	-1.548M
5	**MAG VAR / Annual change**	08 min 00 sec West (2014)
6	**AD Administration, address, telephone, telefax, telex,AFS**	Operator : Malaysia Airports Holding Berhad Malaysia Airports (Sepang) Sdn. Bhd. KL International Airport 64000 KLIA Selangor Darul Ehsan. Tel : 603 - 87769106 Fax : 603 - 89265012 ATC Services : Department of Civil Aviation Malaysia Air Traffic Control Tower Complex KL International Airport 64000 KLIA Selangor Darul Ehsan Tel : 603 - 87784000 (General Office) 603 - 87784080 (ATC Tower) 603 - 87784091 (AIS Office) Fax : 603 - 87784011 (General Office) 603 - 87784022 (ATC Tower) 603 - 87784044 (AIS Office) AFS/AFTN : WMKKZTZX
7	**Type of traffic permitted (IFR/VFR)**	IFR category:Approved international and domestic flights. VFR category:Approved helicopter operations.
8	**Remarks**	NIL

WMKK AD 2.3 OPEARTIONAL HOURS

1	**AD Administration**	H24
2	**Customs and immigration**	H24
3	**Health and sanitation**	H24
4	**AIS Briefing Office**	H24
5	**ATS Reporting Office**	H24
6	**MET Briefing Office**	H24
7	**ATS**	H24
8	**Fuelling**	PETRONAS Refuelling : H24 SHELL Refuelling : H24 PETRON Aviation Refuelling : H24
9	**Handling**	Prior arrangement.
10	**Security**	H24
11	**De-icing**	Not available
12	**Remarks**	NIL

WMKK AD 2.4 HANDLING SERVICES AND FACILITIES

1	**Cargo handling facilities**	Forklift max 6 tonnes. Up to 20 tonnes handling capability.
2	**Fuel types**	Jet A1, AVGAS
3	**Fuelling facilities / capacity**	Hydrant refuelling.
4	**De-icing facilities**	Not available
5	**Hangar space available for visiting aircraft**	(a) MAS Hangar 5 (2 x B737 and 2 x B747); (b) MAS Hangar 6 (2 x A380); (c) SAE Hangar (2 x B747); (d) Air Asia Hangar (2 x A320).
6	**Repair facilities for visiting aircraft**	Commercial aircraft up to and including A380.
7	**Remarks**	Handling services available H24 and by prior arrangement with the aerodrome administration.

WMKK AD 2.5 PASSENGER FACILITIES

1	**Hotels**	At the Airport and in the City.
2	**Restaurants**	At the Airport and in the City.
3	**Transportation**	Trains, buses, taxis and car for hire from the Airport.
4	**Medical facilities**	First aid at the Airport. Hospitals in the City.
5	**Bank and Post offices**	At Airport. Open within Airport HR.
6	**Tourist Office**	At the Terminal Building.
7	**Remarks**	NIL

WMKK AD 2.6 RESCUE AND FIRE FIGHTING SERVICES

1	**AD category for fire fighting**	CAT 10
2	**Rescue equipment**	**1. Fire Station 1** Type of Vehicles: a) Ultra Large Foam Tender i) 3 units - 12,000 liter of water per vehicle; - 1,500 liter of AFFF per vehicle; - 500 kg of dry powder per vehicle. ii) 1 unit - 10,000 liter of water; - 1,200 liter of AFFF; - 500 kg of dry powder. b) Support Vehicle i) Water Tender (1 unit) - 3,600 liter of water. ii) Emergency Response - Vehicle (1 unit). iii) Mobile Command Post - (1 unit). iv) Commanding Officer Vehicle. **2. Fire Station 2** Type of Vehicles: a) Ultra Large Foam Tender i) 4 units - 12,000 liter of water per vehicle; - 1,500 liter of AFFF per vehicle; - 500 kg of dry powder per vehicle. b) Support Vehicle i) Water Tender (1 unit) - 3,600 liter of water. **3. Fire Station 3** Type of Vehicles: a) Ultra Large Foam Tender i) 3 units - 12,000 liter of water per vehicle; - 1,500 liter of AFFF per vehicle; - 250 kg of dry powder per vehicle. b) Support Vehicle i) Water Tender (1 unit) - 10,000 liter of water. ii) Emergency Response - Vehicle (1 unit). iii) Commanding Officer Vehicle.
3	**Capability for removal of disabled aircraft**	Lifting bags and hydraulic jacks available.
4	**Remarks**	NIL

WMKK AD 2.7 SEASONAL AVAILABILITY - CLEARING

NOT APPLICABLE

WMKK AD 2.8 APRONS, TAXIWAYS AND CHECK LOCATIONS DATA

1a	**Apron surface and strength (WI the areas of RWY 14L/32R and 14R/32L)**	Surface:	Concrete	
		Strength:	PCN 90/R/C/W/T	
1b	**Apron surface and strength (WI the areas of RWY 14L/32L and 15/33)**	**Apron:**	**2A, 2B, 2C, 2D, 2F and 2J**	**2E, 2G and 2H**
		Surface:	Asphalt	Asphalt
		Strength:	PCN 97/F/D/X/T	PCN 114/F/D/X/T
2a	**Taxiway width, surface and strength (WI the areas of RWY 14L/32R and 14R/32L)**	Width	25M	
		Surface:	Asphalt	
		Strength:	PCN 100/R/C/W/T	
2b	**Taxiway width, surface and strength (WI the areas of RWY 14R/32L and 15/33)**	**TWY :**	**U1, U2, U3, U4, U8 and U9**	**U5, U6 and U7**
		Width:	18M	25M
		Surface:	Asphalt	Asphalt
		Strength:	PCN 97/F/D/X/T	PCN 114/F/D/X/T
3	**ACL location and elevation**	Elevation and geo position. Shown on the Aircraft Parking and Docking Charts.		
4	**VOR/INS checkpoint**	Not available		
5	**Remarks**	Aircraft Code D and above are not allowed to operate on: a) TWY L and extended portion of TWY B south of intersection B14; b) TWY U1 to U4, including the connecting TWYs from U3A to U3F and TWYs U8 and U9; c) TWYs from Q1 to Q4; d) Portion of TWY P and Q north of P1 and Q5. Aircraft Code E and above are not allowed to taxy: a) Taxilane T1; b) Between D12 and SAE Hangar. No Code F compliant taxiways are present on klia2.		

WMKK AD 2.9 SURFACE MOVEMENT GUIDANCE AND CONTROL SYSTEM AND MARKINGS

1	**Use of aircraft stand identification sign, TWY guide lines and visual docking/parking guidance system of aircraft stands**	Taxiing guidance signs at all intersections with TWY and RWY and at all holding positions. Guide lines at apron. Nose - in guidance at aircraft stands.
2	**RWY and TWY markings and LGT**	RWY: Designation, THR, TDZ, Centerline, Edge, RWY End as appropriate, marked and lighted. TWY: Centerline, holding positions at all TWY/RWY intersections, marked and lighted.
3a	**Stop bars (WI the areas of RWY 14L/32R and 14R/32L)**	Stop bars on all RWY/TWY intersections.
3b	**Stop bars (WI the areas of RWY 14R/32L and 15/33)**	Supplementary Stop bars provided at TWY Q5, Q6 and Q7 located 250M from RWY centerline.
4	**Remarks**	Surface movement surveillance radar in use.

WMKK AD 2.10 AERODROME OBSTACLES

In APCH/TKOF areas			In circling area and at aerodrome		Remarks
1			2		3
RWY and Area affected	Obstacle type Elevation Markings and Lights	Coordinates (WGS84)	Obstacle type Elevation Marking and Lights	Coordinates (WGS84)	
a	b	c	a	b	
14L/APCH 32R/TKOF	LOC antennas 19.4M Red/Red obstruction lights	024648.7N 1014202.5E	GP aerial 32.8M Red/White Red obstruction lights	024636.6N 1014215.3E	NIL
	AWOS No.2 24.9M	024635.0N 1014216.4E	Illuminated WDI 23.7M	024638.9N 1014215.8E	
	AWOS No.3 25.3M	024550.5N 1014245.7E	KLIA Control Tower East 141.5M Red obstruction lights	024525.5N 1014208.8E	
	AWOS No.4 27.6M	024506.0N 1014316.1E	Radar sensor 69.8M Red obstruction lights	024630.0N 1014124.0E	
			SMR - C 58.2M	024411.3N 1014227.2E	
	Note: AWOS (Automated Weather Observation System)		GS02 - LOC32R - 6.0M AGL	024650.4N 1014204.3E	
			GS03 - GP14L - 15.0M AGL	024636.6N 1014215.3E	
			GS04 - METEO1 - 6.0M AGL	024550.4N 1014245.7E	
			GS05 - METEO2 - 6.0M AGL	024505.9N 1014316.2E	
			GS05 - GP32R - 15.0M AGL	024504.9N 1014316.8E	
			GS06 - LOC14L - 6.0M AGL	024446.3N 1014327.3E	
32R/APCH 14L/TKOF	LOC antennas 24.9M Red/Red obstruction lights	024445.3N 1014325.3E	GP aerial 36.2M Red/White Red obstruction light	024504.9N 1014316.8E	NIL
			Illuminated WDI 26.6M	024457.9N 1014313.4E	
14R/APCH 32L/TKOF	LOC antennas 19.8M Red/Red obstruction lights	024443.7N 1014147.4E	GP aerial 32.2M Red/White Red obstruction lights	024425.6N 1014154.8E	NIL
			Illuminated WDI 22.6M	024432.1N 1014158.7E	
			GS11 - LOC14R - 6.0M AGL	024240.1N 1014307.4E	
			GS13 - GP14R - 15.0M AGL	024425.5N 1014154.9E	
32L/APCH 14R/TKOF	LOC antennas 17.6M Red/Red obstruction lights	024241.7N 1014309.2E	GP aerial 30.9M Red/White Red obstruction lights	024254.0N 1014256.7E	NIL
	AWOS No.7 22.3M	024254.7N 1014255.5E	Illuminated WDI 21.0M	024256.2N 1014255.9E	
	AWOS No.8 22.1M	024339.7N 1014225.6E	Hill - Bukit Lada 110.0M AMSL Red obstruction lights	024232.7N 1014356.6E	
	AWOS No.9 22.0M	024429.0N 1014201.0E	Hill - Bukit Sungai Lanau 100.9M AMSL Red obstruction lights	024158.1N 1014304.7E	
			Power Plant - 15KM South of THR RWY 32 525.0FT AMSL Marked and lighted at night	023524.6N 1014327.9E	

In APCH/TKOF areas			In circling area and at aerodrome		Remarks
1			2		3
RWY and Area affected	Obstacle type Elevation Markings and Lights	Coordinates (WGS84)	Obstacle type Elevation Marking and Lights	Coordinates (WGS84)	
a	b	c	a	b	
15/APCH 33/TKOF	LOC antennas 11.7M	024411.0N 1014021.7E	GP aerial 23.7M Red/White Red obstruction lights	024408.0N 1014042.1E	NIL
	AWOS No. 13 11.2M	024408.1N 1014135.8E	Illuminated WDI 15.5M	024414.5N 1014045.1E	
	AWOS No. 14 11.2M	024407.8N 1014041.5E	KLIA Control Tower West 146.9M AMSL Red obstruction lights	024445.7N 1014105.0E	
	AWOS No. 15 11.2M	024413.7N 1014021.0E	Multilateration Surveillance System (MSS) Sensors Antennas:		
			GS45 - 23.7M (co-located on GP)	024407.5N 1014041.1E	
			GS46 - 18.7M	024328.5N 1014106.3E	Western side of RWY 15/33 and behind the two GP aerials line.
			GS47 - 18.7M	024258.6N 1014126.5E	
			GS48 - 18.7M	024224.1N 1014148.5E	
33/APCH 15/TKOF	LOC antennas 11.7M	024411.0N 1014250.1E	GP aerial 23.7M Red/White Red obstruction lights	024237.2N 1014143.0E	NIL
	AWOS No.11 11.2M	024413.7N 1014250.6E	Illuminated WDI 15.5M	024238.4N 1014141.3E	
	AWOS No.12 11.2M	024407.79N 1014230.18E	Hill - Bukit Lada 110.0M AMSL Red obstruction lights	024232.7N 1014356.6E	
			Hill - Bukit Sungai Lanau 100.9M AMSL Red obstruction lights	024158.1N 1014304.7E	

WMKK AD 2.11 METEOROLOGICAL INFORMATION PROVIDED

1	Associated MET Office	KL International Airport, Sepang.
2	Hours of service MET Office outside hours	H24
3	Office responsible for TAF preparation Periods of validity	KL International Airport, Sepang. 0024 0606 1212 1818.
4	Type of landing forecast Interval of issuance	Trend. Half hourly.
5	Briefing / consultation provided	Flight level Wind/Temp, SIGWX, Volcanic eruption, Tropical storm, SIGMET.
6	Flight documentation Language(s) used	Charts, abbreviated plain language text. English.
7	Charts and other information available for briefing or consultation	P_{85}, P_{70}, P_{50}, P_{40}, P_{30}, P_{25}, P_{20}, U_{85}, U_{70}, U_{50}, U_{30}, U_{20}. SIGWX, Tropical storm track.
8	Supplementary equipment available for providing information	GMS Satellite receiver, Weather Radar , Self briefing terminals.
9	ATS units provided with information	Subang ATSC. KL International Airport TWRs. KL International Airport Pilot Briefing Office. Subang Pilot Briefing Office.
10	Additional information	NIL

WMKK AD 2.12 RUNWAY PHISICAL CHARACTERISTICS

Designation RWY NR	TRUE and MAG BRG	Dimensions of RWY (M)	Strength (PCN) Surface of RWY and SWY	THR Coordinates (WGS84)	THR elevation and highest elevation of TDZ of precision APP RWY
1	2	3	4	5	6
14L	146° T	4019 x 60	90/R/C/W/T - 241M conc 100/F/C/W/T - 3537M flex 346M conc	024642.52N 1014206.67E	THR: 16.6M 54.46FT
32R	326° T	4019 x 60	90/R/C/W/T - 241M conc 100/F/C/W/T - 3537M flex 241M conc	024454.03N 1014319.41E	THR: 21.2M 69.39FT
14R	146° T	4000 x 60	90/R/C/W/T - 241M conc 100/F/C/W/T - 3519M flex 240M conc	024435.84N 1014152.63E	THR: 16.5M 54.13FT
32L	326° T	4000 x 60	90/R/C/W/T - 241M conc 100/F/C/W/T - 3519M flex 297M conc	024247.86N 1014305.03E	THR: 14.5M 47.57FT
15	146° T	3960 x 60	90/R/C/W/T - 550M conc 100/F/C/W/T - 3089M flex 321M conc	024417.57N 1014038.97E	THR: 8.1M 26.63FT
33	326° T	3960 x 60	90/R/C/W/T - 321M conc 100/F/C/W/T - 3089M flex 550M conc	024230.67N 1014150.65E	THR: 8.3M 27.13FT

Slope of RWY - SWY	SWY Dimensions (M)	CWY Dimensions (M)	Strip dimension (M)	OFZ	Remarks
7	8	9	10	11	12
0.12%	NIL	NIL	4139 x 300	Provided	RESA RWY 14L: 225M X 120M
0.12%	NIL	NIL	4139 x 300	Provided	RESA RWY 32R: 120M X 120M
0.05%	NIL	NIL	4120 x 300	Provided	RESA RWY 14R: 120M X 120M
0.05%	NIL	NIL	4120 x 300	Provided	RESA RWY 32L: 176M X 120M
0.00%	NIL	NIL	4080 x 300	Provided	RESA RWY 15: 240M X 120M
0.00%	NIL	NIL	4080 x 300	Provided	RESA RWY 33: 240M X 120M

WMKK AD 2.13 DECLARED DISTANCES

RWY designator	TORA (M)		ASDA (M)	TODA (M)	LDA (M)	Remarks
1	**2**		**3**	**4**	**5**	**6**
	FROM	TORA				
14L	THRESHOLD	4019 (13182FT)	4019 (13182FT)	4019 (13182FT)	4019 (13182FT)	NIL
	TWY A2	3604 (11182FT)				NIL
	TWY A3	2832 (9289FT)				NIL
	TWY A4	2520 (8266FT)				NIL
	TWY A5	2070 (6790FT)				NIL
32R	RUNWAY EXTREMITY	4019 (13182FT)	4019 (13182FT)	4019 (13182FT)	4019 (13182FT)	NIL
	TWY A10	3954 (12969FT)				NIL
	TWY A9	3634 (11920FT)				NIL
	TWY A8	2887 (9469FT)				NIL
	TWY A7	2574 (8443FT)				NIL
	TWY A6	2065 (6773FT)				NIL
14R	RUNWAY EXTREMITY	4000 (13120FT)	4000 (13120FT)	4000 (13120FT)	4000 (13120FT)	NIL
	TWY C2	3887 (12749FT)				NIL
	TWY P2	3837 (12585FT)				NIL
	TWY C3	3566 (11696FT)				NIL
	TWY P3	3517 (11535FT)				NIL
	TWY P4	3016 (9892FT)				NIL
	TWY C4	2820 (9250FT)				NIL
	TWY C5	2507 (8223FT)				NIL
	TWY C6	2050 (6724FT)				NIL
32L	THRESHOLD	4000 (13120FT)	4000 (13120FT)	4000 (13120FT)	4000 (13120FT)	NIL
	TWY C10	3585 (11759FT)				NIL
	TWY C9	2812 (9223FT)				NIL
	TWY C8	2500 (8202FT)				NIL
	TWY C7	2048 (6717FT)				NIL
15	RUNWAY EXTREMITY	3960 (12992FT)	3960 (12992FT)	3960 (12992FT)	3960 (12992FT)	NIL
	TWY Y1	3847 (12621FT)				NIL
	TWY Y2	3502 (11490FT)				NIL

RWY designator	TORA (M)		ASDA (M)	TODA (M)	LDA (M)	Remarks
1	2		3	4	5	6
	TWY Y3	3300 (10827FT)				NIL
	TWY Y4	2500 (8202FT)				NIL
	TWY Y5	2050 (6726FT)				NIL
33	THRESHOLD	3960 (12992FT)	3960 (12992FT)	3960 (12992FT)	3960 (12992FT)	NIL
	TWY Y9	3848 (12625FT)				NIL
	TWY Y8	3728 (12231FT)				NIL
	TWY Y7	2500 (8202FT)				NIL
	TWY Y6	2050 (6726FT)				NIL

WMKK AD 2.14 APPROACH AND RUNWAY LIGHTING

RWY Designator	APCH LGT type LEN INTST	THR LGT colour WBAR	VASIS (MEHT) PAPI	TDZ LGT LEN(M)	RCLL Length, spacing, colour INTST	REDL Length, spacing, colour INTST	RENL colour WBAR	STWL Length (M) colour	Remarks
1	2	3	4	5	6	7	8	9	10
14L	CAT II 900M LIH Capacitor Discharge Lights from 900M to 300M	Green	PAPI Left/Right 3° 21.5	900	4019M, 15M, White: 0 - 3119M Red/White: 3119M - 3719M Red: 3719M - 4019M, LIH	4019M, 60M, White: 0 - 3419M Yellow: 3419M - 4019M, LIH	Red	NIL	NIL
32R	CAT II 900M LIH Capacitor Discharge Lights from 900M to 300M	Green	PAPI Left/Right 3° 21.5	900	4019M, 15M, White: 0 - 3224M Red/White: 3224M - 3824M Red: 3824M - 4019M, LIH	4019M, 60M, Red: 0 - 47M White: 47M - 3524M Yellow: 3524M - 4019M, LIH	Red	NIL	NIL
14R	CAT II 900M LIH Capacitor Discharge Lights from 900M to 300M	Green	PAPI Left 3° 21.5	900	4000M, 15M, White: 0 - 3156M Red/White: 3156M - 3756M Red: 3756M - 4000M, LIH	4000M, 60M, White: 0 - 3456M Yellow: 3456M - 4000M, LIH	Red	NIL	NIL
32L	CAT II 900M LIH Capacitor Discharge Lights from 900M to 300M	Green	PAPI Left/Right 3° 21.5	900	4000M, 15M, White: 0 - 3100M Red/White: 3100M - 3700M Red: 3700M - 4000M, LIH	4000M, 60M, White: 0 -3400M Yellow: 3400M - 4000M, LIH	Red	NIL	NIL
15	CAT I 900M LIH	Green	PAPI Right 3° 21.5	NIL	3960M, 15M, White: 0 - 3060M Red/White: 3060M - 3660M Red: 3660M - 3960M, LIH	3960M, 60M, White: 0 - 3360M Yellow: 3360M - 3960M, LIH	Red	NIL	NIL

RWY Designator	APCH LGT type LEN INTST	THR LGT colour WBAR	VASIS (MEHT) PAPI	TDZ LGT LEN(M)	RCLL Length, spacing, colour INTST	REDL Length, spacing, colour INTST	RENL colour WBAR	STWL Length (M) colour	Remarks
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
33	CAT I 900M LIH	Green	PAPI Left 3° 21.5	NIL	3960M, 15M, White: 0 - 3060M Red/White: 3060M - 3660M Red: 3660M - 3960M, LIH	3960M, 60M, White: 0 - 3360M Yellow: 3360M - 3960M, LIH	Red	NIL	NIL

WMKK AD 2.15 OTHER LIGHTING, SECONDARY POWER SUPPLY

1	ABN/IBN location, characteristics and hours of operation	NIL
2	LDI location and LGT Anemometer location and LGT	LDI : NIL Illuminated Wind Direction Indicator (IWDI). 14L :345M from THR at Left; Lighted. 32R :200M from THR at Left; Lighted. 14R :200M from THR at Left; Lighted. 32L :310M from THR at Left; Lighted. 15 :185M from THR at Left; Lighted. 33 :400M from THR at Left; Lighted.
3	TWY edge and centre line lighting	Edge: At all TWY curves and fillets. Centerline: At all TWY and taxilanes. Clearance Bar: At all TWY intersections.
4a	Secondary power supply / switch-over time	Secondary power supply to all lighting. Switch over time: 1 sec All Runway, Approach, Stop Bar and PAPI. 15 sec All TWY Edge, Centerline, Signs, Obstacles and Illuminated WDI.
4b	Secondary power supply / switch-over time	Switch-over time 10 seconds.
5	Remarks	Stop Bar: At all TWY entering RWY.

WMKK AD 2.16 HELICOPTER LANDING AREA

1	Coordinates TLOF or THR of FATO	024550.68N 1014204.20E
2	TLOF and/or FATO elevation M/FT	22.10M/72.51FT.
3	TLOF and FATO area dimension, surface, strength, marking	Rectangle, 30M x 30M, Asphalt, 30 Tons, white edges and white letter H.
4	True and MAG BRG of FATO	True North Bearing - 61 45 00 from ARG X-axis Magnetic Bearing - 10.69min West of True North.
5	Declared distance available	NIL
6	APP and FATO lighting	NIL
7	Remarks	Ground taxi to apron

WMKK AD 2.17 ATS AIRSPACE

1	Designation and lateral limits	Kuala Lumpur CTR Semi circle of 15NM radius centred on Kuala Lumpur (VKL) DVOR/DME (024328N 1014417E) from 024450N 1015913E clockwise to 023709N 1013041E thence a straight line to 030134N 1011921E thence a semicircle of 15NM radius centred on WMS A/Subang ARP (030752N 1013253E) clockwise to 032245N 1013454E thence a straight line to 032133N 1014406E thence a semi circle of 15NM radius centred on 030641N 1014209E clockwise to 030803N 1015706E thence a straight line to 024450N 1015913E.
2	Vertical limits	SFC to 3500FT AMSL.
3	Airspace classification	Class C (except for WMR 418/236 which is G)
4	ATS unit callsign Language(s)	Lumpur Arrival, Lumpur Departure, Lumpur Radar. Lumpur Tower. English

5	Transition altitude	11000FT.
6	Remarks	NIL

WMKK AD 2.18 ATS COMMUNICATION FACILITIES

Service Designation	Call sign	Frequency	Hours of operation	Remarks
1	**2**	**3**	**4**	**5**
APP	LUMPUR RADAR	118.650 MHz 121.250 MHz 124.200 MHz 125.850 MHz	H24	-
APP	LUMPUR ARRIVAL	119.450 MHz 120.350 MHz 124.650 MHz 125.100 MHz 135.750 MHz		-
APP	LUMPUR DEPARTURE	135.250 MHz		-
AERODROME CONTROL	LUMPUR TOWER	118.800 MHz 229.000 MHz		RWY 14L/32R
AERODROME CONTROL	LUMPUR TOWER	118.500 MHz 229.000 MHz		RWY 14R/32L
SURFACE MOVEMENT CONTROL	LUMPUR GROUND	121.650 MHz 229.000 MHz		TWY A including taxiways A1 to A11 TWY B including taxiways B5 to B13
SURFACE MOVEMENT CONTROL	LUMPUR GROUND	121.800 MHz 229.000 MHz		TWY C including taxiways C1 to C11 TWY D including taxiways D1 to D13 TWY E including taxiways E1 to E5 TWY K between taxiways E and D TWY F between taxiways F6 and D TWY G between taxiways F6 and D TWY F6, T6 between taxiways F and T7 TWY T7 between taxiways D and T6 TWY T13 and the VVIP Apron
GROUND MOVEMENT CONTROL	LUMPUR GROUND	122.150 MHz		TWY T1, T2, T3, T4, T5, T8, T9 and T12 TWY T6 between taxiways T7 and T9 TWY T7 between taxiways T5 and T6
GROUND MOVEMENT CONTROL	LUMPUR GROUND	122.850 MHz		TWY F between taxiways B and F6 TWY G between taxiways B and F6 TWY S1, S6, S7, S8, S10, F1, F2, F3, F4 and F5
GROUND MOVEMENT CONTROL	LUMPUR GROUND	122.275 MHz		TWY H TWY S2, S3, S4, S5 and S9
GROUND MOVEMENT CONTROL	LUMPUR GROUND	123.250 MHz		TWY A between A11 and B14 TWY B between B13 and N2 TWY B14 TWY L, N1 and N2 TWY K between B and E TWY H3 and H5
ACD	LUMPUR DELIVERY	126.000 MHz		Airways clearance, SSR code allocation and departure slot time
ATIS	LUMPUR TERMINAL INFORMATION	126.450 MHz		Departure ATIS. Synthesized voice broadcast.

New position and facilities for klia2 Terminal operations (KLIA Control Tower West)				
Service Designation	Call sign	Frequency	Hours of operation	Remarks
1	2	3	4	5
AERODROME CONTROL	LUMPUR TOWER	119.800 MHz	H24	RWY 15/33
SURFACE MOVEMENT CONTROL	LUMPUR GROUND	118.050 MHz		TWY associated with RWY 15/33 (TWY Z, INT Z1, Z2, Z3, Z4, Z5, Z6, Z7 and Z8) (TWY Y, INT Y1, Y2, Y3, Y4, Y5, Y6, Y7, Y8 and Y9) - near to the RWY 15/33
SURFACE MOVEMENT CONTROL	LUMPUR GROUND	122.525 MHz		TWY associated with TWY P and Q (TWY Q, INT Q1, Q2, Q3, Q4, Q5, Q6 and Q7) (TWY P, INT P1, P2, P3 and P4) - near to the RWY 14R/32L
GROUND MOVEMENT CONTROL	LUMPUR GROUND	121.725 MHz		(TAXILANE U1, U2, U7, U8 and U9)
GROUND MOVEMENT CONTROL	LUMPUR GROUND	122.550 MHz		(TWY U3 and U4, INT U3A, U3B, U3C, U3D, U3E and U3F)
GROUND MOVEMENT CONTROL	LUMPUR GROUND	130.750 MHz		(TWY U5 and U6, INT U5A, U5B, U5C and U5D)
ATIS	LUMPUR TERMINAL INFORMATION	126.250 MHz		Arrival ATIS. Synthesized voice broadcast.

WMKK AD 2.19 RADIO NAVIGATION AND LANDING AIDS

Type of aid CAT of ILS	ID	Frequency	Hours of operation	Site TX antenna coordinates	Elevation of DME transmitting antenna	Remarks
1	2	3	4	5	6	7
DVOR	VKL	116.100 MHz	H24	024328.0N 1014417.0E	-	NIL
DME	VKL	CH 108X		024328.0N 1014417.0E	90M	NIL
ILS CAT I	IEL	108.500 MHz		GP: 024636.6N 1014215.3E LOC: 024445.3N 1014325.3E	-	14L
DME	IEL	CH 22X		024636.6N 1014215.3E	18M	14L
ILS CAT I	IER	109.100 MHz		GP: 024504.9N 1014316.8E LOC: 024648.7N 1014202.5E	-	32R
DME	IER	CH 28X		024504.9N 1014316.8E	21M	32R
ILS CAT I	IWR	110.700 MHz		GP: 024425.6N 1014154.8E LOC: 024241.7N 1014309.2E	-	14R
DME	IWR	CH 44X		024425.6N 1014154.8E	24M	14R
ILS CAT I	IWL	111.900 MHz		GP: 024254.0N 1014256.7E LOC: 024443.6N 1014147.4E	-	32L
DME	IWL	CH 56X		024254.0N 1014256.7E	24M	32L
ILS CAT I	IWK	110.100 MHz		GP: 024408.0N 1014042.1E LOC: 024222.2N 1014156.3E	-	15
DME	IWK	CH 38X		024408.0N 1014042.1E	24M	15
ILS CAT I	IWM	111.500 MHz		GP: 024237.2N 1014143.0E LOC: 024426.1N 1014033.3E	-	33
DME	IWM	CH 52X		024237.2N 1014143.0E	24M	33

WMKK AD 2.20 LOCAL TRAFFIC REGULATIONS

1 Start Up and Push Back

1.1 Air traffic control will authorise the initiation of engine start up and aircraft push back in order to regulate the movement of aircraft with respect to other aircraft on the apron edge and apron centre lane taxiways.

1.2 The pilots-in-command of all aircraft require clearance from air traffic control for both engine start up and push back. All departing aircraft shall contact LUMPUR DELIVERY for ATC clearance 5 minutes before engine start.

1.3 When air traffic control provides the pilot-in-command with approval to push back, this approval is intended on the taxilane or on the push back line (where present). The approval may also contain an expectation to exit the apron via a specified apron taxiway if the intended taxiing route is not a standard taxiing route. Whether complying with a standard taxiing route or a special taxiing route, the pilot-in-command shall ensure that the direction of push back enables the aircraft to taxi via the specified apron access taxiway.

1.4 During engine start up, it shall be the responsibility of the pilot-in-command and the aircraft marshaller to ensure that the area of the blast cone is clear.

1.5 During aircraft push back, it shall be the responsibility of the pilot-in-command and the aircraft marshaller to ensure that the area behind the aircraft is clear of vehicles and other objects.

1.6 Prior to, and during engine start up, the pilot-in-command and aircraft marshallers shall be responsible to ensure that the aircraft is towed to the correct position for engine start and that the appropriate blast zone behind an aircraft is clear during engine start up.

1.7 It is prudent practice for aircraft to be pushed back from the parking stand before start-up. However if required due to technical reasons a start-up may be approved whilst aircraft is still at the parking stand.

The following requirements and restrictions shall apply to aircraft for engine runs:

1.7.1 Idle power engine run may be carried on all bays for all types in the Main, Satellite and Cargo terminals provided the aircraft marshaller ensures that the area of the blast cone is clear and there is no other aircraft taxiing on the taxilane behind it.

1.7.2 Wide-body aircraft with tail mounted engines e.g. MD11, DC10, L1011 need a clear distance of at least 250M behind if the top engine is involved.

1.8 Power back at KL International Airport is not permitted.

1.9 Pilots are to ensure that the transponder is switched on only after push back clearance has been given by ATC. Whenever the aircraft is capable of reporting Aircraft Identification, the identification of the aircraft should also be entered through the FMS or the Transponder Control Panel. Flight crew must use the 3-letter ICAO designator of the operator followed by the flight identification number (e.g. MAS123, AXM4567, TSE890, etc.). If no transponder code is provided, the pilot shall enter the non-discrete code 1000.

1.10 Pilots should ensure that the transponder is operating (set XPNDR or the equivalent according to specific installation, AUTO if available, not OFF or SDBY) and the assigned Mode A code selected from the request for push back or taxi, whichever is earlier.

2 Taxiing Routes - Departure and Arrival

2.1 Arriving and departing aircraft shall follow the published (standard) taxi routes described in the aerodrome ground movement charts as applicable, unless directed otherwise by ATC. The issuance by ATC of a taxi route to an aircraft does not relieve the Pilot-In-Command of the responsibility to maintain separation with other aircraft on the movement area or to comply with ATC directions intended to regulate aircraft on the manoeuvring area.

2.2 For each aircraft apron, access and exit taxiways are defined (shown on the Aerodrome Ground Movement Chart) and are included in the standard taxiing routes. In conducting engine start and push back, pilots-in-command should be aware that they will be required to proceed by a specified exit or access taxiway.

2.3 Taxiing clearance limits may be applied.

3 Intersection Departures

3.1 Departing aircraft will normally be directed by ATC to use the full length of the runway for take-off. Pilots-in-command may request an intersection departure or ATC may propose an intersection departure to a pilot-in-command to resolve a particular runway or manoeuvring area conflict. The final decision whether to make an intersection departures rests with the pilot-in-command.

4 Departure Regulation

4.1 In order to reduce congestion at the holding points during peak hours, a procedure to regulate departures will be enforced. Departing aircraft may expect delays at start-up. Aircraft with ATC time restrictions will be afforded priority for start and push back.

5 Parking Area for General Aviation Aircraft

5.1 The Gate Allocation Unit of Air side Operations, Malaysia Airport Sepang Sdn. Bhd. will allocate parking stands for General Aviation and other approved flights.

6 Helicopter Operations

6.1 All helicopter operations should land at, and take-off from, the Helipad.

6.2 Pilots-in-command of helicopters wishing to depart from KL International Airport shall call the Ground Movement frequency (121.65 MHz) for ATC clearance prior to commencing any taxiing movement. Clearance for take-off will be provided by Aerodrome Control. The take-off clearance may be accompanied by an initial tracking clearance to resolve aerodrome traffic conflicts.

6.3 Pilots-in-command of arriving helicopters will be issued with tracking instructions to avoid aerodrome traffic conflicts and a clearance to the helipad.

6.4 After landing at the helipad, the pilot-in-command will be issued with a parking position within the vicinity of the helipad. The pilot-in-command shall taxi the aircraft to the parking position. Parking on the marked helipad landing area is not permitted.

7 Procedures for Taxiing and Towing of Aircraft

7.1 The Pilot In Command or Tow Master shall contact Lumpur Ground on the appropriate VHF frequency prior start-up or prior towing.

7.2 Due to Towers line of sight problem, the Pilot-in-Command or Tow Master shall be responsible for the separation with their aircraft and the other obstruction while taxiing or being towed. ATC will assign a discrete transponder code in order to give pilot/towing master as far as possible, information about other traffic moving.

8 Jet Blast Procedures

8.1 Jet Blast Procedures for KL International Airport are as follows:

Aircraft Stand	Standard Departure Taxi Routes	Non Standard Departure Taxi Routes
A03 and A05 B03 and B05	Aircraft to be pushed back and towed forward to breakaway point 100 metres from blast fence before taxiing out.	
A02 and A04	Aircraft to be pushed back and towed forward to breakaway point abeam A06 before taxiing out.	
B02 and B04	Aircraft to be pushed back and towed forward to breakaway point abeam Bay B06 before taxiing out.	
C02, C04, C06, C13 and C15	Wide body aircraft at Bay C06 to be pushed back and towed forward to breakaway point abeam Bay C04 before taxiing out. Wide body aircraft at Bay C13 to be pushed back and towed forward to breakaway point abeam Bay C15 before taxiing out.	Wide body aircraft at Bays C02 and C04 to be pushed back and towed forward to breakaway point abeam Bay C06 before taxiing out.
C03, C07, C34 and C36	Wide body aircraft at Bays C34 and C36 to be pushed back and towed forward to breakaway point abeam Bay C36 before taxiing out.	Wide body aircraft at Bays C03 and C07 to be pushed back and towed forward to breakaway point abeam Bay C07 before taxiing out.
C14, C16, C23 and C25	Wide body aircraft at Bays C23 and C25 to be pushed back and towed forward to breakaway point abeam Bay C25 before taxiing out.	Wide body aircraft at Bays C14 and C16 to be pushed back and towed forward to breakaway point abeam Bay C16 before taxiing out.
C24, C26, C33 and C35	Wide body aircraft at Bays C33 and C35 to be pushed back and towed forward to breakaway point abeam Bay C35 before taxiing out.	Wide body aircraft at Bays C24 and C26 to be pushed back and towed forward to breakaway point abeam Bay C26 before taxiing out.
CARGO BAYS	All wide body aircraft at cargo bays are to be pushed back and aligned on taxiway centreline before taxiing out.	

WMKK AD 2.21 NOISE ABATEMENT PROCEDURES

NIL

WMKK AD 2.22 FLIGHT PROCEDURES

1 General

1.1 All operations into and out of KL International Airports shall be in accordance with the Instrument Flight Rules. Helicopter flights to and from KL International Airport may be in accordance with the Visual Flight Rules.

2 Clearance Delivery

2.1 Pilots-in-command shall request from Lumpur Clearance Delivery an airways clearance 5 minutes before engine start-up. Slot departure times, if in effect, will also be provided from Lumpur Clearance Delivery.

2.2 Notwithstanding para 2.1 above, eastbound departures planned along the following ATS route segments shall only request an airways clearance when they are ready for engine start:

a) R208

b) VPK M758

c) VPK M761

d) VPK L629

3 Aerodrome Control And Apron Services

3.1 Aerodrome control services at KL International Airport are provided by air traffic control from Tower East, Tower West and Apron Control Tower. Regulation of aircraft movement within the aprons are provided:

a) From Tower East for Aprons ETN, ETS, ETE, ETW, ESW, ESN and ECS

b) From Tower West for Aprons WTN, WTS, WTE, WTW, WSN, WSS, WSE and WSW

c) From Apron Control Tower for Aprons ESE, ESS, ECE, ECN and ECW

3.2 Aerodrome control services at KL International Airport are provided for all runways, designated taxiways and on apron edge taxiways and apron centre lane taxiways.

3.3 On runways and designated taxiways ATC controls and regulates:

a) Aircraft with respect to other aircraft, vehicles and obstructions;

b) Vehicles with respect to aircraft.

3.4 On apron edge taxiways and centre lane taxiways, and other designated parts of the movement area, ATC regulates aircraft with respect to other aircraft and fixed obstructions. ATC does not provide regulation or control of aircraft with respect to vehicles or people movement on this areas.

3.5 The pilot-in-command and aircraft marshallers shall be responsible for the safety of aircraft with respect to all vehicles during push back, engine start up and taxiing. Prior to, and during, engine start up, the pilot-in-command and aircraft marshallers shall be responsible to ensure that the aircraft is towed to the correct position for engine start and that the appropriate blast zone behind an aircraft is clear during engine start up.

4 Communication Services

4.1 On the movement area, all communications between air traffic control and pilots and between air traffic control and drivers of vehicles is on VHF. The functions and associated VHF frequencies are indicated in para WMKK AD 2.18. ATS COMMUNICATION FACILITIES.

5 Approach And Departure Procedures

5.1 **Departing Aircraft**

5.1.1 The order in which aircraft are given take-off clearances will be determined on the basis of normal traffic priorities, the application of wake turbulence standard, separation standards and departure slot allocations and management. The order of departure may not be the order in which aircraft arrive at the departure queue.

5.1.2 If the SID has been cancelled and replaced with a Radar Departure (RD):
"…callsign, recleared SEPANG 341 Departure, runway 32R – read back..."

5.1.3 Contact "Lumpur Departure" after airborne as soon as practicable before passing 2000FT on the following frequencies:

a) Departing aircraft 32R/32L/33 – 135.25 MHz

b) Departing aircraft 14R/14L/15 – 135.25 MHz

5.1.3.1 If the departure frequency is different from the standard in para 5.1.3:
"…callsign, departure frequency XXX.xx Runway 32R, cleared for take off, wind…"

5.1.3.2 On the first contact with Approach after becoming airborne, advise the SID/RD identifier or assigned heading, the last level vacated to the nearest 100FT and the assigned altitude

Examples:

If the aircraft is on SID or RD:
"…callsign, ..KIMAT ONE CHARLIE Departure, leaving one thousand seven hundred, climbing to six thousand…"

If the aircraft is on assigned heading:
"…callsign, ..on heading XXX, leaving one thousand seven hundred, climbing to six thousand…"

5.1.4 **Immediate Take-off Clearance**

5.1.4.1 A pilot receiving the ATC instruction "cleared for immediate take-off" is required to act as follows:

a) If not yet lined up on the runway, line up and begin take-off run without stopping the aircraft;

b) if already lined up on the runway, take-off without delay;

c) if unable to comply with the instruction, inform ATC immediately.

5.1.5 **Wake turbulence waiver**

5.1.5.1 Pilots-in-command of departing aircraft may choose to commence take-off without the applicable wake turbulence standard being applied. In this event the following conditions will apply:

a) The pilot shall expressly initiate the request for waiver using the phraseology:
"callsign...request wake turbulence waiver..."

b) Waiver on the wake turbulence standard shall apply in VMC by day;

c) The waiver shall not apply to a LIGHT or MEDIUM aircraft taking off behind a HEAVY aircraft take-off, if the take-off by the LIGHT or MEDIUM aircraft is commenced from a point more than 150 metres along the runway in the direction of take-off, from the commencement point of the HEAVY aircraft take-off.

5.1.5.2 When a pilot-in-command requests for a wake turbulence waiver, the pilot acknowledges that ATC will no longer be responsible for the application of wake turbulence separation standards to that specific flight operation.

5.2 **Landing Aircraft**

5.2.1 A succeeding aircraft may be cleared to land before the preceding landing aircraft which has landed or before the preceding departing aircraft which has commenced take-off run, is clear of the runway-in-use provided the following conditions are met:

a) In VMC;

b) ATC must have reasonable assurance that the appropriate separation will exist when the succeeding aircraft crosses the runway threshold;

c) when issuing a landing clearance following the application of the above procedures, ATC will issue the following aircraft with the instruction below:

"...callsign...preceding (aircraft type) vacating runway via (taxiway designator/airborne), surface wind....Runway (designator) cleared to land,…"

"...callsign...preceding (aircraft type) is rolling for departure, surface wind....Runway (designator), cleared to land,…"

5.3 **Missed Approach Procedures**

5.3.1 When a pilot-in-command executes a "go around", he shall comply with the published missed approach procedure for the runway unless given a specific alternate missed approach procedure by air traffic control. If the aircraft performance or weather conditions preclude the pilot-in-command from complying with this requirement he shall advise air traffic control immediately.

5.4 **Speed Restrictions (Arriving Aircraft)**

5.4.1 FLOW management is used to regulate traffic destined to KLIA. The flow control sequencing action, as described in AIP ENR 1.9 – 1, may include:

a) speed control;

b) radar vectoring; and

c) holding.

5.4.2 The speed restriction of 250 KIAS below 10,000FT is now applicable unless ATC issues the instruction "maintain high speed".

5.4.3 **Speed limitations points on Arrival and Approach Procedures**

5.4.3.1 Pilots cleared to proceed on Conventional STARs shall comply with following speed restrictions:

ARRIVAL	SPEED RESTRICTIONS
KIKAL THREE	Cross KIKAL 220 KIAS 160 KIAS from 10NM until 4NM to touchdown
DAKUS ONE VICTOR PULIP ONE VICTOR SAROX ONE VICTOR GUPTA ONE VICTOR SALAX ONE VICTOR INTOT ONE VICTOR	VKL VOR/DME 230 KIAS
LAPIR THREE	Cross LAPIR 220 KIAS 160 KIAS from 10NM until 4NM to touchdown

5.4.3.2 Pilots cleared to proceed on RNAV1 STAR shall comply with speed restrictions reported on applicable coding table.

5.4.3.3 Pilots cleared to proceed on RNAV1 Initial Approach Segment shall comply with speed restrictions reported on applicable coding table.

5.4.3.4 Pilots cleared to a published Instrument Approach Procedure shall comply with following speed restrictions:

a) 180 KIAS at Intermediate Fix (IF);

b) 160 KIAS from 10NM until 4NM to touchdown.

5.4.4 **Speed limitation points when STAR is cancelled**

5.4.4.1 Pilots shall adopt the following speeds when notified that the STAR is cancelled:

a) Under radar vectors:

- 250 KIAS on passing 10,000FT;
- 220 KIAS on turning base;
- 180 KIAS on turning to intercept the localizer;
- 160 KIAS from 10NM until 4NM to touchdown.

b) Own navigation to intercept the final approach track:

- 250 KIAS on passing 10,000FT;
- 220 KIAS 20 track miles from touchdown;
- 180 KIAS 15 track miles from touchdown;
- 160 KIAS from 10NM until 4NM to touchdown.

5.4.4.2 ATC may issue other speeds to achieve a more accurate spacing, e.g. 220 KIAS prior to base turn.

5.4.5 **Cancellation of speed restrictions**

5.4.5.1 Pilots need not adopt the speed restrictions at the speed limitation points when they are issued a " No ATC Speed Restriction" clearance by ATC.

6 Hazardous Weather Warning

6.1 Pilots will be advised when there are reported occurrences of microburst or wind shear. These alerts will be in the following form:

a) Runway designation;

b) Arrival or Departure;

c) Type of alert (microburst or wind shear);

d) Quantified headwind loss or gain;

e) Location of alert, in nautical miles, on final approach or departure path.

Example "*.....C/S, Runway 14L, arrival, microburst, headwind loss 40 knots, 2 miles final*".

7 Low Visibility Operating Procedures

7.1 **General**

7.1.1 There are 3 visibility conditions under which the airport may be required to operate:

a) Visibility Condition 1:

- Horizontal visibility sufficient for pilot to taxi and to avoid collision with other traffic on the taxiways and at intersections by visual reference, and for personnel of air traffic control units to exercise control over all traffic on the basis of visual surveillance; and

- The visibility shall not be less than 800M or 550M RVR.

b) Visibility Condition 2:

- Horizontal visibility sufficient for pilot to taxi and to avoid collision with other traffic on the taxiways and at intersections by visual reference, but insufficient for personnel of air traffic control units to exercise control over all traffic on the basis of visual surveillance; and

- The visibility shall not be less than 400M RVR.

c) Visibility Condition 3:

- Horizontal visibility less than 400M RVR.

7.2 **Visibility Condition 2 and 3**

7.2.1 Regulation of aircraft and vehicles shall be as follows :

a) Air traffic control shall be responsible for the regulation of aircraft and vehicles with respect to other aircraft and the provision of essential traffic information on aircraft to pilots-in-command and drivers of vehicles to facilitate separation;

b) Pilots-in-command shall be responsible for maintaining separation with other aircraft on the manoeuvring area, other than the runways;

c) Drivers of vehicles shall be responsible for separation with aircraft and other vehicles.

7.2.2 When low visibility operating procedures are in operation, air traffic control will:

a) Broadcast on the ATIS that low visibility operating procedures are in operation;

b) Ensure all vehicles and personnel are clear of the maneuvering area;

c) Provide runway landing intervals of 6NM or more;

d) Provide landing clearances no later than 2NM from touchdown;

e) Provide pilot-in-command of every departing and landing aircraft with:

- The current RVR reading for the relevant runway if RVR values are below 1500M;

- Unserviceability of any component parts of the CAT II facilities not previously broadcasted on ATIS.

7.2.3 When low visibility operating procedures are in operation pilots-in-command shall:

a) Be directed to use the full length of the runway or the last holding point available for departure (if full length is not available);

b) Ensure that after landing, the aircraft clears the LSA as soon as possible;

c) Be aware that any emergency conditions (brake fire etc.) may not be visible to the control tower, apron control tower or AFRS.

7.2.4 Responsibility for separation and regulation of aircraft shall be as follows:

7.2.4.1 Air traffic control will separate aircraft using the following methods:

a) Pilots-in-command will be provided with taxiing clearances and clearance limits which, in the event of a potential conflict, require the pilot-in-command to hold short of a taxiway intersection and report sighting and able to follow, or pass behind, the conflicting aircraft;

b) If the pilot-in-command is not able to see the conflicting aircraft, clearance to proceed will be withheld until the preceding aircraft has reported passing the next taxiway intersection;

c) If visual contact is lost, pilots-in-command shall inform air traffic control immediately and he shall be instructed to hold position. Further clearance to proceed will be withheld until the preceding aircraft has reported passing the next taxiway intersection.

7.2.5 When low visibility operating procedures are in operation pilots-in-command shall adjust aircraft taxiing speeds to ensure that they are able to comply with ATC instructions.

8 Runway Operations

8.1 **Modes Of Operation**

8.1.1 Under normal traffic conditions, operating runway mode selections will be:

a) Runway 32R for departures, Runway 32L for arrivals and Runway 33 Mixed Mode;

b) Runway 14R for departures, Runway 14L for arrivals and Runway 15 Mixed Mode.

8.2 **Simultaneous Parallel Runway Operations**

8.2.1 **General**

8.2.2 In KL International Airport are in use simultaneous parallel runway operations, both for departures and for arrivals. SPD – simultaneous parallel departures can be conducted from combination of any two of the three parallel instrument runways or to all of the three runways at one time. SPA – simultaneous parallel arrivals according to the traffic imbalance or to mode of operations, can be conducted as Dependent Parallel Approaches or Independent Parallel Approaches.

8.3 **Dependent Parallel Approaches - DPA**

8.3.1 DPA are simultaneous approaches to parallel or near-parallel instrument runways where radar separation minima between aircraft on adjacent extended runway center lines are prescribed.

8.3.2 DPA are subject to coordination between Lumpur ATCC and Lumpur TWRs and shall be notified to pilots via ATIS.

8.3.3 During Parallel approaches “Visual Approach/Side Step” on the adjacent runway shall be avoided.

8.4 **Independent Parallel Approaches - IPA**

8.4.1 IPA are simultaneous approaches to parallel or near-parallel instrument runways where radar separation minima between aircraft on adjacent extended runway center lines are not prescribed.

8.4.2 IPA are subject to coordination between Lumpur ATCC and Lumpur TWRs and shall be notified to pilots via ATIS.

8.4.3 During the execution of parallel approaches “Visual Approach/Side Step” on the adjacent runway shall be avoided.

8.4.4 Normal Operating Zone (NOZ): Airspace of defined dimensions extending to either side of an ILS localizer course and/or MLS final approach track. Only the inner half of the normal operating zone is taken into account in independent parallel approaches.

8.4.5 No Transgression Zone (NTZ): In the context of independent parallel approaches, a corridor of airspace of defined dimensions located centrally between the two extended runway center lines, where a penetration by an aircraft requires an ATCO intervention to manoeuvre any threatened aircraft on the adjacent approach.

8.5 **Break-Out Manoeuvres**

8.5.1 If any aircraft is committing a NTZ infringement, the ATCO supervising the adjacent approach has to provide a break-out instruction to the aircraft under his responsibility to protect it from the threat. Break-out manoeuvres consist of heading and altitude instruction issued by a radar approach controller.

8.6 **Override**

8.6.1 The ATCO supervising the approach when in condition to issue a break-out manoeuvre because of the infringement of the NTZ from the adjacent approach path will override the relevant Tower frequency.

9 Crossing Procedures

9.1 **General**

9.1.1 Kuala Lumpur International Airport (KLIA) is divided in two parts:

a) KLIA1: the area between RWY 32R/14L and RWY 32L/14R

b) klia2: the area west of RWY 32L/14R until RWY 33/15

9.1.2 Even if the preferred scenarios avoid runway crossing, such situations could realize in following cases:

a) Traffic landed on RWY 15 or RWY 33 allocated to KLIA1 stands;

b) Traffic landed on RWY 14L allocated to klia2 stands;

c) During RWY 15/33 unavailability.

9.2 **Traffic flow from KLIA 1 to klia2**

9.2.1 When RWY 14R/32L is active, crossing aircraft will be instructed from Lumpur Ground to taxi on TWY C1 and hold short of RWY 14R, where it will contact Lumpur Tower to obtain the crossing clearance and instruction to hold short of TWY Q.

9.2.2 Instruction via TWY C2 or C3 shall be used in case of unavailability of TWY C1 or when operational requirements dictate.

9.2.3 Stop bars will be switched off at the same time of crossing clearance issuing.

9.2.4 Once runway crossing is completed, the aircraft will be instructed to contact Lumpur Ground in order to receive further taxi instructions.

9.2.5 Phraseology examples

9.2.5.1 Ground movement phraseology:

- GMC2 East: *"MAS14, Lumpur Ground, taxi to holding point C1, runway 14R via..., hold short of runway 14R"*
- MAS14: *"Lumpur Ground, MAS14, roger, taxi to holding point C1, runway 14R via..., hold short of runway 14R"*
- MAS14: *"Lumpur Ground, MAS14, holding point C1"*
- GMC2 East: *"MAS14, Lumpur Ground, contact Tower (ADC2) frequency 118.5"*
- MAS14: *"Lumpur Ground, MAS14, roger, contact Tower (ADC2) frequency 118.5"*

9.2.5.2 Tower phraseology:

- MAS14: *"Lumpur Tower, MAS14, holding point C1 request to cross runway 14R"*
- ADC2: *"MAS14, Lumpur Tower, cross runway 14R, hold short of taxiway Q* (if necessary *"expedite crossing runway 14R"*), *report runway vacated"*
- MAS14: *"Lumpur Tower, MAS14, roger, crossing runway 14R, hold short of taxiway Q and report runway vacated"*
- MAS14: *"Lumpur Tower, MAS14, runway 14R vacated"*
- ADC2: *"MAS14, Lumpur Tower contact Ground (GMC2 West) frequency 122.525"*
- MAS14: *"Lumpur Tower, MAS14, roger, contact Ground (GMC2 West) frequency 122.525"*

9.3 **Traffic flow from klia2 to KLIA 1**

9.3.1 When RWY 14R/32L is active, crossing aircraft will be instructed from Lumpur Ground to taxi on TWY P2 or P3 and hold short of RWY 14R, where it will contact Lumpur Tower to obtain the crossing clearance and instruction to hold short of TWY D.

9.3.2 Instruction via TWY P1 shall be used in case of unavailability of TWYs P2 and P3 or when operational requirements dictate.

9.3.3 Stop bars will be switched off at the same time of crossing clearance issuing.

9.3.4 Once runway crossing is completed, the aircraft will be instructed to contact Lumpur Ground in order to receive further taxi instructions.

9.3.5 Phraseology examples

9.3.5.1 Ground movement phraseology:

- GMC2 West: *"MAS14, Lumpur Ground, taxi to holding point P2, runway 14R via..., hold short of runway 14R"*
- MAS14: *"Lumpur Ground, MAS14, roger, taxi to holding point P2, runway 14R via..., hold short of runway 14R"*
- MAS14: *"Lumpur Ground, MAS14, reaching holding point P2"*
- GMC2 West: *"MAS14, Lumpur Ground, contact Tower (ADC2) frequency 118.5"*
- MAS14: *"Lumpur Ground, MAS14, roger, contact Tower (ADC2) frequency 118.5"*

9.3.5.2 Tower phraseology:

- MAS14: *"Lumpur Tower, MAS14, holding point P2 request to cross runway 14R"*
- ADC2: *"MAS14, Lumpur Tower, cross runway 14R, hold short of taxiway D* (if necessary *"expedite crossing runway 14R"*), *report runway vacated"*
- MAS14: *"Lumpur Tower, MAS14, roger, crossing runway 14R, hold short of taxiway D and report runway vacated"*
- MAS14: *"Lumpur Tower, MAS14, runway 14R vacated"*
- ADC2: *"MAS14, Lumpur Tower, contact Ground (GMC2 East) frequency 121.8"*
- MAS14: *"Lumpur Tower, MAS14, roger, contact Ground (GMC2 East) frequency 121.8"*

9.4 **Runway 14R in use for landing**

9.4.1 Regarding crossing movement between klia2 and KLIA 1 via TWY P1 and P2, ATC shall consider the 14R GP critical and sensitive areas as not protected. In order to keep these areas clear of traffic, when RWY 14R is in use for landing, RHP to be used are Q5 and Q6.

WMKK AD 2.23 ADDITIONAL INFORMATION

1 Bird concentrations in the vicinity of the Airport

1.1 Studies show that the airport is within the flight path of seasonal migratory birds. The birds migrate from the northeast between September and November and from the south east between February and April. Height is between 100 metres to 900 metres. The most common bird types are Black Baza, Crested Honey Buzzard, Grey-faced Buzzard and Chinese Goshawk.

2 Touch and Go landings

2.1 Touch and go landings for training purposes are not permitted.

WMKK AD 2.24 CHARTS RELATED TO SEPANG KUALA LUMPUR INTERNATIONAL AIRPORT

STANDARD DEPARTURE CHART - INSTRUMENT - ICAO - RWY 32L LEFT DEPARTURES	**APPENDIX - E9**
STANDARD DEPARTURE CHART - INSTRUMENT - ICAO - RWY 32L LEFT DEPARTURES **(Description)**	**APPENDIX - E9.1**
STANDARD DEPARTURE CHART - INSTRUMENT - ICAO - RWY 32L RIGHT DEPARTURES	**APPENDIX - E10**
STANDARD DEPARTURE CHART - INSTRUMENT - ICAO - RWY 32L RIGHT DEPARTURES **(Description)**	**APPENDIX - E10.1**
STANDARD DEPARTURE CHART - INSTRUMENT - ICAO - RWY 32R DEPARTURES	**APPENDIX - E11**
STANDARD DEPARTURE CHART - INSTRUMENT - ICAO - RWY 32R DEPARTURES **(Description)**	**APPENDIX - E11.1**
STANDARD DEPARTURE CHART - INSTRUMENT - ICAO - RWY 32R DEPARTURES FOR SAAS SUBANG	**APPENDIX - E12**
STANDARD DEPARTURE CHART - INSTRUMENT - ICAO - RWY 33 DEPARTURES	**APPENDIX - E13**
STANDARD DEPARTURE CHART - INSTRUMENT - ICAO - RWY 33 DEPARTURES **(Description)**	**APPENDIX - E13.1**
STANDARD DEPARTURE CHART - INSTRUMENT - ICAO - RWY 33 RNAV DEPARTURES	**APPENDIX - E14**
STANDARD DEPARTURE CHART - INSTRUMENT - ICAO - RWY 33 RNAV DEPARTURES **(Description)**	**APPENDIX - E14.1**
STANDARD DEPARTURE CHART - INSTRUMENT - ICAO - RWY 33 STRAIGHT DEPARTURES	**APPENDIX - E15**
STANDARD DEPARTURE CHART - INSTRUMENT - ICAO - RWY 33 STRAIGHT DEPARTURES **(Description)**	**APPENDIX - E15.1**
STANDARD ARRIVAL CHART - ICAO - INSTRUMENT - VKL ARRIVALS	**APPENDIX - F1**
STANDARD ARRIVAL CHART - ICAO - INSTRUMENT - VKL ARRIVALS **(Description)**	**APPENDIX - F1.1**
STANDARD ARRIVAL CHART - ICAO - INSTRUMENT - KIKAL 3 ARRIVAL	**APPENDIX - F2**
STANDARD ARRIVAL CHART - ICAO - INSTRUMENT - KIKAL 3 ARRIVAL **(Description)**	**APPENDIX - F2.1**
STANDARD ARRIVAL CHART - ICAO - INSTRUMENT - RNAV 1 ARRIVAL RWY 14L/14R	**APPENDIX - F3**
STANDARD ARRIVAL CHART - ICAO - INSTRUMENT - RNAV 1 ARRIVAL RWY 14L/14R **(Description)**	**APPENDIX - F3.1**
STANDARD ARRIVAL CHART - ICAO - INSTRUMENT - RNAV 1 ARRIVAL RWY 14R/15	**APPENDIX - F4**
STANDARD ARRIVAL CHART - ICAO - INSTRUMENT - RNAV 1 ARRIVAL RWY 14R/15 **(Description)**	**APPENDIX - F4.1**
STANDARD ARRIVAL CHART - ICAO - INSTRUMENT - LAPIR 3 ARRIVAL	**APPENDIX - F5**
STANDARD ARRIVAL CHART - ICAO - INSTRUMENT - LAPIR 3 ARRIVAL **(Description)**	**APPENDIX - F5.1**
STANDARD ARRIVAL CHART - ICAO - INSTRUMENT - PMS ARRIVAL RWY 32L/32R	**APPENDIX - F6**
STANDARD ARRIVAL CHART - ICAO - INSTRUMENT - PMS ARRIVAL RWY 32L/32R **(Description)**	**APPENDIX - F6.1**
STANDARD ARRIVAL CHART - ICAO - INSTRUMENT - RNAV 1 ARRIVAL RWY 32L/32R	**APPENDIX - F7**
STANDARD ARRIVAL CHART - ICAO - INSTRUMENT - RNAV 1 ARRIVAL RWY 32L/32R **(Description)**	**APPENDIX - F7.1**
STANDARD ARRIVAL CHART - ICAO - INSTRUMENT - RNAV 1 ARRIVAL RWY 33/32L	**APPENDIX - F8**
STANDARD ARRIVAL CHART - ICAO - INSTRUMENT - RNAV 1 ARRIVAL RWY 33/32L **(Description)**	**APPENDIX - F8.1**
INSTRUMENT APPROACH CHART - ICAO - IAS ILS RWY 14L	**APPENDIX - G1**
INSTRUMENT APPROACH CHART - ICAO - ILS OR LOC RWY 14L	**APPENDIX - G2**
INSTRUMENT APPROACH CHART - ICAO - VOR RWY 14L	**APPENDIX - G3**
INSTRUMENT APPROACH CHART - ICAO - IAS ILS-Z / RNAV-Z RWY 14R	**APPENDIX - G4**
INSTRUMENT APPROACH CHART - ICAO - IAS ILS-Y / RNAV-Y RWY 14R	**APPENDIX - G5**
INSTRUMENT APPROACH CHART - ICAO - ILS-Z OR LOC-Z RWY 14R	**APPENDIX - G6**
INSTRUMENT APPROACH CHART - ICAO - ILS-Y OR LOC-Y RWY 14R	**APPENDIX - G7**
INSTRUMENT APPROACH CHART - ICAO - RNAV-Z (GNSS) RWY 14R	**APPENDIX - G8**
INSTRUMENT APPROACH CHART - ICAO - RNAV-Y (GNSS) RWY 14R	**APPENDIX - G9**
INSTRUMENT APPROACH CHART - ICAO - IAS ILS / RNAV RWY 15	**APPENDIX - G10**
INSTRUMENT APPROACH CHART - ICAO - ILS OR LOC RWY 15	**APPENDIX - G11**
INSTRUMENT APPROACH CHART - ICAO - RNAV (GNSS) RWY 15	**APPENDIX - G12**
INSTRUMENT APPROACH CHART - ICAO - IAS ILS-Z / RNAV-Z RWY 32L	**APPENDIX - G13**
INSTRUMENT APPROACH CHART - ICAO - IAS ILS-Y / RNAV-Y RWY 32L	**APPENDIX - G14**

INSTRUMENT APPROACH CHART - ICAO - ILS-Z OR LOC-Z RWY 32L	**APPENDIX - G15**
INSTRUMENT APPROACH CHART - ICAO - ILS-Y OR LOC-Y RWY 32L	**APPENDIX - G16**
INSTRUMENT APPROACH CHART - ICAO - RNAV-Z (GNSS) RWY 32L	**APPENDIX - G17**
INSTRUMENT APPROACH CHART - ICAO - RNAV-Y (GNSS) RWY 32L	**APPENDIX - G18**
INSTRUMENT APPROACH CHART - ICAO - IAS ILS RWY 32R	**APPENDIX - G19**
INSTRUMENT APPROACH CHART - ICAO - ILS OR LOC RWY 32R	**APPENDIX - G20**
INSTRUMENT APPROACH CHART - ICAO - VOR RWY 32R	**APPENDIX - G21**
INSTRUMENT APPROACH CHART - ICAO - IAS ILS / RNAV RWY 33	**APPENDIX - G22**
INSTRUMENT APPROACH CHART - ICAO - ILS OR LOC RWY 33	**APPENDIX - G23**
INSTRUMENT APPROACH CHART - ICAO - RNAV (GNSS) RWY 33	**APPENDIX - G24**
VISUAL SIDE STEP - ALL RUNWAYS	WMKK AD 2 - 103

AERODROME CHART - ICAO
ELEVATION 21.15m

02° 44 ' 36" N
101° 41 ' 53" E

KL INTERNATIONAL AIRPORT, SEPANG

RWY 15/33	
TWR	119.800
GND	118.050

RWY 14R/32L	
TWR	118.500
GND	121.800
GND	122.525

RWY 14L/32R	
TWR	118.800
GND	121.650

APRON WEST
121.725
122.550
130.750

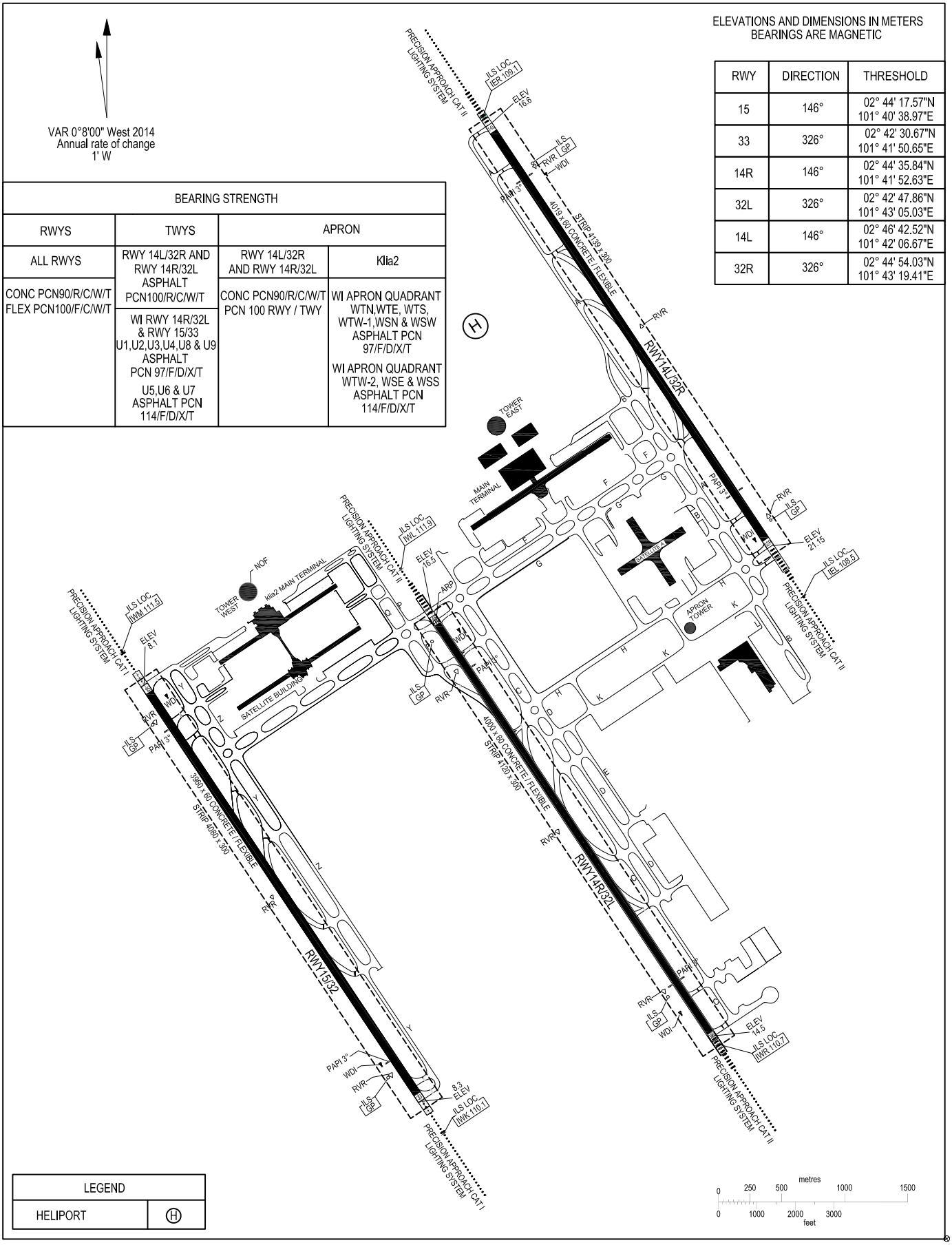
APRON EAST
122.150
122.850
122.275
123.250

ELEVATIONS AND DIMENSIONS IN METERS
BEARINGS ARE MAGNETIC

RWY	DIRECTION	THRESHOLD
15	146°	02° 44' 17.57"N 101° 40' 38.97"E
33	326°	02° 42' 30.67"N 101° 41' 50.65"E
14R	146°	02° 44' 35.84"N 101° 41' 52.63"E
32L	326°	02° 42' 47.86"N 101° 43' 05.03"E
14L	146°	02° 46' 42.52"N 101° 42' 06.67"E
32R	326°	02° 44' 54.03"N 101° 43' 19.41"E

VAR 0°8'00" West 2014
Annual rate of change
1' W

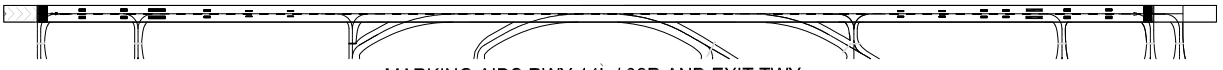
BEARING STRENGTH			
RWYS	TWYS	APRON	
ALL RWYS	RWY 14L/32R AND RWY 14R/32L ASPHALT PCN100/R/C/W/T	RWY 14L/32R AND RWY 14R/32L	Klia2
CONC PCN90/R/C/W/T FLEX PCN100/F/C/W/T	WI RWY 14R/32L & RWY 15/33 U1,U2,U3,U4,U8 & U9 ASPHALT PCN 97/F/D/X/T U5,U6 & U7 ASPHALT PCN 114/F/D/X/T	CONC PCN90/R/C/W/T PCN 100 RWY / TWY	WI APRON QUADRANT WTN,WTE, WTS, WTW-1,WSN & WSW ASPHALT PCN 97/F/D/X/T WI APRON QUADRANT WTW-2, WSE & WSS ASPHALT PCN 114/F/D/X/T



AERODROME CHART - ICAO

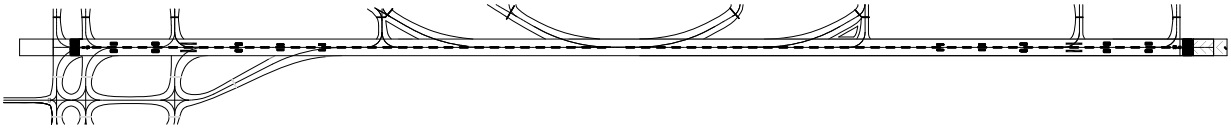
AERODROME AERONAUTICAL GROUND LIGHTINGS AND RUNWAY MARKINGS

KL INTERNATIONAL AIRPORT, SEPANG

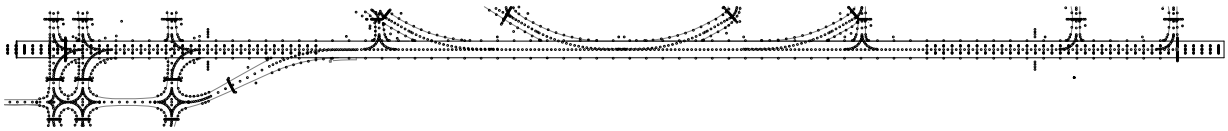


MARKING AIDS RWY 14L / 32R AND EXIT TWY

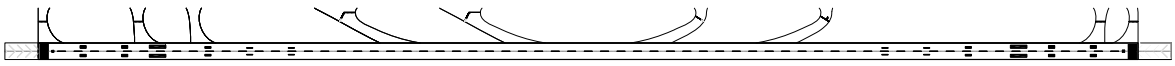
LIGHTING AIDS RWY 14L / 32R AND EXIT TWY



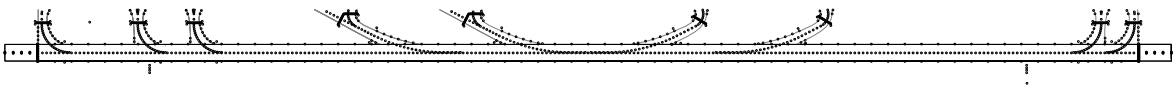
MARKING AIDS RWY 14R / 32L AND EXIT TWY



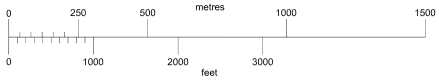
LIGHTING AIDS RWY 14R / 32L AND EXIT TWY



MARKING AIDS RWY 15 / 33 AND EXIT TWY



LIGHTING AIDS RWY 15 / 33 AND EXIT TWY



AIRCRAFT PARKING DOCKING CHART - ICAO klia2 Terminal

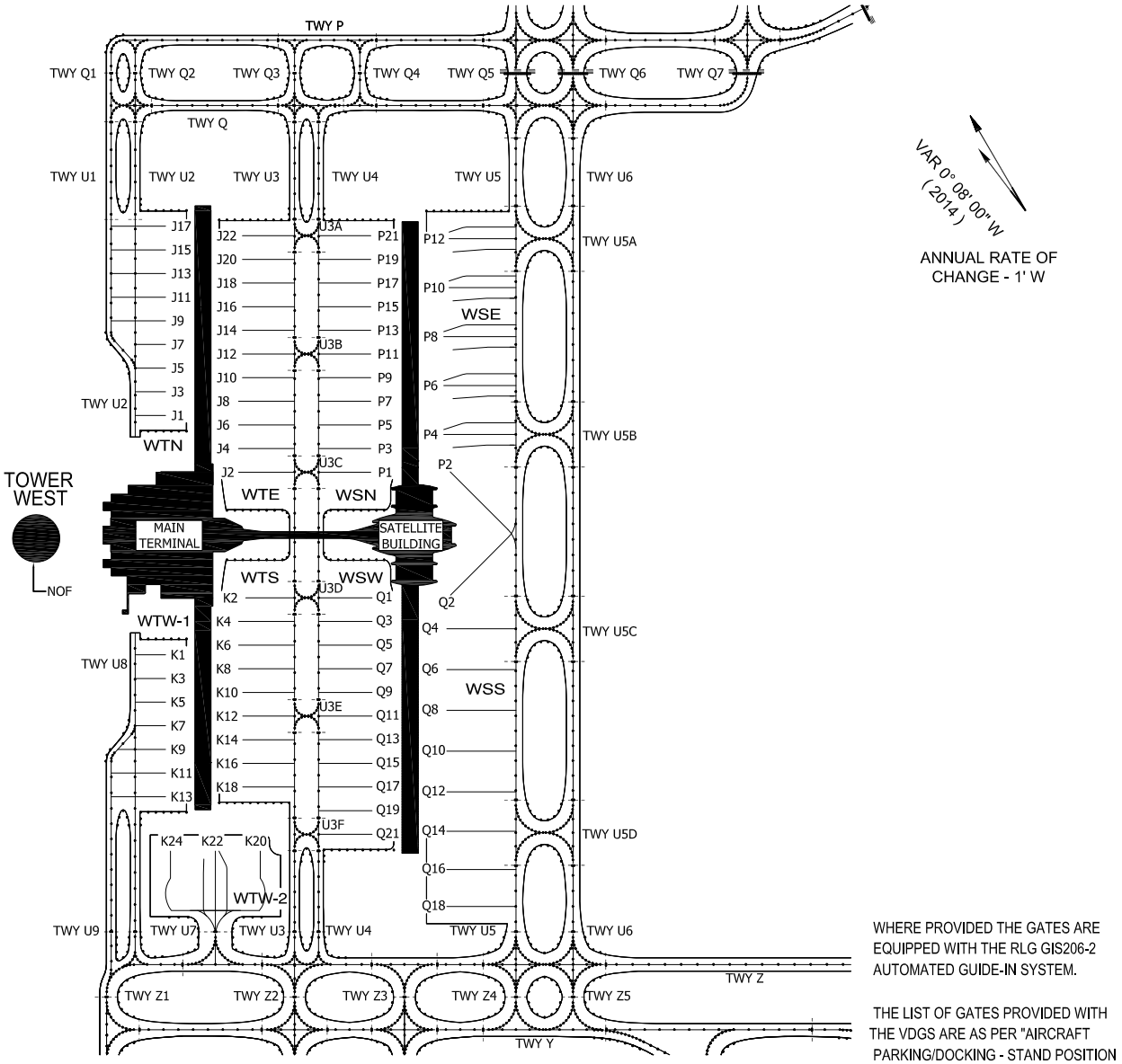
KL INTERNATIONAL AIRPORT, SEPANG

APRON ELEV
10 M

RWY 32L/14R	
TWR	118.500
GND	121.800
GND	122.525

klia2 Terminal	
GND	121.725
GND	122.550
GND	130.750

RWY 33/15	
TWR	119.800
GND	118.050



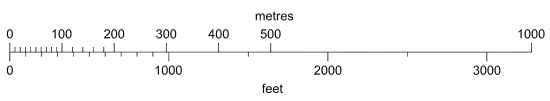
WHERE PROVIDED THE GATES ARE EQUIPPED WITH THE RLG GIS206-2 AUTOMATED GUIDE-IN SYSTEM.

THE LIST OF GATES PROVIDED WITH THE VDGS ARE AS PER "AIRCRAFT PARKING/DOCKING - STAND POSITION AT klia2 TERMINAL APRON" IN TABLE 1, TABLE 2 & TABLE 3

AREA WI TWY U5, U6 & U7
TWY WIDTH 25M
BEARING STRENGTH PCN 114/F/D/X/T

AREA WI TWY U1, U2, U3, U4, U8 & U9
TWY WIDTH 18M
BEARING STRENGTH PCN 97/F/D/X/T

LEGEND	
AIRCRAFT STAND	3
TAXIWAY LIGHTS	●
RUNWAY-HOLDING POSITION	═══
INTERMEDIATE HOLDING POSITION	- - - -



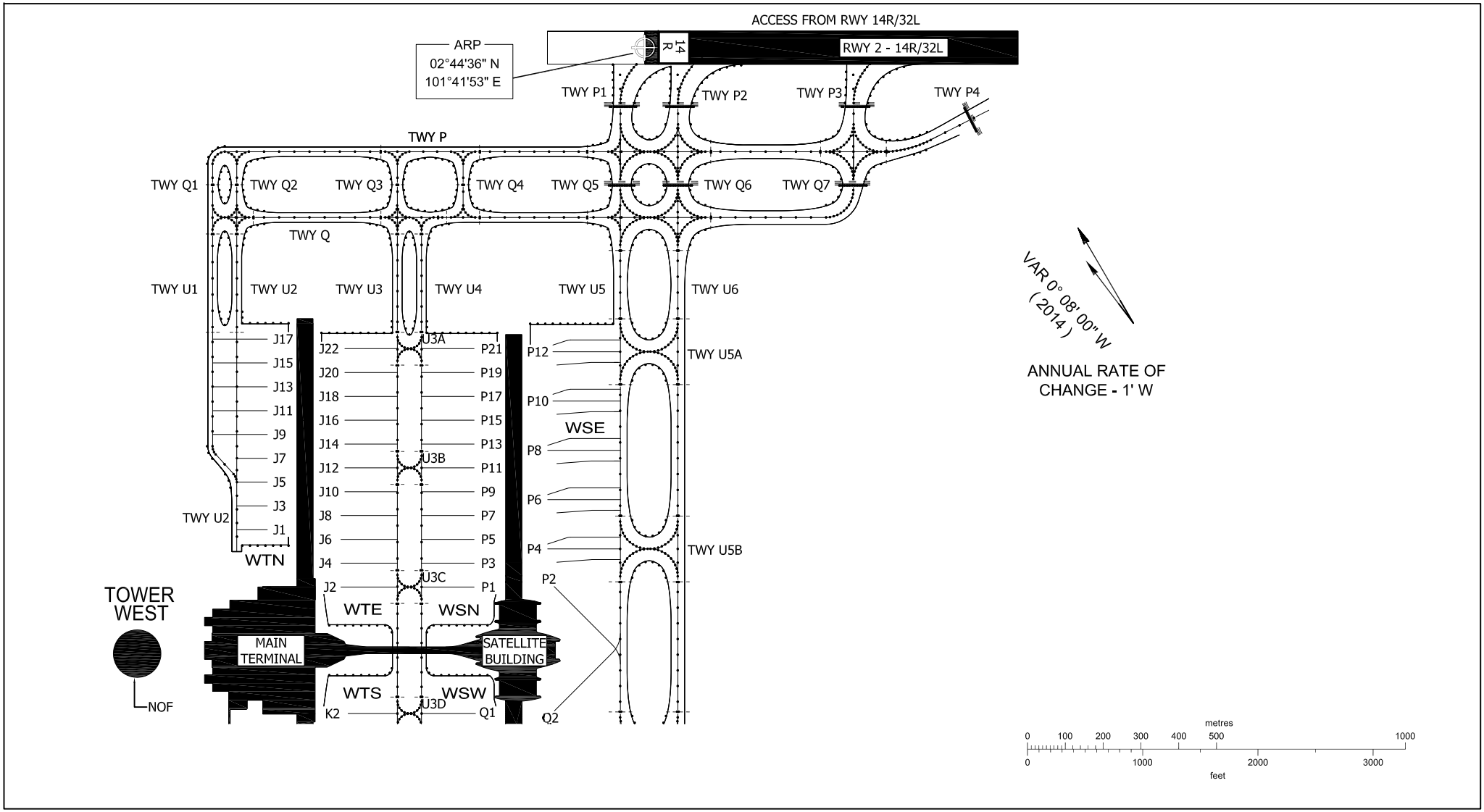
AIRCRAFT PARKING DOCKING CHART - ICAO klia2 Terminal

KL INTERNATIONAL AIRPORT, SEPANG

APRON ELEV
10 M

RWY 32L/14R	
TWR	118.500
GND	121.800
GND	122.525

klia2 Terminal	
GND	121.725
GND	122.550
GND	130.750



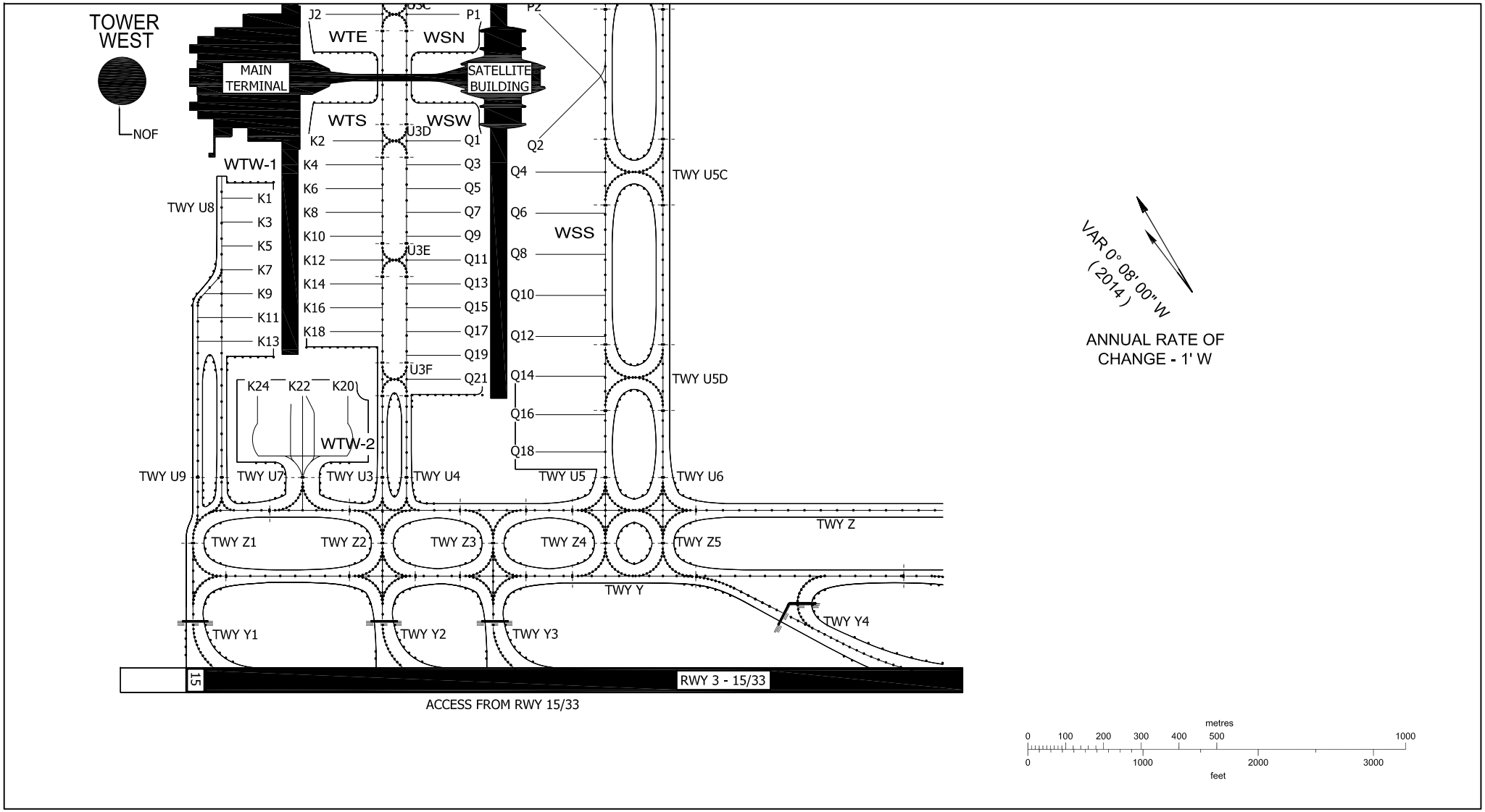
AIRCRAFT PARKING
DOCKING CHART - ICAO
klia2 Terminal

KL INTERNATIONAL
AIRPORT, SEPANG

APRON ELEV
10 M

klia2 Terminal	
GND	121.725
GND	122.550
GND	130.750

RWY 33/15	
TWR	119.800
GND	118.050



AERODROME GROUND MOVEMENT CHART - ICAO

KL INTERNATIONAL AIRPORT, SEPANG

APRON ELEV
EAST 19 M
WEST 10 M

RWY 14L/32R	
TWR	118.800
GND	121.650

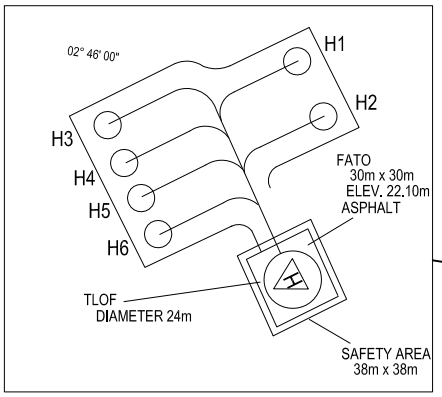
RWY 14R/32L	
TWR	118.500
GND	121.800
GND	122.525

RWY 15/33	
TWR	119.800
GND	118.050

APRON EAST
122.150
122.850
122.275
123.250

APRON WEST
121.725
122.550
130.750

ELEVATIONS IN METRES
BEARINGS ARE MAGNETIC



HELIPAD

VAR 0°8'00" West 2014
Annual rate of change
1' W

AREA WI TWY U5, U6 & U7
TWY WIDTH 25M
BEARING STRENGTH PCN 114/F/D/X/T

AREA WI TWY U1, U2, U3, U4, U8 & U9
TWY WIDTH 18M
BEARING STRENGTH PCN 97/F/D/X/T

AREA WI RWY 14L/32R AND RWY 14R/32L
TWY WIDTH 25M
BEARING STRENGTH PCN 100/R/C/W/T

TAXIWAY EDGE LIGHTS ON CURVED SECTION OF TAXIWAYS.

MOVEMENT AREA GUIDANCE SIGNS AT ALL TAXIWAY AND RUNWAY INTERSECTIONS.

FOR GEO COORDINATES OF AIRCRAFT STANDS SEE AIRCRAFT PARKING CHART.

LEGEND	
HELIPAD	Ⓗ
RUNWAY-HOLDING POSITION	═══
INTERMEDIATE HOLDING POSITION	- - - -

0 5000 1000
METRES

KLIA2 TAXI ROUTES ARRIVALS RUNWAY 15

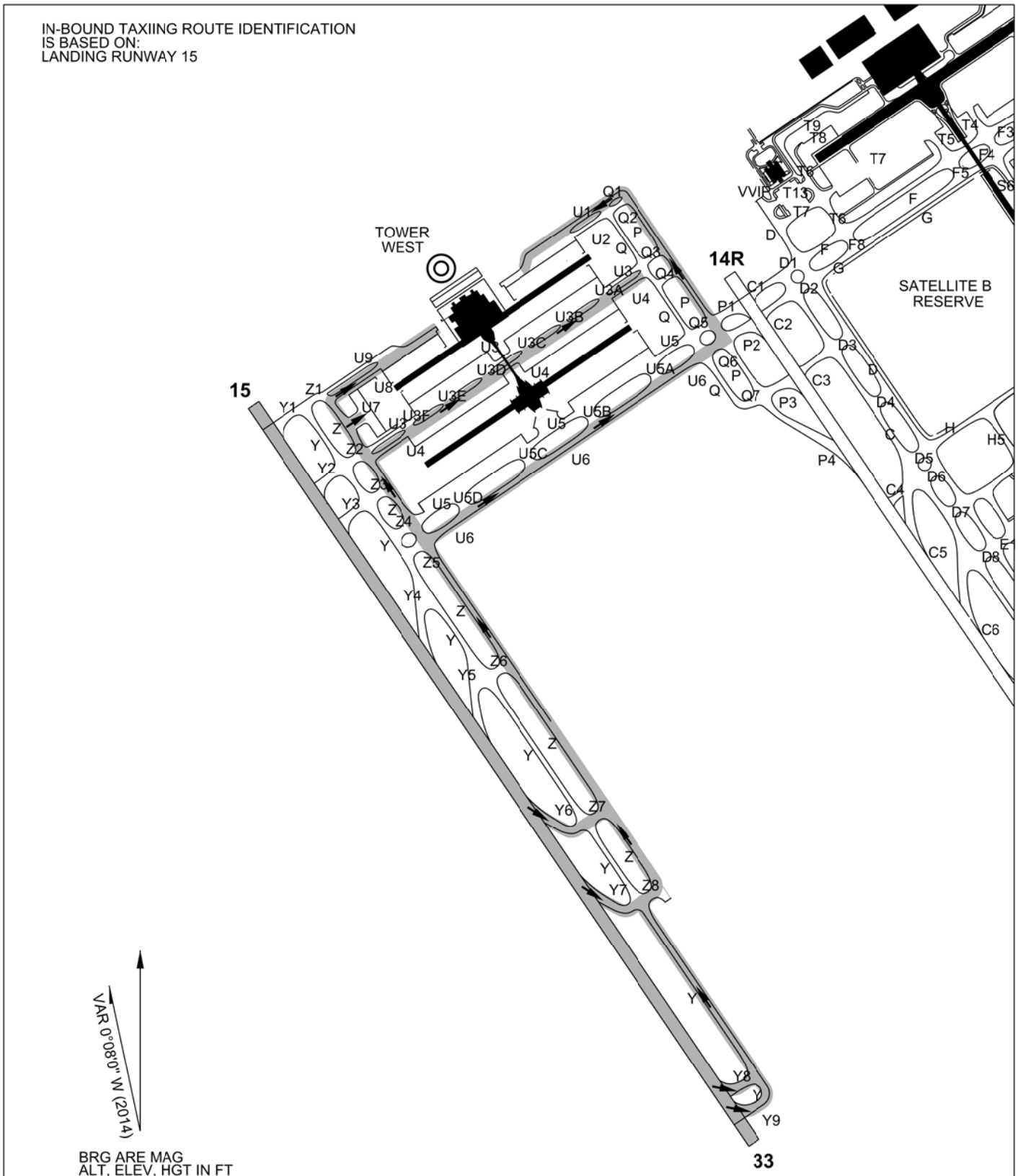
ELEV 21.15M

TWR	119.800
GROUND	118.050
GROUND	122.525
APRON	121.725
APRON	122.550
APRON	130.750

KL INTERNATIONAL AIRPORT, SEPANG

CHANGE : NEW CHART

IN-BOUND TAXIING ROUTE IDENTIFICATION
IS BASED ON:
LANDING RUNWAY 15



TAXIWAY ROUTES - ARRIVALS RUNWAY 15 TO klia2

All aircraft to vacate runway via intersections Y6 or Y7. Exits via Y8 and Y9 may be approved on request.

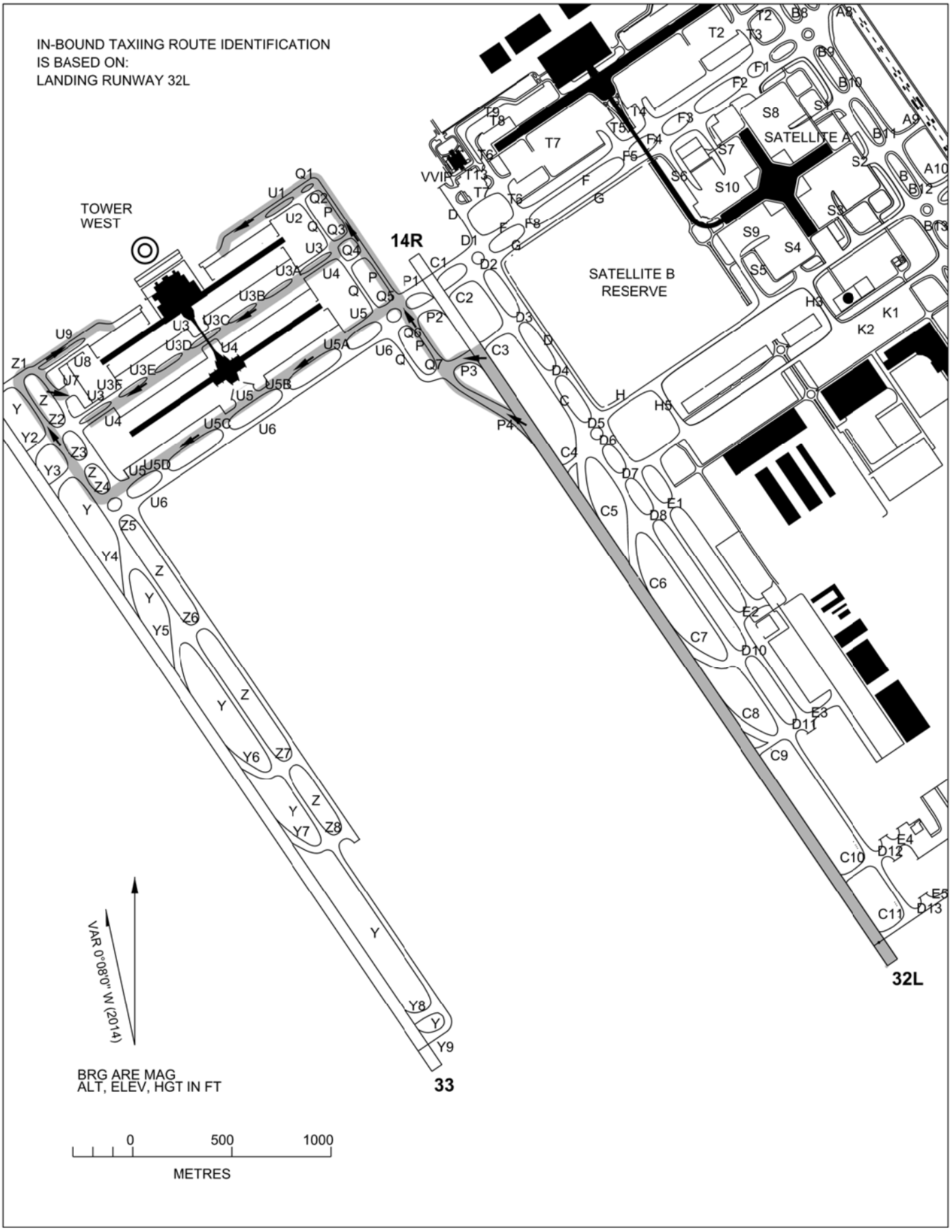
RUNWAY	APRON	GATES	TAXI ROUTE DETAIL
15	WEST TERMINAL SOUTH (WTS) 122.55 MHz	K2 - K18 (EVEN NR)	Exit onto Y then: Z7/Z8, Z, U4, U3D/U3E, U3
	WEST TERMINAL WEST (WTW) 121.725 MHz	K1 - K13 (ODD NR) & K20 - K24 (EVEN NR)	Exit onto Y then: Z7/Z8, Z, U8 For gates K20, K22& K24 via Z7/Z8, Z, U7
	WEST TERMINAL NORTH (WTN) 121.725 MHz	J1 - J17 (ODD NR)	Exit onto Y then: Z7/Z8, Z, U6, Q6, P, Q1, U1, U2
	WEST TERMINAL EAST (WTE) 122.55 MHz	J2 - J22 (EVEN NR)	Exit onto Y then: Z7/Z8, Z, U4, U3A/U3B/U3C, U3
	WEST SATELLITE SOUTH (WSS) 130.75 MHz	Q2 - Q18 (EVEN NR)	Exit onto Y then: Z7/Z8, Z, U6, U5B/U5C/U5D, U5
	WEST SATELLITE WEST (WSW) 122.55 MHz	Q1 - Q21 (ODD NR)	Exit onto Y then: Z7/Z8, Z, U4
	WEST SATELLITE NORTH (WSN) 122.55 MHz	P1 - P21 (ODD NR)	Exit onto Y then: Z7/Z8, Z, U4
	WEST SATELLITE EAST (WSE) 130.75 MHz	P2 - P12 (EVEN NR)	Exit onto Y then: Z7/Z8, Z, U6, U5A/U5B, U5

KLIA2 TAXI ROUTES
ARRIVALS RUNWAY 32L

ELEV
21.15M

TWR	118.500
GROUND	122.525
GROUND	118.050
APRON	121.725
APRON	122.550
APRON	130.750

KL INTERNATIONAL
AIRPORT, SEPANG



CHANGES: NEW CHART

TAXIWAY ROUTES - ARRIVALS RUNWAY 32L TO klia2

RUNWAY	APRON	GATES	TAXI ROUTE DETAIL
32L	WEST TERMINAL SOUTH (WTS) 122.55 MHz	K2 - K18 (EVEN NR)	P3/P4 (preferably), P, Q3, Q, U4, U3D/U3E/U3F, U3
	WEST TERMINAL WEST (WTW) 121.725 MHz	K1 - K13 (ODD NR) & K20 - K24 (EVEN NR)	P3/P4 (preferably), P, Q5, U5, Z4, Y, Z1, U9, U8 For gates K20, K22 & K24 via P, Q5, U5, Z4, Y, Z1, Z, U7
	WEST TERMINAL NORTH (WTN) 121.725 MHz	J1 - J17 (ODD NR)	P3/P4 (preferably), P, Q1, U1, U2
	WEST TERMINAL EAST (WTE) 122.55 MHz	J2 - J22 (EVEN NR)	P3/P4 (preferably), P, Q3, Q, U4, U3A/U3B/U3C, U3
	WEST SATELLITE SOUTH (WSS) 130.75 MHz	Q2 - Q18 (EVEN NR)	P3/P4 (preferably), P, Q5, U5
	WEST SATELLITE WEST (WSW) 122.55 MHz	Q1 - Q21 (ODD NR)	P3/P4 (preferably), P, Q3, Q, U4
	WEST SATELLITE NORTH (WSN) 122.55 MHz	P1 - P21 (ODD NR)	P3/P4 (preferably), P, Q3, Q, U4
	WEST SATELLITE EAST (WSE) 130.75 MHz	P2 - P12 (EVEN NR)	P3/P4 (preferably), P, Q5, U5

KLIA2 TAXI ROUTES
ARRIVALS RUNWAY 33

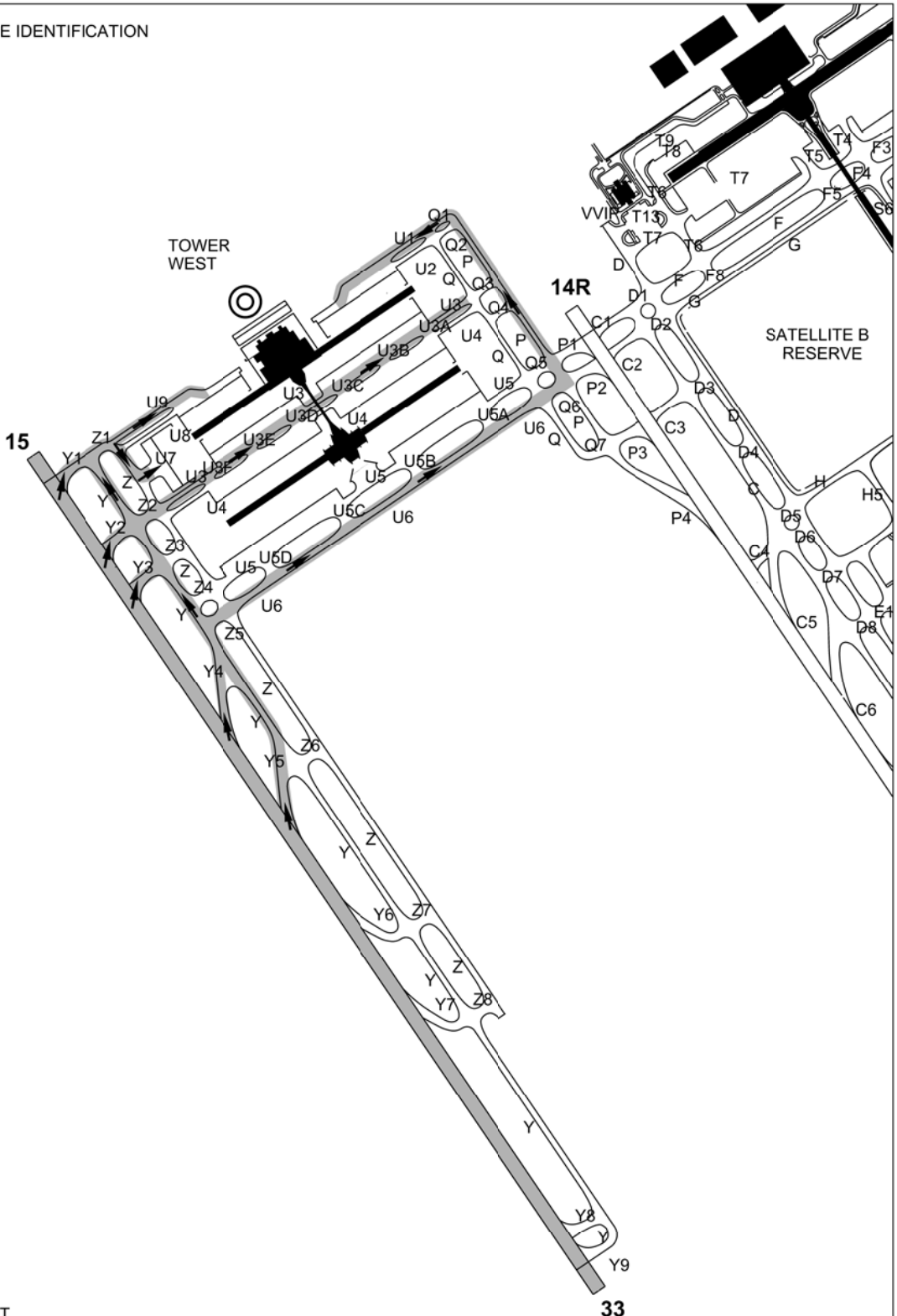
ELEV
21.15M

TWR	119.800
GROUND	118.050
GROUND	122.525
APRON	121.725
APRON	122.550
APRON	130.750

KL INTERNATIONAL
AIRPORT, SEPANG

CHANGES: NEW CHART

IN-BOUND TAXIING ROUTE IDENTIFICATION
IS BASED ON:
LANDING RUNWAY 33



VAR 0°08'0" W (2014)

BRG ARE MAG
ALT, ELEV, HGT IN FT

0 500 1000
METRES

TAXIWAY ROUTES - ARRIVALS RUNWAY 33 TO klia2

All aircraft to vacate runway via intersection Y4 or Y5. Exits via Y1, Y2 and Y3 may be approved on request.

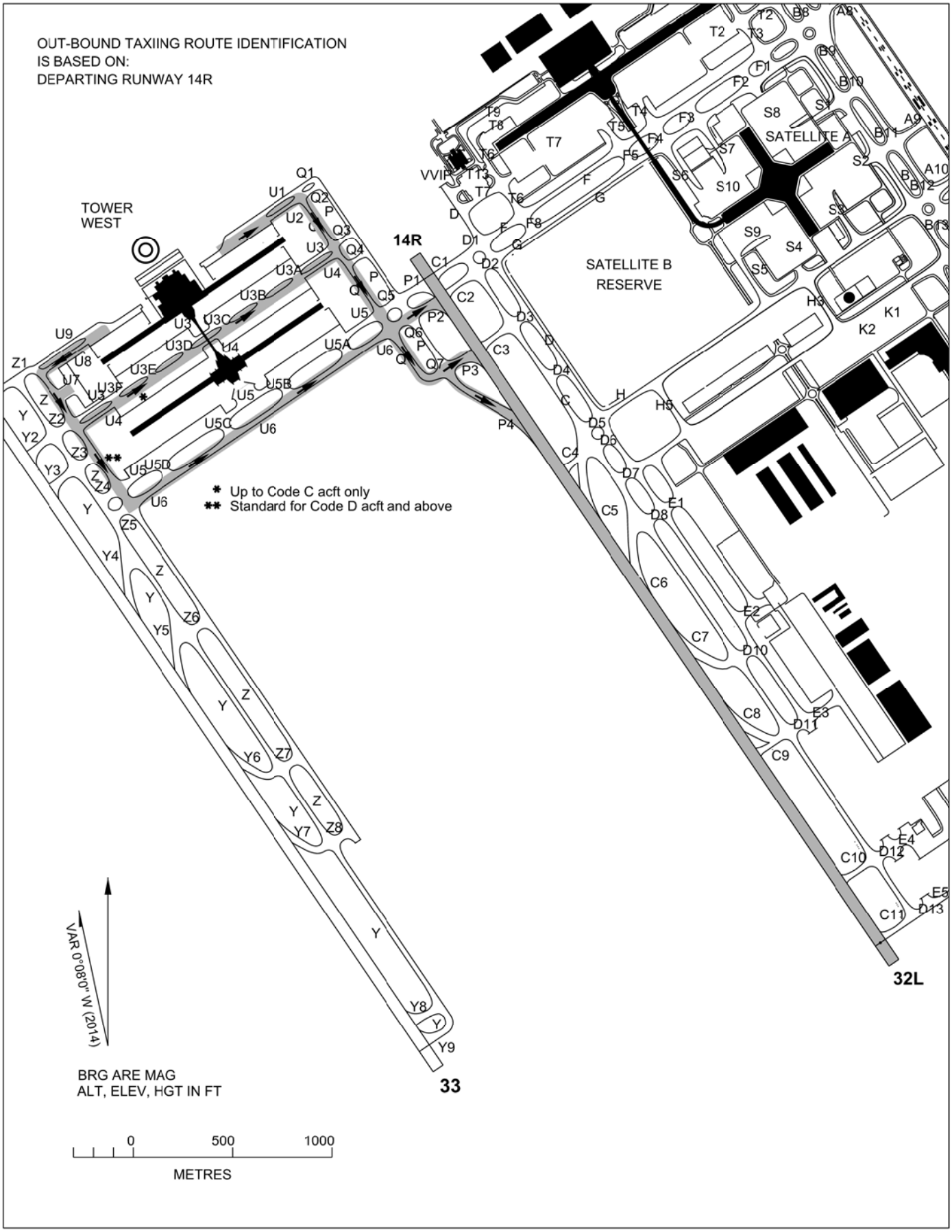
RUNWAY	APRON	GATES	TAXI ROUTE DETAIL
33	WEST TERMINAL SOUTH (WTS) 122.55 MHz	K2 - K18 (EVEN NR)	Exit onto Y then: Z2, U3
	WEST TERMINAL WEST (WTW) 121.725 MHz	K1 - K13 (ODD NR) & K20 - K24 (EVEN NR)	Exit onto Y then: Z1, U9, U8 For gates K20, K22 & K24 via Z1, Z, U7
	WEST TERMINAL NORTH (WTN) 121.725 MHz	J1 - J17 (ODD NR)	Exit onto Y then: Z5, U6, Q6, P, Q1, U1, U2
	WEST TERMINAL EAST (WTE) 122.55 MHz	J2 - J22 (EVEN NR)	Exit onto Y then: Z2, U3
	WEST SATELLITE SOUTH (WSS) 130.75 MHz	Q2 - Q18 (EVEN NR)	Exit onto Y then: Z5, U6, U5B/U5C/U5D, U5
	WEST SATELLITE WEST (WSW) 122.55 MHz	Q1 - Q21 (ODD NR)	Exit onto Y then: Z2, U3, U3D/U3E/U3F, U4
	WEST SATELLITE NORTH (WSN) 122.55 MHz	P1 - P21 (ODD NR)	Exit onto Y then: Z2, U3, U3A/U3B/U3C, U4
	WEST SATELLITE EAST (WSE) 130.75 MHz	P2 - P12 (EVEN NR)	Exit onto Y then: Z5, U6, U5A/U5B/U5C, U5

KLIA2 TAXI ROUTES
DEPARTURES RUNWAY 14R

ELEV
21.15M

TWR	118.500
GROUND	122.525
GROUND	118.050
APRON	121.725
APRON	122.550
APRON	130.750

KL INTERNATIONAL AIRPORT, SEPANG



CHANGES: NEW CHART

TAXIWAY ROUTES - DEPARTURES RUNWAY 14R FROM klia2

If RWY 14R in use for arrival, standard taxi route ends at Q6.

TWY P2 in taxi route detail to be considered as standard route, TWYs P3 and P4 to be used on ATC discretion.

RUNWAY	APRON	GATES	TAXI ROUTE DETAIL
14R	WEST TERMINAL SOUTH (WTS) 122.55 MHz	K2 - K18 (EVEN NR)	U3, U3D/U3E/U3F, U4, Q, Q6, P2
	WEST TERMINAL WEST (WTW) 121.725 MHz	K1 - K13 (ODD NR) & K20 - K24 (EVEN NR)	U8, Z, U4, Q, Q6, P2 For gates K20, K22 & K24 via Z, U6, Q, Q6, P2
	WEST TERMINAL NORTH (WTN) 121.725 MHz	J1 - J17 (ODD NR)	U2, Q, Q6, P2
	WEST TERMINAL EAST (WTE) 122.55 MHz	J2 - J22 (EVEN NR)	U3, U3A/U3B/U3C, U4, Q, Q6, P2
	WEST SATELLITE SOUTH (WSS) 130.75 MHz	Q2 - Q18 (EVEN NR)	U5, U5C/U5D, U6, Q6, P2
	WEST SATELLITE WEST (WSW) 122.55 MHz	Q1 - Q21 (ODD NR)	U4, Q, Q6, P2
	WEST SATELLITE NORTH (WSN) 122.55 MHz	P1 - P21 (ODD NR)	U4, Q, Q6, P2
	WEST SATELLITE EAST (WSE) 130.75 MHz	P2 - P12 (EVEN NR)	U5, U5A/U5B/U5C, U6, Q6, P2

KLIA2 TAXI ROUTES DEPARTURES RUNWAY 15

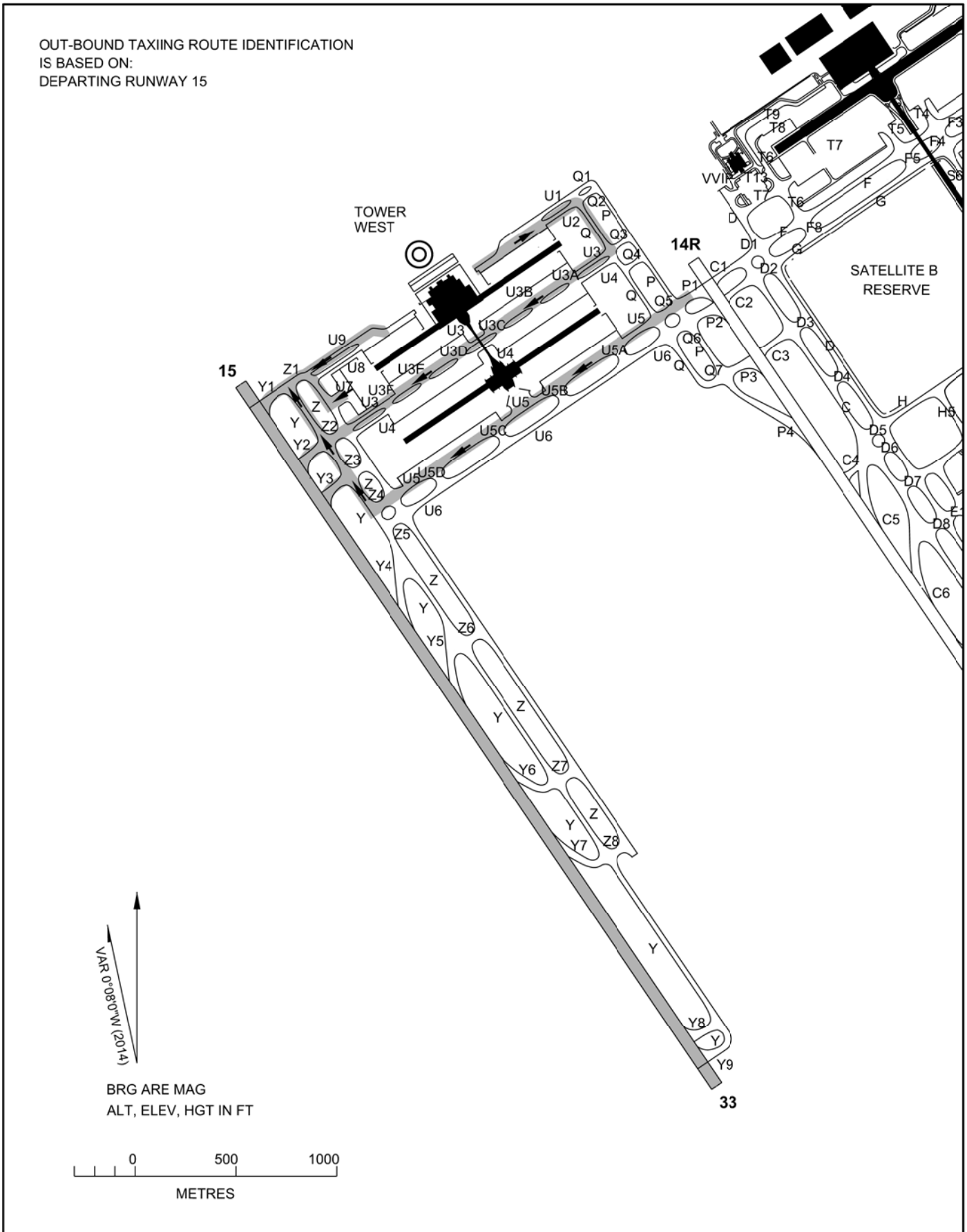
ELEV 21.15M

TWR	119.800
GROUND	118.050
GROUND	122.525
APRON	121.725
APRON	122.550
APRON	130.750

KL INTERNATIONAL AIRPORT, SEPANG

CHANGES: NEW CHART

OUT-BOUND TAXIING ROUTE IDENTIFICATION
IS BASED ON:
DEPARTING RUNWAY 15



TAXIWAY ROUTES - DEPARTURES RUNWAY 15 FROM klia2

Intersection Y2 and Y3 maybe available on request

RUNWAY	APRON	GATES	TAXI ROUTE DETAIL
15	WEST TERMINAL SOUTH (WTS) 122.55 MHz	K2 - K18 (EVEN NR)	U3, Z2, Y, Y1
	WEST TERMINAL WEST (WTW) 121.725 MHz	K1 - K13 (ODD NR) & K20 - K24 (EVEN NR)	U9, Z1, Y1 For gates K20, K22 & K24 via U7, Z, Z1, Y1
	WEST TERMINAL NORTH (WTN) 121.725 MHz	J1 - J17 (ODD NR)	U2, Q, U3, Z2, Y, Y1
	WEST TERMINAL EAST (WTE) 122.55 MHz	J2 -J22 (EVEN NR)	U3, Z2, Y, Y1
	WEST SATELLITE SOUTH (WSS) 130.75 MHz	Q2 - Q18 (EVEN NR)	U5, Z4, Y, Y1
	WEST SATELLITE WEST (WSW) 122.55 MHz	Q1 - Q21 (ODD NR)	U4, U3D/U3E/U3F, U3, Z2, Y, Y1
	WEST SATELLITE NORTH (WSN) 122.55 MHz	P1 - P21 (ODD NR)	U4, U3A/U3B/U3C, U3, Z2, Y, Y1
	WEST SATELLITE EAST (WSE) 130.75 MHz	P2 - P12 (EVEN NR)	U5, Z4, Y, Y1

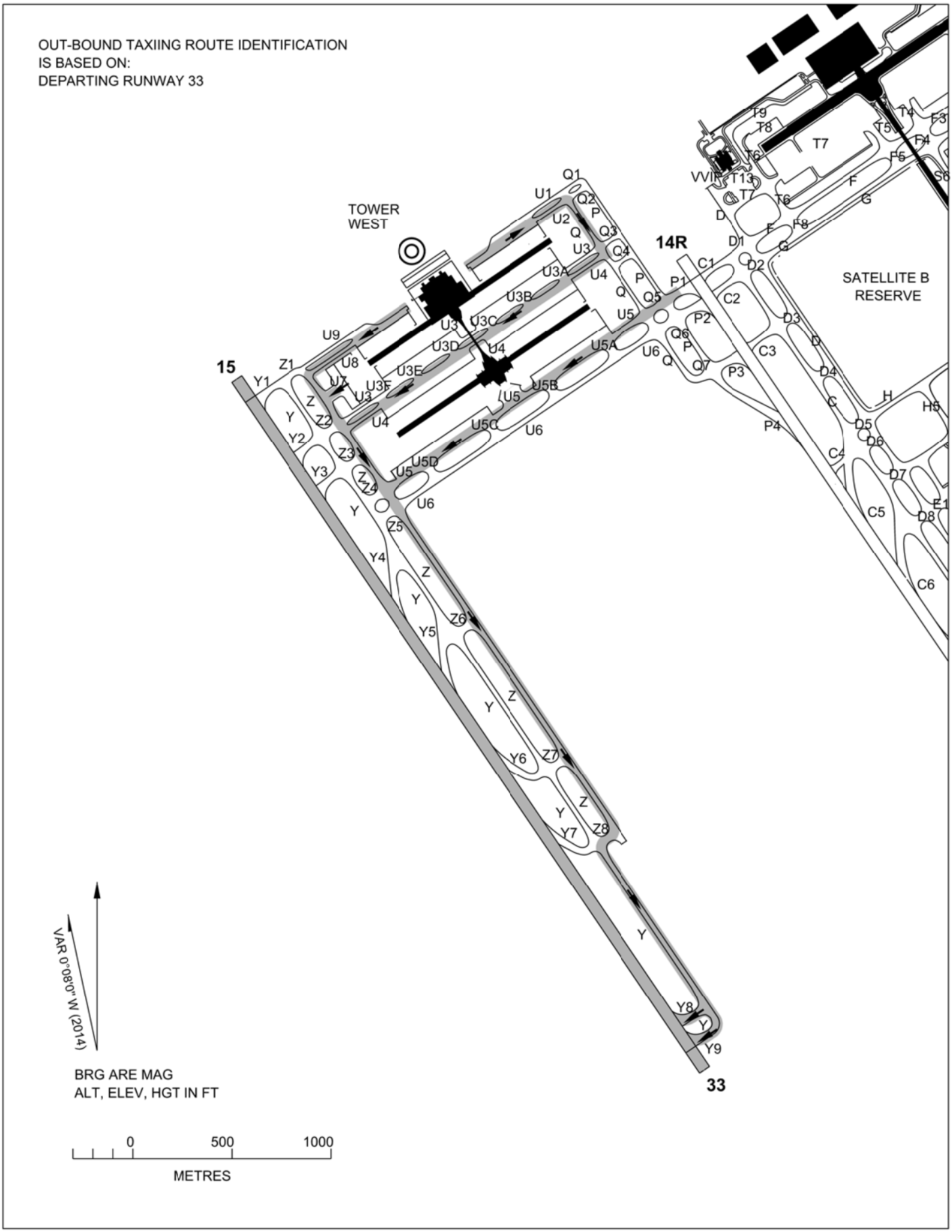
KLIA2 TAXI ROUTES
DEPARTURES RUNWAY 33

ELEV
21.15M

TWR	119.800
GROUND	118.050
GROUND	122.525
APRON	121.725
APRON	122.550
APRON	130.750

KL INTERNATIONAL
AIRPORT, SEPANG

CHANGE : NEW CHART



TAXIWAY ROUTES - DEPARTURES RUNWAY 33 FROM klia2

Intersection Y8 and Y7 maybe available on request.

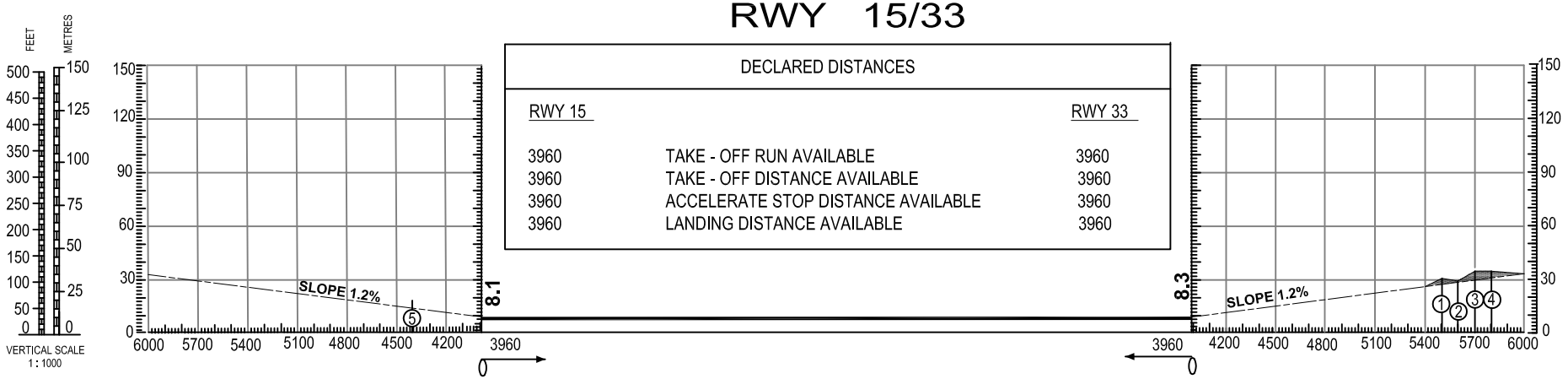
RUNWAY	APRON	GATES	TAXI ROUTE DETAIL
33	WEST TERMINAL SOUTH (WTS) 122.55 MHz	K2 - K18 (EVEN NR)	U3, U3D/U3E, U4, Z, Z8, Y, Y9
	WEST TERMINAL WEST (WTW) 121.725 MHz	K1 - K13 (ODD NR) & K20 - K24 (EVEN NR)	U8, Z, Z8, Y, Y9 For gates K20, K22 & K24 via U7, Z, Z8, Y, Y9
	WEST TERMINAL NORTH (WTN) 121.725 MHz	J1 - J17 (ODD NR)	U2, Q, U4, Z, Z8, Y, Y9
	WEST TERMINAL EAST (WTE) 122.55 MHz	J2 - J22 (EVEN NR)	U3, U3A/U3B/U3C, U4, Z, Z8, Y, Y9
	WEST SATELLITE SOUTH (WSS) 130.75 MHz	Q2 - Q18 (EVEN NR)	U5, Z, Z8, Y, Y9
	WEST SATELLITE WEST (WSW) 122.55 MHz	Q1 - Q21 (ODD NR)	U4, Z, Z8, Y, Y9
	WEST SATELLITE NORTH (WSN) 122.55 MHz	P1 - P21 (ODD NR)	U4, Z, Z8, Y, Y9
	WEST SATELLITE EAST (WSE) 130.75 MHz	P2 - P12 (EVEN NR)	U5, Z, Z8, Y, Y9

AERODROME OBSTACLE CHART - ICAO
TYPE A (OPERATING LIMITATIONS)

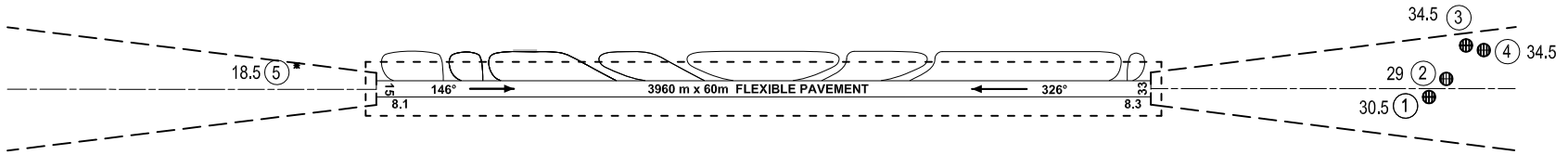
KL INTERNATIONAL AIRPORT, SEPANG

MAGNETIC VARIATION 8' W - JAN 2014

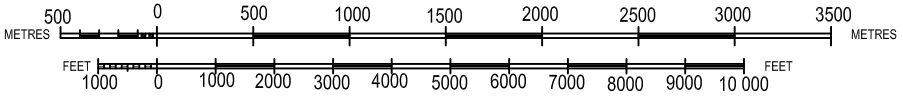
RWY 15/33



DECLARED DISTANCES		
RWY 15		RWY 33
3960	TAKE - OFF RUN AVAILABLE	3960
3960	TAKE - OFF DISTANCE AVAILABLE	3960
3960	ACCELERATE STOP DISTANCE AVAILABLE	3960
3960	LANDING DISTANCE AVAILABLE	3960



HORIZONTAL SCALE - 1 : 10 000



LEGEND		
IDENTIFICATION NUMBER	①	
TREE	✱	
	PROFILE	PLAN
TERRAIN PENETRATING OBSTACLE PLANE		⊕

ORDER OF ACCURANCY
HORIZONTAL 00m.
VERTICAL 00m.

AMENDMENT RECORD		
NO.	DATE	ENTERED BY
1		
2		
3		

STANDARD DEPARTURE CHART INSTRUMENT (SID) - ICAO

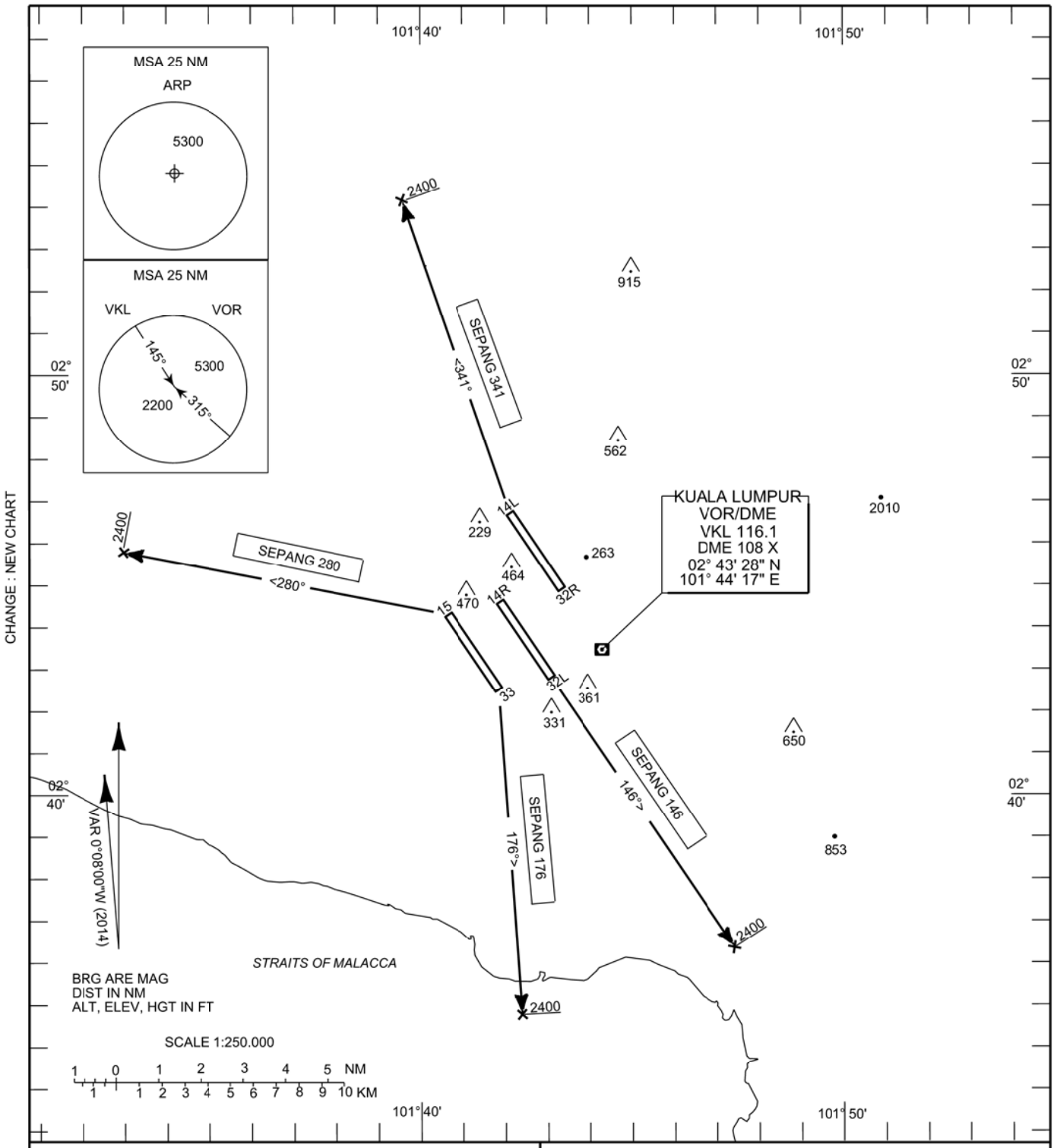
FREQUENCIES			
APP	135.250	GND	121.650
TWR	118.800		121.800
	118.500		122.525
	119.800		118.050
		ATIS	126.450

SEPANG (WMKK)
KL INTERNATIONAL AIRPORT

TRANSITION ALT 11000

RADAR DEPARTURES

CHANGE : NEW CHART



RWY 33 - SEPANG 280

After take-off turn left on TR 280° until passing 2400FT, then follow the assigned heading.

RWY 32R - SEPANG 341

After take-off proceed on TR 341° until passing 2400FT, then follow the assigned heading.

RWY 14R - SEPANG 146

After take-off proceed on TR 146° until passing 2400FT, then follow the assigned heading.

RWY 15 - SEPANG 176

After take-off turn right on TR 176° until passing 2400FT, then follow the assigned heading.

REMARKS: a) Minimum climb gradient 5% (304 FT/NM) until leaving 2400FT, for ATC purposes.

b) Turn before DER is not allowed.

STANDARD DEPARTURE CHART
INSTRUMENT (SID) - ICAO

TRANSITION ALT 11000

FREQUENCIES			
APP	135.250	TWR	118.800
	121.250	GND	121.650
	125.850		
		ATIS	126.450

SEPANG (WMKK)
KL INTERNATIONAL AIRPORT

RWY 14L
DEPARTURES

CHANGE : NEW CHART

LEGEND
SID
Not to Scale

101° 30' 102° 00'
03° 30' 03° 00' 02° 30' 02° 00'

7 0 7 1 7 8
2 7 6 8 5 8
2 0 5 2 5 2
1 5 3 3 2 7
1 5 1 5 1 5

5742 4757 4429 4593 4594 3970 1700 3478 915 562 263 2010 4164 2953 650 853 331 361

AGOSA
RDL 309 VKL
40 DME
03° 08' 41" N
101° 13' 09" E

AGOSA 1H
40<309°

PIBOS
RDL 027 VKL
45.1 DME
03° 21' 07" N
102° 03' 16"E

PIBOS 1H
027°>
R027 VKL
<350°

KIMAT
RDL 055 VKL
45.1 DME
03° 09' 44" N
102° 21' 02" E

KIMAT 1H
055°>
R055 VKL

ISTAN
RDL 069 VKL
47.9 DME
03° 00' 55" N
102° 28' 53" E

ISTAN 1H
069°>
025°>
R069 VKL
LR R075 VKL
R086 VKL

SULTAN ABDUL AZIZ SHAH
AIRPORT - SUBANG

KUALA LUMPUR
VOR/DME
VKL 116.1
DME 108x

R309 VKL
14L
32R
<266°
D7 VKL
6000
116°>
D8 VKL
4000
R116 VKL
R199 VKL
IAS MAX 250KT
IAS MAX 250KT

RUMID 1H
24.4<199°

MITOS 1H
BATAR 1H
178°>
R148 VKL

RUMID
RDL 1999 VKL
24.4 DME
02° 20' 16" N
101° 36' 27" E

DUMOK
02° 17' 57" N
102° 00' 15" E

BATAR 1H
147°>9.4

BATAR
02° 10' 00" N
102° 05' 13" E

MITOS 1H
163°>20.3

MITOS
01° 58' 30" N
102° 06' 10" E

VAR 0°08'00"W (2014)

BRG ARE MAG
DIST IN NM
ALT, ELEV, HGT IN FT

STRAITS OF MALACCA

MSA 25 NM
VKL VOR
145°
315°
5300
2200

SCALE 1:750.000
3 0
5 0 10 20
NM
KM

Sepang/KL International airport

DEPARTURES RWY 14L

Initial Climb Procedure	Designator	SID description (ICP executed)
After take-off proceed on TR 146° to VKL VOR/DME. Le ave VKL VOR/DME on RDL 1 16 VKL VOR (TR116°) until 8NM VKL DME, then follow the assigned SID. **REMARKS** a) Minimum climb gradient 5% (304 FT/NM) until passing 4000 for ATC purposes. b) IAS MAX 250KT during turn	**AGOSA 1H**	Continue on TR 116° (RDL 116 VKL VOR), passing 4000FT turn left (IAS MAX 250KT) on TR 266° (RDL 086 VKL VOR) to VKL VOR, to leave on RDL 309 VKL VOR (TR 309°) bound to AGOSA. MCA/MCL: D7/RDL 086 VKL VOR/DME, 6000FT
	RUMID 1H	Continue on TR 116° (RDL 116 VKL VOR), passing 4000FT turn left (IAS MAX 250KT) on TR 266° (RDL 086 VKL VOR) to VKL VOR, to leave on RDL 199 VKL VOR (TR 199°) bound to RUMID. MCA/MCL: D7/RDL 086 VKL VOR/DME, 6000FT
	BATAR 1H	Continue on TR 116° (RDL 116 VKL VOR), passing 4000FT turn right (IAS MAX 250KT) on TR178° until joining RDL 148 VKL VOR (TR 148°) inbound to DUMOK then BATAR.
	MITOS 1H	Continue on TR 116° (RDL 116 VKL VOR), passing 4000FT turn right (IAS MAX 250KT) on TR 178° until joining RDL 148 VKL VOR (TR 148°) inbound to DUMOK then MITOS.
	PIBOS 1H	Continue on TR 116° (RDL 116 VKL VOR), passing 4000FT turn left (IAS MAX 250KT) on TR 350° until joining RDL 027 VKL VOR (TR 027°) bound to PIBOS
	KIMAT 1H	Continue on TR 116° (RDL 116 VKL VOR), passing 4000FT turn left (IAS MAX 250KT) on TR 025° until joining RDL 055 VKL VOR (TR 055°) bound to KIMAT
	ISTAN 1H	Turn right (IAS MAX 250KT) on TR 110° until joining RDL 069 VKL VOR (TR 069°) bound to ISTAN.

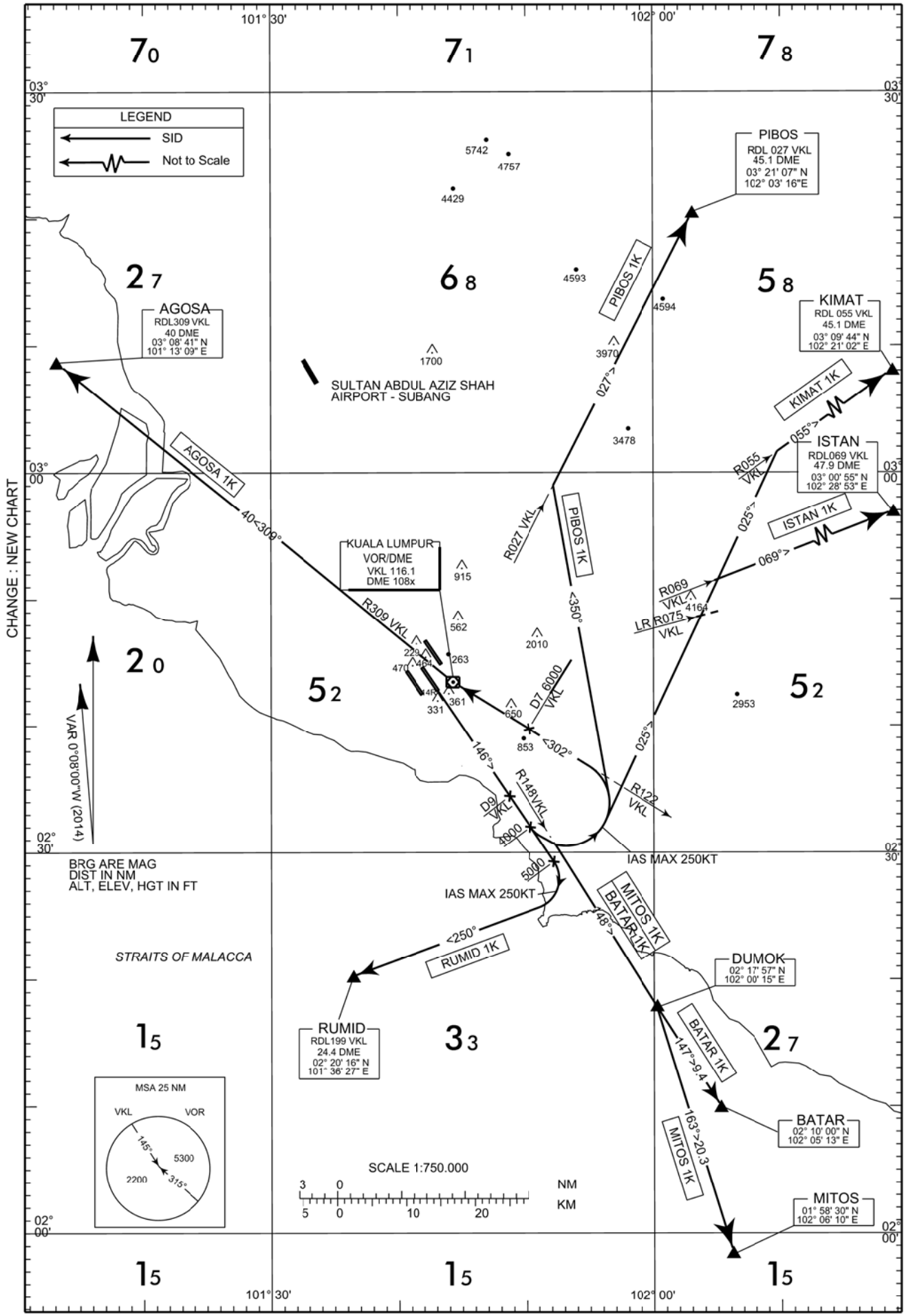
STANDARD DEPARTURE CHART INSTRUMENT (SID) - ICAO

TRANSITION ALT 11000

FREQUENCIES			
APP	135.250	TWR	118.500
	121.250	GND	121.800
	125.850		122.525
		ATIS	126.450

SEPANG (WMKK)
KL INTERNATIONAL AIRPORT

RWY 14R
DEPARTURES



Sepang/KL International airport

DEPARTURES RWY 14R

Initial Climb Procedure	Designator	SID description (ICP executed)
After take-off proceed on TR 146° until 9NM VKL DME, then follow the assigned SID. **REMARKS** a) Minimum climb gradient 5% (304 FT/NM) until passing 4000 for ATC purposes.	**AGOSA 1K**	Continue on TR 146° passing 4000FT turn left (IAS MAX 250KT) on TR 302° (RDL 122 VKL VOR) to VKL VOR to leave on RDL 309 VKL VOR (TR 309°) bound to AGOSA. MCA/MCL: D7/RDL 122 VKL VOR/DME, 6000FT
	RUMID 1K	Continue on TR 146° passing 5000FT turn right (IAS MAX 250KT) on TR 250° bound to RUMID.
	BATAR 1K	Continue on TR 146° passing 4000FT turn left (IAS MAX 250KT) to join RDL 148 VKL VOR inbound to DUMOK then BATAR.
	MITOS 1K	Continue on TR 146° passing 4000FT turn left (IAS MAX 250KT) to join RDL 148 VKL VOR inbound to DUMOK then MITOS
	PIBOS 1K	Continue on TR 146° passing 4000FT turn left (IAS MAX 250KT) on TR 350° until joining RDL 027 VKL VOR (TR 027°) bound to PIBOS
	KIMAT 1K	Continue on TR 146° passing 4000FT turn left (IAS MAX 250KT) on TR 025° until joining RDL 055 VKL VOR (TR 055°) bound to KIMAT
	ISTAN 1K	Continue on TR 146° passing 4000FT turn left (IAS MAX 250KT) on TR 025°, crossing RDL 075 VKL VOR turn right to join RDL 069 VKL VOR (TR 069°) bound to ISTAN

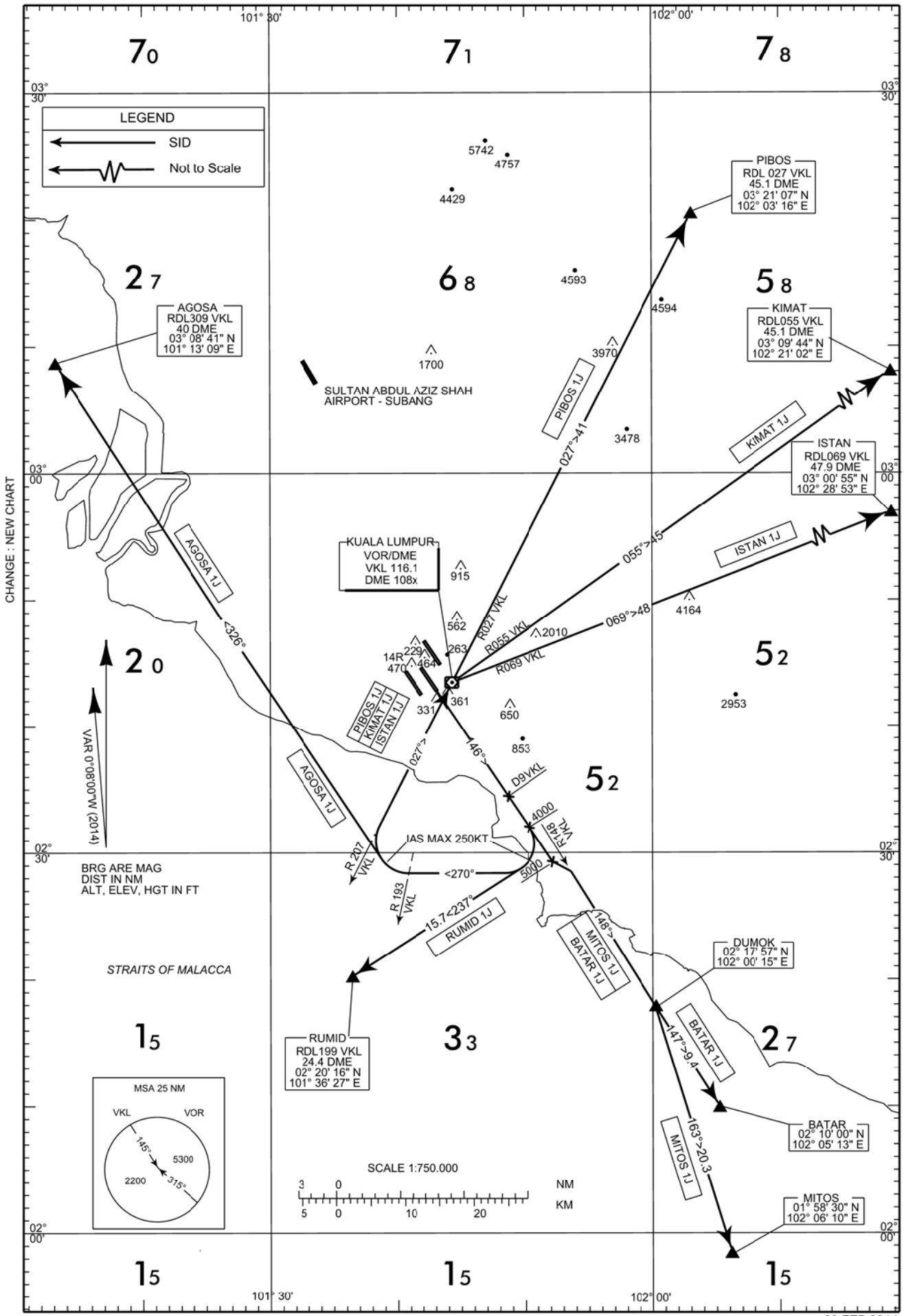
STANDARD DEPARTURE CHART INSTRUMENT (SID) - ICAO

FREQUENCIES			
APP	135.250	TWR	118.500
	121.250	GND	121.800
	125.850		122.525
		ATIS	126.450

SEPANG (WMKK)
KL INTERNATIONAL AIRPORT

RWY 14R
RIGHT DEPARTURES

TRANSITION ALT 11000



Sepang/KL International airport

DEPARTURES RWY 14R - Right Departures

Initial Climb Procedure	Designator	SID description (ICP executed)
After take-off proceed on TR 146° until 9NM VKL DME, then follow the assigned SID. **REMARKS** a) Minimum climb gradient 5% (304 FT/NM) until passing 4000 for ATC purposes.	**AGOSA 1J**	Continue on TR 146 ° passing 4000FT turn right (IAS max 250KT) on TR 270°, crossing RDL 193 VKL VOR turn right on TR 326° bound to AGOSA.
	RUMID 1J	Continue on TR 146 ° passing 4000FT turn right (IAS max 250KT) on TR 237° bound to RUMID.
	BATAR 1J	Continue on T R 146° passing 5000FT turn left (IAS max 250KT) to join RDL 148 VKL VOR (TR 148°) inbound to DUMOK then BATAR.
	MITOS 1J	Continue on T R 146° passing 5000FT turn left (IAS max 250KT) to join RDL 148 VKL VOR (TR 148°) inbound to DUMOK then MITOS.
	PIBOS 1J	Continue on TR 146 ° passing 4000FT turn right (IAS max 250KT) on TR 270°, crossing RDL 193 VKL VOR turn right on TR 027° (RDL 207 VKL VOR) to VKL VOR to leave on RDL 027 VKL VOR (TR 027°) bound to PIBOS.
	KIMAT 1J	Continue on TR 146 ° passing 4000FT turn right (IAS max 250KT) on TR 270°, crossing RDL 193 VKL VOR turn right on TR 027° (RDL 207 VKL VOR) to VKL VOR to leave on RDL 055 VKL VOR (TR 055°) bound to KIMAT.
	ISTAN 1J	Continue on TR 146 ° passing 4000FT turn right (IAS max 250KT) on TR 270°, crossing RDL 193 VKL VOR turn right on TR 027° (RDL 207 VKL VOR) to VKL VOR to leave on RDL 069 VKL VOR (TR 069°) bound to ISTAN.

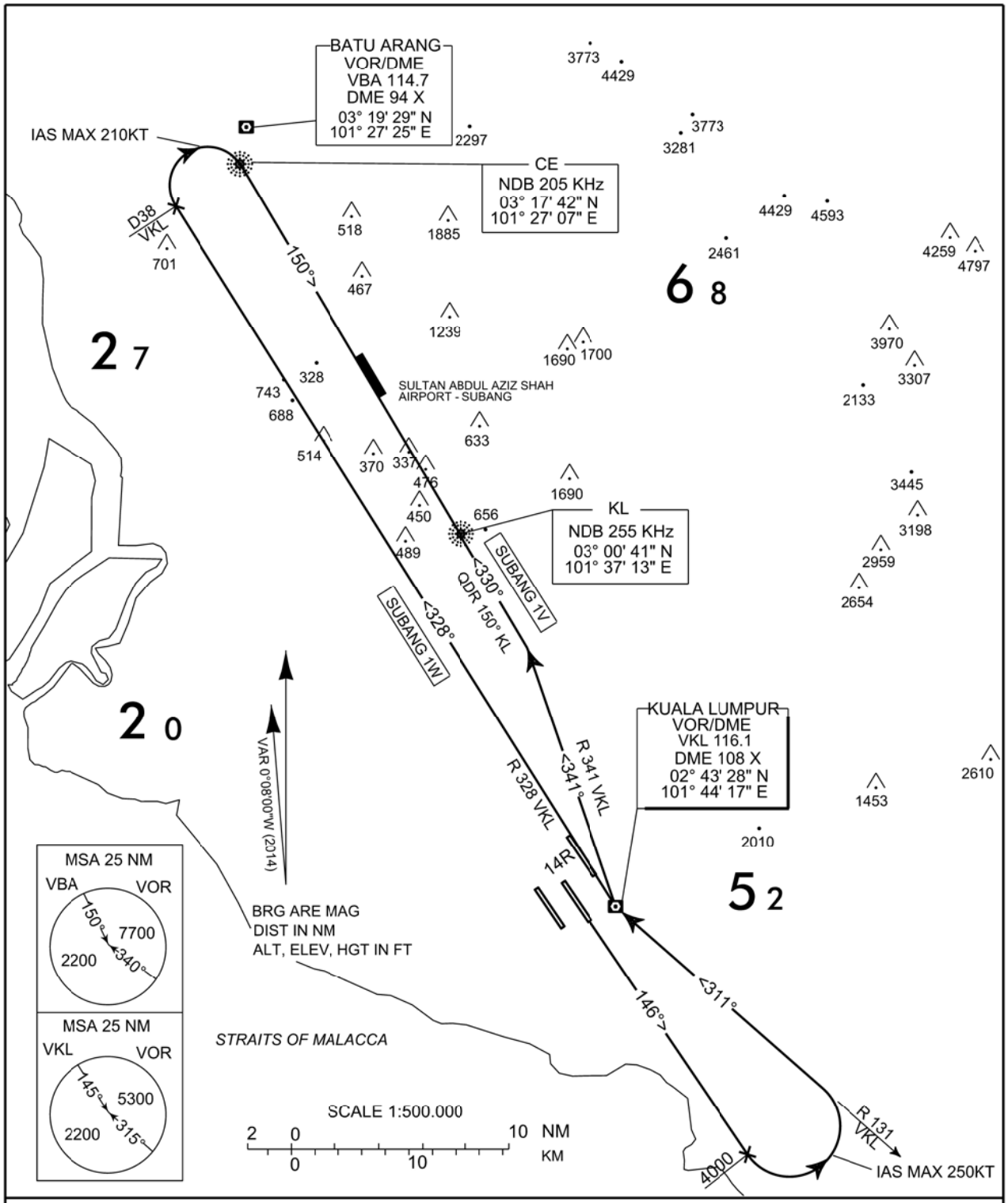
STANDARD DEPARTURE CHART
INSTRUMENT (SID) - ICAO

TRANSITION ALT 11000

FREQUENCIES			
APP	135.250	TWR	118.500
	121.250	GND	121.800
	125.850		122.525
		ATIS	126.450

SEPANG (WMKK)
KL INTERNATIONAL AIRPORT

RWY 14R
DEPARTURES FOR SAAS SUBANG



SUBANG 1W: After take-off proceed on TR 146°, passing 4000FT turn left (IAS MAX 250KT) until joining RDL 131 VKL VOR (TR 311°) inbound VKL VOR/DME, then proceed on RDL 328 VKL VOR (TR 328°). At 38 NM VKL DME turn right (IAS MAX 210KT) to intercept the LOC for ILS approach RWY 15.

SUBANG 1V: After take-off proceed on TR 146°, passing 4000FT turn left (IAS MAX 250KT) until joining RDL 131 VKL VOR (TR 311°) inbound VKL VOR/DME, then proceed on RDL 341 VKL VOR (TR 341°) until joining QDR 150° to intercept the LOC for ILS approach RWY 33.

STANDARD DEPARTURE CHART INSTRUMENT (SID) - ICAO

TRANSITION ALT 11000

FREQUENCIES			
APP	135.250	TWR	119.800
	121.250	GND	118.050
	125.850		
		ATIS	126.450

SEPANG (WMKK)
KL INTERNATIONAL AIRPORT

RWY 15
DEPARTURES

CHANGE : NEW CHART

LEGEND
SID
Not to Scale

PIBOS
RDL 027 VKL
45.1DME
03° 21' 07" N
102° 03 '16" E

AGOSA
RDL 309 VKL
40 DME
03° 08' 41" N
101° 13' 09" E

KIMAT
RDL 055 VKL
45.1 DME
03° 09' 44" N
102° 21' 02" E

ISTAN
RDL069 VKL
47.9 DME
03° 00' 55" N
102° 28' 53" E

SULTAN ABDUL AZIZ SHAH AIRPORT - SUBANG

KUALA LUMPUR VOR/DME
VKL 116.1
DME 108x

AGOSA 1M
<326°

PIBOS 1M
027°>41

KIMAT 1M
055°>45

ISTAN 1M
069°>48

PIBOS 1M
KIMAT 1M
ISTAN 1M
055°>

R027 VKL
R055 VKL
R069 VKL

IAS MAX 210KT
IAS MAX 250KT

210°

R 235 VKL

D10 VKL MCA3000

R 171 VBA

R 133 VBA

R 210 VKL

8<17

RUMID 1M

MITOS 1M
BATAR 1M
DUMOK 1M
<163

DUMOK 1M
100°>15

118°>22

BATAR 1M

MITOS 1M
137°>30

RUMID
RDL 199 VKL
24.4 DME
03° 08' 41" N
101° 13' 09" E

SADON
RDL 163 VBA
02° 20' 31" N
101° 45' 27" E

DUMOK
02° 17' 57" N
102° 00' 15" E

BATAR
02° 10' 00" N
102° 05' 13" E

MITOS
01° 58' 30" N
102° 06' 10" E

MSA 25 NM
VKL VOR
145°
315°
5300
2200

SCALE 1:750.000
3 0 5 10 15 NM
5 0 10 20 KM

VAR 0°08'00"W (2014)

BRG ARE MAG
DIST IN NM
ALT, ELEV, HGT IN FT

STRAITS OF MALACCA

5742 4757 4429 4593 4594 3970 3478 1700 915 562 263 229 470 464 361 331 5000 650 853 2010 4164 2953

7 0 7 1 7 8
2 7 6 8 5 8
2 0 5 2 5 2
1 5 3 3 2 7
1 5 1 5 1 5

101° 30' 102° 00'
03° 30' 03° 00' 02° 30' 02° 00'

Sepang/KL International airport

DEPARTURES RWY 15

Initial Climb Procedure	Designator	SID description (ICP executed)
After take-off turn right (IAS MAX 210KT during turn) to intercept and follow RDL 210 VKL VOR (TR210°) until 10NM VKL DME, then follow the assigned SID. MCA: 10NM VKL DME, 3000ft **REMARKS** a) Minimum climb gradient 5,2% (316FT/NM) until passing 4000 for ATC purposes.	**AGOSA 1M**	Turn right (IAS max 250KT) on TR 326° bound to AGOSA.
	RUMID 1M	Continue on TR 210° (RDL 210 VKL VOR) until joining RDL 171 VBA VOR (TR 171°) bound to RUMID.
	DUMOK 1M	Turn left (IAS max 250KT) on TR 133° until joining RDL 163 VBA VOR (TR 163°) inbound to SADON then DUMOK.
	BATAR 1M	Turn left (IAS max 250KT) on TR 133° until joining RDL 163 VBA VOR (TR 163°) inbound to SADON then BATAR.
	MITOS 1M	Turn left (IAS max 250KT) on TR 133° until joining RDL 163 VBA VOR (TR 163°) inbound to SADON then MITOS.
	PIBOS 1M	Turn right (IAS max 250KT) on TR 055° (RDL 235 VKL VOR) to VKL VOR to leave on RDL 027 VKL VOR (TR 027°) bound to PIBOS. MCA/MCL: VKL VOR, 5000FT
	KIMAT 1M	Turn right (IAS max 250KT) on TR 055° (RDL 235 VKL VOR) to VKL VOR to leave on RDL 055 VKL VOR (TR 055°) bound to KIMAT. MCA/MCL: VKL VOR, 5000FT
	ISTAN 1M	Turn right (IAS max 250KT) on TR 055° (RDL 135 VKL VOR) to VKL VOR to leave on RDL 069 VKL VOR (TR 069°) bound to ISTAN. MCA/MCL: VKL VOR, 5000FT

STANDARD DEPARTURE CHART INSTRUMENT (SID) - ICAO

TRANSITION ALT 11000

FREQUENCIES			
APP	135.250	TWR	119.800
	121.250	GND	118.050
	125.850		
		ATIS	126.450

SEPANG (WMKK)
KL INTERNATIONAL AIRPORT

RWY 15
RNAV DEPARTURES

CHANGE : NEW CHART

101° 30'
102° 00'
03° 00'
02° 30'
02° 00'

4429
4593
4594
3970
1700
3478
915
562
4164
2010
229
263
470
464
361
331
430
650
853
2953

BATU ARANG
VOR/DME
VBA 114.7
DME 94 X
03° 19' 29" N
101° 27' 25" E

AGOSA
03° 08' 41" N
101° 13' 09" E

SULTAN ABDUL AZIZ SHAH
AIRPORT - SUBANG

KUALA LUMPUR
VOR/DME
VKL 116.1
DME 108 X
02° 43' 28" N
101° 44' 17" E

AGOSA 1N
42.4<234°

IAS MAX 210KT
IAS MAX 250KT
KK 622
9.3<244°
D10
VKL MCA 3000
KK 623
IAS MAX 250KT
11.2<210°
RUMID 1N
BATAR 1N
MITOS 1N
KK 624
154°>4.8

RUMID
02° 20' 16" N
101° 36' 27" E

MALACCA
VOR/DME
VMK 117.4
CH 121 X
02° 15' 29" N
102° 14' 45" E

110°> 31
BATAR 1N
BATAR
02° 10' 00" N
102° 05' 13" E

126°> 37
MITOS 1N
MITOS
01° 58' 30" N
102° 06' 10" E

STRAITS OF MALACCA

VAR 0°08'00"W (2014)

BRG ARE MAG
DIST IN NM
ALT, ELEV, HGT IN FT

MSA 25 NM
ARP
5300

SCALE 1:750.000

3 0 5 10 15 NM
5 0 10 20 KM

Sepang/KL International airport

RNAV DEPARTURES RWY 15

AGOSA 1N

Path Terminator	Waypoint Name	Fly Over	Track °Mag	Turn Direction	Altitude Constraint (MCA)	Speed Limit (IAS)	Recommended Navaid	Bearing/ Range to Navaid	Navigation Specification
CA	-	-	146°	-	+430 FT	210 KT	VKL VOR/DME	-	RNAV 1
DF	KK622	-	-	-	+3000 FT	250 KT	-	-	RNAV 1
TF	KK623	-	244°	-	-	250 KT	-	-	RNAV 1
TF	AGOSA	-	334°	R	-	-	-	-	RNAV 1

Minimum climb gradient 5,2% (316 FT/NM) until passing 4000 for ATC purposes.

RUMID 1N

Path Terminator	Waypoint Name	Fly Over	Track °Mag	Turn Direction	Altitude Constraint (MCA)	Speed Limit (IAS)	Recommended Navaid	Bearing/ Range to Navaid	Navigation Specification
CA	-	-	146°	-	+430 FT	210 KT	VKL VOR/DME	-	RNAV 1
DF	KK622	-	-	-	+3000 FT	250 KT	-	-	RNAV 1
TF	KK624	-	210°	-	-	250 KT	-	-	RNAV 1
TF	RUMID	-	154°	-	-	-	-	-	RNAV 1

Minimum climb gradient 5,2% (316 FT/NM) until passing 4000 for ATC purposes.

BATAR 1N

Path Terminator	Waypoint Name	Fly Over	Track °Mag	Turn Direction	Altitude Constraint (MCA)	Speed Limit (IAS)	Recommended Navaid	Bearing/ Range to Navaid	Navigation Specification
CA	-	-	146°	-	+430 FT	210 KT	VKL VOR/DME	-	RNAV 1
DF	KK622	-	-	-	+3000 FT	250 KT	-	-	RNAV 1
TF	KK624	-	210°	-	-	250 KT	-	-	RNAV 1
TF	RUMID	-	154°	-	-	-	-	-	RNAV 1
TF	BATAR	-	110°	-	-	-	-	-	RNAV 1

Minimum climb gradient 5,2% (316 FT/NM) until passing 4000 for ATC purposes.

MITOS 1N

Path Terminator	Waypoint Name	Fly Over	Track °Mag	Turn Direction	Altitude Constraint (MCA)	Speed Limit (IAS)	Recommended Navaid	Bearing/ Range to Navaid	Navigation Specification
CA	-	-	146°	-	+430 FT	210 KT	VKL VOR/DME	-	RNAV 1
DF	KK622	-	-	-	+3000 FT	250 KT	-	-	RNAV 1
TF	KK624	-	210°	-	-	250 KT	-	-	RNAV 1
TF	RUMID	-	154°	-	-	-	-	-	RNAV 1
TF	MITOS	-	126°	-	-	-	-	-	RNAV 1

Minimum climb gradient 5,2% (316 FT/NM) until passing 4000 for ATC purposes.

Waypoint	Latitude	Longitude
KK622	02°34'25.22"N	101°39'56.80"E
KK623	02°30'21.44"N	101°31'35.73"E
KK624	02°24'38.70"N	101°34'20.62"E

STANDARD DEPARTURE CHART
INSTRUMENT (SID) - ICAO

TRANSITION ALT 11000

FREQUENCIES			
APP	135.250	TWR	119.800
	121.250	GND	118.050
	125.850		
		ATIS	126.450

SEPANG (WMKK)
KL INTERNATIONAL AIRPORT

RWY 15
STRAIGHT DEPARTURES

CHANGE : NEW CHART

LEGEND
SID
Not to Scale

PIBOS
RDL 027 VKL
45.1 DME
03° 21' 07" N
102° 03' 16" E

KIMAT
RDL055 VKL
45.1 DME
03° 09' 44" N
102° 21' 02" E

ISTAN
RDL069 VKL
47.9 DME
03° 00' 55" N
102° 28' 53" E

AGOSA
RDL309 VKL
40 DME
03° 08' 41" N
101° 13' 09" E

KUALA LUMPUR
VOR/DME
VKL 116.1
DME 108x

SULTAN ABDUL AZIZ SHAH
AIRPORT - SUBANG

AGOSA 1L
R309 VKL
<326°
PIBOS 1L
027°>
R027 VKL
<350°
KIMAT 1L
055°>
R055 VKL
ISTAN 1L
069°>
025°>
LR R075 VKL
145°>
R148 VKL
AGOSA 1L
IAS MAX 250KT
IAS MAX 250KT
148°>
<225°
RUMID 1L
MITOS 1L
BATAR 1L
147°>9.4
163°>20.3
MITOS 1L

RUMID
RDL199 VKL
24.4 DME
02° 20' 16" N
101° 36' 27" E

DUMOK
02° 17' 57" N
102° 00' 15" E

BATAR
02° 10' 00" N
102° 05' 13" E

MITOS
01° 58' 30" N
102° 06' 10" E

VAR 0°08'00"W (2014)

BRG ARE MAG
DIST IN NM
ALT, ELEV, HGT IN FT

STRAITS OF MALACCA

MSA 25 NM
VKL VOR
145°
315°
5300
2200

SCALE 1:750.000

3 0 5 10 15 NM
5 0 10 20 KM

Sepang/KL International airport

DEPARTURES RWY 15 - (STRAIGHT DEPARTURES)

Initial Climb Procedure	Designator	SID description (ICP executed)
After take-off proceed on TR 146° until passing 3000FT, then follow the assigned SID. **REMARKS** a) Minimum climb gradient 5% (304 FT/NM) until passing 4000 for ATC purposes.	**AGOSA 1L**	Turn right (IAS max 250KT) on TR 326° until joining RDL 309 VKL VOR (TR 309°) bound to AGOSA.
	RUMID 1L	Turn right (IAS max 250KT) on TR 225° bound to RUMID.
	BATAR 1L	Turn left (IAS max 250KT) on TR 118° until joining RDL 148 VKL VOR (TR 148°) inbound to DUMOK then BATAR.
	MITOS 1L	Turn left (IAS max 250KT) on TR 118° until joining RDL 148 VKL VOR (TR 148°) inbound to DUMOK then MITOS.
	PIBOS 1L	Turn left (IAS max 250KT) on TR 350° until joining RDL 027 VKL VOR (TR 027°) bound to PIBOS.
	KIMAT 1L	Turn left (IAS max 250KT) on TR 025° until joining RDL 055 VKL VOR (TR 055°) bound to KIMAT.
	ISTAN 1L	Turn left (IAS max 250KT) on TR 025° crossing RDL 075 VKL VOR turn right to intercept and follow RDL 069 VKL VOR (TR 069°) bound to ISTAN.

STANDARD DEPARTURE CHART INSTRUMENT (SID) - ICAO

FREQUENCIES			
APP	135.250	TWR	118.500
	124.200	GND	121.800
	118.650		122.525
		ATIS	126.450

SEPANG (WMKK)
KL INTERNATIONAL AIRPORT

RWY 32L
LEFT DEPARTURES

TRANSITION ALT 11000

CHANGE : NEW CHART

LEGEND
SID
Not to Scale

BATU ARANG
VOR/DME
VBA 114.7
DME 94 X
03° 19' 29" N
101° 27' 25" E

AGOSA
RDL309 VKL
40 DME
03° 08' 41" N
101° 13' 09" E

AGOSA 1D
309° R309 VKL
3000
D10 VKL
309° R309 VKL
IAS MAX 250KT
R 275 VKL
095°>

SULTAN ABDUL AZIZ SHAH AIRPORT - SUBANG

PIBOS
RDL027 VKL
41.5 DME
03° 21' 07" N
102° 03' 16" E

PIBOS 1E
027°> 41
R 027 VKL

KIMAT
RDL055 VKL
45.1 DME
03° 09' 44" N
102° 21' 02" E

KIMAT 1E
055°> 45
R 055 VKL

ISTAN
RDL069 VKL
47.9 DME
03° 00' 55" N
102° 28' 53" E

ISTAN 1E
069°> 48
R 069 VKL

D4 VKL

KUALA LUMPUR
VOR/DME
VKL 116.1
DME 108 X
02° 43' 28" N
101° 44' 17" E

R 171 VBA
171°>

RUMID 1E
DUMOK 1E
BATAR 1E
MITOS 1E

VAR 0°08'00"W (2014)

BRG ARE MAG
DIST IN NM
ALT, ELEV, HGT IN FT

RUMID
RDL199 VKL
24.4 DME
02° 20' 16" N
101° 36' 27" E

DUMOK
RDL148 VKL
30 DME
02° 17' 57" N
102° 00' 15" E

DUMOK 1E
096°> 24

MALACCA
VOR/DME
VMK 117.4
CH 121 X
02° 15' 29" N
102° 14' 45" E

110°> 31
BATAR 1E

BATAR
RDL148 VKL
39 DME
02° 10' 00" N
102° 05' 13" E

126°> 31
MITOS 1E

MITOS
RDL154 VKL
50 DME
01° 58' 30" N
102° 06' 10" E

MSA 25 NM
VKL VOR
145°
315°
5300
2200

STRAITS OF MALACCA

SCALE 1:750.000
3 0 5 10 15 NM
5 0 10 20 KM

Sepang/KL International airport

DEPARTURES RWY 32L - (LEFT DEPARTURES)

Initial Climb Procedure	Designator	SID description (ICP executed)
After take-off proceed on TR 326°. At 4 NM VKL DME turn left on RDL 309 VKL VOR (T R 309°) until 10 NM VKL DME, then follow the assigned SID. **REMARKS** a) Minimum climb gradient 5% (304 FT/NM) until passing 4000 for ATC purposes.	**AGOSA 1D**	Continue on RDL 309 VKL VOR (TR 309°) bound to AGOSA.
	RUMID 1E	Continue on RDL 309 VKL VOR (TR 309°), passing 3000FT turn left (IAS MAX 250KT) until joining RDL 171 VBA VOR (TR 171°) bound to RUMID.
	DUMOK 1E	Continue on RDL 309 VKL VOR (TR 309°), passing 3000FT turn left (IAS MAX 250KT) until joining RDL 171 VBA VOR (TR 171°) bound to RUMID, then DUMOK.
	BATAR 1E	Continue on RDL 309 VKL VOR (TR 309°), passing 3000FT turn left (IAS MAX 250KT) until joining RDL 171 VBA VOR (TR 171°) bound to RUMID, then BATAR.
	MITOS 1E	Continue on RDL 309 VKL VOR (TR 309°), passing 3000FT turn left (IAS MAX 250KT) until joining RDL 171 VBA VOR (TR 171°) bound to RUMID, then MITOS.
	PIBOS 1E	Continue on RDL 309 VKL VOR (TR 309°), passing 3000FT turn left (IAS MAX 250KT) to intercept and follow RDL 275 VKL VOR (TR 095°) inbound VKL VOR/DME. Leave VKL VOR/DME on RDL 027 VKL VOR (TR 027°) bound to PIBOS.
	KIMAT 1E	Continue on RDL 309 VKL VOR (TR 309°), passing 3000FT turn left (IAS MAX 250KT) to intercept and follow RDL 275 VKL VOR (TR 095°) inbound VKL VOR/DME. Leave VKL VOR/DME on RDL 055 VKL VOR (TR 055°) bound to KIMAT.
	ISTAN 1E	Continue on RDL 309 VKL VOR (TR 309°), passing 3000FT turn left (IAS MAX 250KT) to intercept and follow RDL 275 VKL VOR (TR 095°) inbound VKL VOR/DME. Leave VKL VOR/DME on RDL 069 VKL VOR (TR 069°) bound to ISTAN

STANDARD DEPARTURE CHART INSTRUMENT (SID) - ICAO

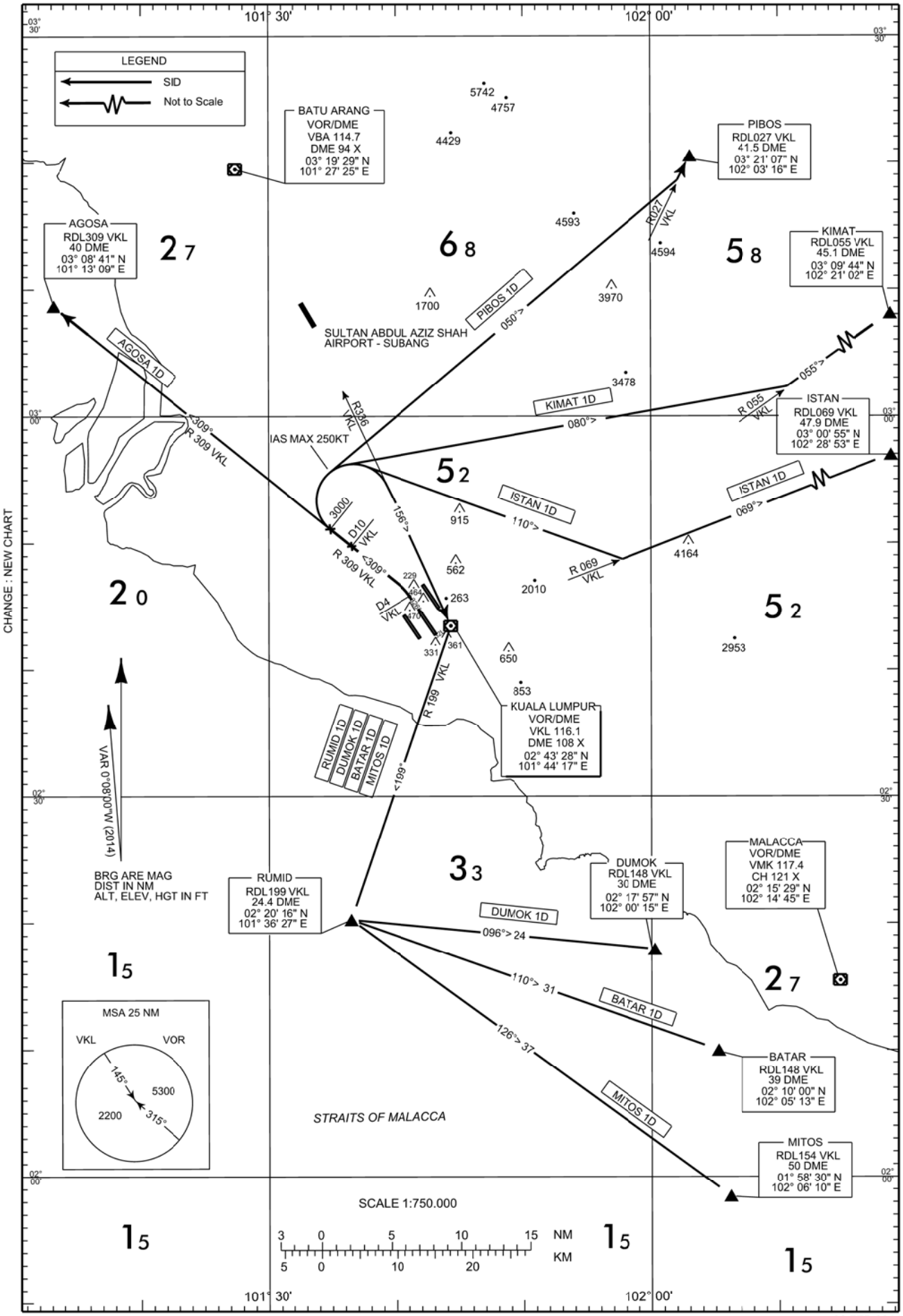
FREQUENCIES			
APP	135.250	TWR	118.500
	124.200	GND	121.800
	118.650		122.525
		ATIS	126.450

SEPANG (WMKK)
KL INTERNATIONAL AIRPORT

RWY 32L
RIGHT DEPARTURES

TRANSITION ALT 11000

CHANGE : NEW CHART



Sepang/KL International airport

DEPARTURES RWY 32L - (RIGHT DEPARTURES)

Initial Climb Procedure	Designator	SID description (ICP executed)
After take-off proceed on TR 326°. At 4 NM VKL DME turn left on RDL 309 VKL VOR (T R 309°) until 10 NM VKL DME, then follow the assigned SID. **REMARKS** a) Minimum climb gradient 5% (304 FT/NM) until passing 4000 for ATC purposes.	**AGOSA 1D**	Continue on RDL 309 VKL VOR (TR 309°) bound to AGOSA.
	RUMID 1D	Continue on RDL 309 VKL VOR (TR 309°), passing 3000FT turn right (IAS MAX 250KT) to intercept and follow RDL 336 VKL VOR (TR 156°) inbound VKL VOR/DME. Leave VKL VOR/DME on RDL 199 VKL VOR (TR 199°) bound to RUMID.
	DUMOK 1D	Continue on RDL 309 VKL VOR (TR 309°), passing 3000FT turn right (IAS MAX 250KT) to intercept and follow RDL 336 VKL VOR (TR 156°) inbound VKL VOR/DME. Leave VKL VOR/DME on RDL 199 VKL VOR (TR 199°) bound to RUMID, then DUMOK.
	BATAR 1D	Continue on RDL 309 VKL VOR (TR 309°), passing 3000FT turn right (IAS MAX 250KT) to intercept and follow RDL 336 VKL VOR (TR 156°) inbound VKL VOR/DME. Leave VKL VOR/DME on RDL 199 VKL VOR (TR 199°) bound to RUMID, then BATAR.
	MITOS 1D	Continue on RDL 309 VKL VOR (TR 309°), passing 3000FT turn right (IAS MAX 250KT) to intercept and follow RDL 336 VKL VOR (TR 156°) inbound VKL VOR/DME. Leave VKL VOR/DME on RDL 199 VKL VOR (TR 199°) bound to RUMID, then MITOS.
	PIBOS 1D	Continue on RDL 309 VKL VOR (TR 309°), passing 3000FT turn right (IAS MAX 250KT) on TR 050° until joining RDL 027 VKL VOR bound to PIBOS.
	KIMAT 1D	Continue on RDL 309 VKL VOR (TR 309°), passing 3000FT turn right (IAS MAX 250KT) on TR 080° until joining RDL 055 VKL VOR bound to KIMAT.
	ISTAN 1D	Continue on RDL 309 VKL VOR (TR 309°), passing 3000FT turn right (IAS MAX 250KT) on TR 110° until joining RDL 069 VKL VOR bound to ISTAN.

STANDARD DEPARTURE CHART INSTRUMENT (SID) - ICAO

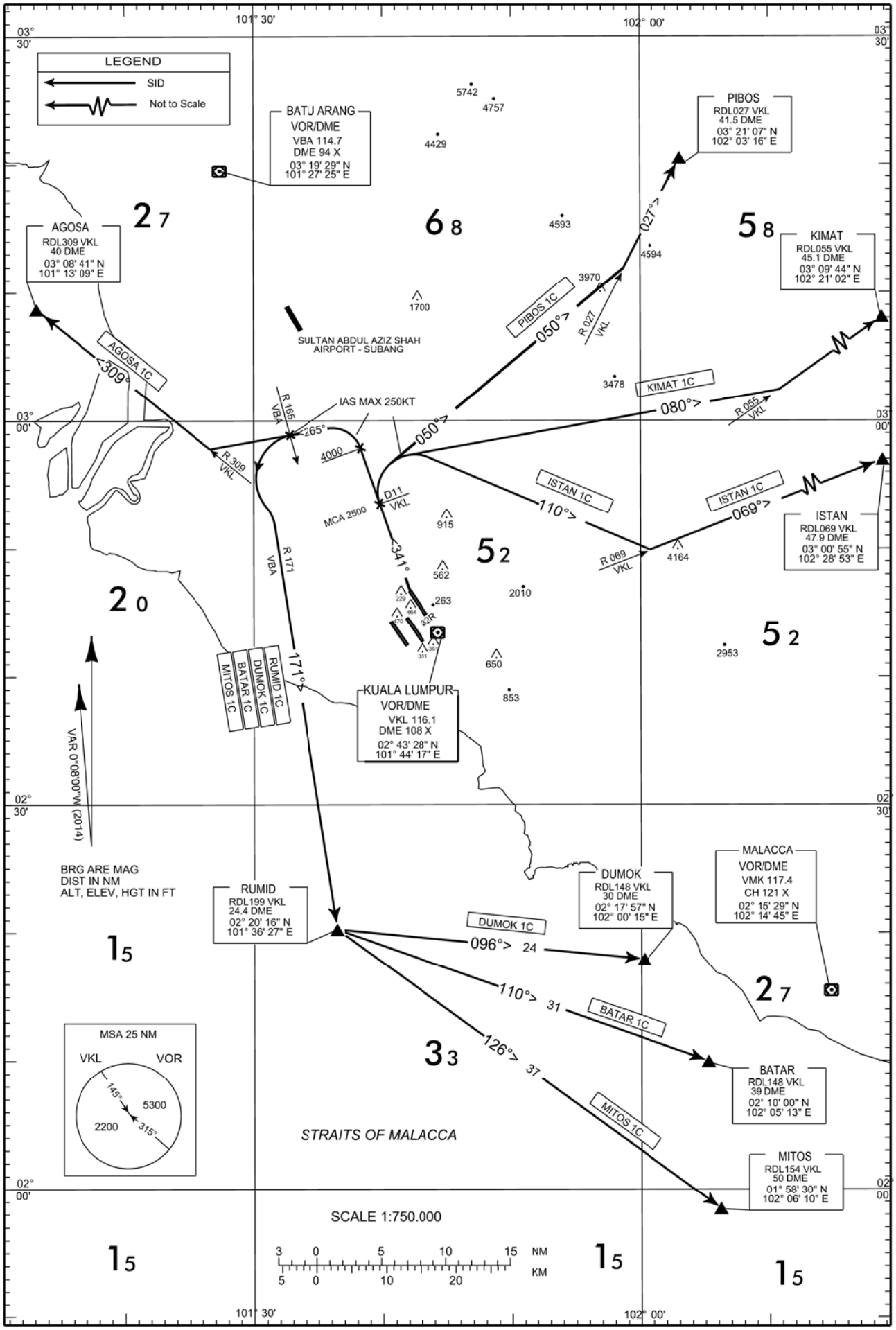
TRANSITION ALT 11000

FREQUENCIES			
APP	135.250 124.200 118.650	TWR	118.800
		GND	121.650
		ATIS	126.450

SEPANG (WMKK)
KL INTERNATIONAL AIRPORT

RWY 32R
DEPARTURES

CHANGE : NEW CHART



Sepang/KL International airport

DEPARTURES RWY 32R

Initial Climb Procedure	Designator	SID description (ICP executed)
After take-off proceed on TR 341° until 11 NM VKL DME, then follow the assigned SID. MCA: 11 NM VKL DME, 2500FT **REMARKS** a) Minimum climb gradient 5,5% (335 FT/NM) for SID PULIP 1C, PIBOS 1C, KIMAT 1C, ISTAN 1C, until passing 4000FT for ATC purposes. Minimum climb gradient 6% (365 FT/NM) for SID AGOSA 1C, INTOT 1C, RUMID 1C, DUMOK 1C, BATAR 1C, MITOS 1C until passing 4000FT for ATC purposes. b) Turn before DER is not allowed.	**AGOSA 1C**	Continue on TR 341°, passing 4000FT turn left (IAS MAX 250KT) on TR 265° until joining RDL 309 VKL VOR (TR 309°) bound to AGOSA.
	RUMID 1C	Continue on TR 341°, passing 4000FT turn left (IAS MAX 250KT) on TR 265°, crossing RDL 165 VBA VOR turn left to intercept and follow RDL 171 VBA bound to RUMID.
	DUMOK 1C	Continue on TR 341°, passing 4000FT turn left (IAS MAX 250KT) on TR 265°, crossing RDL 165 VBA VOR turn left to intercept and follow RDL 171 VBA bound to RUMID, then DUMOK.
	BATAR 1C	Continue on TR 341°, passing 4000FT turn left (IAS MAX 250KT) on TR 265°, crossing RDL 165 VBA VOR turn left to intercept and follow RDL 171 VBA bound to RUMID, then BATAR.
	MITOS 1C	Continue on TR 341°, passing 4000FT turn left (IAS MAX 250KT) on TR 265°, crossing RDL 165 VBA VOR turn left to intercept and follow RDL 171 VBA bound to RUMID, then MITOS.
	PIBOS 1C	Turn right (IAS MAX 250KT) on TR 050° until joining RDL 027 VKL VOR (TR 027°) bound to PIBOS.
	KIMAT 1C	Turn right (IAS MAX 250KT) on TR 080° until joining RDL 055 VKL VOR (TR 055°) bound to KIMAT.
	ISTAN 1C	Turn right (IAS MAX 250KT) on TR 110° until joining RDL 069 VKL VOR (TR 069°) bound to ISTAN.

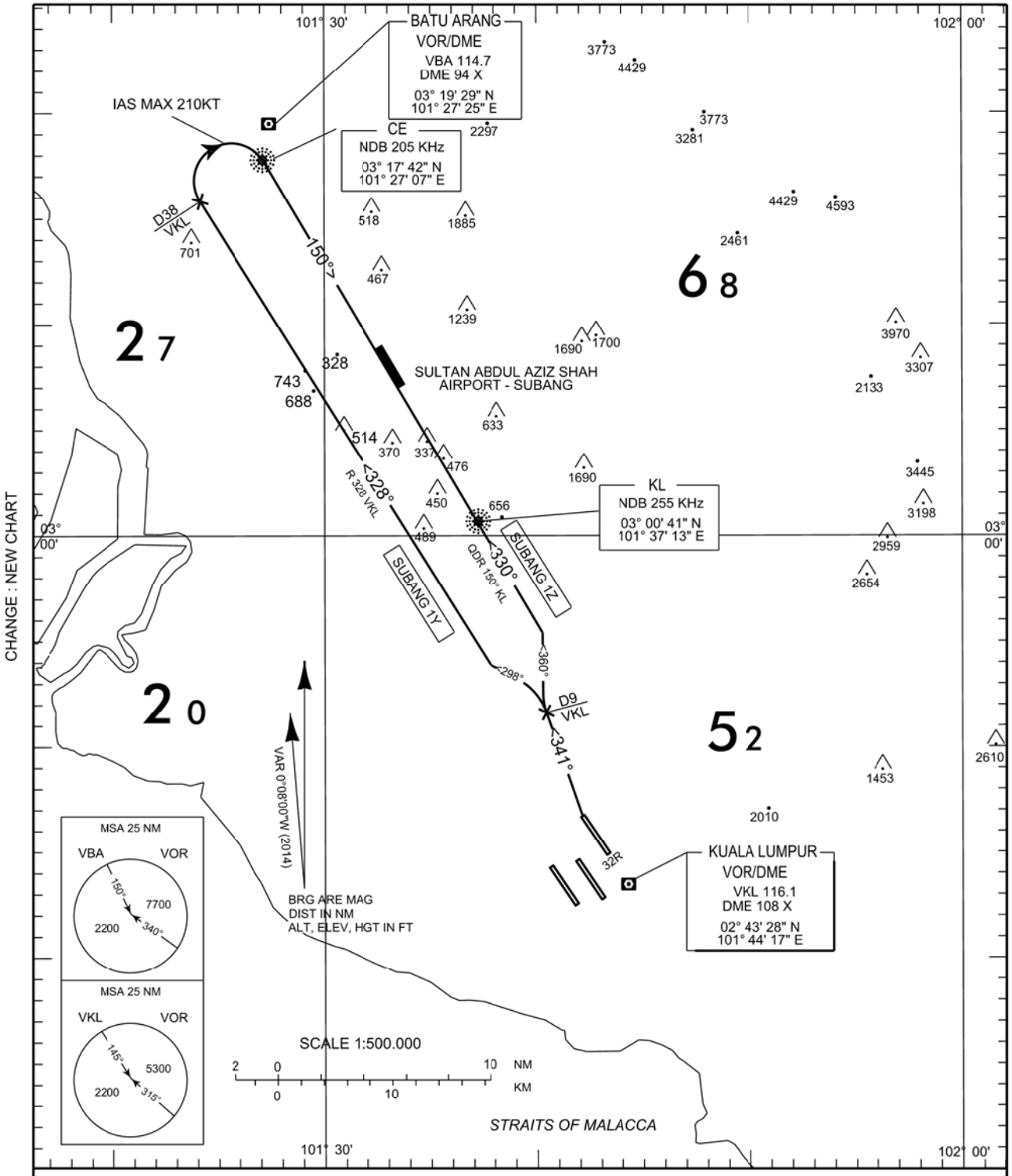
STANDARD DEPARTURE CHART
INSTRUMENT (SID) - ICAO

TRANSITION ALT 11000

FREQUENCIES			
APP	135.250 124.200 118.650	TWR GND	118.800 121.650
		ATIS	126.450

SEPANG (WMKK)
KL INTERNATIONAL AIRPORT
RWY 32R
DEPARTURES FOR SAAS SUBANG

CHANGE : NEW CHART



SUBANG 1Z: After take-off proceed on TR 341° until 9 NM VKL DME, then turn right on TR 360° until joining QDR 150° to intercept the LOC for ILS approach RWY 33.

SUBANG 1Y: After take-off proceed on TR 341° until 9 NM VKL DME, then turn left on TR 298° to intercept and follow RDL 328 VKL VOR. At 38 NM VKL DME turn right (IAS MAX 210KT) to intercept the LOC for ILS approach RWY 15.

STANDARD DEPARTURE CHART
INSTRUMENT (SID) - ICAO

TRANSITION ALT 11000

FREQUENCIES			
APP	135.250	TWR	119.800
	124.200	GND	118.050
	118.650		
		ATIS	126.450

SEPANG (WMKK)
KL INTERNATIONAL AIRPORT
RWY 33
DEPARTURES

CHANGE : NEW CHART

LEGEND
SID
ATC discretion
Not to Scale

BATU ARANG
VOR/DME
VBA 114.7
DME 94 X
03° 19' 29" N
101° 27' 25" E

AGOSA
RDL309 VKL
40 DME
03° 08' 41" N
101° 13' 09" E

PIBOS
RDL027 VKL
41.5 DME
03° 21' 07" N
102° 03' 16" E

KIMAT
RDL055 VKL
45.1 DME
03° 09' 44" N
102° 21' 02" E

ISTAN
RDL069 VKL
47.9 DME
03° 00' 55" N
102° 28' 53" E

KUALA LUMPUR
VOR/DME
VKL 116.1
DME 108 X
02° 43' 28" N
101° 44' 17" E

DUMOK
RDL148 VKL
30 DME
02° 17' 57" N
102° 00' 15" E

MALACCA
VOR/DME
VMK 117.4
CH 121 X
02° 15' 29" N
102° 14' 45" E

RUMID
RDL199 VKL
24.4 DME
02° 20' 16" N
101° 36' 27" E

BATAR
RDL148 VKL
39 DME
02° 10' 00" N
102° 05' 13" E

MITOS
RDL154 VKL
50 DME
01° 58' 30" N
102° 06' 10" E

SULTAN ABDUL AZIZ SHAH AIRPORT - SUBANG

AGOSA 1F 309°
PIBOS 1X 050°>
PIBOS 1F 027°> 41
KIMAT 1F 055°> 45
ISTAN 1F 069°> 48
DUMOK 1F 096°> 24
BATAR 1F 110°> 31
MITOS 1F 126°> 37
340°
260°
055°>
095°>
171°>
R 309 VKL
R 027 VKL
R 055 VKL
R 069 VKL
R 235 VKL
R 171 VBA
D11 VKL
4000
CMCA 3000
IAS MAX 250KT
VAR 0°08'00"W (2014)
BRG ARE MAG
DIST IN NM
ALT, ELEV, HGT IN FT

MSA 25 NM
VKL VOR
145°
315°
5300
2200

STRAITS OF MALACCA

SCALE 1:750.000
3 0 5 10 15 NM
5 0 10 20 KM

Sepang/KL International airport

DEPARTURES RWY 33

Initial Climb Procedure	Designator	SID description (ICP executed)
After take-off turn left (IAS MAX 230KT) on TR 260°, then follow the assigned SID **REMARKS** a) Minimum climb gradient 5,9% (360 FT/NM) until passing 4000 for ATC purposes. b) Turn before DER is not allowed.	**AGOSA 1F**	Continue on TR 260°, passing 4000FT turn right on TR 340° until joining RDL 309 VKL VOR (TR 309°) bound to AGOSA.
	RUMID 1F	Continue on TR 260°. At D11 VKL DME turn left (IAS MAX 250KT) to intercept and follow RDL 171 VBA VOR (TR 171°) bound to RUMID. MCA: 11 NM VKL DME, 3000FT
	DUMOK 1F	Continue on TR 260°. At D11 VKL DME turn left (IAS MAX 250KT) to intercept and follow RDL 171 VBA VOR (TR 171°) bound to RUMID, then DUMOK. MCA: 11 NM VKL DME, 3000FT
	BATAR 1F	Continue on TR 260°. At D11 VKL DME turn left (IAS MAX 250KT) to intercept and follow RDL 171 VBA VOR (TR 171°) bound to RUMID, then BATAR. MCA: 11 NM VKL DME, 3000FT
	MITOS 1F	Continue on TR 260°. At D11 VKL DME turn left (IAS MAX 250KT) to intercept and follow RDL 171 VBA VOR (TR 171°) bound to RUMID, then MITOS. MCA: 11 NM VKL DME, 3000FT
	PIBOS 1F	Continue on TR 260 °, passing 3000FT turn left (IAS MAX 250KT) on track 095 ° to intercept and follow RDL 235 VKL VOR (TR 055°) inbound VKL VOR/DME. Leave VKL V OR/ DME on RDL 027 VKL VOR (TR 027°) bound to PIBOS.
	KIMAT 1F	Continue on TR 260 °, passing 3000FT turn left (IAS MAX 250KT) on track 095 ° to intercept and follow RDL 235 VKL VOR (TR 055°) inbound VKL VOR/DME. Leave VKL V OR/ DME on RDL 055 VKL VOR (TR 055°) bound to KIMAT.
	ISTAN 1F	Continue on TR 260 °, passing 3000FT turn left (IAS MAX 250KT) on track 095 ° to intercept and follow RDL 235 VKL VOR (TR 055°) inbound VKL VOR/DME. Leave VKL V OR/ DME on RDL 069 VKL VOR (TR 069°) bound to ISTAN.
	PIBOS 1X (ATC discretion)	Continue on TR 260°, passing 4000FT, not before D1 1 VKL DME, turn right on TR 050° until joining RDL 027 VKL VOR (TR 027°) bound to PIBOS.

STANDARD DEPARTURE CHART INSTRUMENT (SID) - ICAO

FREQUENCIES			
APP	135.250	TWR	119.800
	124.200	GND	118.050
	118.650		
		ATIS	126.450

SEPANG (WMKK)
KL INTERNATIONAL AIRPORT

TRANSITION ALT 11000

RWY 33
RNAV DEPARTURES

CHANGE : NEW CHART

101° 30' 102° 00'

03° 00'

02° 30'

02° 00'

4429 4593 4594 3970 1700 3478 915 4164 2010 562 2953 650 853

BATU ARANG
VOR/DME
VBA 114.7
DME 94 X
03° 19' 29" N
101° 27' 25" E

SULTAN ABDUL AZIZ SHAH AIRPORT - SUBANG

AGOSA
03° 08' 41" N
101° 13' 09" E

AGOSA 1X
29.4>334°

IAS MAX 230KT

D11 VKL

KK612

MCA 3000

8.5>244°

KK613

IAS MAX 250KT

154°>24.2

RUMID 1X
BATAR 1X
MITOS 1X

KUALA LUMPUR
VOR/DME
VKL 116.1
DME 108 X
02° 43' 28" N
101° 44' 17" E

MALACCA
VOR/DME
VMK 117.4
CH 121 X
02° 15' 29" N
102° 14' 45" E

RUMID
02° 20' 16" N
101° 36' 27" E

110°> 31

126°> 37

BATAR 1X

BATAR
02° 10' 00" N
102° 05' 13" E

MITOS 1X

MITOS
01° 58' 30" N
102° 06' 10" E

STRAITS OF MALACCA

VAR 0°08'00"W (2014)

BRG ARE MAG
DIST IN NM
ALT, ELEV, HGT IN FT

MSA 25 NM
ARP
5300

SCALE 1:750.000

3 0 5 10 15 NM
5 0 10 20 KM

Sepang/KL International airport

RNAV 1 DEPARTURES RWY 33

AGOSA 1X

Path Terminator	Waypoint Name	Fly Over	Track °Mag	Turn Direction	Altitude Constraint (MCA)	Speed Limit (IAS)	Recommended Navaid	Bearing/ Range to Navaid	Navigation Specification
CA	-	-	326°	-	+430 FT	230 KT	VKL VOR/DME	-	RNAV 1
DF	KK612	-	-	-	+3000 FT	250 KT	-	-	RNAV 1
TF	KK613	-	244°	-	-	250 KT	-	-	RNAV 1
TF	AGOSA	R	334°	-	-	-	-	-	RNAV 1

Minimum climb gradient 5.9% (360 FT/NM) until passing 4000 for ATC purposes.

RUMID 1X

Path Terminator	Waypoint Name	Fly Over	Track °Mag	Turn Direction	Altitude Constraint (MCA)	Speed Limit (IAS)	Recommended Navaid	Bearing/ Range to Navaid	Navigation Specification
CA	-	-	326°	-	+430 FT	230 KT	VKL VOR/DME	-	RNAV 1
DF	KK612	-	-	-	+3000 FT	250 KT	-	-	RNAV 1
TF	KK613	-	244°	-	-	250 KT	-	-	RNAV 1
TF	RUMID	L	154°	-	-	-	-	-	RNAV 1

Minimum climb gradient 5.9% (360 FT/NM) until passing 4000 for ATC purposes.

BATAR 1X

Path Terminator	Waypoint Name	Fly Over	Track °Mag	Turn Direction	Altitude Constraint (MCA)	Speed Limit (IAS)	Recommended Navaid	Bearing/ Range to Navaid	Navigation Specification
CA	-	-	326°	-	+430 FT	230 KT	VKL VOR/DME	-	RNAV 1
DF	KK612	-	-	-	+3000 FT	250 KT	-	-	RNAV 1
TF	KK613	-	244°	-	-	250 KT	-	-	RNAV 1
TF	RUMID	L	154°	-	-	-	-	-	RNAV 1
TF	BATAR	-	110°	-	-	-	-	-	RNAV 1

Minimum climb gradient 5.9% (360 FT/NM) until passing 4000 for ATC purposes.

MITOS 1X

Path Terminator	Waypoint Name	Fly Over	Track °Mag	Turn Direction	Altitude Constraint (MCA)	Speed Limit (IAS)	Recommended Navaid	Bearing/ Range to Navaid	Navigation Specification
CA	-	-	326°	-	+430 FT	230 KT	VKL VOR/DME	-	RNAV 1
DF	KK612	-	-	-	+3000 FT	250 KT	-	-	RNAV 1
TF	KK613	-	244°	-	-	250 KT	-	-	RNAV 1
TF	RUMID	L	154°	-	-	-	-	-	RNAV 1
TF	MITOS	-	126°	-	-	-	-	-	RNAV 1

Minimum climb gradient 5.9% (360 FT/NM) until passing 4000 for ATC purposes.

Waypoint	Latitude	Longitude
KK612	02°45'52.44"N	101°33'33.96"E
KK613	02°42'09.31"N	101°25'55.20"E

STANDARD DEPARTURE CHART INSTRUMENT (SID) - ICAO

TRANSITION ALT 11000

FREQUENCIES			
APP	135.250	TWR	119.800
	124.200	GND	118.050
	118.650		
		ATIS	126.450

SEPANG (WMKK)
KL INTERNATIONAL AIRPORT

RWY 33
STRAIGHT DEPARTURES

CHANGE : NEW CHART

LEGEND
SID
Not to Scale

BATU ARANG VOR/DME
VBA 114.7
DME 94 X
03° 19' 29" N
101° 27' 25" E

AGOSA
RDL309 VKL
40 DME
03° 08' 41" N
101° 13' 09" E

PIBOS
RDL027 VKL
41.5 DME
03° 21' 07" N
102° 03' 16" E

KIMAT
RDL055 VKL
45.1 DME
03° 09' 44" N
102° 21' 02" E

ISTAN
RDL069 VKL
47.9 DME
03° 00' 55" N
102° 28' 53" E

KUALA LUMPUR VOR/DME
VKL 116.1
DME 108 X
02° 43' 28" N
101° 44' 17" E

RUMID
RDL199 VKL
24.4 DME
02° 20' 16" N
101° 36' 27" E

DUMOK
RDL148 VKL
30 DME
02° 17' 57" N
102° 00' 15" E

MALACCA VOR/DME
VMK 117.4
CH 121 X
02° 15' 29" N
102° 14' 45" E

BATAR
RDL148 VKL
39 DME
02° 10' 00" N
102° 05' 13" E

MITOS
RDL154 VKL
50 DME
01° 58' 30" N
102° 06' 10" E

SULTAN ABDUL AZIZ SHAH AIRPORT - SUBANG

AGOSA 1G
R 309 VKL
309°

PIBOS 1G
R 027 VKL
050°

KIMAT 1G
R 056 VKL
055°
080°

ISTAN 1G
110°
069°
R 069 VKL

IAS MAX 250KT
3000

R 171 VBA
326°
171°

RUMID 1G
DUMOK 1G
BATAR 1G
MITOS 1G

DUMOK 1G
096° 24

110° 31
BATAR 1G

126° 37
MITOS 1G

VAR 0°08'00"W (2014)

BRG ARE MAG
DIST IN NM
ALT, ELEV, HGT IN FT

MSA 25 NM
VKL VOR
145°
315°
5300
2200

STRAITS OF MALACCA

SCALE 1:750.000
3 0 5 10 15 NM
5 0 10 20 KM

101° 30' 102° 00'
03° 30' 03° 00' 02° 30' 02° 00'

Sepang/KL International airport

DEPARTURES RWY 33 - (STRAIGHT DEPARTURES)

Initial Climb Procedure	Designator	SID description (ICP executed)
After take-off proceed on TR 326° until passing 3000FT, then follow the assigned SID. **REMARKS** a) Minimum climb gradient 5% (304 FT/NM) until passing 4000 for ATC purposes. b) Turn before DER is not allowed.	**AGOSA 1G**	Turn left (IAS MAX 250KT) until joining RDL 309 VKL VOR (TR 309°) bound to AGOSA.
	RUMID 1G	Turn left (IAS MAX 250KT) until joining RDL 171 VBA VOR (TR 171°) bound to RUMID.
	DUMOK 1G	Turn left (IAS MAX 250KT) until joining RDL 171 VBA VOR (TR 171°) bound to RUMID, then DUMOK.
	BATAR 1G	Turn left (IAS MAX 250KT) until joining RDL 171 VBA VOR (TR 171°) bound to RUMID, then BATAR.
	MITOS 1G	Turn left (IAS MAX 250KT) until joining RDL 171 VBA VOR (TR 171°) bound to RUMID, then MITOS.
	PIBOS 1G	Turn right (IAS MAX 250KT) on TR 050° until joining RDL 027 VKL VOR (TR 027°) bound to PIBOS.
	KIMAT 1G	Turn right (IAS MAX 250KT) on TR 080° until joining RDL 055 VKL VOR (TR 055°) bound to KIMAT.
	ISTAN 1G	Turn right (IAS MAX 250KT) on TR 110° until joining RDL 069 VKL VOR (TR 069°) bound to ISTAN.

STANDARD ARRIVAL CHART INSTRUMENT (STAR) - ICAO

FREQUENCIES			
APP	121.250	TWR	118.800
	124.200		118.500
	118.650		119.800
	125.850		
		ATIS	126.250

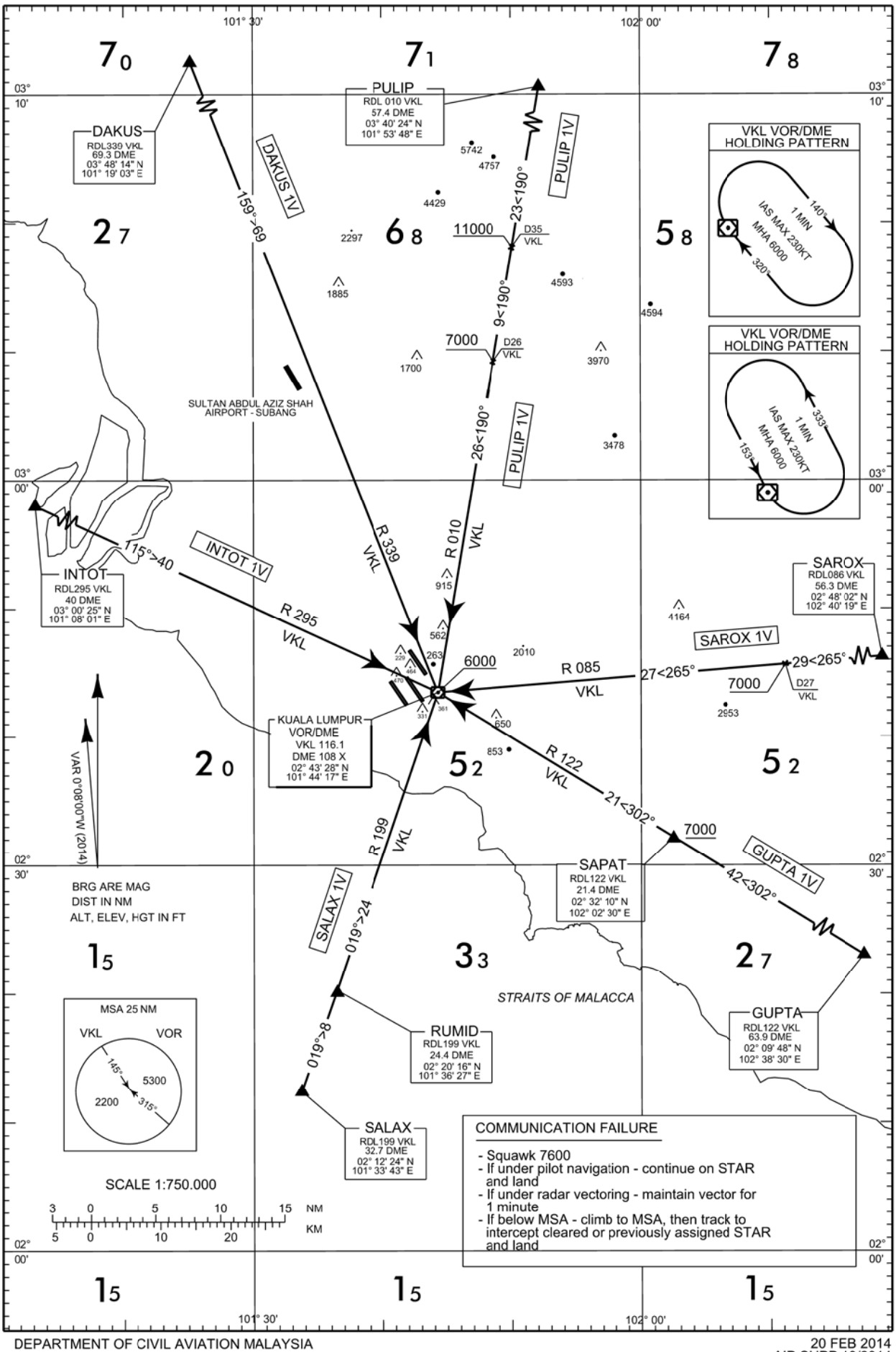
SEPANG (WMKK) KL INTERNATIONAL AIRPORT

DAKUS 1V SALAX 1V
PULIP 1V INTOT 1V
SAROX 1V
GUPTA 1V

VKL ARRIVALS

TRANSITION ALT 11000

CHANGES : NEW CHART



COMMUNICATION FAILURE

- Squawk 7600
- If under pilot navigation - continue on STAR and land
- If under radar vectoring - maintain vector for 1 minute
- If below MSA - climb to MSA, then track to intercept cleared or previously assigned STAR and land

VKL ARRIVALS

	Designator	Description
ARRIVAL	**DAKUS 1V**	From DAKUS track inbound on RDL 339 VKL VOR to VKL VOR/DME. MCA: VKL VOR/DME, 6000FT
	PULIP 1V	From PULIP track inbound on RDL 010 VKL VOR to VKL VOR/DME. MCA: D35/RDL 010 VKL VOR/DME, 11000FT; D26/RDL 010 VKL VOR/DME, 7000FT; VKL VOR/DME, 6000FT
	SAROX 1V	From SAROX track inbound on RDL 085 VKL VOR to VKL VOR/DME. MCA: D27/RDL 085 VKL VOR/DME, 7000FT; VKL VOR/DME, 6000FT
	GUPTA 1V	From GUPTA track inbound on RDL 122 VKL VOR to SAPAT and VKL VOR/DME. MCA: SAPAT, 7000FT; VKL VOR/DME, 6000FT
	SALAX 1V	From SALAX track inbound on RDL 199 VKL VOR to RUMID and VKL VOR/DME. MCA: VKL VOR/DME, 6000FT
	INTOT 1V	From INTOT track inbound on RDL 295 VKL VOR to VKL VOR/DME. MCA: VKL VOR/DME, 6000FT

SPEED RESTRICTIONS	
FOLLOW SPEED RESTRICTIONS UNLESS INSTRUCTED TO "MANTAIN HIGH SPEED" OR "NO (ATC) SPEED RESTRICTION"	
CROSS 10,000FT 250 KIAS	VKL VOR/DME 230 KIAS

STANDARD ARRIVAL CHART INSTRUMENT (STAR) - ICAO

TRANSITION ALT 11000

FREQUENCIES			
APP	118.650	TWR	118.800
	124.200		118.500
	119.450		119.800
	135.750		
		ATIS	126.250

SEPANG (WMKK)
KL INTERNATIONAL AIRPORT

KIKAL THREE ARRIVAL

CHANGE: REVISED CHART

VBA HOLDING PATTERN
MHA 4500
IAS MAX 230 KT
1 MIN
344°
164°

BATU ARANG
VOR/DME
VBA 114.7
CH 94 X
03° 19' 29" N
101° 27' 25" E

BATU ARANG Transition
7000 D8 VBA
R 166 VBA
4500 D18 VBA
D22 VBA
D25.5 VBA
IF 4000
IF 3000
FAP 4000
FAP 3000
146°
166°

KIKAL
03° 02.1'N
101° 31.1'E
R166 VBA 18 DME
R326 VKL 22 DME

VAR 0°08'00"W (2014)
BRG ARE MAG
DIST IN NM
ALT, ELEV, HGT IN FT

SULTAN ABDUL AZIZ SHAH AIRPORT - SUBANG

MSA 25 NM
VKL VOR
145°
315°
5300
2200

STRAITS OF MALACCA

KUALA LUMPUR
VOR/DME
VKL 116.1
DME 108 X
02° 43' 28" N
101° 44' 17" E

14L
14R
15

COMMUNICATION FAILURE

- Squawk 7600
- If under pilot navigation - continue on STAR and land
- If under radar vectoring - maintain vector for 1 minute
- If below MSA - climb to MSA, then track to intercept cleared or previously assigned STAR and land

SCALE 1:500.000
2 0 10 NM
0 10 KM

KIKAL THREE ARRIVAL

	Designator	Description
TRANSITIONS	**BATU ARANG**	From VBA VOR RDL 166 VBA VOR outbound to KIKAL. MCA: D8/RDL 166 VBA VOR/DME, 7000FT; KIKAL, 4500FT

	RWY Designator	Description
ARRIVAL	**RWY 14L**	From KIKAL make straight-in ILS approach to RWY 14L (IDENT: IEL 108.5). Contact Tower at FAF.
	RWY 14R	From KIKAL RDL 166 VBA VOR (Track 166°) to intercept LOC (IDENT: IWR 110.7). Make straight-in ILS approach to RWY 14R. Contact Tower at FAF.
	RWY 15	From KIKAL RDL 166 VBA VOR (Track 166°) to intercept LOC (IDENT: IWK 110.1). Make straight-in ILS approach to RWY 15. Contact Tower at FAF.

SPEED RESTRICTIONS
FOLLOW SPEED RESTRICTIONS UNLESS INSTRUCTED TO "MANTAIN HIGH SPEED" OR "NO (ATC) SPEED RESTRICTION" CROSS 10,000FT 250 KIAS, CROSS KIKAL 220 KIAS, 160 KIAS FROM 10 NM UNTIL 4NM TD.

STANDARD ARRIVAL CHART INSTRUMENT (STAR) - ICAO

TRANSITION ALT 11000

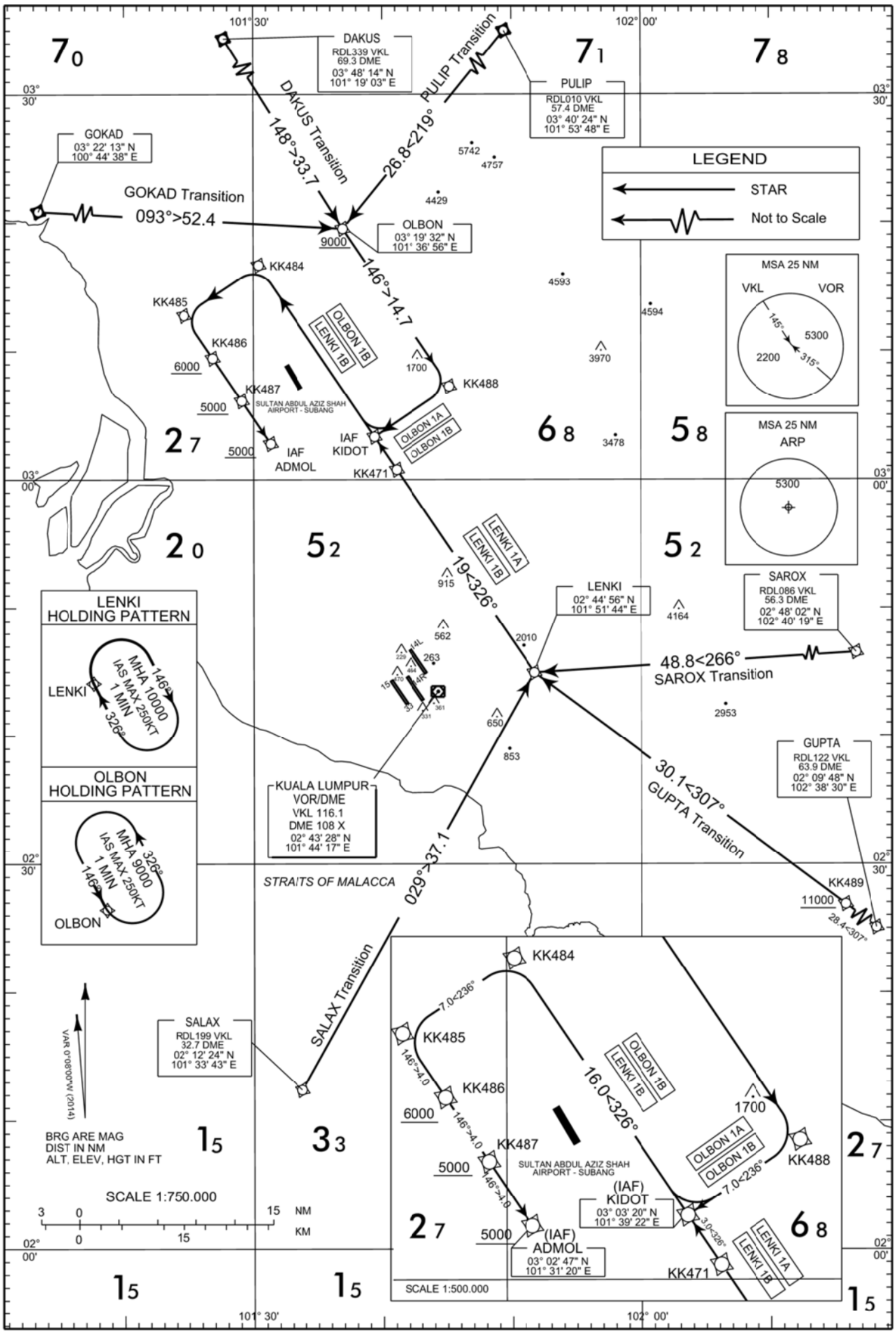
FREQUENCIES			
APP	121.250	TWR	118.800
	124.200		118.500
	118.650		
	125.850		
	135.750	ATIS	126.250

SEPANG (WMKK)
KL INTERNATIONAL AIRPORT

OLBON 1A
OLBON 1B
LENKI 1A
LENKI 1B

RNAV 1 (GNSS)
RWY 14L/14R

CHANGE : NEW CHART



Sepang/KL International airport

LENKI 1A / LENKI 1B / OLBON 1A / OLBON 1B
ARRIVAL RWY 14L/14R - RNAV 1 (GNSS)

PULIP Transition to OLBON Arrivals

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	PULIP	-	-	-	-	-	-	RNAV 1	03°40'24.00"N 101°53'48.00"E
TF	OLBON	-	219°	-	+9000	250	-	RNAV 1	03°19'32.10"N 101°36'56.29"E

DAKUS Transition to OLBON Arrivals

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	DAKUS	-	-	-	-	-	-	RNAV 1	03°48'14.00"N 101°19'03.00"E
TF	OLBON	-	148°	-	+9000	250	-	RNAV 1	03°19'32.10"N 101°36'56.29"E

GOKAD Transition to OLBON Arrivals

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	GOKAD	-	-	-	-	-	-	RNAV 1	03°22'13.06"N 100°44'37.52"E
TF	OLBON	-	093°	-	+9000	250	-	RNAV 1	03°19'32.10"N 101°36'56.29"E

OLBON 1A Arrival

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	OLBON	-	-	-	+9000	250	-	RNAV 1	03°19'32.10"N 101°36'56.29"E
TF	KK488	-	146°	-	-	230	-	RNAV 1	03°07'15.70"N 101°45'09.92"E
TF	KIDOT	-	236°	R	+5000	210	-	RNAV 1	03°03'20.00"N 101°39'22.00"E

OLBON 1B Arrival

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	OLBON	-	-	-	+9000	250	-	RNAV 1	03°19'32.10"N 101°36'56.29"E
TF	KK488	-	146°	-	-	-	-	RNAV 1	03°07'15.70"N 101°45'09.92"E
TF	KIDOT	-	236°	R	-	230	-	RNAV 1	03°03'20.00"N 101°39'22.00"E
TF	KK484	-	326°	R	-	-	-	RNAV 1	03°16'41.65"N 101°30'24.49"E
TF	KK485	-	236°	L	-	-	-	RNAV 1	03°12'46.64"N 101°24'37.67"E
TF	KK486	-	146°	L	+6000	-	-	RNAV 1	03°09'26.77"N 101°26'51.74"E
TF	KK487	-	146°	-	+5000	-	-	RNAV 1	03°06'06.91"N 101°29'05.79"E
TF	ADMOL	-	146°	-	+5000	210	-	RNAV 1	03°02'47.01"N 101°31'19.78"E

SAROX Transition to LENKI Arrivals

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	SAROX	-	-	-	-	-	-	RNAV 1	02°48'02.00"N 102°40'19.00"E
TF	LENKI	-	266°	-	+10000	250	-	RNAV 1	02°44'56.12"N 101°51'44.24"E

GUPTA Transition to LENKI Arrivals

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	GUPTA	-	-	-	-	-	-	RNAV 1	02°09'48.00"N 102°38'30.00"E
TF	KK489	-	307°	-	-	-	-	RNAV 1	02°26'52.61"N 102°15'46.47"E
TF	LENKI	-	307°	-	+10000	250	-	RNAV 1	02°44'56.12"N 101°51'44.24"E

SALAX Transition to LENKI Arrivals

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	SALAX	-	-	-	-	-	-	RNAV 1	02°12'24.00"N 101°33'43.00"E
TF	LENKI	-	029°	-	+10000	250	-	RNAV 1	02°44'56.12"N 101°51'44.24"E

LENKI 1A Arrival

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	LENKI	-	326°	-	+10000	250	-	RNAV 1	02°44'56.12"N 101°51'44.24"E
TF	KK471	-	326°	-	-	-	-	RNAV 1	03°00'46.31"N 101°41'05.35"E
TF	KIDOT	-	326°	-	+5000	210	-	RNAV 1	03°03'20.00"N 101°39'22.00"E

LENKI 1B Arrival

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	LENKI	-	326°	-	+10000	250	-	RNAV 1	02°44'56.12"N 101°51'44.24"E
TF	KK471	-	326°	-	-	-	-	RNAV 1	03°00'46.31"N 101°41'05.35"E
TF	KIDOT	-	326°	-	-	230	-	RNAV 1	03°03'20.00"N 101°39'22.00"E
TF	KK484	-	326°	-	-	-	-	RNAV 1	03°16'41.65"N 101°30'24.49"E
TF	KK485	-	236°	L	-	-	-	RNAV 1	03°12'46.64"N 101°24'37.67"E
TF	KK486	-	146°	L	+6000	-	-	RNAV 1	03°09'26.77"N 101°26'51.74"E
TF	KK487	-	146°	-	+5000	-	-	RNAV 1	03°06'06.91"N 101°29'05.79"E
TF	ADMOL	-	146°	-	+5000	210	-	RNAV 1	03°02'47.01"N 101°31'19.78"E

HOLDINGS

FIX ID	Inbound Track	Turn Direction	Outbound time	MHA
LENKI	326°	R	1 min	10000
OLBON	146°	L	1 min	9000

STANDARD ARRIVAL CHART INSTRUMENT (STAR) - ICAO

TRANSITION ALT 11000

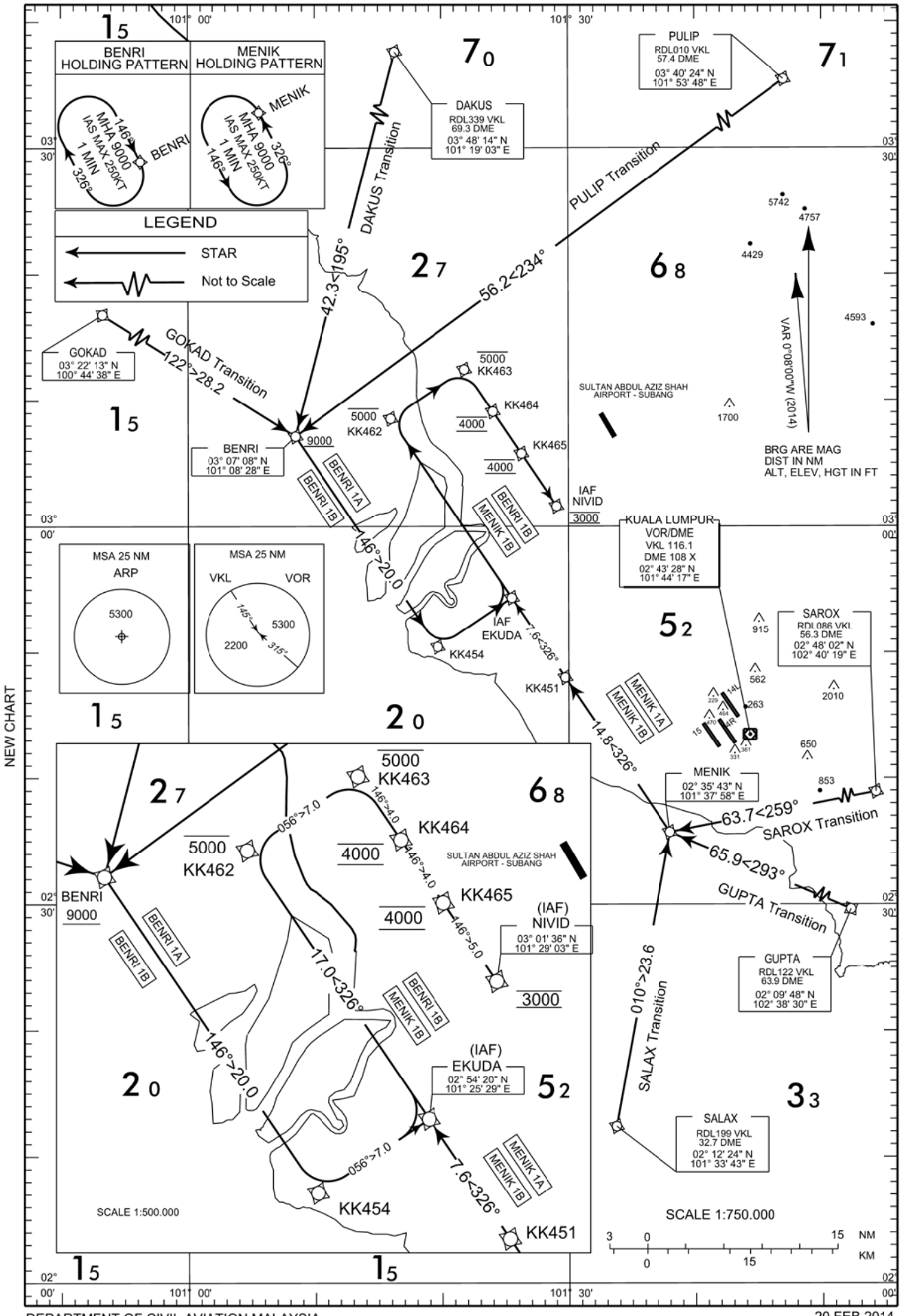
FREQUENCIES			
APP	121.250	TWR	119.800
	124.200		118.500
	118.650		
	125.850		
	119.450	ATIS	126.250

SEPANG (WMKK)
KL INTERNATIONAL AIRPORT

BENRI 1A
BENRI 1B
MENIK 1A
MENIK 1B

RNAV 1 (GNSS)

RWY 14R/15



NEW CHART

Sepang/KL International airport

BENRI 1A / BENRI 1B / MENIK 1A / MENIK 1B
ARRIVAL RWY 14R/15 - RNAV 1 (GNSS)

PULIP Transition to BENRI Arrivals

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	PULIP	-	-	-	-	-	-	RNAV 1	03°40'24.00"N 101°53'48.00"E
TF	BENRI	-	234°	-	+9000	250	-	RNAV 1	03°07'07.87"N 101°08'27.95"E

DAKUS Transition to BENRI Arrivals

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	DAKUS	-	-	-	-	-	-	RNAV 1	03°48'14.00"N 101°19'03.00"E
TF	BENRI	-	195°	-	+9000	250	-	RNAV 1	03°07'07.87"N 101°08'27.95"E

GOKAD Transition to BENRI Arrivals

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	GOKAD	-	-	-	-	-	-	RNAV 1	03°22'13.06"N 100°44'37.52"E
TF	BENRI	-	122°	-	+9000	250	-	RNAV 1	03°07'07.87"N 101°08'27.95"E

BENRI 1A Arrival

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	BENRI	-	-	-	+9000	250	-	RNAV 1	03°07'07.87"N 101°08'27.95"E
TF	KK454	-	146°	-	-	230	-	RNAV 1	02°50'26.43"N 101°19'39.65"E
TF	EKUDA	-	056°	L	@3000	210	-	RNAV 1	02°54'20.19"N 101°25'28.91"E

BENRI 1B Arrival

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	BENRI	-	-	-	+9000	250	-	RNAV 1	03°07'07.87"N 101°08'27.95"E
TF	KK454	-	146°	-	-	-	-	RNAV 1	02°50'26.43"N 101°19'39.65"E
TF	EKUDA	-	056°	L	-	230	-	RNAV 1	02°54'20.19"N 101°25'28.91"E
TF	KK462	-	326°	L	-5000	-	-	RNAV 1	03°08'31.72"N 101°15'57.72"E
TF	KK463	-	056°	R	-5000	-	-	RNAV 1	03°12'25.54"N 101°21'47.04"E
TF	KK464	-	146°	R	@4000	-	-	RNAV 1	03°09'05.49"N 101°24'01.29"E
TF	KK465	-	146°	-	@4000	-	-	RNAV 1	03°05'45.63"N 101°26'15.36"E
TF	NIVID	-	146°	-	@3000	210	-	RNAV 1	03°01'35.76"N 101°29'02.86"E

SAROX Transition to MENIK Arrivals

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	SAROX	-	-	-	-	-	-	RNAV 1	02°48'02.00"N 102°40'19.00"E
TF	MENIK	-	259°	-	+9000	250	-	RNAV 1	02°35'43.23"N 101°37'58.03"E

GUPTA Transition to MENIK Arrivals

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	GUPTA	-	-	-	-	-	-	RNAV 1	02°09'48.00"N 102°38'30.00"E
TF	MENIK	-	293°	-	+9000	250	-	RNAV 1	02°35'43.23"N 101°37'58.03"E

SALAX Transition to MENIK Arrivals

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	SALAX	-	-	-	-	-	-	RNAV 1	02°12'23.00"N 101°33'43.00"E
TF	MENIK	-	010°	-	+9000	250	-	RNAV 1	02°35'43.23"N 101°37'58.03"E

MENIK 1A Arrival

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	MENIK	-	-	-	+9000	250	-	RNAV 1	02°35'43.23"N 101°37'58.03"E
TF	KK451	-	326°	-	-	250	-	RNAV 1	02°47'59.96"N 101°29'43.79"E
TF	EKUDA	-	326°	-	@3000	210	-	RNAV 1	02°54'20.19"N 101°25'28.91"E

LENKI 1B Arrival

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	MENIK	-	-	-	+9000	250	-	RNAV 1	02°35'43.23"N 101°37'58.03"E
TF	KK451	-	326°	-	-	-	-	RNAV 1	02°47'59.96"N 101°29'43.79"E
TF	EKUDA	-	326°	-	-	230	-	RNAV 1	02°54'20.19"N 101°25'28.91"E
TF	KK462	-	326°	-	-5000	-	-	RNAV 1	03°08'31.72"N 101°15'57.72"E
TF	KK463	-	056°	R	-5000	-	-	RNAV 1	03°12'25.54"N 101°21'47.04"E
TF	KK464	-	146°	R	@4000	-	-	RNAV 1	03°09'05.49"N 101°24'01.29"E
TF	KK465	-	146°	-	@4000	-	-	RNAV 1	03°05'45.63"N 101°26'15.36"E
TF	NIVID	-	146°	-	@3000	210	-	RNAV 1	03°01'35.76"N 101°29'02.86"E

HOLDINGS

FIX ID	Inbound Track	Turn Direction	Outbound time	MHA
MENIK	326°	L	1 min	9000
BENRI	146°	R	1 min	9000

STANDARD ARRIVAL CHART INSTRUMENT (STAR) - ICAO

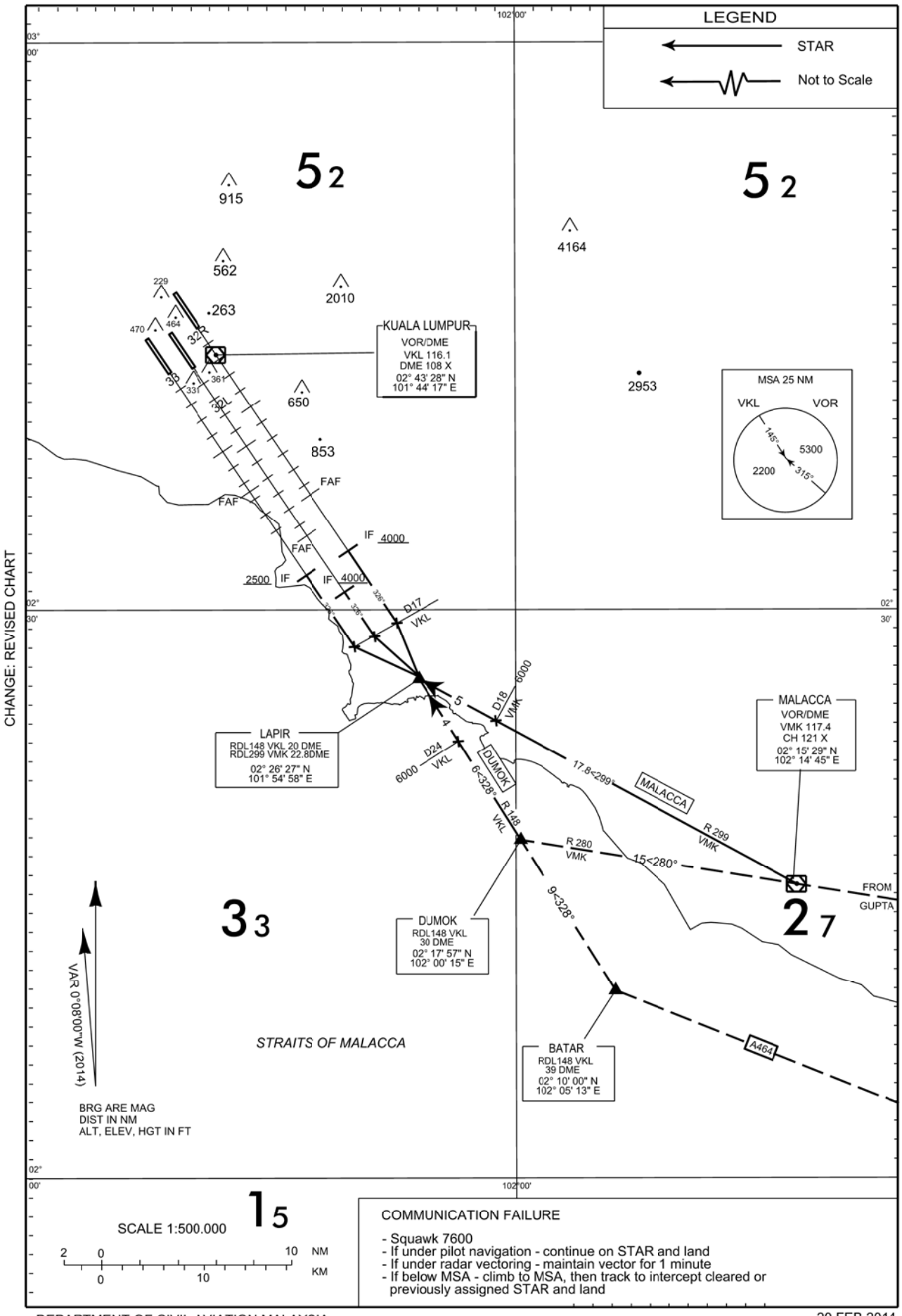
TRANSITION ALT 11000

FREQUENCIES			
APP	121.250	TWR	118.800
	125.850		118.500
	119.450		119.800
	135.750		
		ATIS	126.250

SEPANG (WMKK)
KL INTERNATIONAL AIRPORT

LAPIR THREE ARRIVAL

CHANGE: REVISED CHART



COMMUNICATION FAILURE

- Squawk 7600
- If under pilot navigation - continue on STAR and land
- If under radar vectoring - maintain vector for 1 minute
- If below MSA - climb to MSA, then track to intercept cleared or previously assigned STAR and land

LAPIR THREE ARRIVAL

	Designator	Description
TRANSITIONS	**DUMOK**	From DUMOK track inbound RDL 148 VKL VOR to LAPIR. MEA: RDL 148/D24 VKL VOR/DME 6000FT
	MALACCA	From VMK VOR track outbound RDL 299 VMK VOR to LAPIR. MEA: RDL 299/D18 VMK VOR/DME 6000FT

	RWY Designator	Description
ARRIVAL	**RWY 33**	From LAPIR TR 295° to intercept LOC (IDENT: IWM 111.5)
	RWY 32L	From LAPIR TR 312° to intercept LOC (IDENT: IWL 111.9)
	RWY 32R	From LAPIR TR 338° to intercept LOC (IDENT: IER 109.1)

SPEED RESTRICTIONS		
FOLLOW SPEED RESTRICTIONS UNLESS INSTRUCTED TO "MANTAIN HIGH SPEED" OR "NO (ATC) SPEED RESTRICTION"		
CROSS 10,000FT 250 KIAS	CROSS LAPIR 220 KIAS	160 KIAS FROM 10 NM UNTIL 4NM TD

STANDARD ARRIVAL CHART INSTRUMENT (STAR) - ICAO

FREQUENCIES			
APP	121.250	TWR	118.800
	124.200		118.500
	118.650		
	125.850		
	135.750	ATIS	126.250

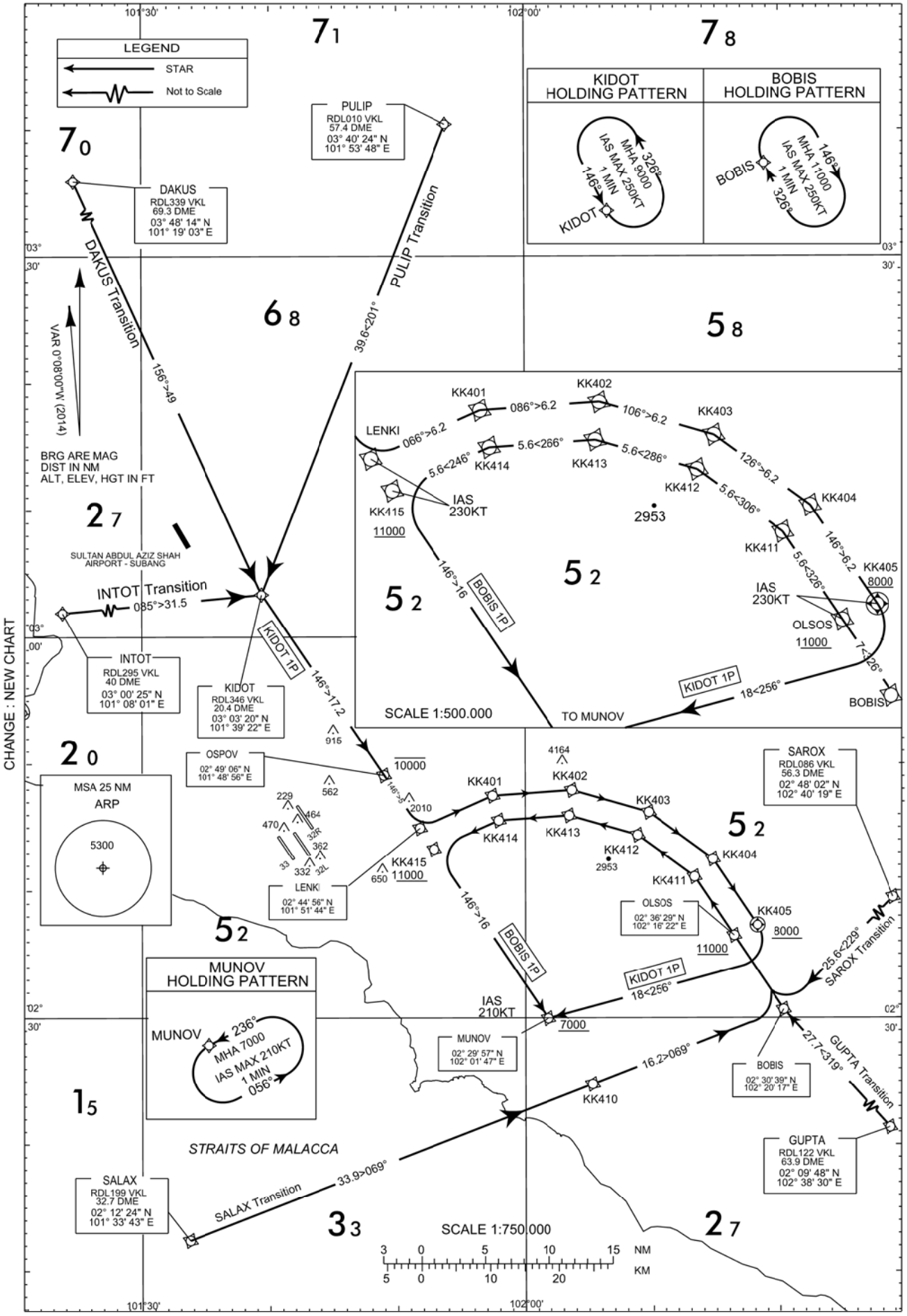
SEPANG (WMKK)
KL INTERNATIONAL AIRPORT

KIDOT 1P
BOBIS 1P
(PMS)

RWY 32L/32R
RNAV 1 (GNSS)

TRANSITION ALT 11000

CHANGE : NEW CHART



Sepang/KL International airport

KIDOT 1P / BOBIS 1P
(PMS) ARRIVAL RWY 32L/32R - RNAV 1 (GNSS)

PULIP Transition to KIDOT 1P Arrival

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	PULIP	-	-	-	-	-	-	RNAV 1	03°40'24.00"N 101°53'48.00"E
TF	KIDOT	-	201°	-	+9000	250	-	RNAV 1	03°03'20.00"N 101°39'22.00"E

DAKUS Transition to KIDOT 1P Arrival

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	DAKUS	-	-	-	-	-	-	RNAV 1	03°48'14.00"N 101°19'03.00"E
TF	KIDOT	-	156°	-	+9000	250	-	RNAV 1	03°03'20.00"N 101°39'22.00"E

INTOT Transition to KIDOT 1P Arrival

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	INTOT	-	-	-	-	-	-	RNAV 1	03°00'25.00"N 101°08'01.00"E
TF	KIDOT	-	085°	-	+9000	250	-	RNAV 1	03°03'20.00"N 101°39'22.00"E

KIDOT 1P Arrival

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	KIDOT	-	-	-	+9000	250	-	RNAV 1	03°03'20.00"N 101°39'22.00"E
TF	OSPOV	-	146°	-	-10000	-	-	RNAV 1	02°49'05.66"N 101°48'56.46"E
TF	LENKI	-	146°	-	-	230	-	RNAV 1	02°44'56.12"N 101°51'44.24"E
TF	KK401	-	066°	-	-	-	-	RNAV 1	02°47'29.09"N 101°57'26.19"E
TF	KK402	-	086°	-	-	-	-	RNAV 1	02°47'55.26"N 102°03'39.76"E
TF	KK403		106°	-	-	-	-	RNAV 1	02°46'11.36"N 102°09'39.66"E
TF	KK404	-	126°	-	-	-	-	RNAV 1	02°42'29.95"N 102°14'42.47"E
TF	KK405	Y	146°	-	+8000	230	-	RNAV 1	02°37'17.78"N 102°18'11.69"E
DF	MUNOV	-	-	R	+7000	210		RNAV 1	02°29'57.02"N 102°01'46.90"E

SALAX Transition to BOBIS 1P Arrival

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	SALAX	-	-	-	-	-	-	RNAV 1	02°12'24.00"N 101°33'43.00"E
TF	KK410	-	069°	-	-	-	-	RNAV 1	02°24'46.23"N 102°05'15.22"E
TF	BOBIS	-	069°	-	+11000	250	-	RNAV 1	02°30'39.30"N 102°20'16.55"E

GUPTA Transition BOBIS 1P Arrival

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	GUPTA	-	-	-	-	-	-	RNAV 1	02°09'48.00"N 102°38'30.00"E
TF	BOBIS	-	319°	-	+11000	250	-	RNAV 1	02°30'39.30"N 102°20'16.55"E

SAROX Transition BOBIS 1P Arrival

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	SAROX	-	-	-	-	-	-	RNAV 1	02°48'02.00"N 102°40'19.00"E
TF	BOBIS	-	229°	-	+11000	250	-	RNAV 1	02°30'39.30"N 102°20'16.55"E

BOBIS 1P Arrival

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	BOBIS	-	-	-	-	-	-	RNAV 1	02°30'39.30"N 102°20'16.55"E
TF	OLSOS	-	326°	-	+11000	230	-	RNAV 1	02°36'28.83"N 102°16'22.27"E
TF	KK411	-	326°	-	-	-	-	RNAV 1	02°41'06.31"N 102°13'16.29"E
TF	KK412	-	306°	-	-	-	-	RNAV 1	02°44'23.11"N 102°08'47.11"E
TF	KK413	-	286°	-	-	-	-	RNAV 1	02°45'55.46"N 102°03'27.20"E
TF	KK414		266°	-	-	-	-	RNAV 1	02°45'32.19"N 101°57'55.15"E
TF	KK415	-	246°	-	+11000	230	-	RNAV 1	02°43'16.21"N 101°52'51.21"E
TF	MUNOV	-	146°	L	+7000	210	-	RNAV 1	02°29'57.02"N 102°01'46.90"E

HOLDINGS

FIX ID	Inbound Track	Turn Direction	Outbound time	MHA
KIDOT	146°	L	1 min	9000
BOBIS	326°	R	1 min	11000
MUNOV	236°	L	1 min	7000

STANDARD ARRIVAL CHART INSTRUMENT (STAR) - ICAO

FREQUENCIES			
APP	121.250	TWR	118.800
	124.200		118.500
	118.650		
	125.850		
	135.750	ATIS	126.250

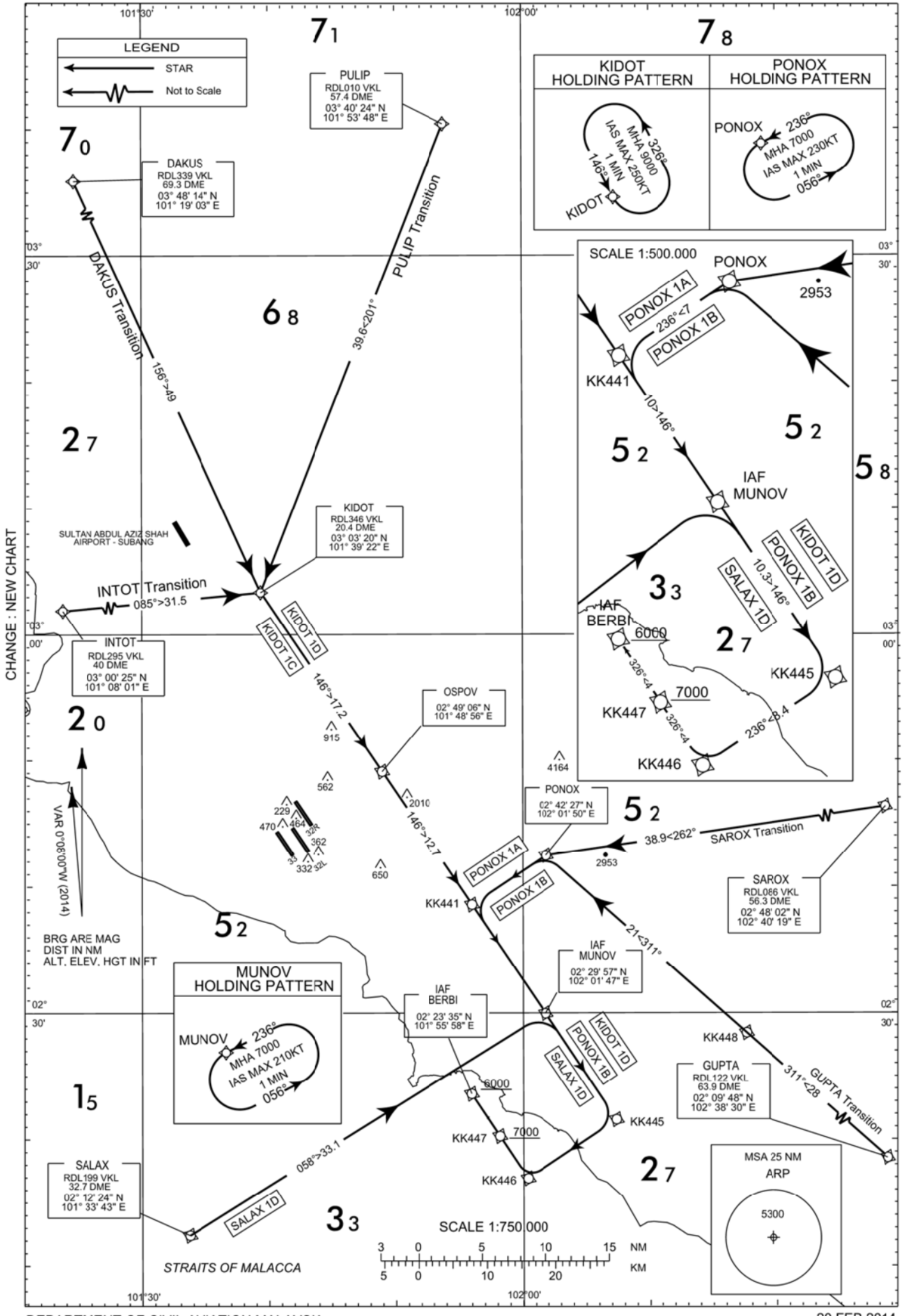
SEPANG (WMKK)
KL INTERNATIONAL AIRPORT

KIDOT 1C
KIDOT 1D
PONOX 1A
PONOX 1B
SALAX 1D

RWY 32L/32R
RNAV 1 (GNSS)

TRANSITION ALT 11000

CHANGE : NEW CHART



Sepang/KL International airport

KIDOT 1C / KIDOT 1D / PONOX 1A / PONOX 1B / SALAX 1D
ARRIVAL RWY 32L/32R - RNAV 1 (GNSS)

PULIP Transition to KIDOT Arrivals

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	PULIP	-	-	-	-	-	-	RNAV 1	03°40'24.00"N 101°53'48.00"E
TF	KIDOT	-	201°	-	+9000	250	-	RNAV 1	03°03'20.00"N 101°39'22.00"E

DAKUS Transition to KIDOT Arrivals

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	DAKUS	-	-	-	-	-	-	RNAV 1	03°48'14.00"N 101°19'03.00"E
TF	KIDOT	-	156°	-	+9000	250	-	RNAV 1	03°03'20.00"N 101°39'22.00"E

INTOT Transition toEKUDA Arrivals

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	INTOT	-	-	-	-	-	-	RNAV 1	03°00'25.00"N 101°08'01.00"E
TF	KIDOT	-	085°	-	+9000	250	-	RNAV 1	03°03'20.00"N 101°39'22.00"E

KIDOT 1C Arrival

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	KIDOT	-	-	-	+9000	250	-	RNAV 1	03°03'20.00"N 101°39'22.00"E
TF	OSPOV	-	146°	-	-	-	-	RNAV 1	02°49'05.66"N 101°48'56.46"E
TF	KK441	-	146°	-	-	230	-	RNAV 1	02°38'33.95"N 101°56'00.41"E
TF	MUNOV	-	146°	-	+7000	210	-	RNAV 1	02°29'57.02"N 102°01'46.90"E

KIDOT 1D Arrival

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	KIDOT	-	-	-	+9000	-	-	RNAV 1	03°03'20.00"N 101°39'22.00"E
TF	OSPOV	-	146°	-	-	-	-	RNAV 1	02°49'05.66"N 101°48'56.46"E
TF	KK441	-	146°	-	-	-	-	RNAV 1	02°38'33.95"N 101°56'00.41"E
TF	MUNOV	-	146°	-	-	230	-	RNAV 1	02°29'57.02"N 102°01'46.90"E
TF	KK445	-	146°	-	-	-	-	RNAV 1	02°21'33.80"N 102°07'20.70"E
TF	KK446	-	236°	R	-	-	-	RNAV 1	02°16'54.28"N 102°00'23.17"E
TF	KK447	-	326°	R	+7000	-	-	RNAV 1	02°20'14.85"N 101°58'10.44"E
TF	BERBI	-	326°	-	+6000	210	-	RNAV 1	02°23'35.44"N 101°55'57.71"E

SAROX Transition to PONOX Arrivals

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	SAROX	-	-	-	-	-	-	RNAV 1	02°48'02.00"N 102°40'19.00"E
TF	PONOX	-	262°	-	+7000	250	-	RNAV1	02°42'27.48"N 102°01'49.53"E

GUPTA Transition to PONOX Arrivals

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	GUPTA	-	-	-	-	-	-	RNAV 1	02°09'48.00"N 102°38'30.00"E
TF	KK448	-	311°	-	+11000	-	-	RNAV 1	02°28'25.17"N 102°17'35.49"E
TF	PONOX	-	311°	-	+7000	250	-	RNAV1	02°42'27.48"N 102°01'49.53"E

PONOX 1A Arrival

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	PONOX	-	-	-	+7000	-	-	RNAV1	02°42'27.48"N 102°01'49.53"E
TF	KK441	-	236°	-	-	230	-	RNAV 1	02°38'33.95"N 101°56'00.41"E
TF	MUNOV	-	146°	L	+7000	210	-	RNAV 1	02°29'57.02"N 102°01'46.90"E

PONOX 1B Arrival

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	PONOX	-	-	-	+7000	-	-	RNAV1	02°42'27.48"N 102°01'49.53"E
TF	KK441	-	236°	-	-	-	-	RNAV 1	02°38'33.95"N 101°56'00.41"E
TF	MUNOV	-	146°	L	-	230	-	RNAV 1	02°29'57.02"N 102°01'46.90"E
TF	KK445	-	146°	-	-	-	-	RNAV 1	02°21'33.80"N 102°07'20.70"E
TF	KK446	-	236°	R	-	-	-	RNAV 1	02°16'54.28"N 102°00'23.17"E
TF	KK447	-	326°	R	+7000	-	-	RNAV 1	02°20'14.85"N 101°58'10.44"E
TF	BERBI	-	326°	-	+6000	210	-	RNAV 1	02°23'35.44"N 101°55'57.71"E

SALAX 1D Arrival

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	SALAX	-	-	-	-	-	-	RNAV 1	02°12'24.00"N 101°33'43.00"E
TF	MUNOV	-	052°	-	-	230	-	RNAV 1	02°29'57.02"N 102°01'46.90"E
TF	KK445	-	146°	R	-	-	-	RNAV 1	02°21'33.80"N 102°07'20.70"E
TF	KK446	-	236°	R	-	-	-	RNAV 1	02°16'54.28"N 102°00'23.17"E
TF	KK447	-	326°	R	+7000	-	-	RNAV 1	02°20'14.85"N 101°58'10.44"E
TF	BERBI	-	326°	-	+6000	210	-	RNAV 1	02°23'35.44"N 101°55'57.71"E

HOLDINGS

FIX ID	Inbound Track	Turn Direction	Outbound time	MHA
KIDOT	146°	L	1 min	9000
PONOX	236°	L	1 min	7000
MUNOV	236°	L	1 min	7000

STANDARD ARRIVAL CHART INSTRUMENT (STAR) - ICAO

FREQUENCIES			
APP	121.250	TWR	119.800
	124.200		118.500
	118.650		
	125.850		
	119.450	ATIS	126.250

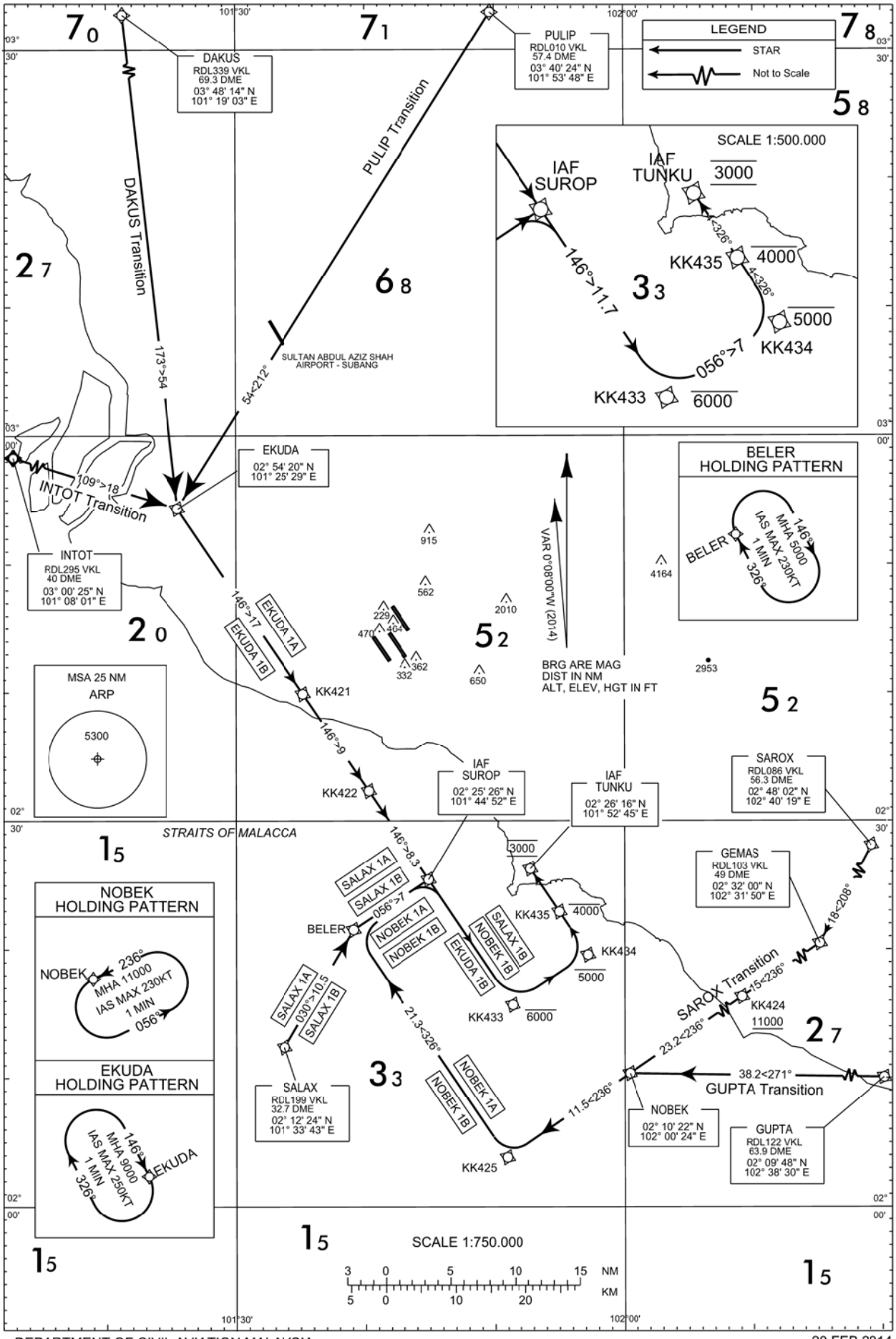
SEPANG (WMKK)
KL INTERNATIONAL AIRPORT

SALAX 1A
SALAX 1B
NOBEK 1A EKUDA 1A
NOBEK 1B EKUDA 1B

RWY 33/32L
RNAV 1 (GNSS)

TRANSITION ALT 11000

CHANGE : NEW CHART



Sepang/KL International airport

NOBEK 1A /NOBEK 1B / EKUDA 1A / EKUDA 1B / SALAX 1A / SALAX 1B ARRIVAL RWY 33/32L - RNAV 1 (GNSS)

PULIP Transition to EKUDA Arrivals

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	PULIP	-	-	-	-	-	-	RNAV 1	03°40'24.00"N 101°53'48.00"E
TF	EKUDA	-	212°	-	+9000	250	-	RNAV 1	02°54'20.19"N 101°25'28.91"E

DAKUS Transition to EKUDA Arrivals

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	DAKUS	-	-	-	-	-	-	RNAV 1	03°48'14.00"N 101°19'03.00"E
TF	EKUDA	-	173°	-	+9000	250	-	RNAV 1	02°54'20.19"N 101°25'28.91"E

INTOT Transition to EKUDA Arrivals

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	INTOT	-	-	-	-	-	-	RNAV 1	03°00'25.00"N 101°08'01.00"E
TF	EKUDA	-	109°	-	+9000	250	-	RNAV 1	02°54'20.19"N 101°25'28.91"E

EKUDA 1A Arrival

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	EKUDA	-	-	-	+9000	250	-	RNAV 1	02°54'20.19"N 101°25'28.91"E
TF	KK421	-	146°	-	-	-	-	RNAV 1	02°39'52.99"N 101°35'10.48"E
TF	KK422	-	146°	-	-	-	-	RNAV 1	02°32'18.87"N 101°40'15.13"E
TF	SUROP	-	146°	-	+3000	210	-	RNAV 1	02°25'25.58"N 101°44'52.47"E

EKUDA 1B Arrival

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	EKUDA	-	-	-	+9000	250	-	RNAV 1	02°54'20.19"N 101°25'28.91"E
TF	KK421	-	146°	-	-	-	-	RNAV 1	02°39'52.99"N 101°35'10.48"E
TF	KK422	-	146°	-	-	-	-	RNAV 1	02°32'18.87"N 101°40'15.13"E
TF	SUROP	-	146°	-	-	230	-	RNAV 1	02°25'25.58"N 101°44'52.47"E
TF	KK433	-	146°	-	-6000	-	-	RNAV 1	02°15'40.56"N 101°51'20.84"E
TF	KK434	-	056°	L	-5000	-	-	RNAV 1	02°19'34.72"N 101°57'10.50"E
TF	KK435	-	326°	L	-4000	-	-	RNAV 1	02°22'55.86"N 101°54'58.59"E
TF	TUNKU	-	326°	-	@3000	210	-	RNAV 1	02°26'15.62"N 101°52'44.62"E

SAROX Transition to NOBEK Arrivals

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	SAROX	-	-	-	-	-	-	RNAV 1	02°48'02.00"N 102°40'19.00"E
TF	GEMAS	-	208°	-	-	-	-	RNAV 1	02°32'00.00"N 102°31'50.00"E
TF	KK424	-	236°	-	-	-	-	RNAV 1	02°23'30.05"N 102°19'28.88"E
TF	NOBEK	-	236°	-	+11000	250	-	RNAV1	02°10'21.84"N 102°00'24.45"E

GUPTA Transition to NOBEK Arrivals

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	GUPTA	-	-	-	-	-	-	RNAV 1	02°09'48.00"N 102°38'30.00"E
TF	NOBEK	-	236°	-	+11000	250	-	RNAV 1	02°10'21.84"N 102°00'24.45"E

NOBEK 1A Arrival

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	NOBEK	-	-	-	+11000	250	-	RNAV 1	02°10'21.84"N 102°00'24.45"E
TF	KK425	-	236°	-	-	-	-	RNAV 1	02°03'49.94"N 101°50'55.86"E
TF	BELER	-	326°	R	-	230	-	RNAV 1	02°21'31.79"N 101°39'03.38"E
TF	SUROP	-	056°	R	+3000	210	-	RNAV 1	02°25'25.58"N 101°44'52.47"E

NOBEK 1B Arrival

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	NOBEK	-	-	-	+11000	250	-	RNAV 1	02°10'21.84"N 102°00'24.45"E
TF	KK425	-	236°	-	-	-	-	RNAV 1	02°03'49.94"N 101°50'55.86"E
TF	BELER	-	326°	R	-	-	-	RNAV 1	02°21'31.79"N 101°39'03.38"E
TF	SUROP	-	056°	R	-	230	-	RNAV 1	02°25'25.58"N 101°44'52.47"E
TF	KK433	-	146°	R	-6000	-	-	RNAV 1	02°15'40.56"N 101°51'20.84"E
TF	KK434	-	056°	L	-5000	-	-	RNAV 1	02°19'34.72"N 101°57'10.50"E
TF	KK435	-	326°	L	-4000	-	-	RNAV 1	02°22'55.86"N 101°54'58.59"E
TF	TUNKU	-	326°	-	@3000	210	-	RNAV 1	02°26'15.62"N 101°52'44.62"E

SALAX 1A Arrival

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	SALAX	-	-	-	-	250	-	RNAV 1	02°12'24.00"N 101°33'43.00"E
TF	BELER	-	030°	-	-	230	-	RNAV 1	02°21'31.79"N 101°39'03.38"E
TF	SUROP	-	056°	-	+3000	210	-	RNAV1	02°25'25.58"N 101°44'52.47"E

SALAX 1B Arrival

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	SALAX	-	-	-	-	250	-	RNAV 1	02°12'24.00"N 101°33'43.00"E
TF	BELER	-	030°	-	-	230	-	RNAV 1	02°21'31.79"N 101°39'03.38"E
TF	SUROP	-	056°	-	-	-	-	RNAV 1	02°25'25.58"N 101°44'52.47"E
TF	KK433	-	146°	-	-6000	-	-	RNAV 1	02°15'40.56"N 101°51'20.84"E
TF	KK434	-	056°	L	-5000	-	-	RNAV 1	02°19'34.72"N 101°57'10.50"E
TF	KK435	-	326°	L	-4000	-	-	RNAV 1	02°22'55.86"N 101°54'58.59"E
TF	TUNKU	-	326°	-	@3000	210	-	RNAV 1	02°26'15.62"N 101°52'44.62"E

HOLDINGS

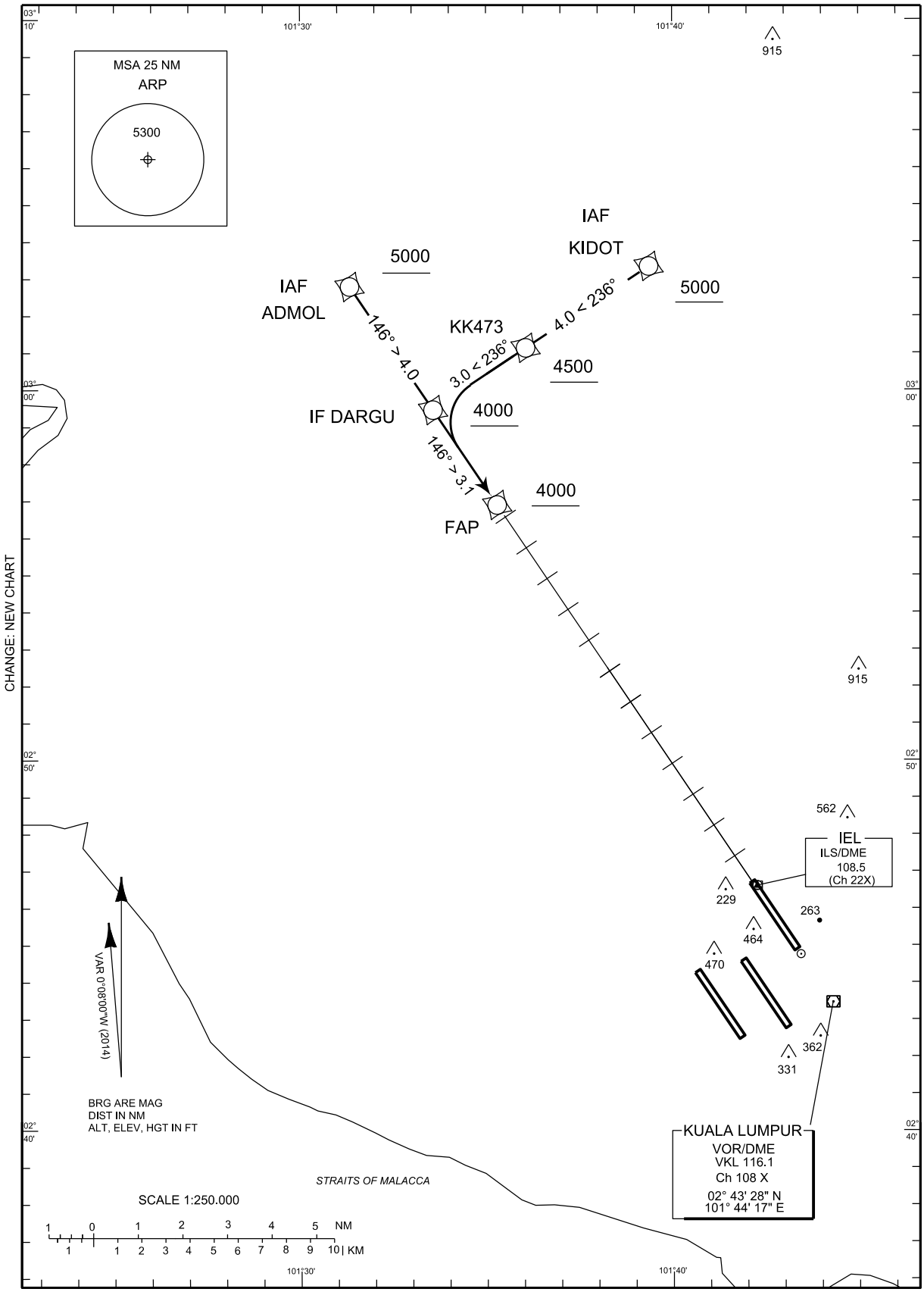
FIX ID	Inbound Track	Turn Direction	Outbound time	MHA
EKUDA	146°	R	1 min	9000
NOBEK	236°	L	1 min	11000
BELER	326°	R	1 min	5000

INSTRUMENT APPROACH CHART - ICAO

TRANSITION ALT 11000
AD ELEV 70

FREQUENCIES			
APP	118.650 135.750 120.350	TWR	118.800
		GND	121.650
		ATIS	126.250

SEPANG (WMKK)
KL INTERNATIONAL AIRPORT
RNAV1 (GNSS)
RWY 14L
ILS
Initial Approach Segments



CHANGE: NEW CHART

Sepang/KL International airport

Initial Approach Segments ILS RWY 14L - RNAV1 (GNSS)

Initial Approach Segment from KIDOT

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	KIDOT	-	-	-	+5000	210	-	RNAV 1	03°03'20.00"N 101°39'22.00"E
TF	KK473	-	-	-	+4500	-	-	RNAV 1	03°01'07.76"N 101°36'03.37"E
TF	DARGU	-	236	-	+4000	180	-	RNAV 1	02°59'27.23"N 101°33'33.93"E

Initial Approach Segment from ADMOL

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	ADMOL	-	-	-	+5000	210	-	RNAV1	03°02'47.01"N 101°31'19.78"E
TF	DARGU	-	146°	-	+4000	180	-	RNAV 1	02°59'27.23"N 101°33'33.93"E

FAP ILS RWY 14L Data

	Altitude	Coordinates
FAP 14L	4000	02°56'53.3069"N 101°35'16.9452"E

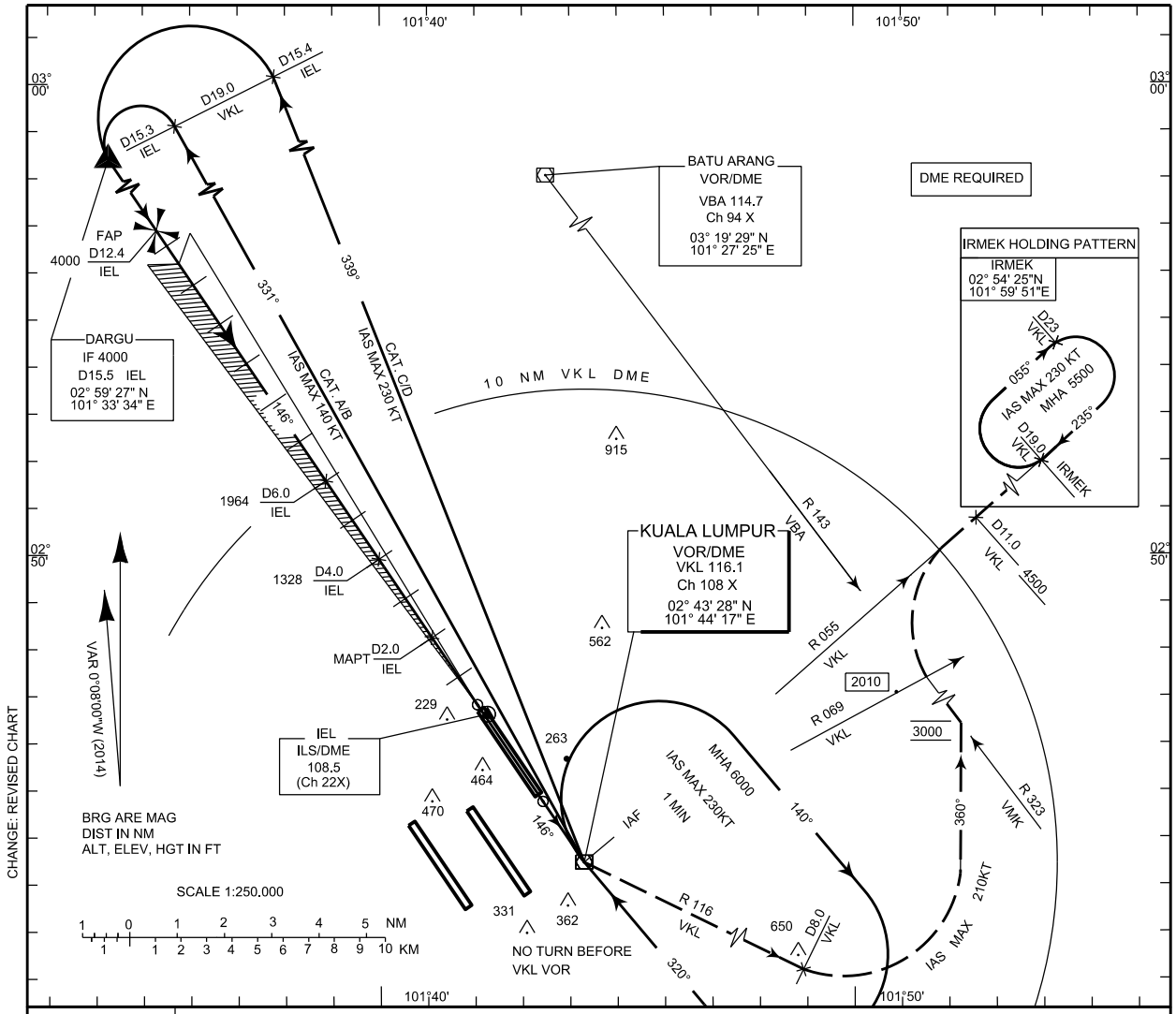
INSTRUMENT APPROACH CHART - ICAO

TRANSITION ALT 11000
AD ELEV 70

FREQUENCIES			
APP	118.650 135.750 120.350	TWR	118.800
		GND	121.650
		ATIS	126.250

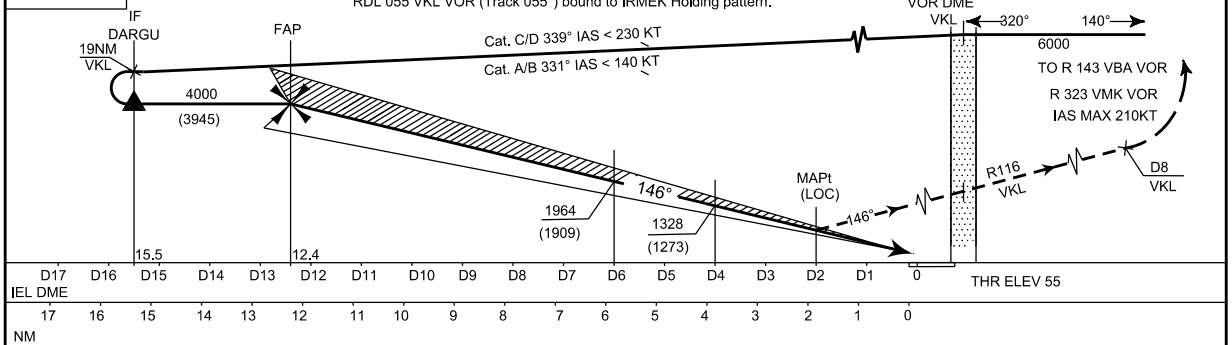
SEPANG (WMKK)
KL INTERNATIONAL AIRPORT

RWY 14L
ILS or LOC



ILS RDH	52FT
GP	3.0°
LOC	5.2%

MISSED APPROACH: Proceed on track 146° to VKL VOR, climbing to 3000 ft. Leave VKL VOR on RDL 116 (Track 116°). At D8 VKL DME turn left (IAS MAX 210 KT) track 360° to intercept and follow RDL 143 VBA VOR (Track 323°). Climb to 5500 ft, crossing RDL 069 VKL VOR turn right to intercept and follow RDL 055 VKL VOR (Track 055°) bound to IRMEK Holding pattern.

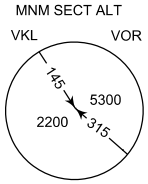


OCA (OCH)		A	B	C	D	DL
STRAIGHT IN APPROACH	ILS CAT I	300(245)				
	LOC	690(635)				
(✕) CIRCLING		770(700)		1260(1190)		

DME DIST			13	12.4	12
ALTITUDE (HGT)			4000(3945)	4000(3945)	3872(3817)
DME DIST	11	10	9	8	7
ALTITUDE (HGT)	3554(3499)	3236(3181)	2918(2863)	2600(2545)	2282(2227)
DME DIST	6	5	4	3	2
ALTITUDE (HGT)	1964(1909)	1646(1591)	1328(1273)	1010(955)	692(637)

(✕) CIRCLING NOT PERMITTED WEST OF RWY 14L/32R CENTERLINE, EXCEPT WHEN AUTHORIZED BY ATC

MNM SECT ALT



Sepang/KL International airport

ILS or LOC RWY 14L

Aeronautical Data Tabulation

FIX / POINT	Coordinates (WGS 84)
VKL VOR/DME (IAF)	02°43'28.00"N 101°44'17.00"E
RDL 339/D19.0 VKL VOR/DME	03°01'17.30"N 101°37'28.80"E
RDL 331/D19.0 VKL VOR/DME	03°00'09.80"N 101°35'04.80"E
DARGU (IF) D15.5 IEL DME	02°59'27.20"N 101°33'33.90"E
FAP/FAF D12.4 IEL DME	02°56'53.30"N 101°35'16.90"E
MAPt D2.0 IEL DME	02°48'14.40"N 101°41'05.10"E
RDL 116/D8.0 VKL VOR/DME	02°39'56.40"N 101°51'28.30"E
INT RDL 143 VBA VOR/RDL 069 VKL VOR	02°46'29.60"N 101°52'08.20"E
RDL 055/D11.0 VKL VOR/DME	02°49'48.20"N 101°53'17.50"E
IRMEK (MAHF) RDL 055/D19.0 VKL VOR/DME	02°54'25.00"N 101°59'51.00"E

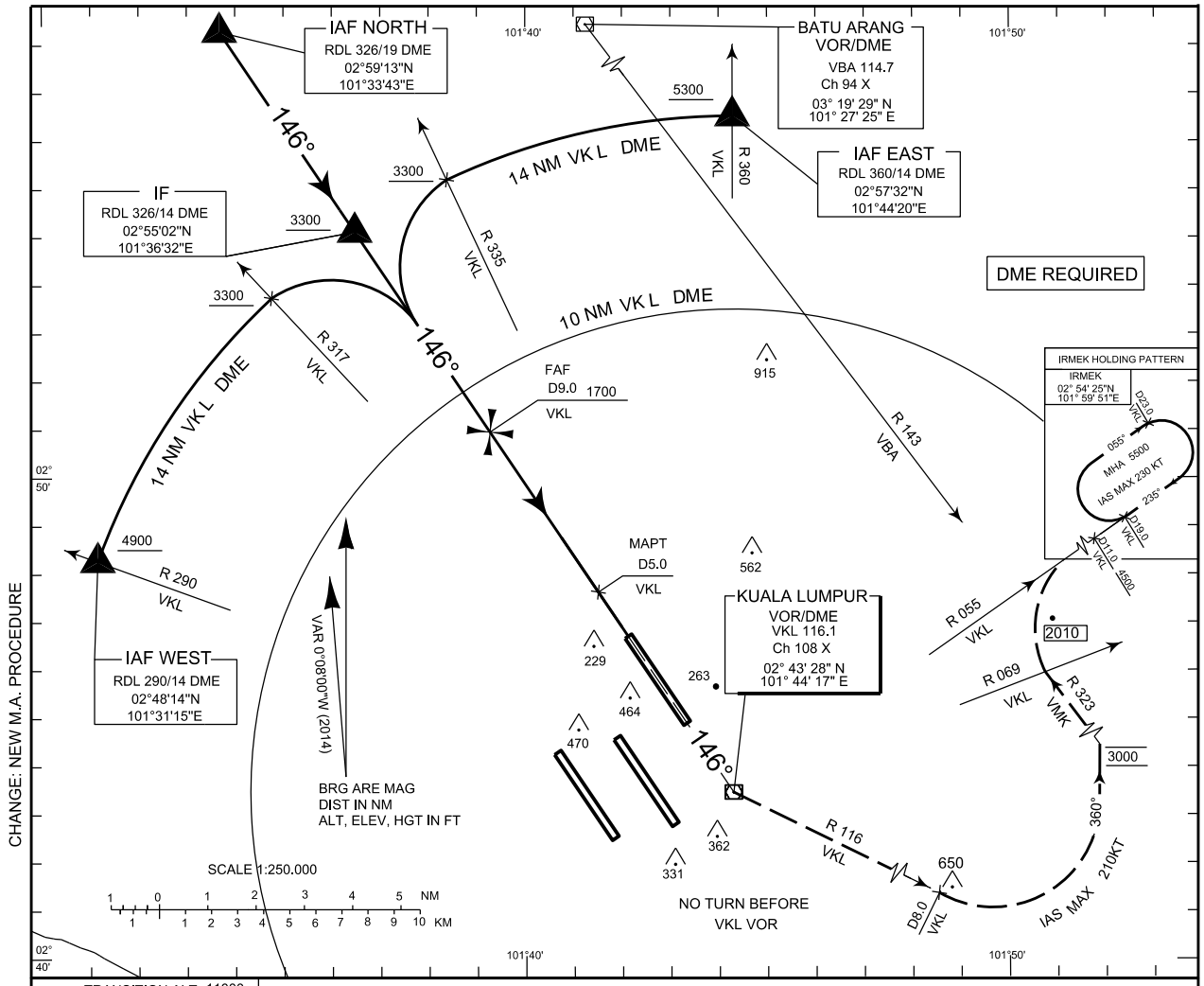
INSTRUMENT APPROACH CHART - ICAO

TRANSITION ALT 11000
AD ELEV 70

FREQUENCIES			
APP	118.650	TWR	118.800
	124.200		
	135.750	GND	121.650
	119.450		
	120.350	ATIS	126.250

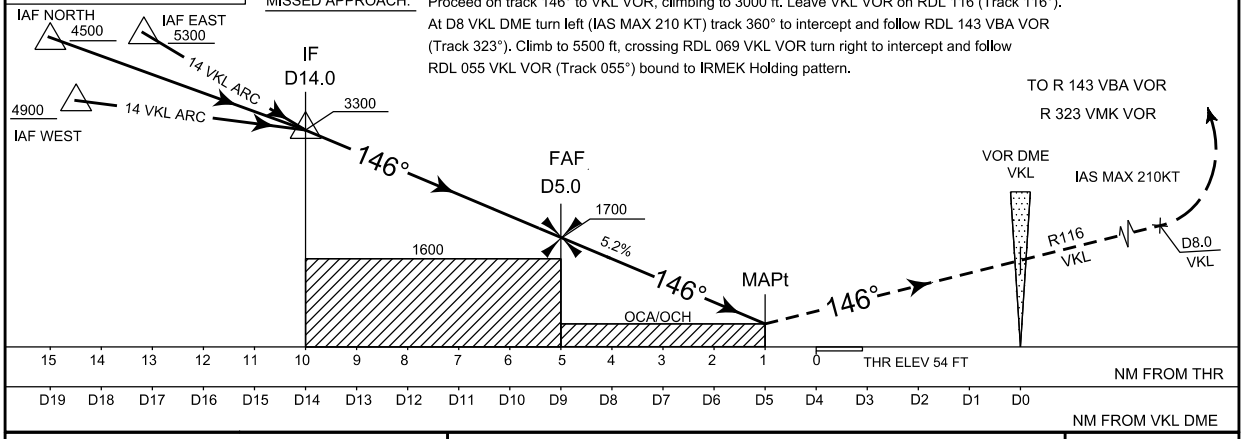
SEPANG (WMKK)
KL INTERNATIONAL AIRPORT

RWY 14L
VOR



TRANSITION ALT 11000

MISSED APPROACH: Proceed on track 146° to VKL VOR, climbing to 3000 ft. Leave VKL VOR on RDL 116 (Track 116°). At D8 VKL DME turn left (IAS MAX 210 KT) track 360° to intercept and follow RDL 143 VBA VOR (Track 323°). Climb to 5500 ft, crossing RDL 069 VKL VOR turn right to intercept and follow RDL 055 VKL VOR (Track 055°) bound to IRMEK Holding pattern.



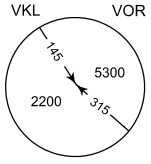
OCA (OCH)					
AIRCRAFT CATEGORY		A	B	C	D
STRAIGHT IN APPROACH	VOR	430(376)		450(396)	470(416)
(✳) CIRCLING		770(700)		1260(1206)	

(✳) CIRCLING NOT PERMITTED WEST OF RWY 14L/32R CENTERLINE,EXCEPT WHEN AUTHORIZED BY ATC

ALTITUDE (FT)	3300	2900	2600	2300	2000	1700	1360	1020	680	470
DME VKL(NM)	14	13	12	11	10	9	8	7	6	5.2

GS (KT)	80	110	140	170	200
FAF-5.0NM (MIN:SEC)	3:44	2:43	2:08	1:45	1:29
RATE OF DESC. 5.2% (FT/MIN)	421	579	737	895	1053

MNM SECT ALT



INSTRUMENT

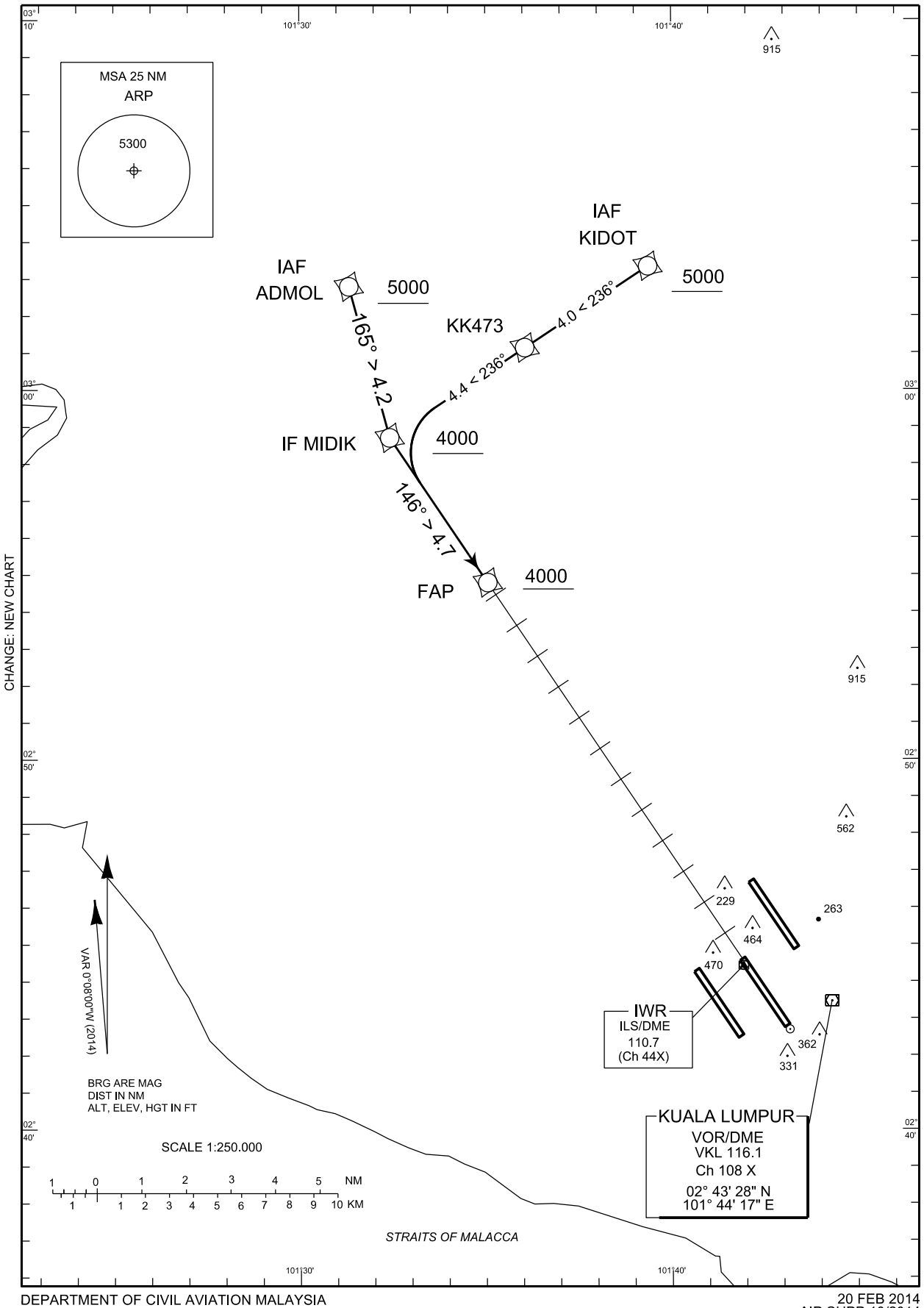
APPROACH

CHART - ICAO

TRANSITION ALT 11000
AD ELEV 70

FREQUENCIES			
APP	118.650 135.750 120.350	TWR	118.800
		GND	121.800 122.525
		ATIS	126.250

SEPANG (WMKK)
KL INTERNATIONAL AIRPORT
RNAV1 (GNSS)
RWY 14R
ILS-Z/RNAV-Z
Initial Approach Segments



Sepang/KL International airport

Initial Approach Segments ILS-Z / RNAV-Z RWY 14R - RNAV1 (GNSS)

Initial Approach Segment from KIDOT

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	KIDOT	-	-	-	+5000	210	-	RNAV 1	03°03'20.00"N 101°39'22.00"E
TF	KK473	-	236°	-	+4500	-	-	RNAV 1	03°01'07.76"N 101°36'03.37"E
TF	MIDIK	-	236°	-	+4000	180	-	RNAV 1	02°58'41.80"N 101°32'25.23"E

Initial Approach Segment from ADMOL

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	ADMOL	-	-	-	+5000	210	-	RNAV 1	03°02'47.01"N 101°31'19.78"E
TF	MIDIK	-	165°	-	+4000	180	-	RNAV 1	02°58'41.80"N 101°32'25.23"E

FAP ILS Z RWY 14R Data

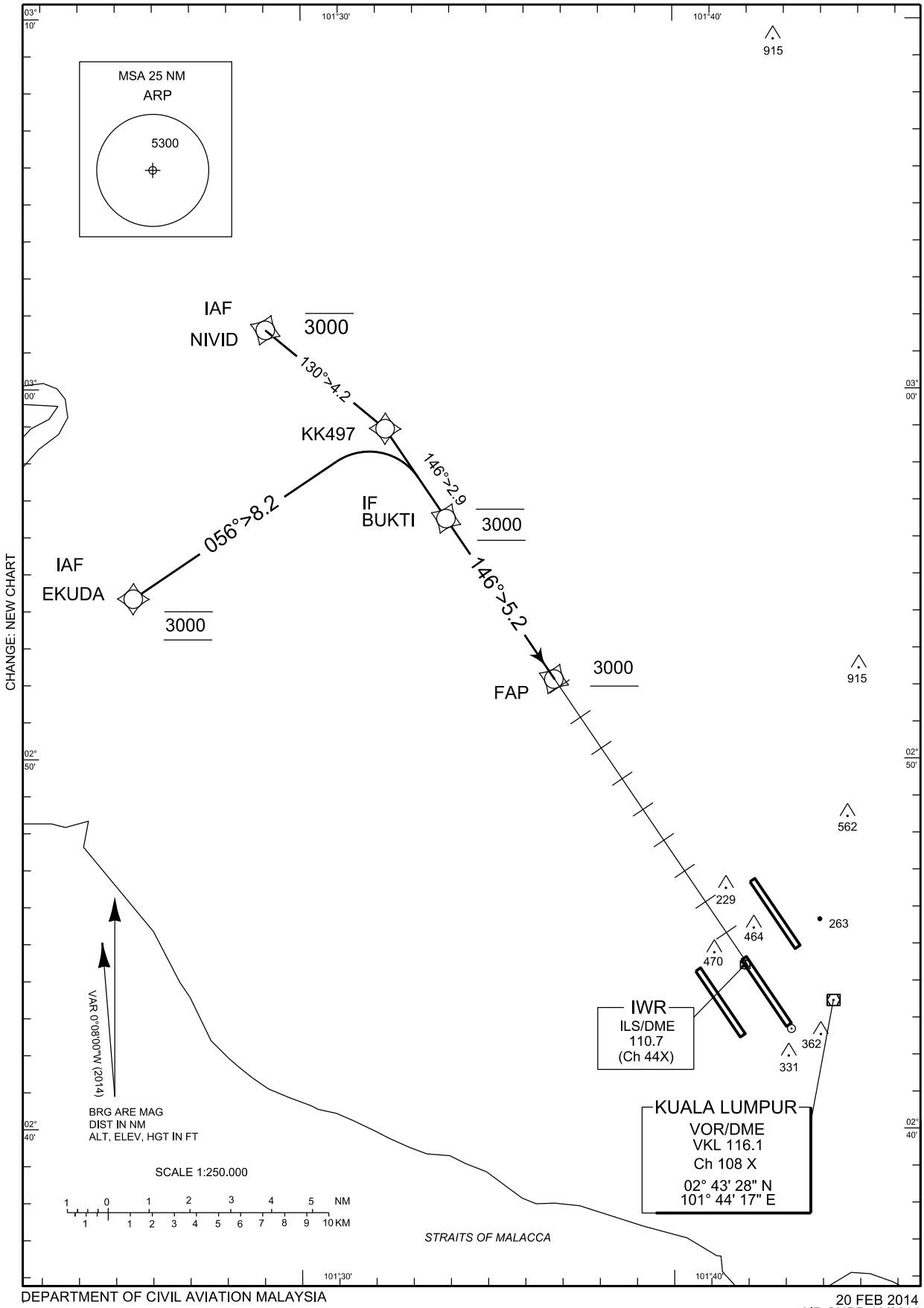
	Altitude	Coordinates
FAP 14R (ILS Z)	4000	02°54'46.7520"N 101°35'02.9871"E

INSTRUMENT APPROACH CHART - ICAO

TRANSITION ALT 11000
AD ELEV 70

FREQUENCIES			
APP	124.200 119.450 124.650	TWR	118.500
		GND	121.800 122.525
		ATIS	126.250

SEPANG (WMKK)
KL INTERNATIONAL AIRPORT
RNAV1 (GNSS)
RWY 14R
ILS-Y/RNAV-Y
Initial Approach Segments



Sepang/KL International airport

Initial Approach Segments ILS-Y / RNAV-Y RWY 14R - RNAV1 (GNSS)

Initial Approach Segment from EKUDA

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	EKUDA	-	-	-	@3000	210	-	RNAV 1	02°54'20.19"N 101°25'28.91"E
TF	KK497	-	056°	-	-	-	-	RNAV 1	02°58'55.81"N 101°32'15.84"E
TF	BUKTI	-	146°	-	@3000	180	-	RNAV 1	02°56'25.92"N 101°33'56.36"E

Initial Approach Segment from NIVID

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	NIVID	-	-	-	@3000	210	-	RNAV 1	03°01'35.76"N 101°29'02.86"E
TF	KK497	-	130°	-	-	-	-	RNAV 1	02°58'55.81"N 101°32'15.84"E
TF	BUKTI	-	146°	-	@3000	180	-	RNAV 1	02"56'25.92"N 101°33'56.36"E

FAP ILS Y RWY 14R Data

	Altitude	Coordinates
FAP 14R (ILS Y)	3000	02°52'09.85"N 101°36'48.20"E

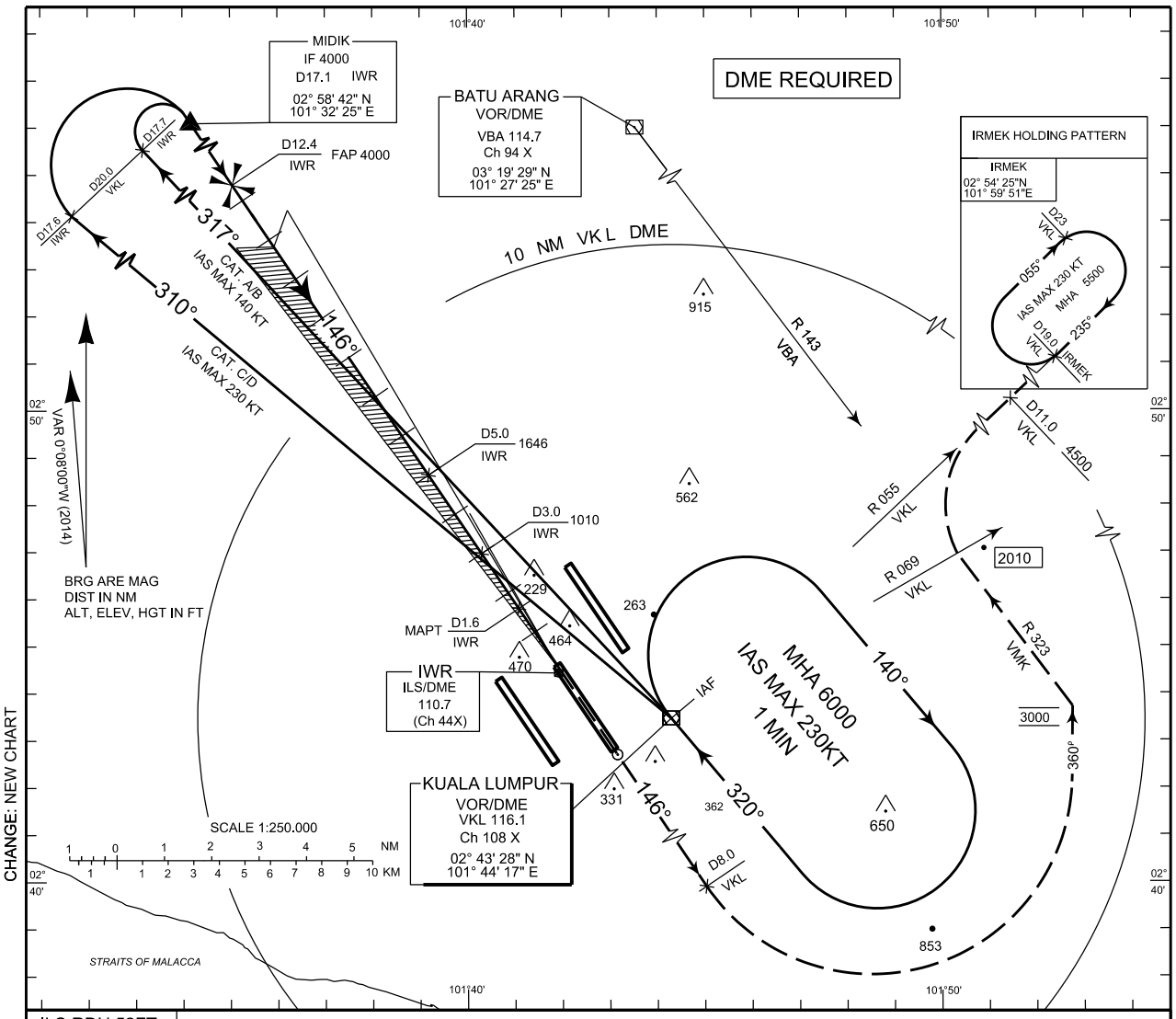
INSTRUMENT APPROACH CHART - ICAO

TRANSITION ALT 11000
AD ELEV 70

FREQUENCIES			
APP	118.650 135.750 124.650	TWR	118.500
		GND	121.800 122.525
		ATIS	126.250

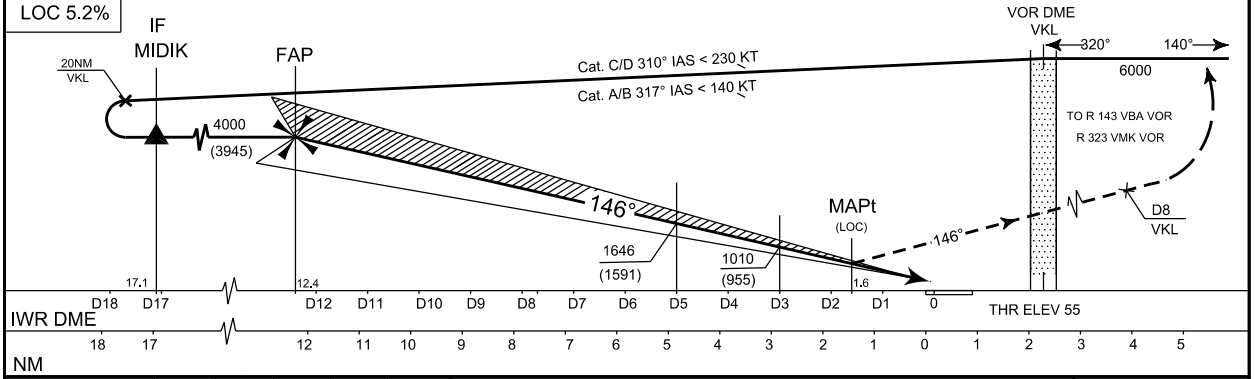
SEPANG (WMKK)
KL INTERNATIONAL AIRPORT
RWY 14R
ILS-Z or LOC-Z

CHANGE: NEW CHART



ILS RDH 52FT
GP 3.0°
LOC 5.2%

MISSED APPROACH: Proceed on track 146°, climbing to 3000 ft. At D8 VKL DME turn left track 360° to intercept and follow RDL 143 VBA (Track 323°). Climb to 5500 ft, crossing RDL 069 VKL VOR turn right to intercept and follow RDL 055 VKL VOR (Track 055°) bound to IRMEK Holding pattern.



OCA (OCH)		A	B	C	D	DL
STRAIGHT IN APPROACH	ILS CAT I	300(245)				
	LOC	550(495)				
(✈) CIRCLING		770(700)		1260(1190)		

DME DIST			13	12.4	12
ALTITUDE (HGT)			4000(3945)	4000(3945)	3872(3817)
DME DIST	11	10	9	8	7
ALTITUDE (HGT)	3554(3499)	3236(3181)	2918(2863)	2600(2545)	2282(2227)
DME DIST	6	5	4	3	2
ALTITUDE (HGT)	1964(1909)	1646(1591)	1328(1273)	1010(955)	692(637)

(✈) CIRCLING AS AUTHORIZED BY ATC

MNM SECT ALT
VKL VOR
145 315
5300
2200

Sepang/KL International airport

ILS-Z or LOC-Z RWY 14R

Aeronautical Data Tabulation

FIX / POINT	Coordinates (WGS 84)
VKL VOR/DME (IAF)	02°43'28.00"N 101°44'17.00"E
RDL 310/D20.0 VKL VOR/DME	02°56'22.90"N 101°28'58.40"E
RDL 317/D20.0 VKL VOR/DME	02°58'09.70"N 101°30'39.20"E
MIDIK (IF) D17.1 IWR DME	02°58'41.80"N 101°32'25.20"E
FAP/FAF D12.4 IWR DME	02°54'46.80"N 101°35'03.00"E
MAPt D1.6 IWR DME	02°45'47.70"N 101°41'04.50"E
INT TR 146°/D8.0 VKL DME	02°36'08.00"N 101°47'33.20"E
INT RDL 143° VBA VOR/RDL 069 VKL VOR	02°46'29.60"N 101°52'08.20"E
RDL 055/D11.0 VKL VOR/DME	02°49'48.20"N 101°53'17.50"E
IRMEK (MAHF) RDL 055/D19.0 VKL VOR/DME	02°54'25.00"N 101°59'51.00"E

INSTRUMENT APPROACH CHART - ICAO

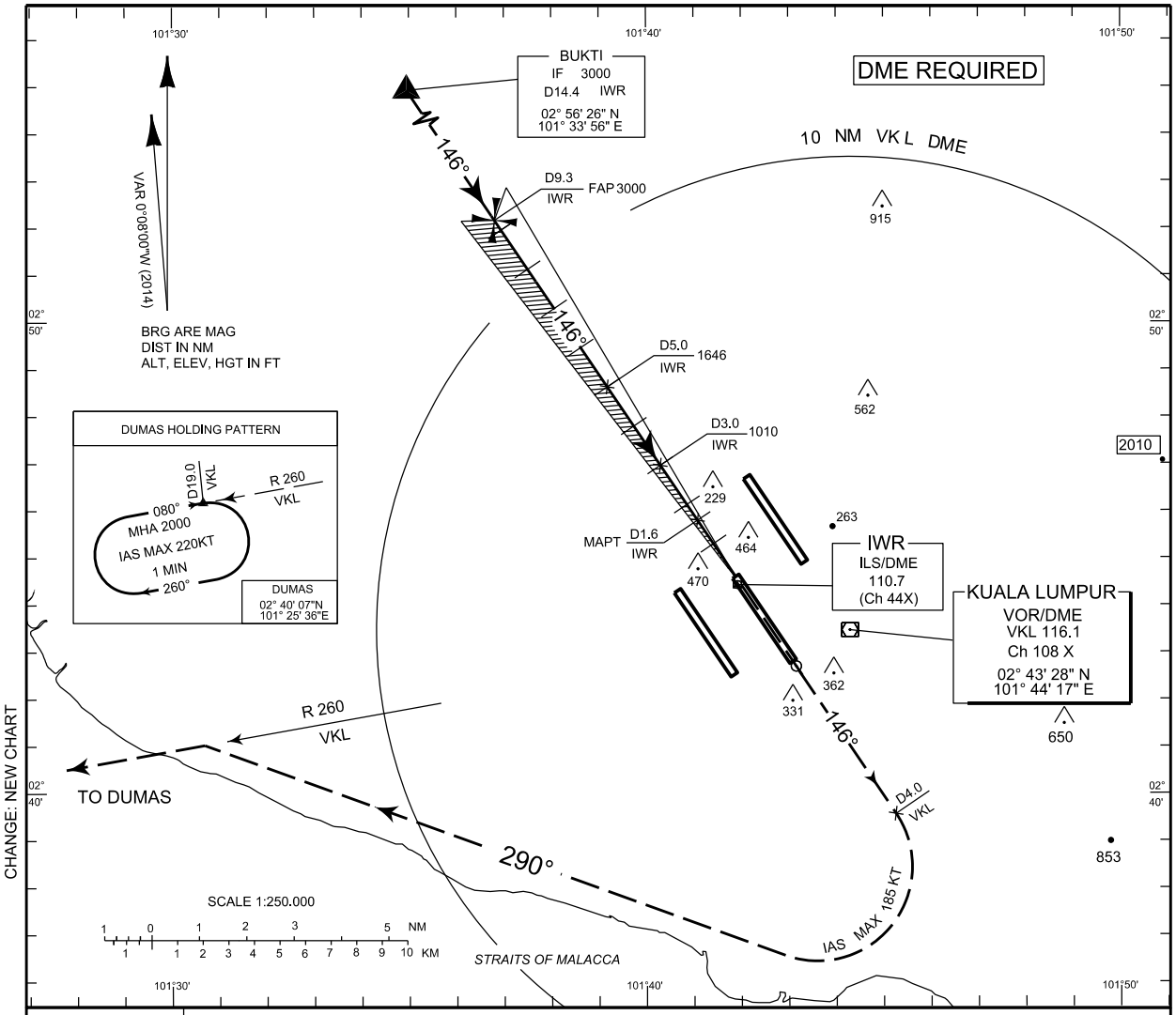
TRANSITION ALT 11000
AD ELEV 70

FREQUENCIES			
APP	124.200 119.450 124.650	TWR	118.500
		GND	121.800 122.525
		ATIS	126.250

SEPANG (WMKK)
KL INTERNATIONAL AIRPORT

RWY 14R
ILS-Y or LOC-Y

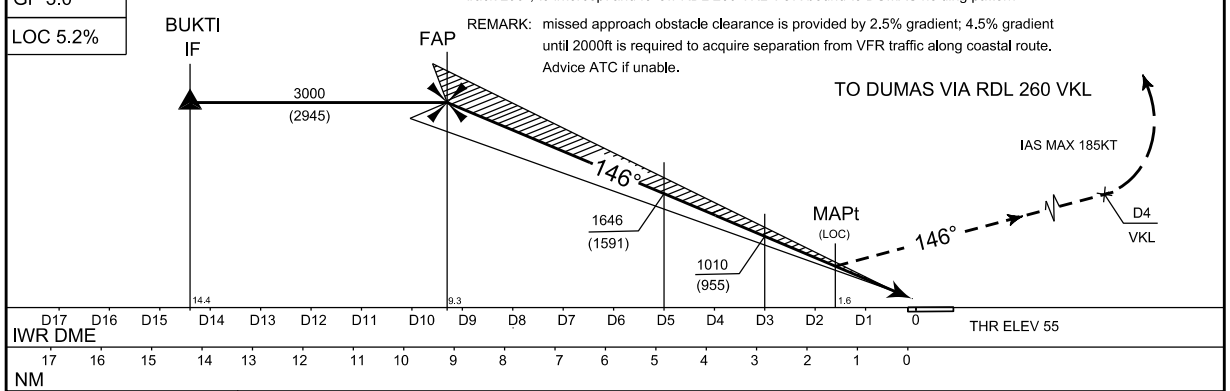
CHANGE: NEW CHART



ILS RDH 52FT
GP 3.0°
LOC 5.2%

MISSED APPROACH: Proceed on track 146° climbing to 2500 ft. At D4 VKL DME turn right (IAS MAX 185 KT), track 290°, to intercept and follow RDL 260 VKL VOR bound to DUMAS holding pattern.

REMARK: missed approach obstacle clearance is provided by 2.5% gradient; 4.5% gradient until 2000ft is required to acquire separation from VFR traffic along coastal route. Advice ATC if unable.



OCA (OCH)		A	B	C	D	DL
STRAIGHT IN APPROACH	ILS CAT I	300(245)				
	LOC	550(495)				
(✳) CIRCLING		770(700)		1260(1190)		

DME DIST	10	9.3	9	8	7
ALTITUDE (HGT)	3000(2945)	3000(2945)	2918(2863)	2600(2545)	2282(2227)
DME DIST	6	5	4	3	2
ALTITUDE (HGT)	1964(1909)	1646(1591)	1328(1273)	1010(955)	692(637)

(✳) CIRCLING AS AUTHORIZED BY ATC

MNM SECT ALT
VKL VOR
145
315
5300
2200

Sepang/KL International airport

ILS-Y or LOC-Y RWY 14R

Aeronautical Data Tabulation

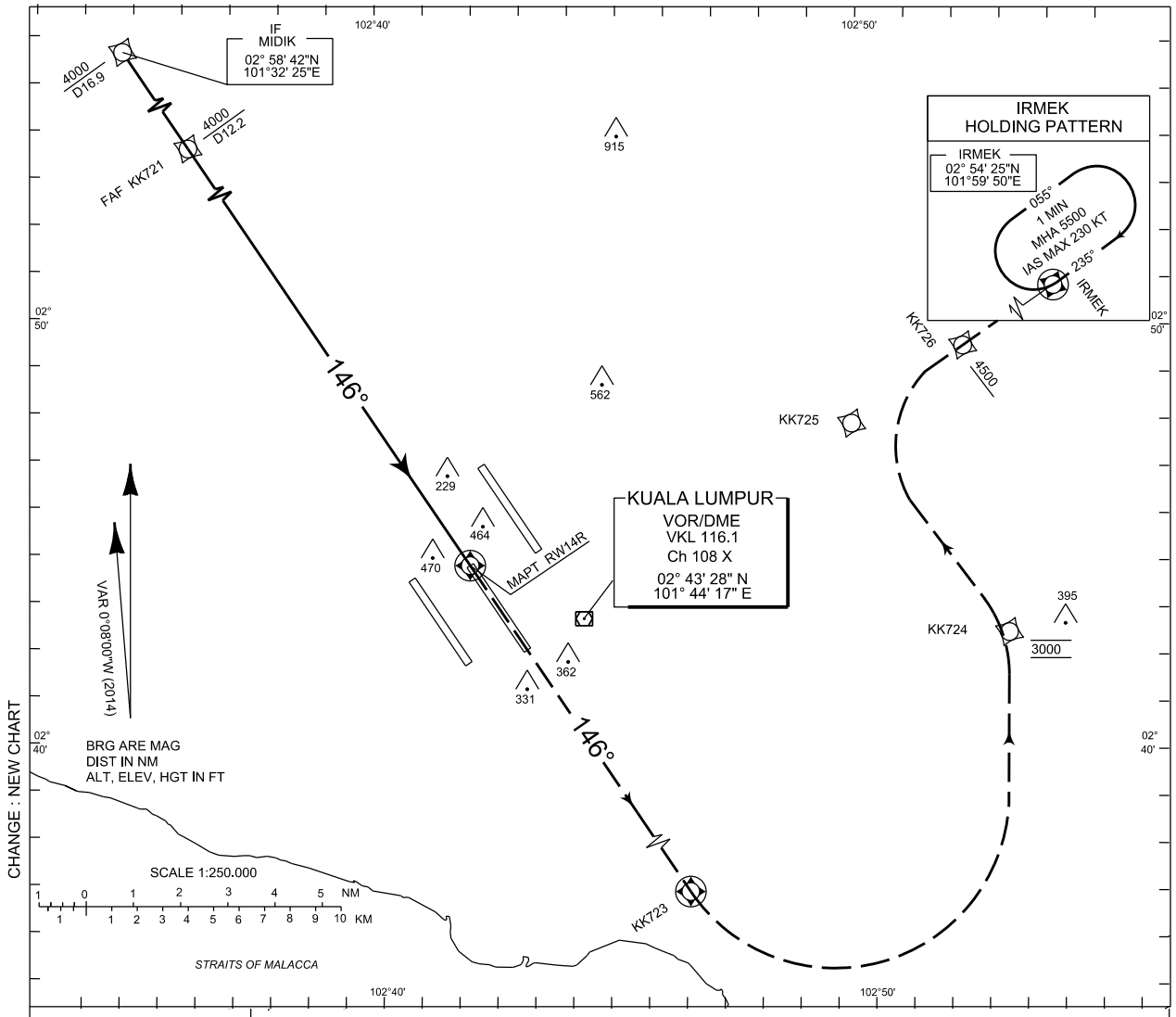
FIX / POINT	Coordinates (WGS 84)
BUKTI (IF) D14.4 IWR DME	02°56'25.90"N 101°33'56.40"E
FAP/FAF D9.3 IWR DME	02°52'09.90"N 101°36'48.20"E
MAPt D1.6 IWR DME	02°45'47.70"N 101°41'04.50"E
INT TR 146°/D4.0 VKL DME	02°39'34.00"N 101°45'14.90"E
DUMAS (MAHF) RDL260/D19.0 VKL VOR/DME	02°40'07.00"N 101°25'36.00"E

INSTRUMENT APPROACH CHART - ICAO

TRANSITION ALT 11000
AD ELEV 70

FREQUENCIES			
APP	118.650 135.750 124.650	TWR	118.500
		GND	121.800 122.525
		ATIS	126.250

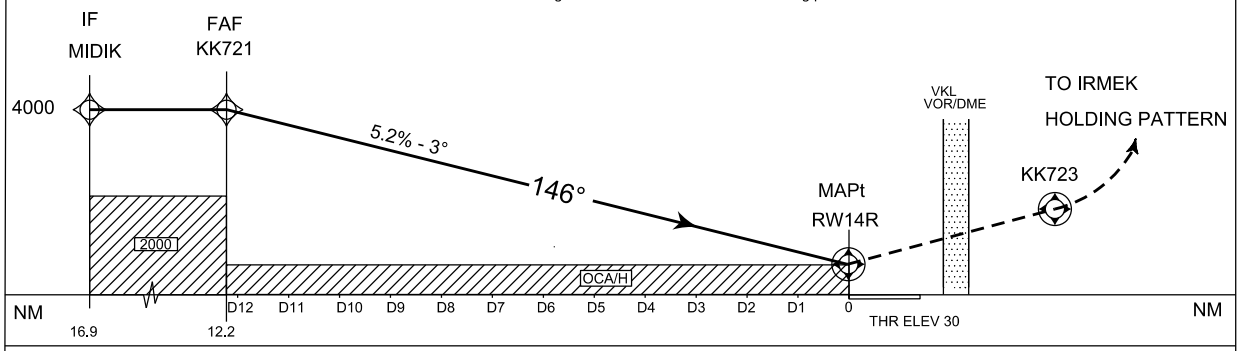
SEPANG (WMKK)
KL INTERNATIONAL AIRPORT
RNAV-Z (GNSS)
RWY 14R



CHANGE : NEW CHART

TRANSITION ALT 11000

MISSED APPROACH: Climb to 3000 ft. Proceed to KK723 on TR 146°, at KK723 turn left to KK724.
Then, climb to 5500ft and proceed to KK725 on TR323°.
At KK725 turn right to KK726 and bound IRMEK holding pattern.



OCA (OCH)		A	B	C	D	DL
STRAIGHT IN APPROACH	LNAV	670(640)				
(✳) CIRCLING		840(770)	1260(1190)			

DME DIST	10	9	8	7	6
ALTITUDE (HGT)	3293(3263)	2972(2942)	2651(2621)	2330(2300)	2009(1979)
DME DIST	5	4	3	2	1
ALTITUDE (HGT)	1688(1658)	1367(1337)	1046(1016)	725(695)	

(✳) CIRCLING NOT PERMITTED EAST OF RWY 14R/32L CENTERLINE, EXCEPT WHEN AUTHORIZED BY ATC

MSA 25 NM
ARP
5300

Sepang/KL International airport

RNAV-Z (GNSS) RWY 14R - Instrument Approach procedure

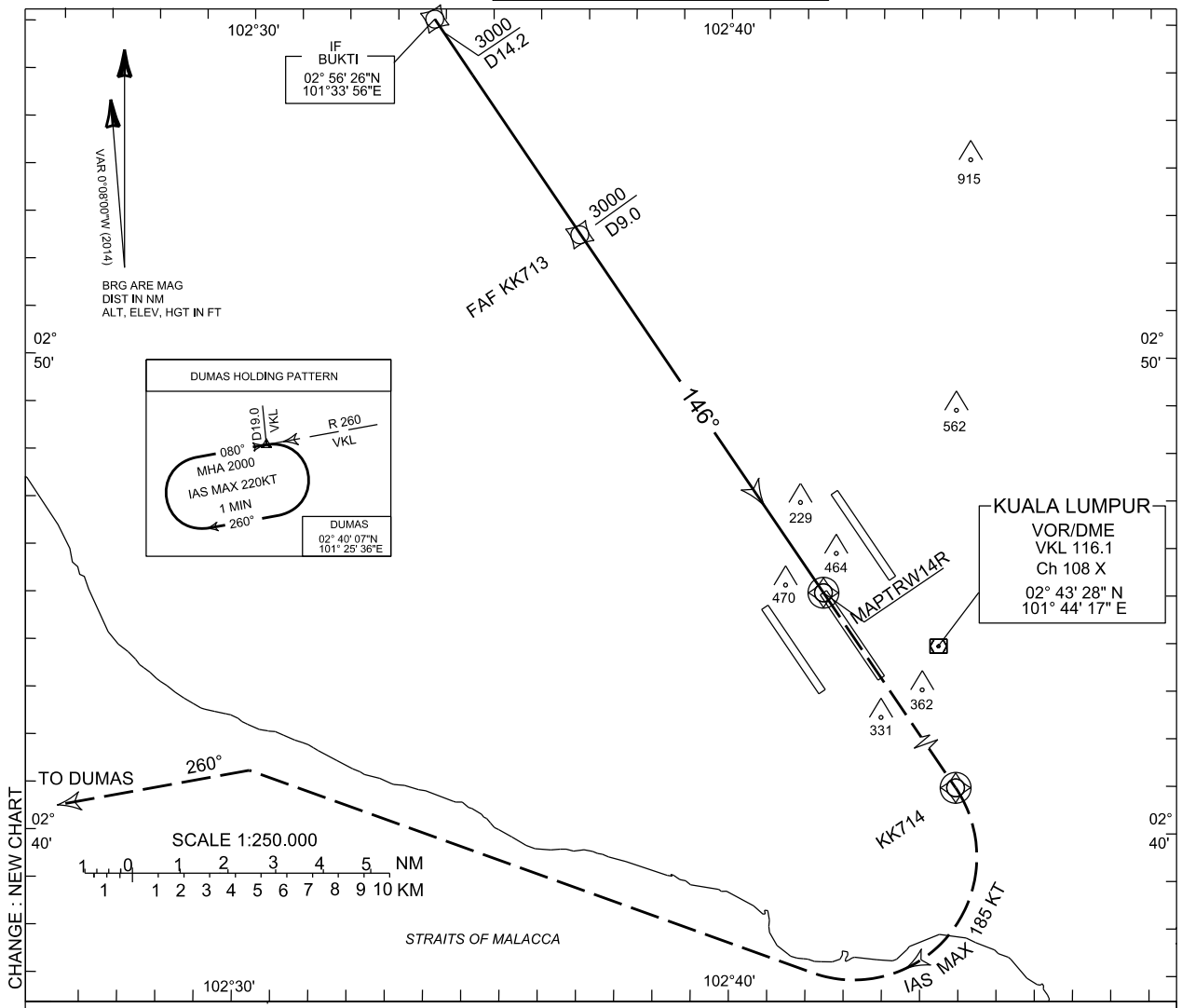
Path Terminator	Fix Identifier (Waypoint Name)	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Performance	Coordinates
IF	MIDIK	-	-	-	+4000	180	-	RNAV 1	02°58'41.80"N 101°32'25.23"E
TF	KK721 (FAF)	-	146°	-	+4000	-	-	RNP APCH	02°54'46.75"N 101°35'02.99"E
TF	RWY14R (MAPt)	Y	146°	-	+670	-	-	RNP APCH	02°44'35.84"N 101°41'52.63"E
TF	KK723	Y	146°	-	-	-	-	RNP APCH	02°36'07.98"N 101°47'33.15"E
DF	KK724			L	@3000	-	-	RNP APCH	02°44'48.30"N 101°53'21.90"E
TF	KK725	-	323°	-	-	-	-	RNP APCH	02°48'08.67"N 101°50'55.77"E
TF	KK726	-	055°	R	+4500	-	-	RNP APCH	02°49'48.04"N 101°53'16.91"E
TF	IRMEK	Y	055°	-	+5500	230	VKL VOR/DME	RNP APCH	02°54'25.00"N 101°59'51.00"E
HM	IRMEK	Y	235°	R	+5500	230	-	RNAV 1	02°54'25.00"N 101°59'51.00"E

INSTRUMENT APPROACH CHART - ICAO

TRANSITION ALT 11000
AD ELEV 70

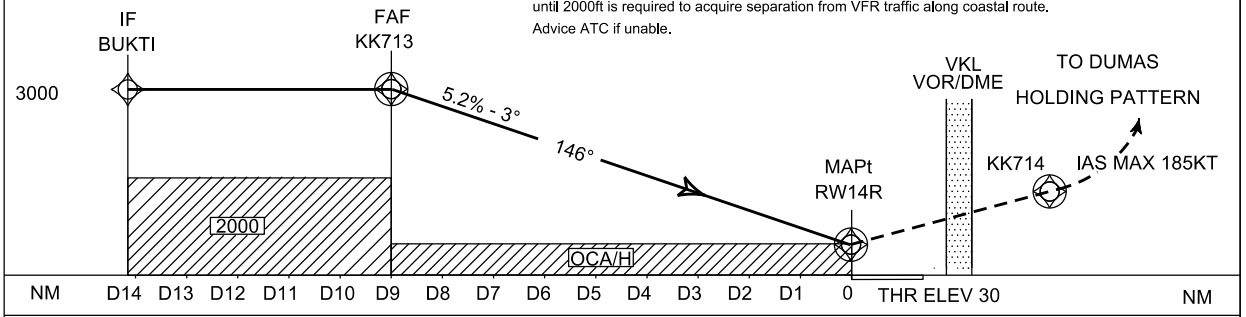
FREQUENCIES			
APP	124.200 119.450 124.650	TWR	118.500
		GND	121.800 122.525
		ATIS	126.250

SEPANG (WMKK)
KL INTERNATIONAL AIRPORT
RNAV-Y (GNSS)
RWY 14R



MISSED APPROACH: Climb to 2000 ft. Proceed to KK714 on TR 146°, AT kk714 TURN RIGHT TO dumas ON tr 260° (IAS MAX 185 KT), bound DUMAS holding pattern.

REMARK: missed approach obstacle clearance is provided by 2.5% gradient; 4.5% gradient until 2000ft is required to acquire separation from VFR traffic along coastal route. Advice ATC if unable.



OCA (OCH)		A	B	C	D	DL
STRAIGHT IN APPROACH	LNAV	670(640)				
(✳)CIRCLING		840(770)		1260(1190)		

DME DIST	8	7	6	5
ALTITUDE (HGT)	2676(2646)	2351(2321)	2027(1997)	1703(1673)
DME DIST	4	3	2	
ALTITUDE (HGT)		1379(1349)	1055(1025)	731(701)

(✳) CIRCLING NOT PERMITTED EAST OF RWY 14R/32L CENTERLINE, EXCEPT WHEN AUTHORIZED BY ATC

MSA 25 NM
ARP
5300

Sepang/KL International airport

RNAV-Y (GNSS) RWY 14R - Instrument Approach procedure

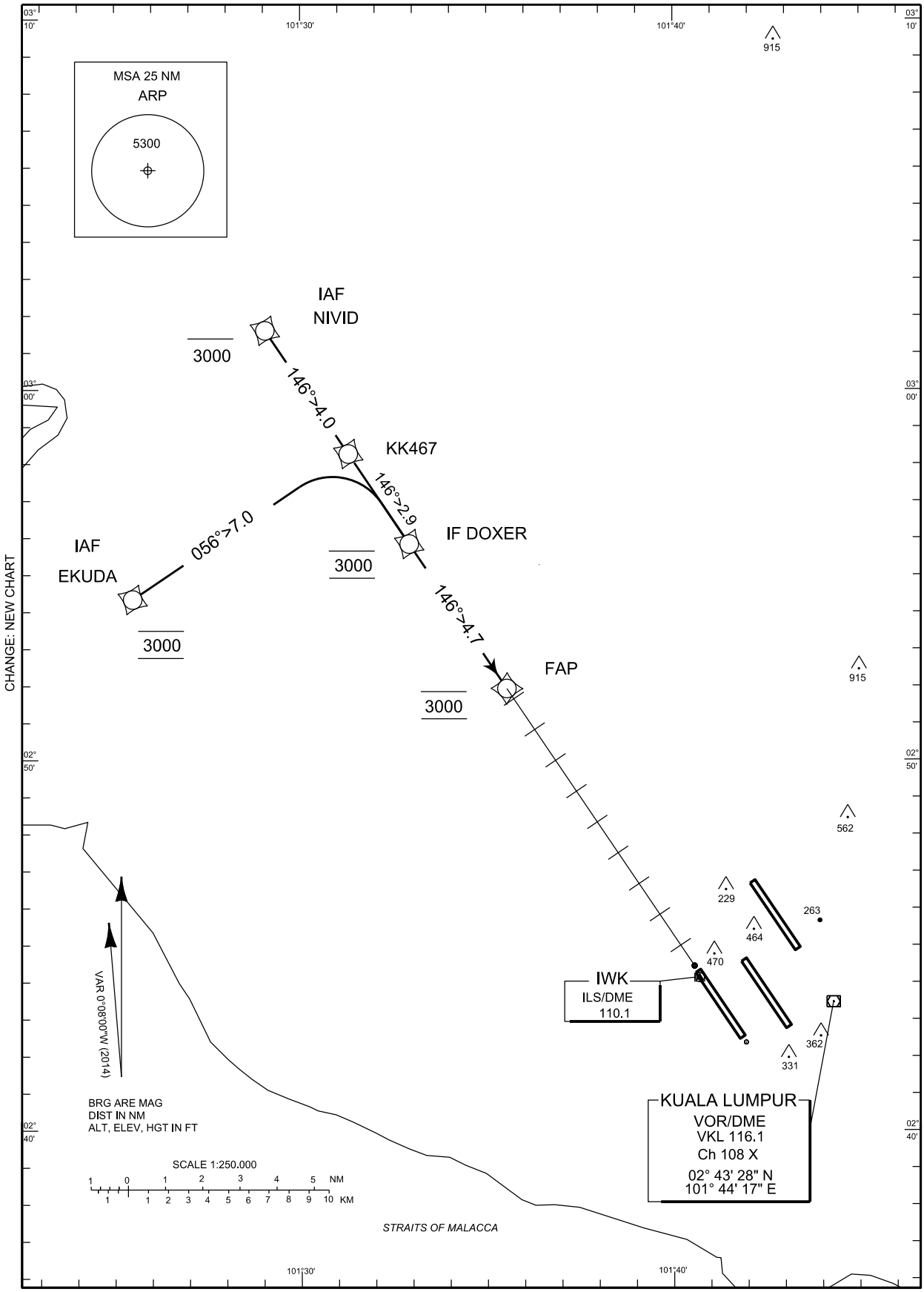
Path Terminator	Fix Identifier (Waypoint Name)	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Performance	Coordinates
IF	BUKTI	-	-	-	+3000	180	-	RNAV 1	02°56'25.92"N 101°33'56.36"E
TF	KK713 (FAF)	-	146°	-	+3000	-	-	RNP APCH	02°52'09.85"N 101°36'48.20"E
TF	RWY14R (MAPt)	Y	146°	-	+670	-	-	RNP APCH	02°44'35.84"N 101°41'52.63"E
TF	KK714	Y	146°	-	+800	-	-	RNP APCH	02°39'33.95"N 101°45'14.85"E
CF	DUMAS	Y	260°	R	+2000	185	VKL VOR/DME	RNP APCH	02°40'07.00"N 101°25'36.00"E
HM	DUMAS	Y	060	R	+2000	-	-	RNAV 1	02°40'07.00"N 101°25'36.00"E

INSTRUMENT APPROACH CHART - ICAO

TRANSITION ALT 11000
AD ELEV 70

FREQUENCIES			
APP	124.200 119.450 124.650	TWR	119.800
		GND	118.050
		ATIS	126.250

SEPANG (WMKK)
KL INTERNATIONAL AIRPORT
RNAV1 (GNSS)
RWY 15
ILS/RNAV
Initial Approach Segments



Sepang/KL International airport

Initial Approach Segments ILS / RNAV RWY15 - RNAV1 (GNSS)

Initial Approach Segment from EKUDA

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	EKUDA	-	-	-	@3000	210	-	RNAV 1	02°54'20.19"N 101°25'28.91"E
TF	KK467	-	056°	-	-	-	-	RNAV 1	02°58'15.88"N 101°31'16.88"E
TF	DOXER	-	146°	-	@3000	180	-	RNAV 1	02°55'45.95"N 101°32'57.34"E

Initial Approach Segment from NIVID

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	NIVID	-	-	-	@3000	210	-	RNAV 1	03°01'35.76"N 101°29'02.86"E
TF	KK467	-	146°	-	-	-	-	RNAV 1	02°58'15.88"N 101°31'16.88"E
TF	DOXER	-	146°	-	@3000	180	-	RNAV 1	02°55'45.95"N 101°32'57.34"E

FAP ILS RWY 15 Data

	Altitude	Coordinates
FAP 15	3000	02°51'55.6187"N 101°35'31.6592"E

INSTRUMENT APPROACH CHART - ICAO

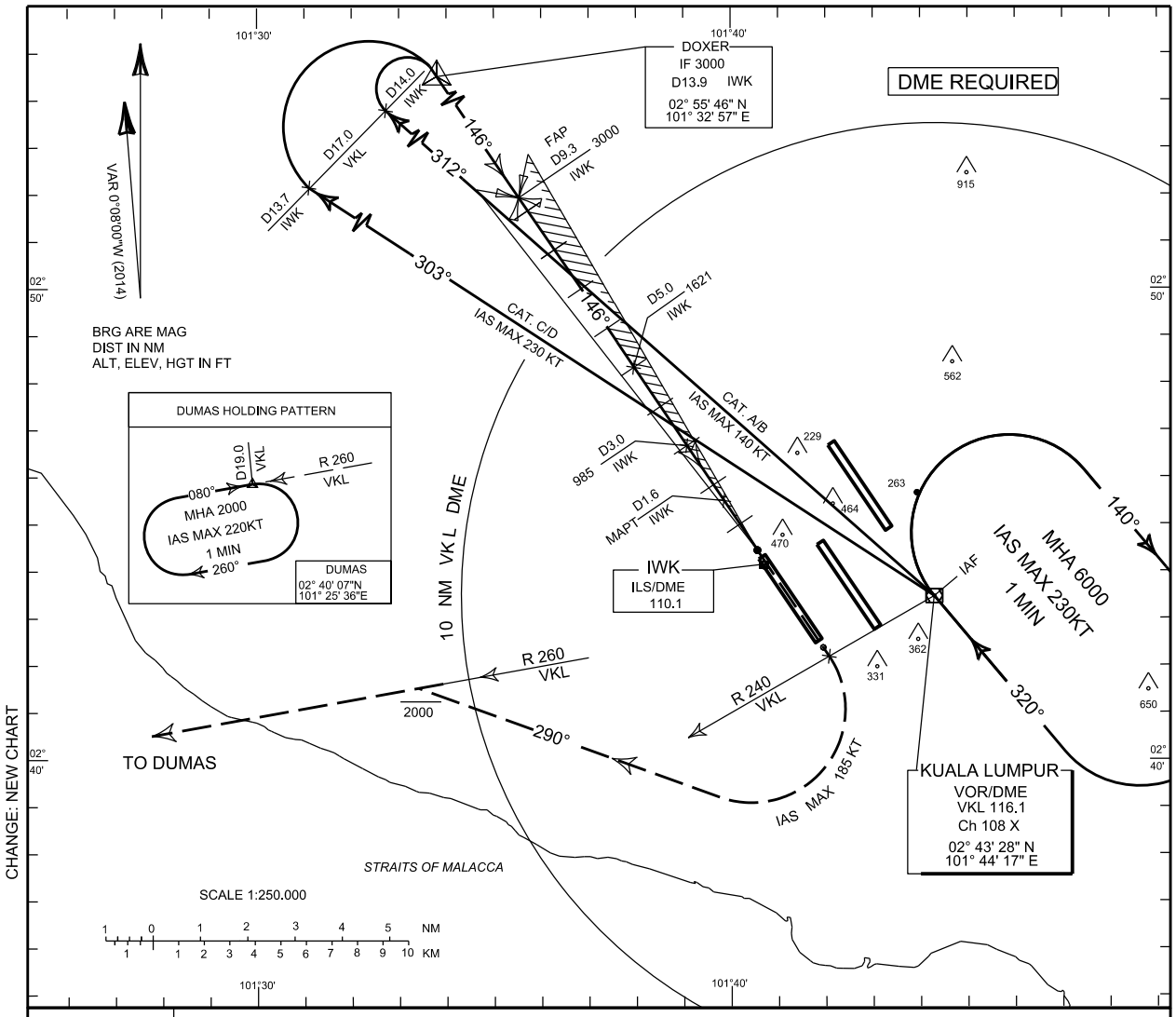
TRANSITION ALT 11000
AD ELEV 70

FREQUENCIES			
APP	124.200 119.450 125.100	TWR	119.800
		GND	118.050
		ATIS	126.250

SEPANG (WMKK)
KL INTERNATIONAL AIRPORT

RWY 15
ILS or LOC

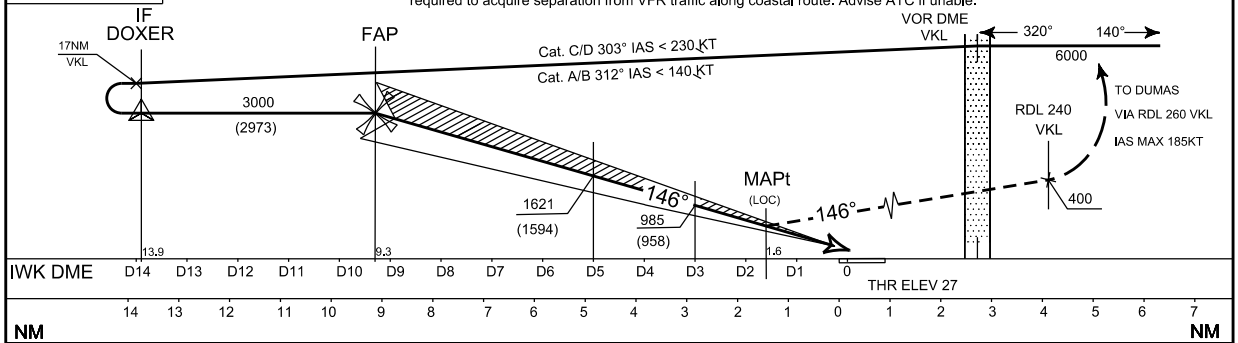
CHANGE: NEW CHART



ILS RDH 52FT	
GP 3.0°	
LOC 5.2%	

MISSED APPROACH: Proceed on track 146° climbing to 2000 ft. Crossing RDL 240 VKL VOR turn right, not below 400 ft (IAS MAX 185 KT), track 290° to intercept and follow RDL 260 VKL VOR. Continue climb to 2500 ft bound to DUMAS holding pattern.

REMARK: missed approach obstacle clearance is provided by 2.5% gradient; 4.5% gradient until 2000ft is required to acquire separation from VFR traffic along coastal route. Advise ATC if unable.

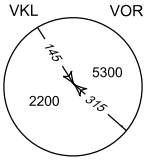


OCA (OCH)		A	B	C	D	DL
STRAIGHT IN APPROACH	ILS CAT I	230(203)				
	LOC	550(530)				
(✳) CIRCLING		770(700)		1260(1190)		

DME DIST			10	9.3
ALTITUDE (HGT)			3000(2973)	3000(2973)
DME DIST	9	8	7	6
ALTITUDE (HGT)	2893(2866)	2575(2548)	2257(2230)	1939(1912)
DME DIST	5	4	3	2
ALTITUDE (HGT)	1621(1594)	1303(1276)	985(958)	667(640)

(✳) CIRCLING NOT PERMITTED EAST OF RWY 14R/32L CENTERLINE, EXCEPT WHEN AUTHORIZED BY ATC

MNM SECT ALT
VKL VOR



Sepang/KL International airport

ILS or LOC RWY 15

Aeronautical Data Tabulation

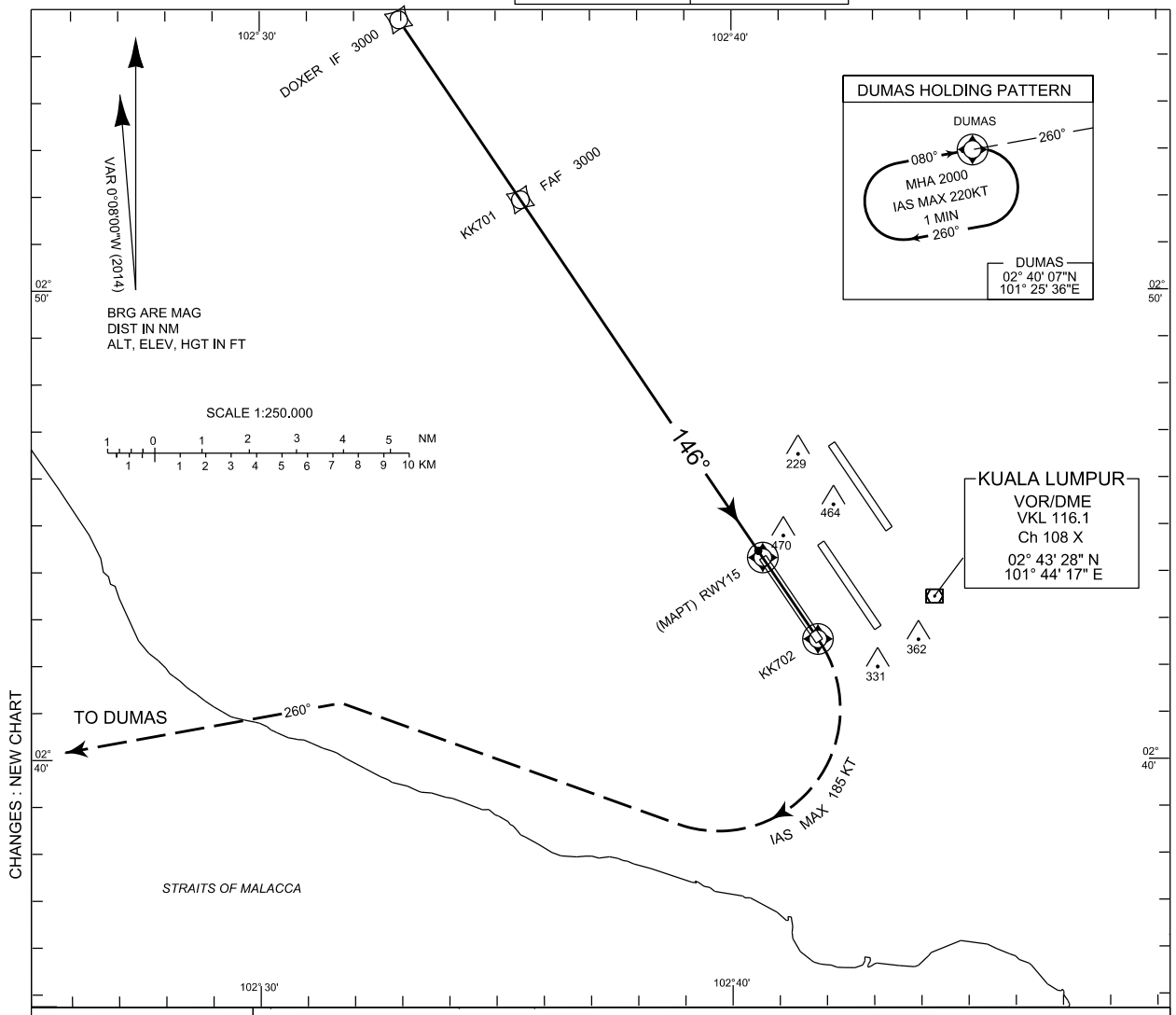
FIX / POINT	Coordinates (WGS 84)
VKL VOR/DME (IAF)	02°43'28.00"N 101°44'17.00"E
RDL303/D17.0 VKL VOR/DME	02°52'46.00"N 101°30'02.20"E
RDL312/D17.0 VKL VOR/DME	02°54'53.60"N 101°31'39.60"E
DOXER (IF) D13.9 IWK DME	02°55'46.00"N 101°32'57.30"E
FAP/FAF D9.3 IWK DME	02°51'55.60"N 101°35'31.70"E
MAPt D1.6 IWK DME	02°45'29.50"N 101°39'50.70"E
MATP INT TR 146°/RDL240 VKL VOR	02°42'10.60"N 101°42'04.10"E
DUMAS (MAHF) RDL260/D19.0 VKL VOR/DME	02°40'07.00"N 101°25'36.00"E

INSTRUMENT APPROACH CHART - ICAO

TRANSITION ALT 11000
AD ELEV 70

FREQUENCIES			
APP	124.200 119.450 124.650	TWR	119.800
		GND	118.050
		ATIS	126.250

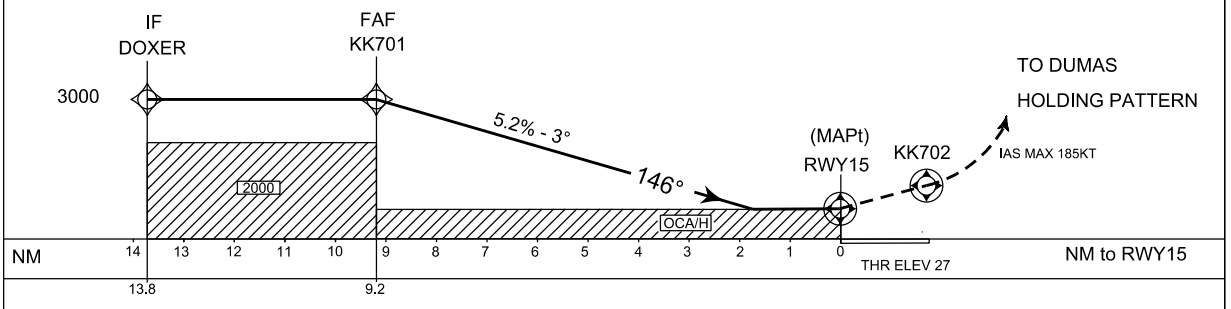
SEPANG (WMKK)
KL INTERNATIONAL AIRPORT
RNAV (GNSS)
RWY 15



CHANGES : NEW CHART

TRANSITION ALT 11000

MISSED APPROACH: Climb to 2500 ft. Proceed to KK702 on TR 146°, at KK702 turn right to DUMAS on TR 260° (IAS MAX 185 KT), bound DUMAS holding pattern.



OCA (OCH)		A	B	C	D	DL
STRAIGHT IN APPROACH	LNAV	650(630)				
(✕) CIRCLING		770(700)		1260(1190)		

NM to RWY33	9.2	8	7	6
ALTITUDE (HGT)	3000(2973)	2619(2592)	2306(2279)	1988(1961)
NM to RWY33	5	4	3	2
ALTITUDE (HGT)	1670(1643)	1352(1325)	1034(1007)	716(689)

(✕) CIRCLING NOT PERMITTED EAST OF RWY 15/33 CENTERLINE, EXCEPT WHEN AUTHORIZED BY ATC

MSA 25 NM
ARP
5300

Sepang/KL International airport

RNAV (GNSS) RWY 15 - Instrument Approach procedure

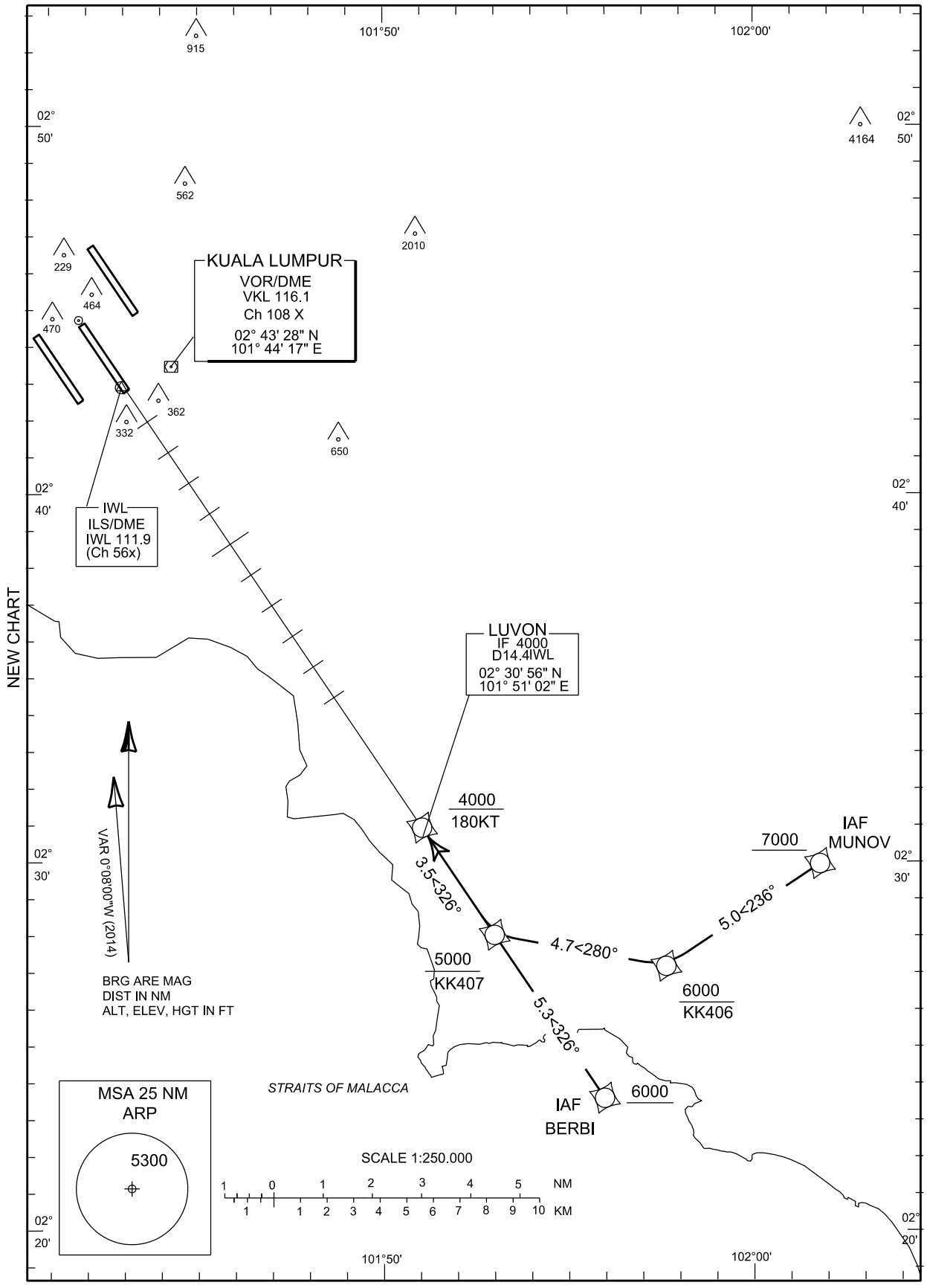
Path Terminator	Fix Identifier (Waypoint Name)	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Performance	Coordinates
IF	DOXER	-	-	-	+3000	180	-	RNAV 1	02°55'45.95"N 101°32'57.34"E
TF	KK701 (FAF)	-	146°	-	+3000	-	-	RNP APCH	02°51'55.62"N 101°35'31.66"E
TF	RWY15 (MAPt)	Y	146°	-	+650	-	-	RNP APCH	02°44'17.57"N 101°40'38.97"E
TF	KK702	Y	146°	-	+800	-	-	RNP APCH	02°42'30.75"N 101°41'50.56"E
CF	DUMAS	Y	260°	R	+2500	185	VKL VOR/DME	RNP APCH	02°40'07.00"N 101°25'36.00"E
HM	DUMAS	Y	080°	R	+2500	-	-	RNAV 1	02°40'07.00"N 101°25'36.00"E

INSTRUMENT
APPROACH
CHART - ICAO

TRANSITION ALT 11000
AD ELEV 70

FREQUENCIES			
APP	121.250 135.750 124.650	TWR	118.500
		GND	121.800 122.525
		ATIS	126.250

SEPANG (WMKK)
KL INTERNATIONAL AIRPORT
RNAV1 (GNSS)
RWY 32L
ILS-Z/RNAV-Z
Initial Approach Segments



Sepang/KL International airport

Initial Approach Segments ILS-Z / RNAV-Z RWY 32L - RNAV1 (GNSS)

Initial Approach Segment from MUNOV

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	MUNOV	-	-	-	+7000	210	-	RNAV 1	02°29'57.02"N 102°01'46.90"E
TF	KK406	-	236°	-	+6000	-	-	RNAV 1	02°27'10.17"N 101°57'37.60"E
TF	KK407	-	280°	-	+5000	-	-	RNAV 1	02°28'01.20"N 101°52'59.52"E
TF	LUVON	-	326°	-	+4000	180	-	RNAV 1	02°30'56.00"N 101°51'02.29"E

Initial Approach Segment from BERBI

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	BERBI	-	-	-	+6000	210	-	RNAV 1	02°23'35.44"N 101°55'57.71"E
TF	KK407	-	326°	-	+5000	-	-	RNAV 1	02°28'01.20"N 101°52'59.52"E
TF	LUVON	-	326°	-	+4000	180	-	RNAV 1	02°30'56.00"N 101°51'02.29"E

FAP ILS Z RWY 32L Data

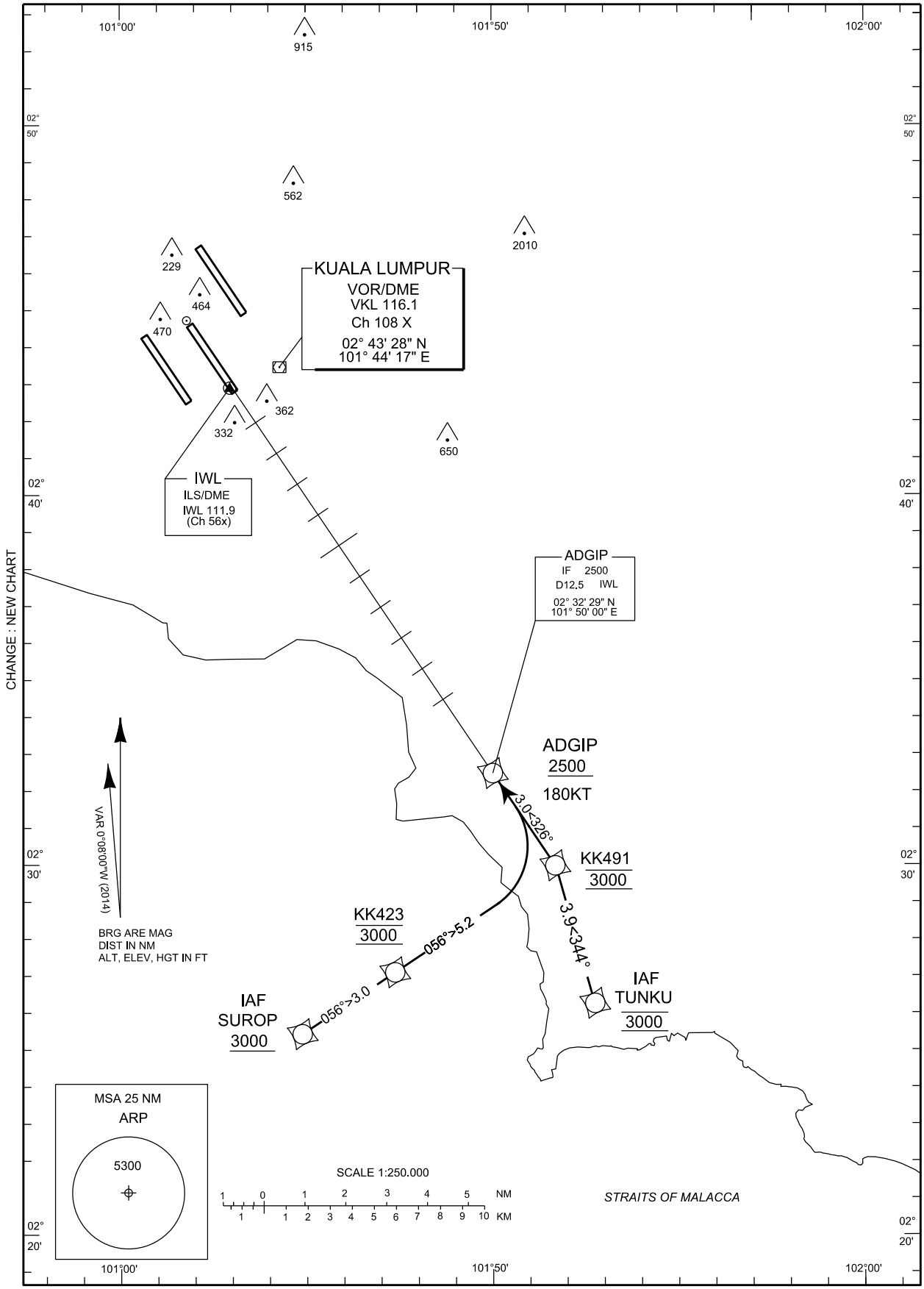
	Altitude	Coordinates
FAP 32L (ILS Z)	4000	02°32'36.1071"N 101°49'55.4302"E

INSTRUMENT
APPROACH
CHART - ICAO

TRANSITION ALT 11000
AD ELEV 70

FREQUENCIES			
APP	124.200 119.450 124.650	TWR	118.500
		GND	121.800 122.525
		ATIS	126.250

SEPANG (WMKK)
KL INTERNATIONAL AIRPORT
RNAV1 (GNSS)
RWY 32L
ILS-Y/RNAV-Y
Initial Approach Segments



Sepang/KL International airport

Initial Approach Segments ILS-Y / RNAV-Y RWY 32L - RNAV1 (GNSS)

Initial Approach Segment from TUNKU

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	TUNKU	-	-	-	@3000	210	-	RNAV 1	02°26'15.62"N 101°52'44.62"E
TF	KK491	-	344°	-	@3000	-	-	RNAV 1	02°29'58.83"N 101°51'40.61"E
TF	ADGIP	-	326°	-	@2500	180	-	RNAV 1	02°32'28.69"N 101°50'00.15"E

Initial Approach Segment from SUROP

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	SUROP	-	-	-	+3000	210	-	RNAV 1	02°25'25.58"N 101°44'52.47"E
TF	KK423	-	056°	-	@3000	-	-	RNAV 1	02°27'05.71"N 101°47'22.02"E
TF	KK491	-	056°	-	@3000	-	-	RNAV 1	02°29'58.83"N 101°51'40.61"E
TF	ADGIP	-	326°	L	@2500	180	-	RNAV 1	02°32'28.69"N 101°50'00.15"E

FAP ILS Y RWY 32L Data

	Altitude	Coordinates
FAP 32L (ILS Y)	2500	02°36'31.2922"N 101°47'17.5029"E

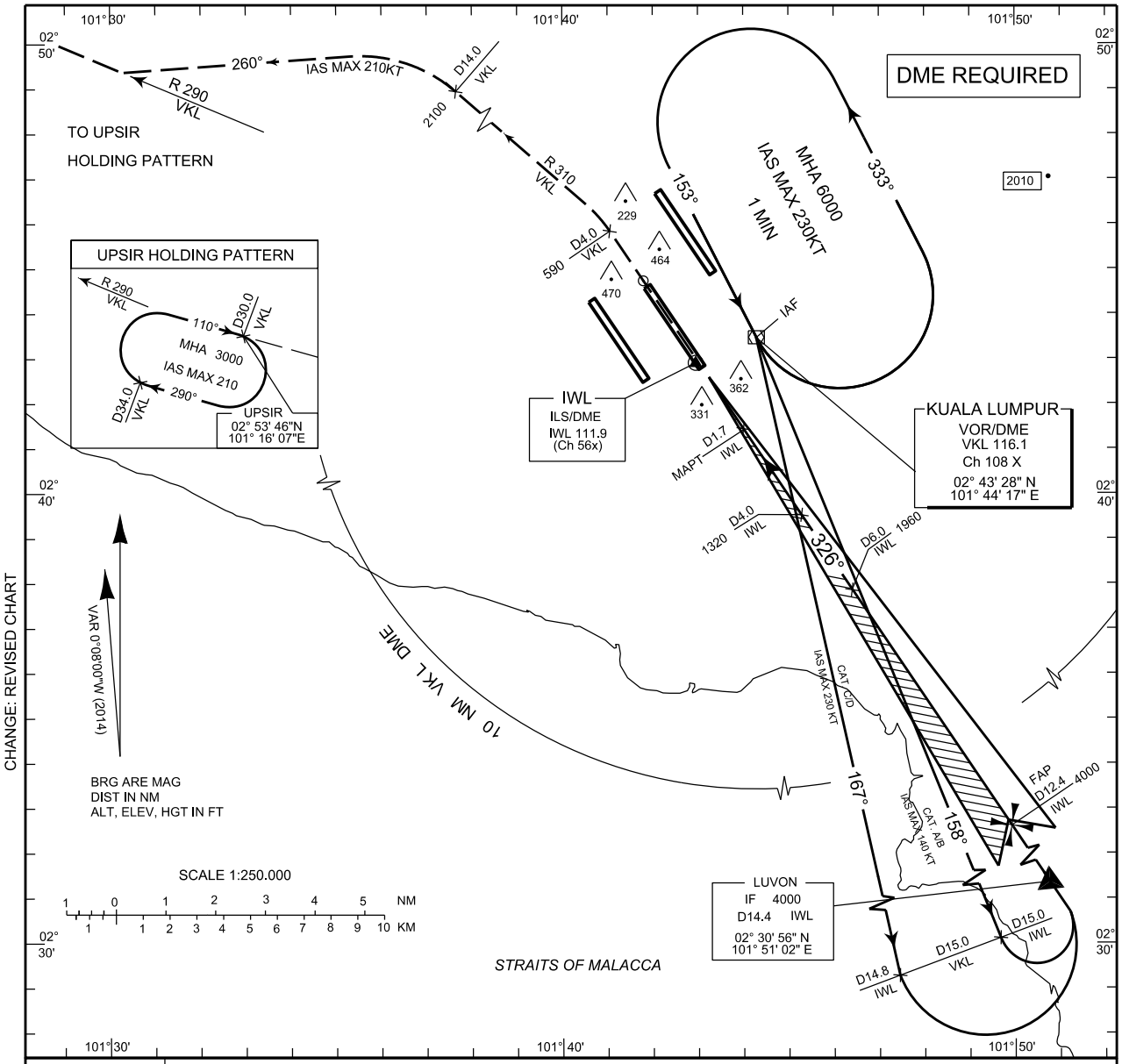
INSTRUMENT APPROACH CHART - ICAO

TRANSITION ALT 11000
AD ELEV 70

FREQUENCIES			
APP	121.250 135.750 124.650	TWR	118.500
		GND	121.800 122.525
		ATIS	126.250

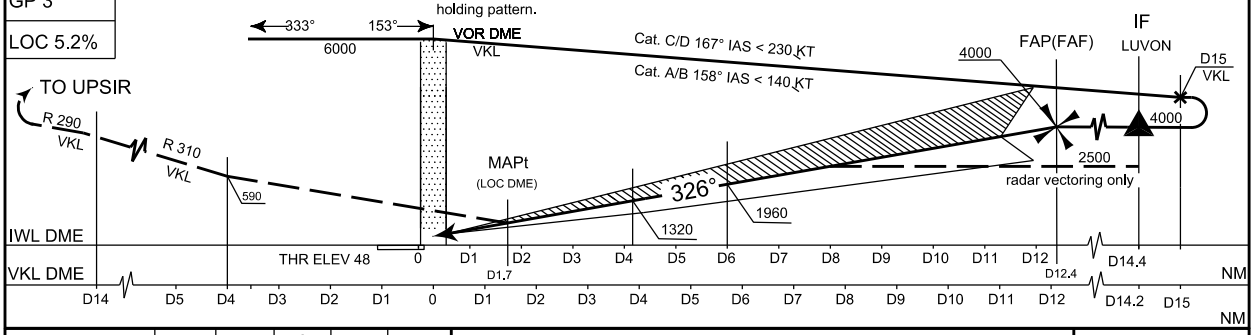
SEPANG (WMKK)
KL INTERNATIONAL AIRPORT
RWY 32L
ILS-Z or LOC-Z

CHANGE: REVISED CHART



ILS RDH 52FT
GP 3°
LOC 5.2%

MISSED APPROACH: Proceed on track 326°, climbing to 3000ft. At D4 VKL DME turn left on RDL 310 VKL VOR. At D14 VKL DME turn left track 260° intercept and follow RDL 290 VKL VOR bound to UPSIR holding pattern.



OCA (OCH)	A	B	C	D	DL
STRAIGHT IN APPROACH — ILS CAT I	288(240)				
STRAIGHT IN APPROACH — LOC	570(522)				
(✳) CIRCLING	770(700)	1260(1190)			

DME DIST				13	12.4
ALTITUDE (HGT)				4000(3952)	4000(3952)
DME DIST	12	11	10	9	8
ALTITUDE (HGT)	3882(3834)	3564(3516)	3246(3198)	2928(2880)	2610(2562)
DME DIST	7	5	3	2	1
ALTITUDE (HGT)	2292(2244)	1656(1608)	1020(972)	702(654)	384(336)

(✳) FOR CIRCLING DIRECTION AS AUTHORIZED BY ATC

MNM SECT ALT
VKL VOR
145 5300
2200 315

Sepang/KL International airport

ILS-Z or LOC-Z RWY 32L

Aeronautical Data Tabulation

FIX / POINT	Coordinates (WGS 84)
VKL VORDME (IAF)	02°43'28.00"N 101°44'17.00"E
RDL 167/D15.0 VKL VOR/DME	02°28'46.60"N 101°47'39.50"E
RDL 158/D15.0 VKL VOR/DME	02°29'29.30"N 101°49'54.10"E
LUVON (IF) D14.4 IWL DME	02°30'56.00"N 101°51'02.30"E
FAP/FAF D12.4 IWL DME	02°32'36.10"N 101°49'55.40"E
MAPt D1.7 IWL DME	02°41'31.10"N 101°43'56.70"E
INT TR 326°/D4.0 VKL DME	02°45'49.90"N 101°41'03.10"E
RDL 310/D14.0 VKL VOR/DME	02°52'30.60"N 101°33'33.90"E
UPSIR (MAHF) RDL 290/D30.0 VKL VOR/DME	02°53'46.30"N 101°16'06.40"E

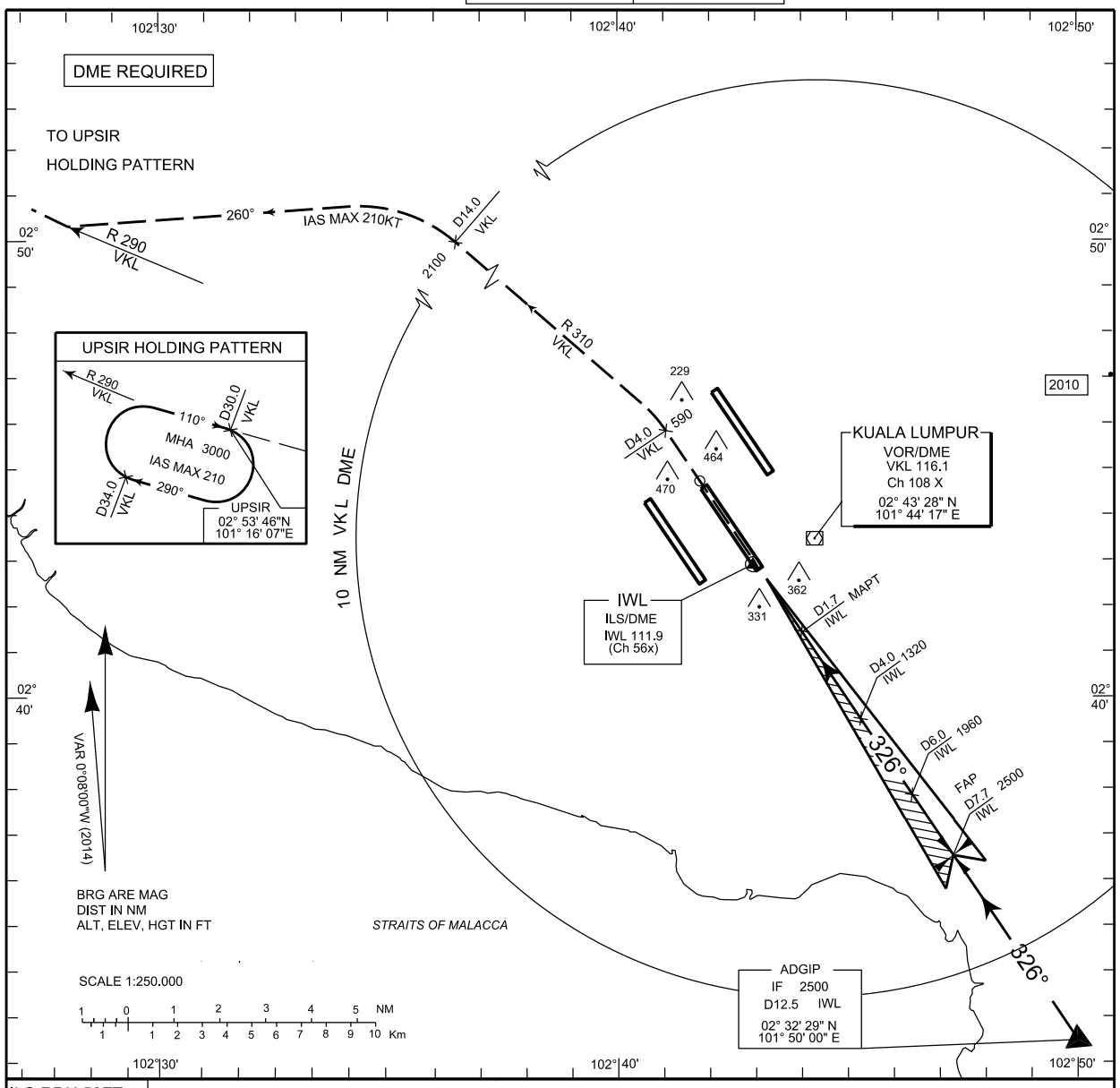
INSTRUMENT APPROACH CHART - ICAO

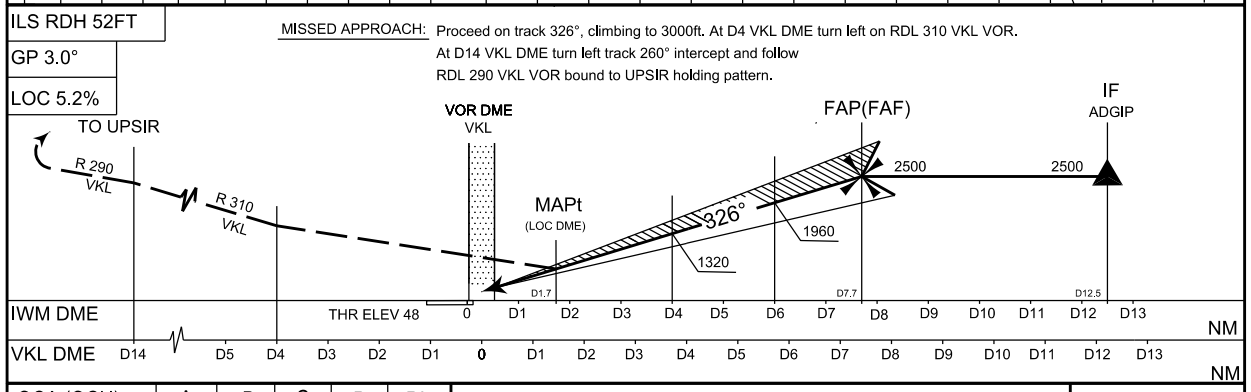
TRANSITION ALT 11000
AD ELEV 70

FREQUENCIES			
APP	125.850 119.450 124.650	TWR	118.500
		GND	121.800 122.525
		ATIS	126.250

SEPANG (WMKK)
KL INTERNATIONAL AIRPORT
RWY 32L
ILS-Y or LOC-Y

CHANGE: REVISED CHART





OCA (OCH)		A	B	C	D	DL
STRAIGHT IN APPROACH	ILS CAT I	288(240)				
	LOC	570(522)				
(✳) CIRCLING		770(700)	1260(1190)			

DME DIST		8	7.7	7	6
ALTITUDE (HGT)		2500(2452)	2500(2452)	2292(2244)	1974(1926)
DME DIST	5	4	3	2	1
ALTITUDE (HGT)	1656(1608)	1338(1290)	1020(972)	702(654)	384(336)

(✳) FOR CIRCLING DIRECTION AS AUTHORIZED BY ATC

MNM SECT ALT
VKL VOR
145 5300
2200 315

Sepang/KL International airport

ILS-Y or LOC-Y RWY 32L

Aeronautical Data Tabulation

FIX / POINT	Coordinates (WGS 84)
ADGIP (IF) D12.5 IWL DME	02°32'28.70"N 101°50'00.20"E
FAP/FAF D7.7 IWL DME	02°36'31.30"N 101°47'17.50"E
MAPt D1.7 IWL DME	02°41'31.10"N 101°43'56.70"E
INT TR 326°/D4.0 VKL DME	02°45'49.90"N 101°41'03.10"E
RDL 310/D14.0 VKL VOR/DME	02°52'30.60"N 101°33'33.90"E
UPSIR (MAHF) RDL 290/D30.0 VKL VOR/DME	02°53'46.30"N 101°16'06.40"E

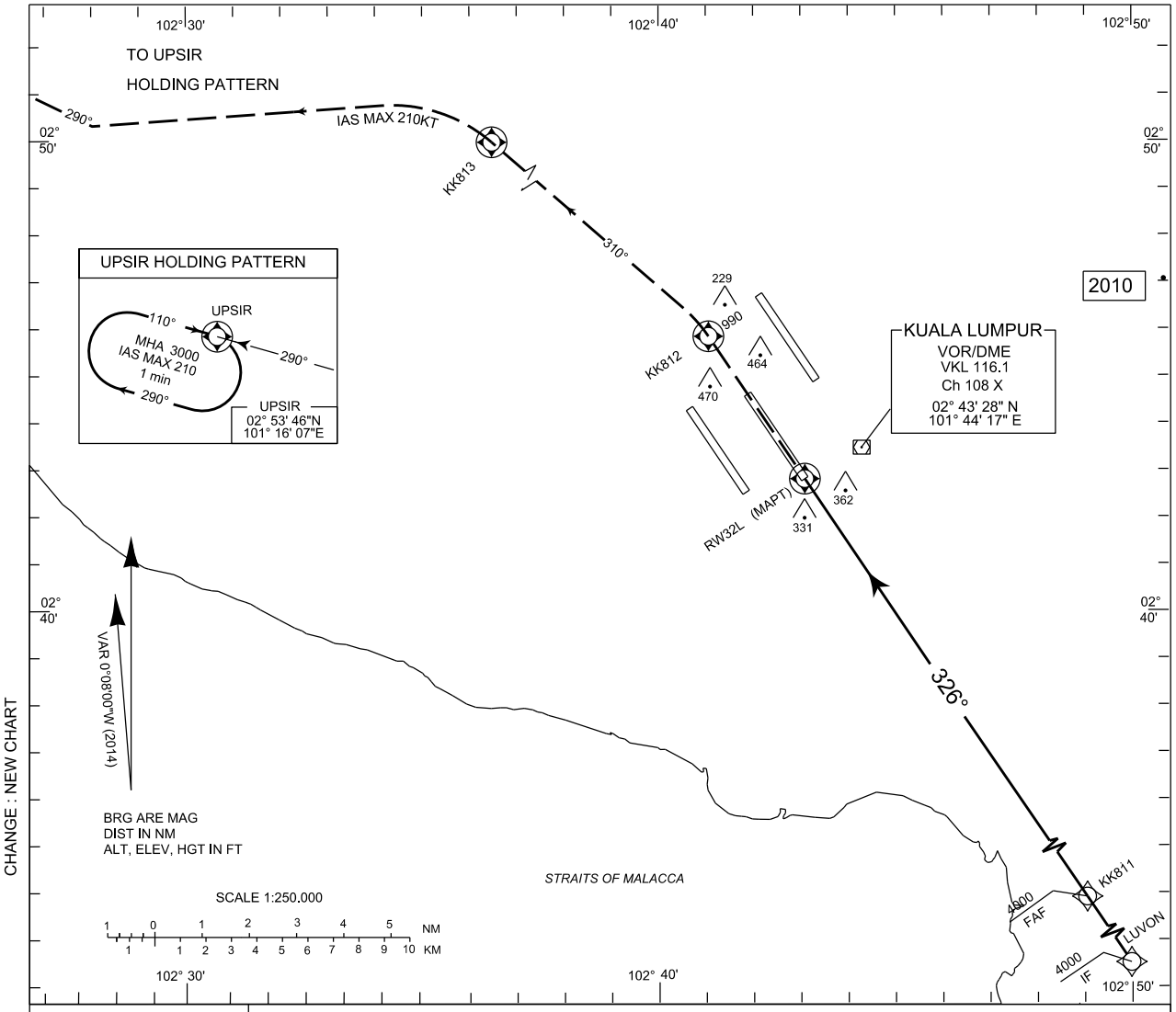
INSTRUMENT APPROACH CHART - ICAO

TRANSITION ALT 11000
AD ELEV 70

FREQUENCIES			
APP	121.250 135.750 124.650	TWR	118.500
		GND	121.800 122.525
		ATIS	126.250

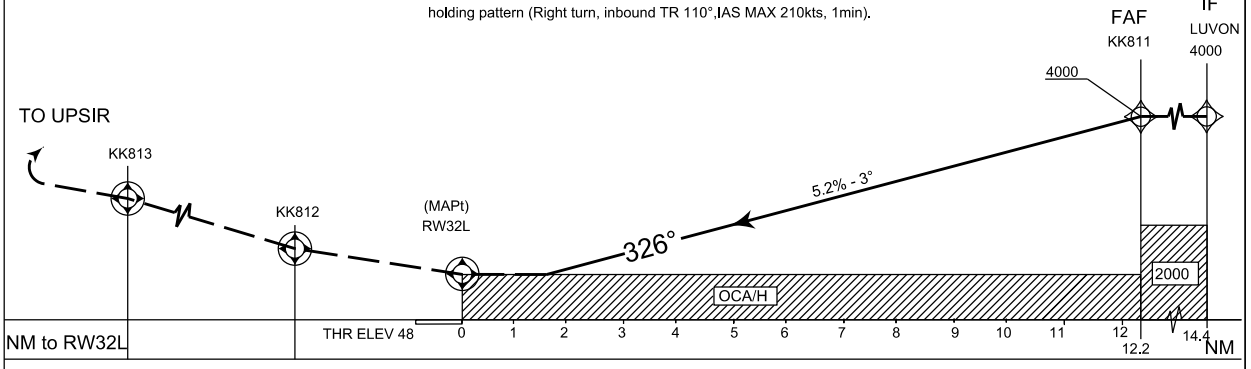
SEPANG (WMKK)
KL INTERNATIONAL AIRPORT
RNAV-Z (GNSS)
RWY 32L

CHANGE : NEW CHART



TRANSITION ALT 11000

MISSED APPROACH: AT RW32L (MAPt) continue on TR 326° climbing to 3000ft. At KK812 turn left to KK813 on TR 310° than turn left IAS MAX 210KTS to UPSIR on TR 290°, bound UPSIR holding pattern (Right turn, inbound TR 110°,IAS MAX 210kts, 1min).



OCA (OCH)		A	B	C	D	DL
STRAIGHT IN APPROACH	LNAV	610(562)				
(✈) CIRCLING		770(700)		1260(1190)		

NM to RW32L	10	9	8	7	6
ALTITUDE (HGT)	3278(3230)	2960(2912)	2642(2594)	2324(2276)	2006(1958)
NM to RW32L	5	4	3	2	
ALTITUDE (HGT)	1688(1640)	1370(1322)	1052(1004)	734(686)	

(✈) CIRCLING NOT PERMITTED EAST OF RWY 32L/14R CENTERLINE, EXCEPT WHEN AUTHORIZED BY ATC

MSA 25 NM
ARP
5300

Sepang/KL International airport

RNAV-Z (GNSS) RWY 32L - Instrument Approach procedure

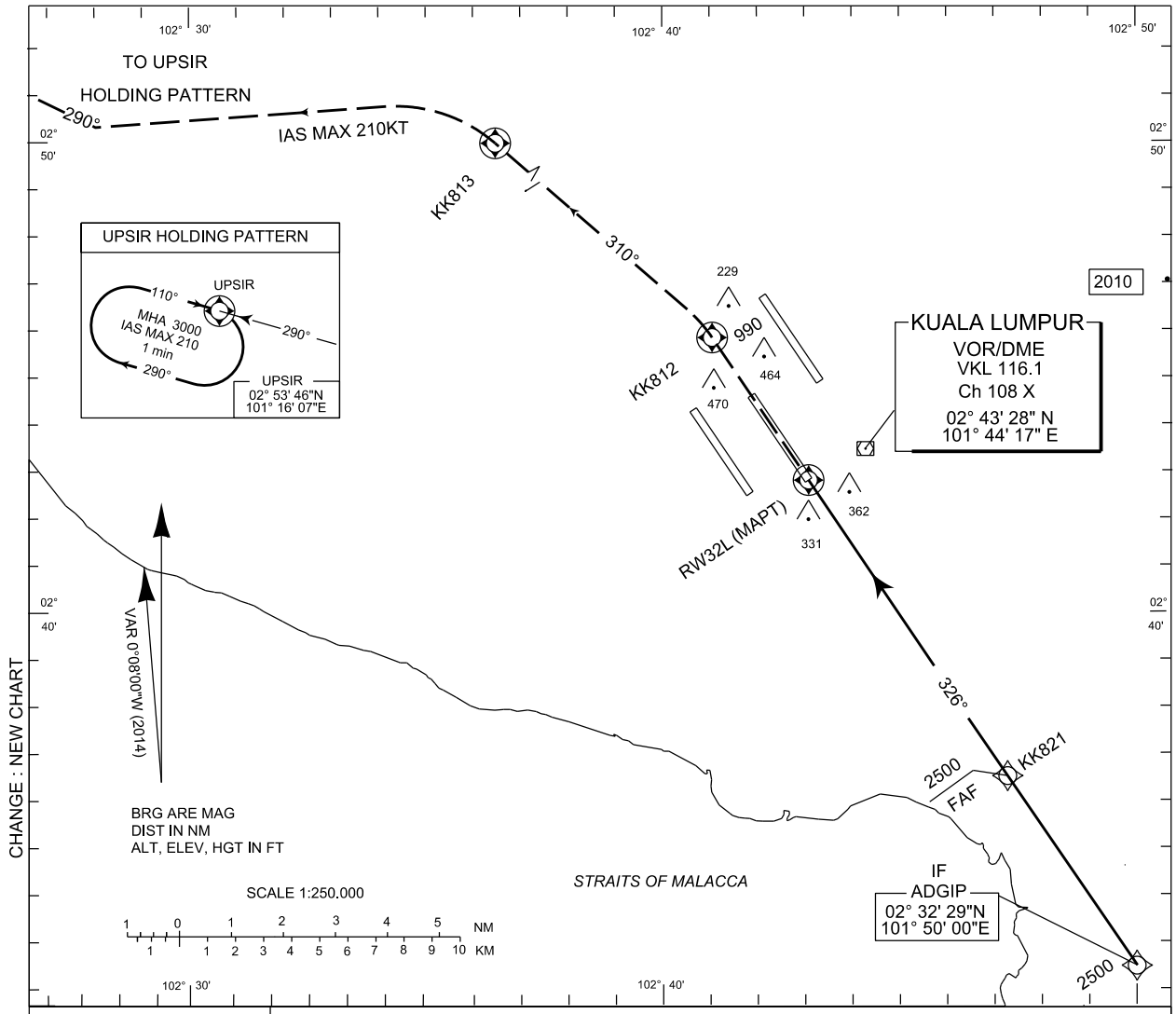
Path Terminator	Fix Identifier (Waypoint Name)	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	LUVON	-	-	-	+4000	180	-	RNAV 1	02°30'56.00"N 101°51'02.29"E
TF	KK811 (FAF)	-	326°	-	+4000	-	-	RNP APCH	02°32'36.11"N 101°49'55.43"E
TF	RWY32L (MAPt)	Y	326°	-	+610	-	-	RNP APCH	02°42'47.87"N 101°43'05.03"E
TF	KK812	Y	326°	-	+990	-	-	RNP APCH	02°45'49.85"N 101°41'03.05"E
TF	KK813	Y	310°	-	+2500	-	-	RNP APCH	02°52'30.55"N 101°33'33.88"E
CF	UPSIR	Y	290°	-	+3000	210	VKL VOR/DME	RNP APCH	02°53'46.32"N 101°16'06.44"E
HM	UPSIR	Y	110°	R	+3000	210	-	RNAV 1	02°53'46.32"N 101°16'06.44"E

INSTRUMENT APPROACH CHART - ICAO

TRANSITION ALT 11000
AD ELEV 70

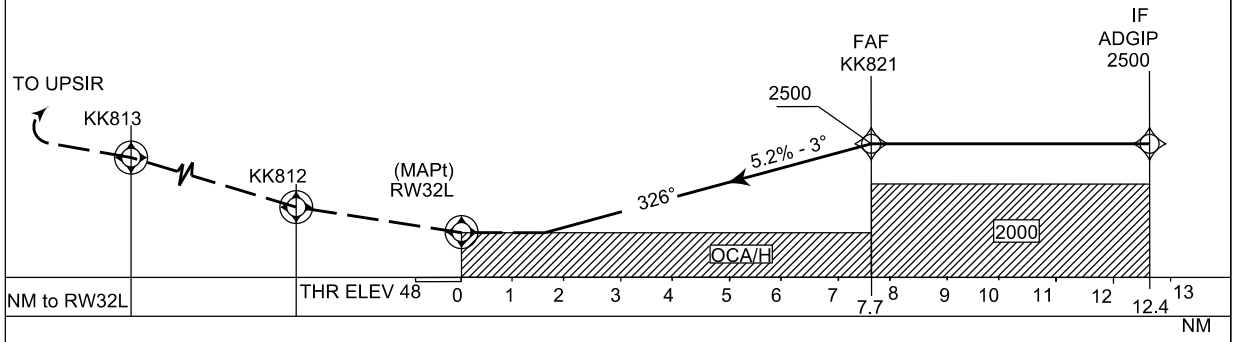
FREQUENCIES			
APP	125.850 119.450 124.650	TWR	118.500
		GND	121.800 122.525
		ATIS	126.250

SEPANG (WMKK)
KL INTERNATIONAL AIRPORT
RNAV-Y (GNSS)
RWY 32L



TRANSITION ALT 11000

MISSED APPROACH: AT RW32L (MAPt) continue on TR 326° climbing to 3000ft. At KK812 turn left to KK813 on TR 310° than turn left IAS MAX 210KTS to UPSIR on TR 290°, bound UPSIR holding pattern (Right turn, inbound TR 110°,IAS MAX 210kts, 1min).



OCA (OCH)		A	B	C	D	DL
STRAIGHT IN APPROACH	LNAV	610(562)				
(✳) CIRCLING		770(700)		1260(1190)		

NM to RW32L	7	6	5	4	3
ALTITUDE (HGT)	2324(2276)	2006(1958)	1688(1640)	1370(1322)	1052(1004)
NM to RW32L	2				
ALTITUDE (HGT)	734(686)				

(✳) CIRCLING NOT PERMITTED EAST OF RWY 32L/14R CENTERLINE, EXCEPT WHEN AUTHORIZED BY ATC

MSA 25 NM
ARP
5300

Sepang/KL International airport

RNAV-Y (GNSS) RWY 32L - Instrument Approach procedure

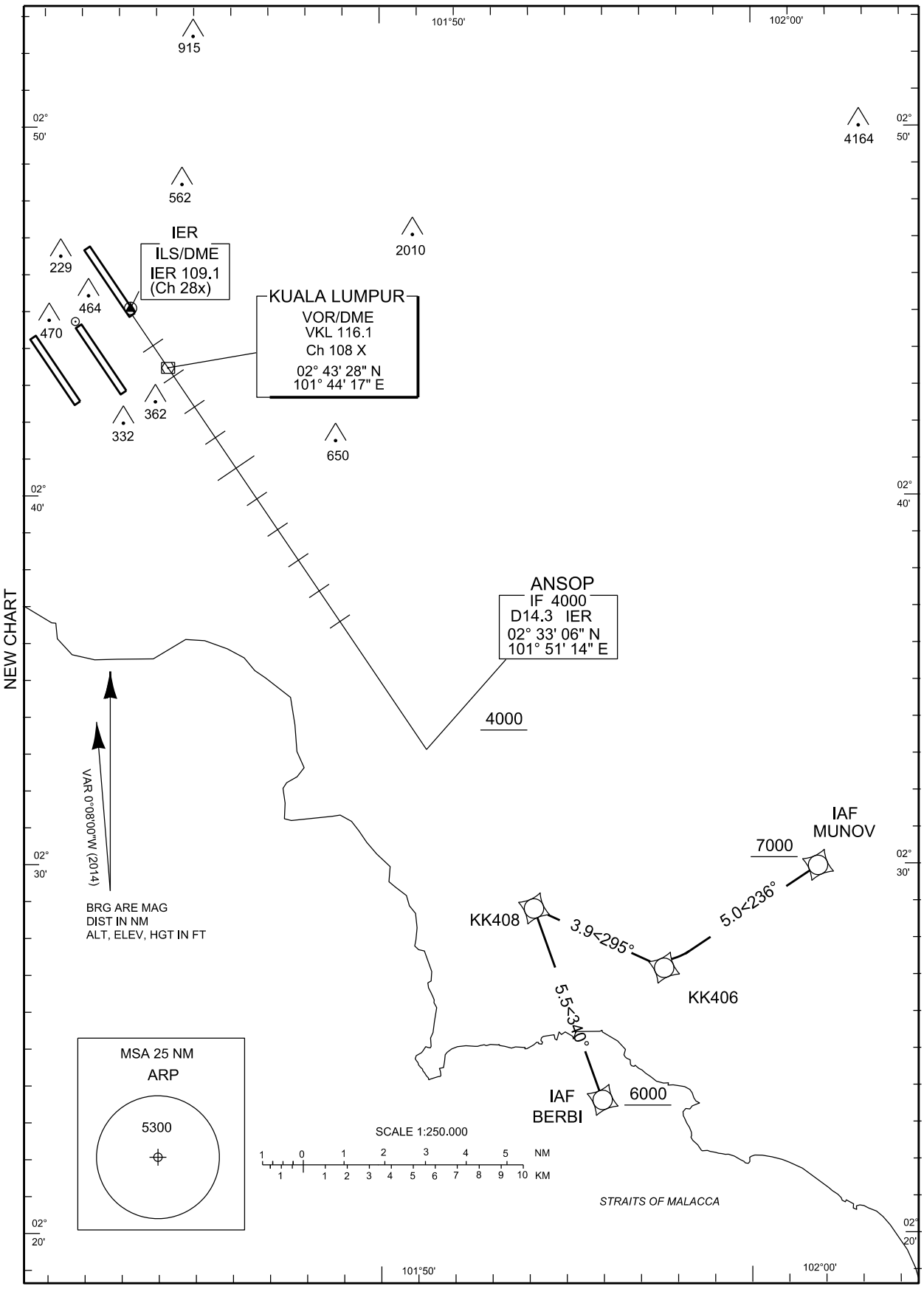
Path Terminator	Fix Identifier (Waypoint Name)	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	ADGIP	-	-	-	+2500	180	-	RNAV 1	02°32’28.69”N 101°50’00.15”E
TF	KK821 (FAF)	-	326°	-	+2500	-	-	RNP APCH	02°36’31.29”N 101°47’17.50”N
TF	RWY32L (MAPt)	Y	326°	-	+610	-	-	RNP APCH	02°42’47.87”N 101°43’05.03”E
TF	KK812	Y	326°	-	+990	-	-	RNP APCH	02°45’49.85”N 101°41’03.05”E
TF	KK813	Y	310°	R	+2500	-	-	RNP APCH	02°52’30.55”N 101°33’33.88”E
CF	UPSIR	Y	290°	-	+3000	210	VKL VOR/DME	RNP APCH	02°53’46.32”N 101°16’06.44”E
HM	UPSIR	Y	110°	R	+3000	210	-	RNAV 1	02°53’46.32”N 101°16’06.44”E

INSTRUMENT APPROACH CHART - ICAO

TRANSITION ALT 11000
AD ELEV 70

FREQUENCIES			
APP	121.250 135.750 120.350	TWR	118.500
		GND	121.650
		ATIS	126.250

SEPANG (WMKK)
KL INTERNATIONAL AIRPORT
RNAV1 (GNSS)
RWY 32R
ILS
Initial Approach Segments



Sepang/KL International airport

Initial Approach Segments ILS RWY 32R - RNAV1 (GNSS)

Initial Approach Segment from MUNOV

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	MUNOV	-	-	-	+7000	210	-	RNAV 1	02°29'57.02"N 102°01'46.90"E
TF	KK406	-	236°	-	+6000	-	-	RNAV 1	02°27'10.17"N 101°57'37.60"E
TF	KK408	-	295°	-	+5000	-	-	RNAV 1	02°28'47.09"N 101°54'07.30"E
TF	ANSOP	-	326°	-	+4000	180	-	RNAV 1	02°33'06.00"N 101°51'14.00"E

Initial Approach Segment from BERBI

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	BERBI	-	-	-	+6000	210	-	RNAV 1	02°23'35.44"N 101°55'57.71"E
TF	KK408	-	340°	-	+5000	-	-	RNAV 1	02°28'47.09"N 101°54'07.30"E
TF	ANSOP	-	326°	-	+4000	180	-	RNAV 1	02°33'06.00"N 101°51'14.00"E

FAP ILS RWY 32R Data

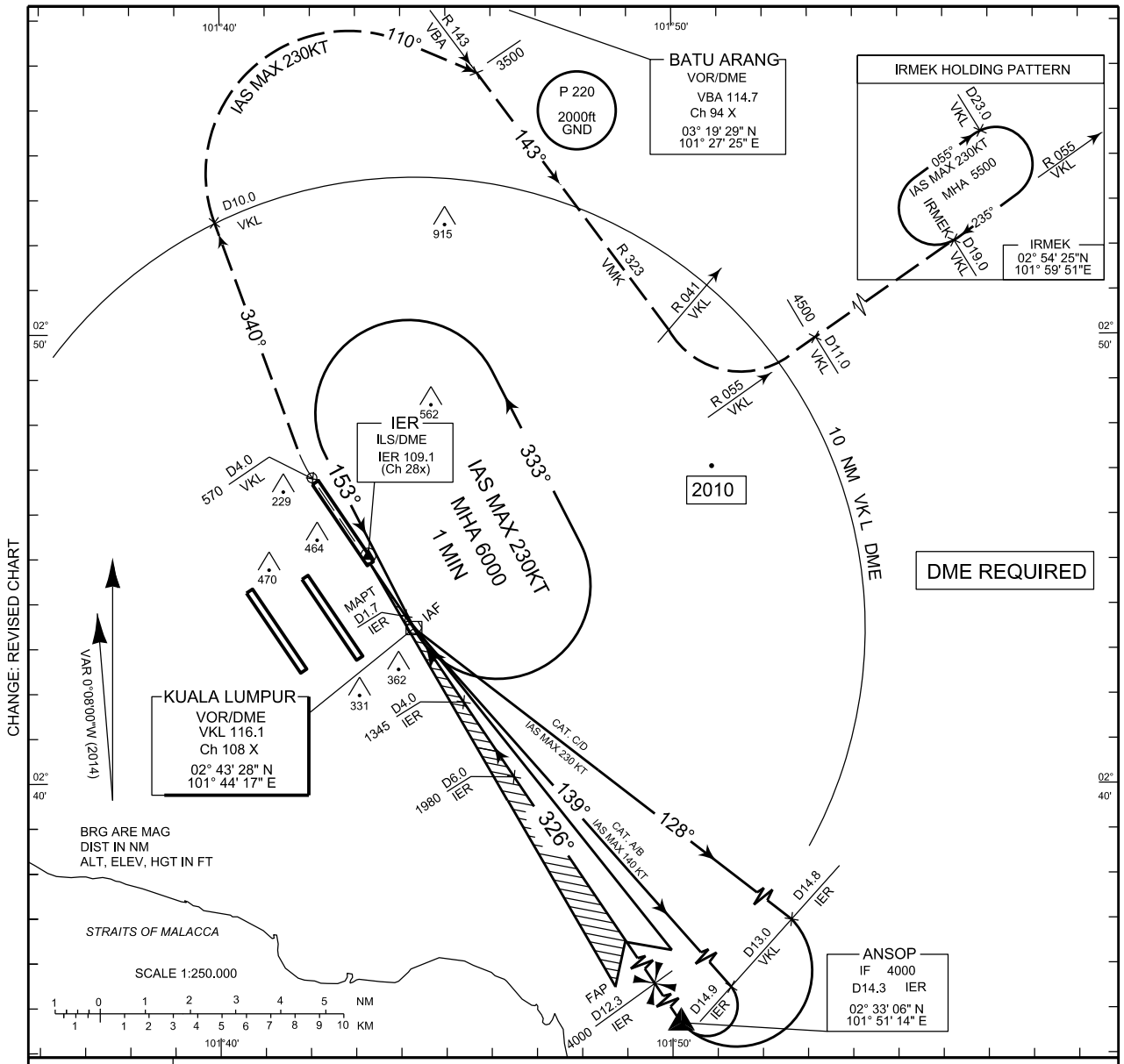
	Altitude	Coordinates
FAP 32R	4000	02°34'46.6434"N 101°50'07.5677"E

INSTRUMENT APPROACH CHART - ICAO

TRANSITION ALT 11000
AD ELEV 70

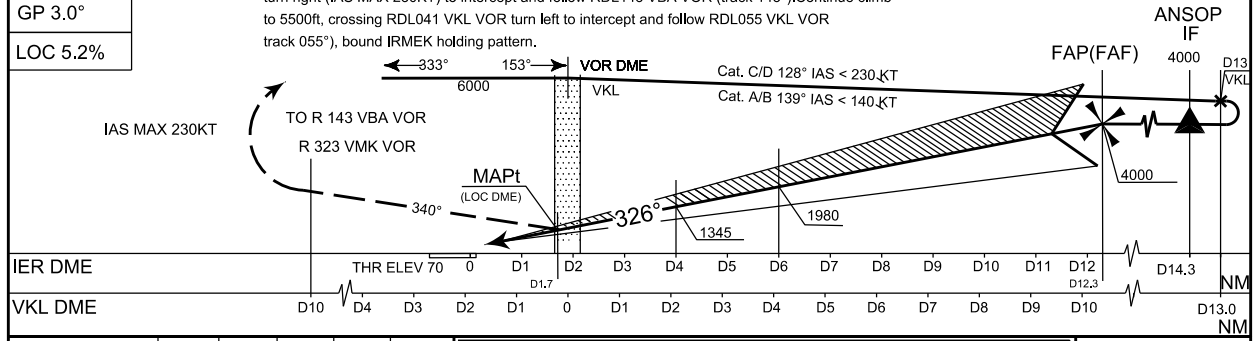
FREQUENCIES			
APP	121.250 135.750 120.350	TWR	118.800
		GND	121.650
		ATIS	126.250

SEPANG (WMKK)
KL INTERNATIONAL AIRPORT
RWY 32R
ILS or LOC



ILS RDH 56FT
GP 3.0°
LOC 5.2%

MISSED APPROACH: Proceed on track 326°, climbing to 3500ft. At D4 VKL DME turn right TR 340°. At D10 VKL DME turn right (IAS MAX 230KT) to intercept and follow RDL143 VBA VOR (track 143°).Continue climb to 5500ft, crossing RDL041 VKL VOR turn left to intercept and follow RDL055 VKL VOR track 055°), bound IRMEK holding pattern.

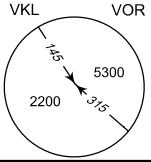


OCA (OCH)	A	B	C	D	DL
STRAIGHT IN APPROACH — ILS CAT I	309(239)				
STRAIGHT IN APPROACH — LOC	570(500)				
(✕) CIRCLING	770(700)		1260(1190)		

DME DIST				13	12.3
ALTITUDE (HGT)				4000(3930)	4000(3930)
DME DIST	12	11	10	9	8
ALTITUDE (HGT)	3883(3813)	3565(3494)	3246(3176)	2928(2858)	2610(2540)
DME DIST	7	5	3	2	1
ALTITUDE (HGT)	2292(2222)	1656(1586)	1020(950)	702(632)	384(314)

(✕) CIRCLING NOT PERMITTED WEST OF RWY 32R/14L CENTERLINE, EXCEPT WHEN AUTHORIZED BY ATC

MNM SECT ALT



Sepang/KL International airport

ILS or LOC RWY 32R

Aeronautical Data Tabulation

FIX / POINT	Coordinates (WGS 84)
VKL VOR/DME (IAF)	02°43'28.00"N 101°44'17.00"E
RDL 128/D13.0 VKL VOR/DME	02°35'25.20"N 101°54'31.40"E
RDL 139/D13.0 VKL VOR/DME	02°33'36.20"N 101°52'48.50"E
ANSOP (IF) D14.3 IER DME	02°33'06.00"N 101°51'14.00"E
FAP/FAF D12.3 IER DME	02°34'46.60"N 101°50'07.60"E
MAPt D1.7 IER DME	02°43'37.80"N 101°44'10.50"E
INT TR 326°/D4.0 VKL DME	02°40'07.90"N 101°46'31.30"E
INT RDL 143° VBA VOR/RDL 041 VKL VOR	02°49'44.20"N 101°49'42.60"E
RDL 055/D11.0 VKL VOR/DME	02°49'48.20"N 101°53'17.50"E
IRMEK (MAHF) RDL 055/D19.0 VKL VOR/DME	02°54'25.00"N 101°59'51.00"E

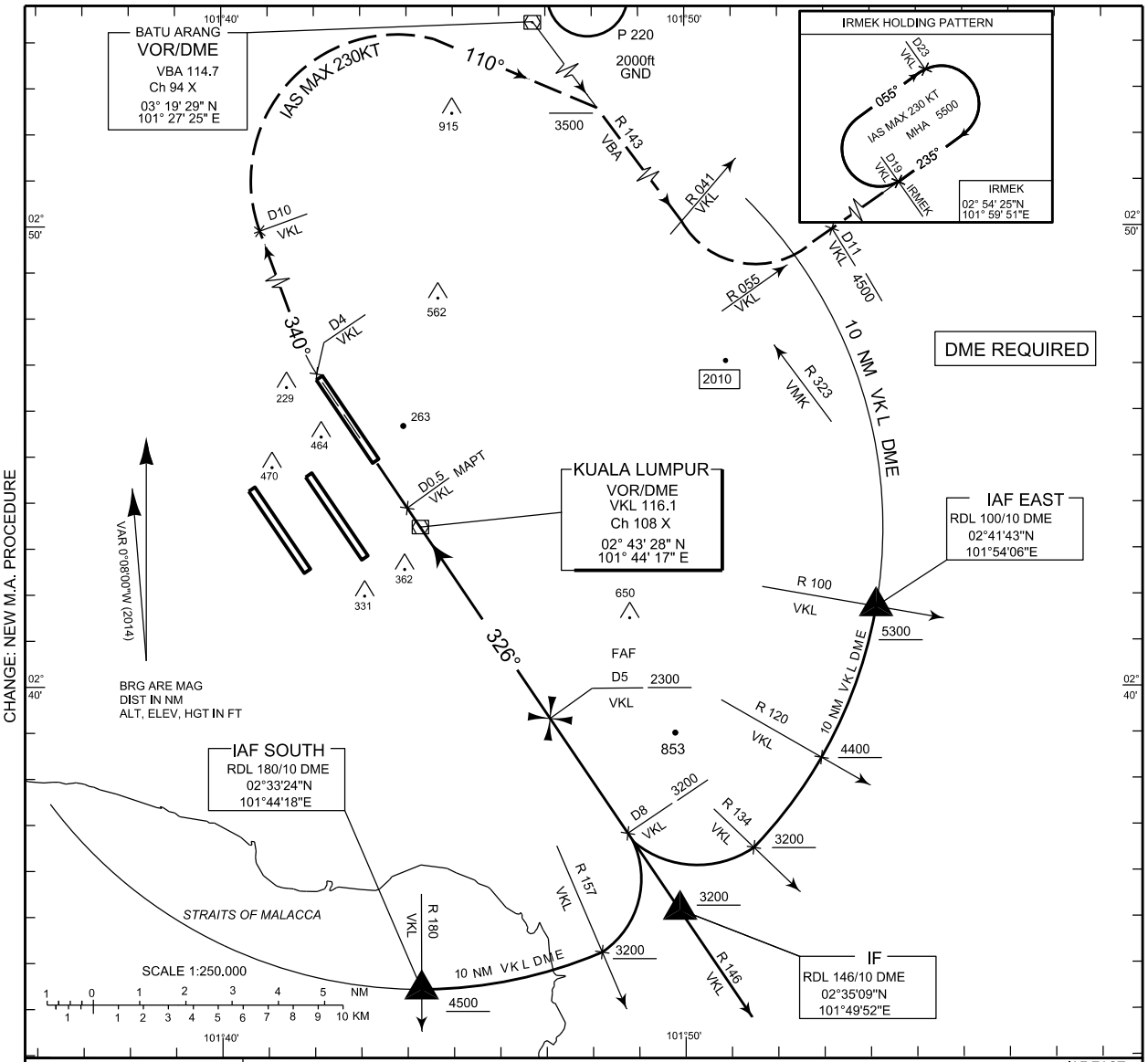
INSTRUMENT APPROACH CHART - ICAO

TRANSITION ALT 11000
AD ELEV 70

FREQUENCIES			
APP	121.250	TWR	118.800
	125.850		
	135.750	GND	121.650
	119.450		
	120.350	ATIS	126.250

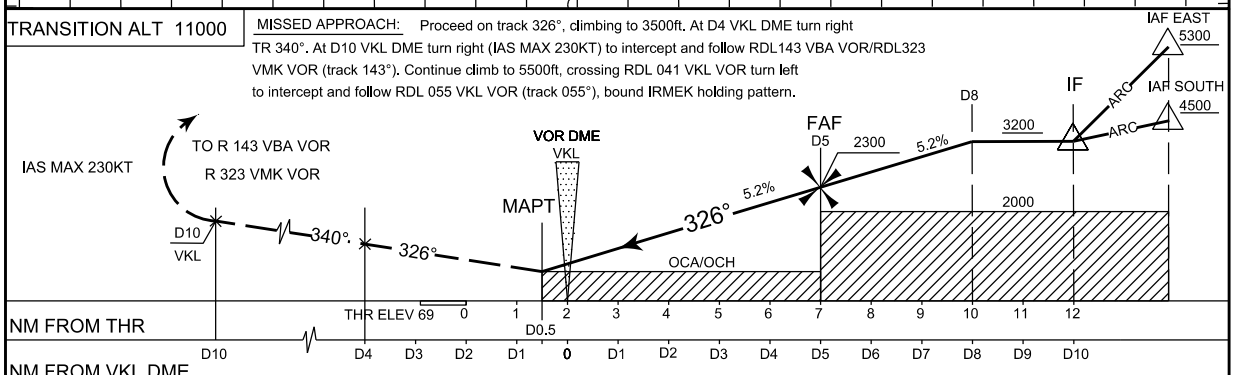
SEPANG (WMKK)
KL INTERNATIONAL AIRPORT
RWY 32R
VOR

CHANGE: NEW M.A. PROCEDURE



TRANSITION ALT 11000

MISSED APPROACH: Proceed on track 326°, climbing to 3500ft. At D4 VKL DME turn right TR 340°. At D10 VKL DME turn right (IAS MAX 230KT) to intercept and follow RDL143 VBA VOR/RDL323 VMK VOR (track 143°). Continue climb to 5500ft, crossing RDL 041 VKL VOR turn left to intercept and follow RDL 055 VKL VOR (track 055°), bound IRMEK holding pattern.



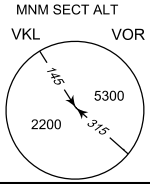
OCA (OCH)				
AIRCRAFT CATEGORY	A	B	C	D
STRAIGHT IN APPROACH — VOR	610(541)			
(✳) CIRCLING	770(700)		1260(1190)	

(✳) CIRCLING NOT PERMITTED WEST OF RWY 14L/32R CENTERLINE,EXCEPT WHEN AUTHORIZED BY ATC

ALTITUDE (FT)	3200	2900	2600	2300	1900	1600	1300	1000	660	610
DME VKL(NM)	8	7	6	5	4	3	2	1	0	0.5

GS (KT)	80	110	140	170	200
FAF-6.7NM (MIN:SEC)	7:17	5:18	4:10	3:25	2:55
RATE OF DESC. 5.2% (FT/MIN)	420	580	740	900	1050

MNM SECT ALT

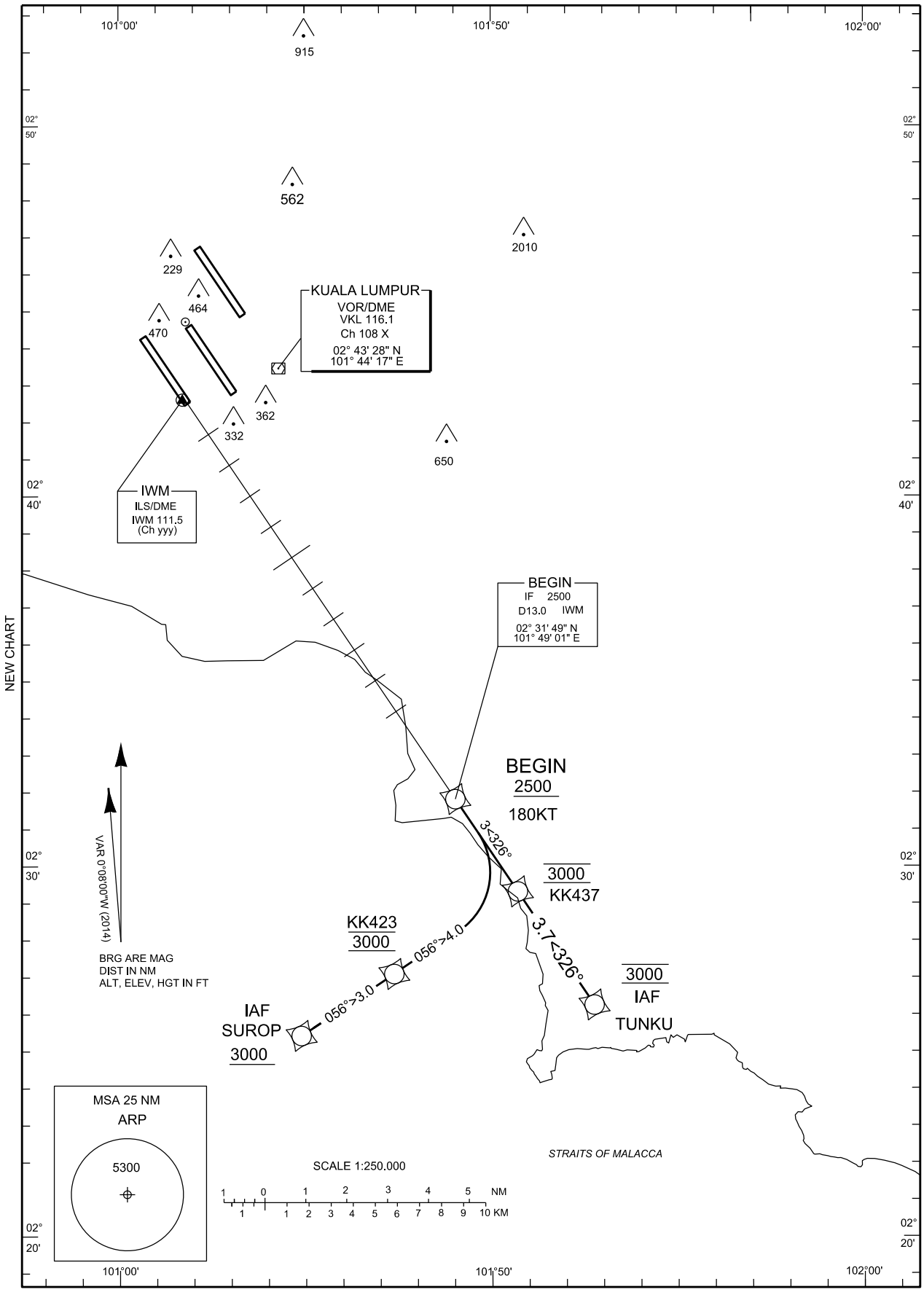


INSTRUMENT
APPROACH
CHART - ICAO

TRANSITION ALT 11000
AD ELEV 70

FREQUENCIES			
APP	125.850 119.450 125.100	TWR	119.800
		GND	118.050
		ATIS	126.250

SEPANG (WMKK)
KL INTERNATIONAL AIRPORT
RNAV1 (GNSS)
RWY 33
ILS/RNAV
Initial Approach Segments



Sepang/KL International airport

Initial Approach Segments ILS / RNAV RWY 33 - RNAV1 (GNSS)

Initial Approach Segment from TUNKU

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	TUNKU	-	-	-	@3000	210	-	RNAV 1	02°26'15.62"N 101°52'44.62"E
TF	KK437	-	326°	-	@3000	-	-	RNAV 1	02°29'19.24"N 101°50'41.47"E
TF	BEGIN	-	326°	-	@2500	180	-	RNAV 1	02°31'49.06"N 101°49'00.96"E

Initial Approach Segment from SUROP

Path Terminator	Waypoint Identifier	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	SUROP	-	-	-	+3000	210	-	RNAV 1	02°25'25.58"N 101°44'52.47"E
TF	KK423	-	056°	-	@3000	-	-	RNAV 1	02°27'05.71"N 101°47'22.02"E
TF	KK437	-	056°	-	@3000	-	-	RNAV 1	02°29'19.24"N 101°50'41.47"E
TF	BEGIN	-	326°	-	@2500	180	-	RNAV 1	02°31'49.06"N 101°49'00.96"E

FAP ILS RWY 33 Data

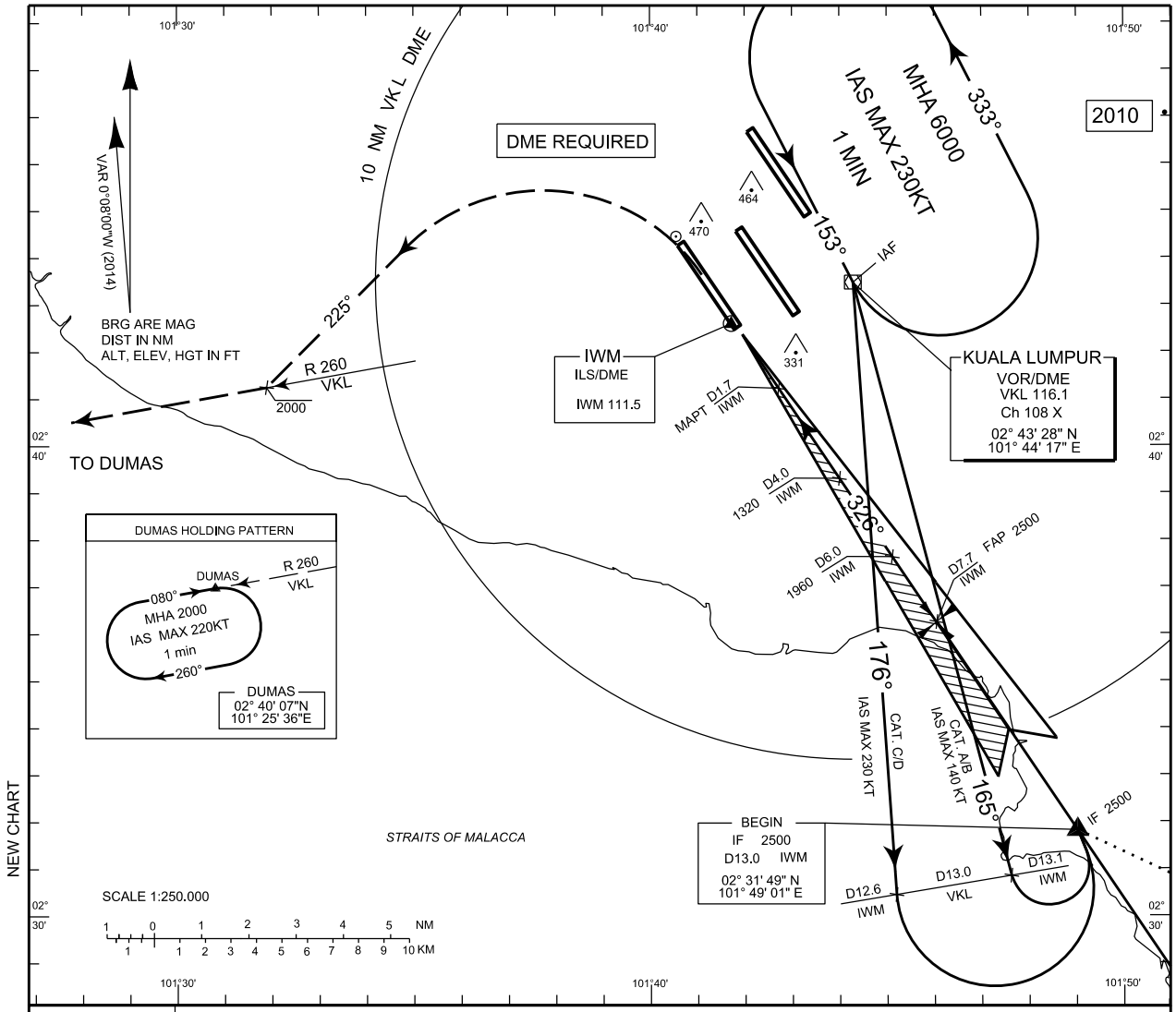
	Altitude	Coordinates
FAP 33	2500	02°36'14.7324"N 101°46'02.7866"E

INSTRUMENT APPROACH CHART - ICAO

TRANSITION ALT 11000
AD ELEV 70

FREQUENCIES			
APP	125.850 119.450 125.100	TWR	119.800
		GND	118.050
		ATIS	126.250

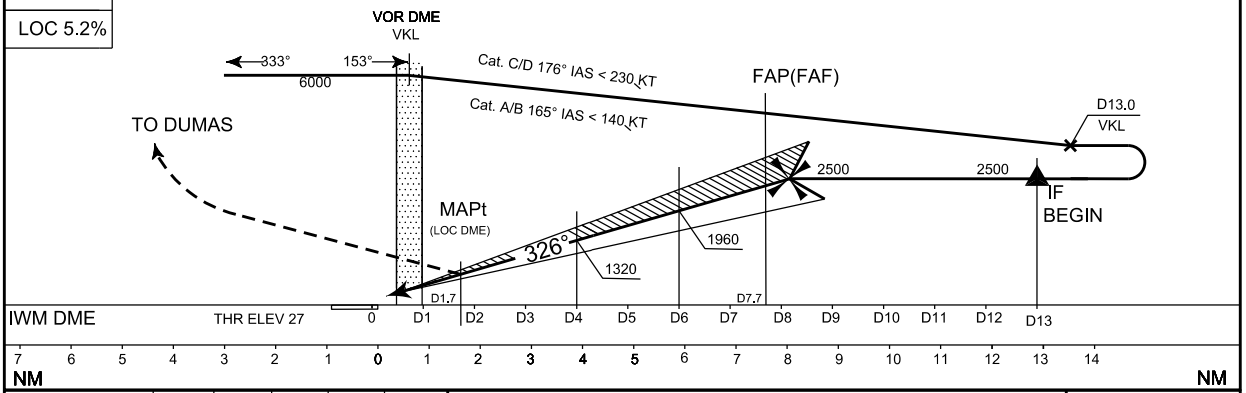
SEPANG (WMKK)
KL INTERNATIONAL AIRPORT
RWY 33
ILS or LOC



NEW CHART

ILS RDH 52FT
GP 3.0°
LOC 5.2%

MISSED APPROACH: Climb initially to 2000ft. As soon as possible turn left (not below 400ft) on TR 225°, to join R260 VKL VOR, than continue climb to 2500ft bound to DUMAS holding pattern.

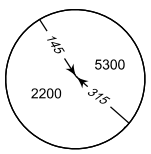


OCA (OCH)		A	B	C	D	DL
STRAIGHT IN APPROACH	ILS CAT I	311(284)				
	LOC	570(550)				
(✕) CIRCLING		770(700)		1260(1190)		

DME DIST	7.7	7	6	5
ALTITUDE (HGT)	2500(2473)	2277(2250)	1960(1933)	1642(1615)
DME DIST	4	3	2	1
ALTITUDE (HGT)	1324(1297)	1006(979)	688(661)	340(313)

(✕) CIRCLING NOT PERMITTED EAST OF RWY 33/15 CENTERLINE, EXCEPT WHEN AUTHORIZED BY ATC

MNM SECT ALT
VKL VOR



Sepang/KL International airport

ILS or LOC RWY 33

Aeronautical Data Tabulation

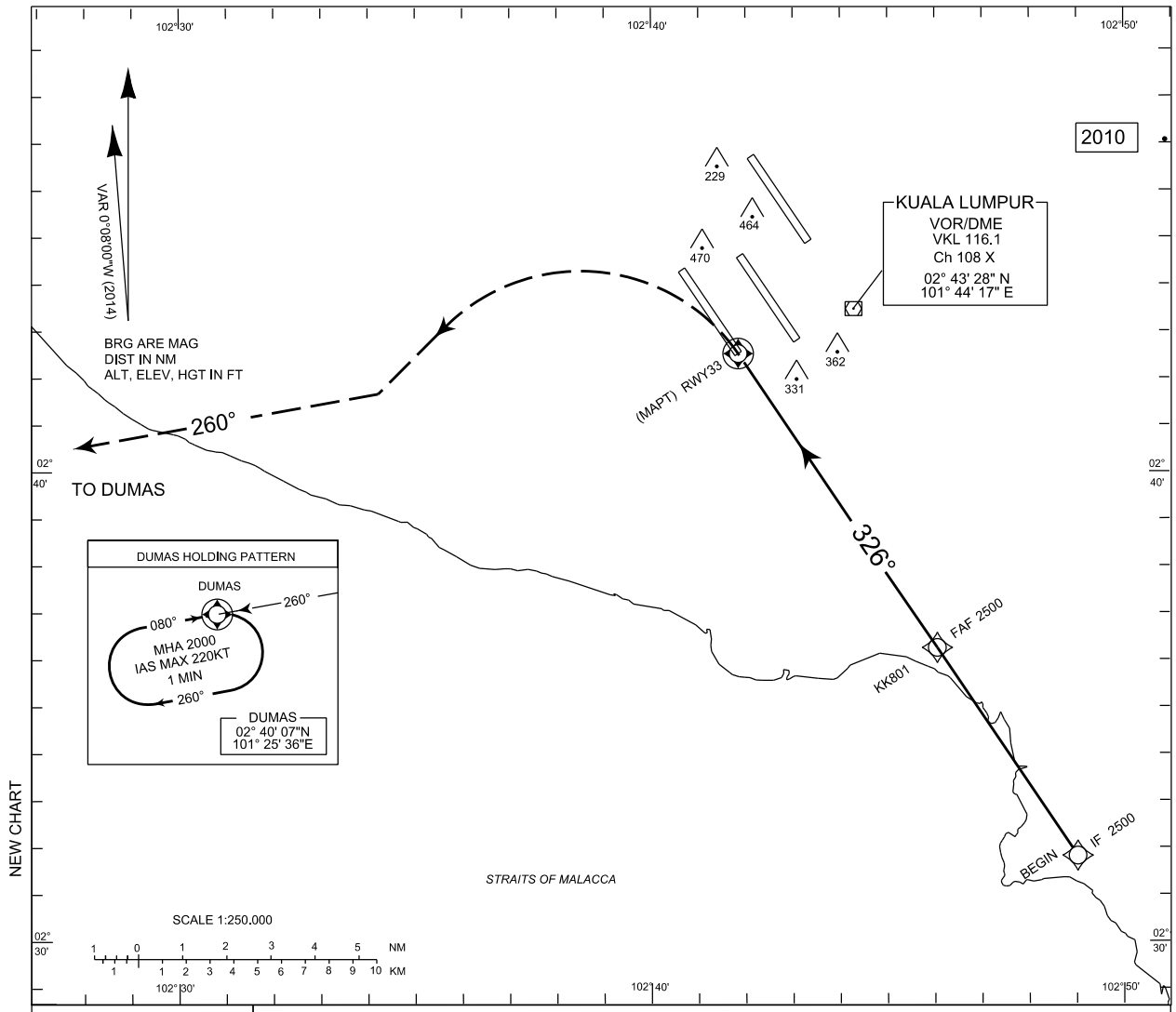
FIX / POINT	Coordinates (WGS 84)
VKL VOR/DME (IAF)	02°43'28.00"N 101°44'17.00"E
RDL176/D13.0 VKL VOR/DME	02°30'25.90"N 101°45'11.60"E
RDL165/D13.0 VKL VOR/DME	02°30'50.70"N 101°47'38.90"E
BEGIN (IF) D13.0 IWM DME	02°31'49.10"N 101°49'01.00"E
FAP/FAF D7.7 IWM DME	02°36'14.70"N 101°46'02.80"E
MAPt D1.7 IWM DME	02°41'12.70"N 101°42'43.00"E
DUMAS (MAHF) RDL260/D19.0 VKL VOR/DME	02°40'07.00"N 101°25'36.00"E

INSTRUMENT APPROACH CHART - ICAO

TRANSITION ALT 11000
AD ELEV 70

FREQUENCIES			
APP	125.850 119.450 125.100	TWR	119.800
		GND	118.050
		ATIS	126.250

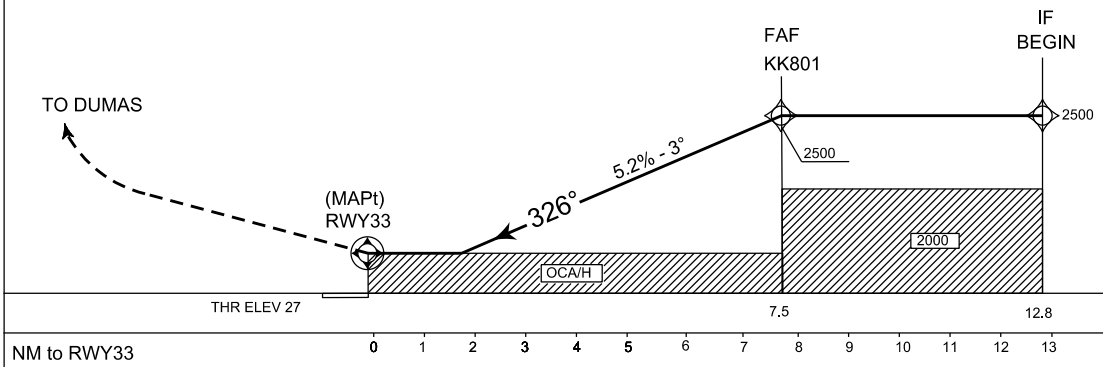
SEPANG (WMKK)
KL INTERNATIONAL AIRPORT
RNAV (GNSS) RWY 33



NEW CHART

TRANSITION ALT 11000

MISSED APPROACH: Climb to 2500ft. AT RWY33 (MAPt) turn left to DUMAS on TR 260°, bound holding pattern.



OCA (OCH)		A	B	C	D	DL
STRAIGHT IN APPROACH	LNAV	500(480)				
(✕) CIRCLING		770(700)		1260(1190)		

NM to RWY33	7.5	7	6	5
ALTITUDE (HGT)	2500(2473)	2338(2311)	2016(1989)	1694(1667)
NM to RWY33	4	3	2	
ALTITUDE (HGT)	1372(1345)	1050(1023)	728(701)	

(✕) CIRCLING NOT PERMITTED EAST OF RWY 33/15 CENTERLINE, EXCEPT WHEN AUTHORIZED BY ATC

MSA 25 NM
ARP
5300

Sepang/KL International airport

RNAV (GNSS) RWY 33 - Instrument Approach procedure

Path Terminator	Fix Identifier (Waypoint Name)	Fly Over	Course/Track °M	Turn Direction	Altitude	Speed Limit (kt)	Recommended Navaid	Navigation Specification	Coordinates
IF	BEGIN	-	-	-	+2500	180	-	RNAV 1	02°31'49.06"N 101°49'00.96"E
TF	KK801 (FAF)	-	326°	-	+2500	-	-	RNP APCH	02°36'14.74"N 101°46'02.80"E
TF	RWY33 (MAPt)	Y	326°	-	+500	-	-	RNP APCH	02°42'30.67"N 101°41'50.65"E
CF	DUMAS	Y	260°	-	+2500	-	VKL VOR/DME	RNP APCH	02°40'07.00"N 101°25'36.00"E
HM	DUMAS	Y	080°	R	+2500	-	-	RNAV 1	02°40'07.00"N 101°25'36.00"E

ENR 1.5 HOLDING, APPROACH AND DEPARTURE PROCEDURES

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2 **ARRIVING AIRCRAFT**

2.2.8 **STAR clearance**

2.2.8.1 STARs shall be issued by ATC in the following order:

a) ARRIVAL Identifier;

b) Runway (for parallel runway operations only);

c) TRANSITION identifier, but only if more than one transition exist for the assigned STAR;

d) Assigned level (if applicable).
Example: *"(C/S...) CLEARED VIA KIDOT ONE PAPA ARRIVAL (when ready {if applicable}) descend to nine thousand feet*".

2.2.8.2 On being issued a STAR, a pilot is required to read back:

a) The ARRIVAL identifier;

b) Specified runway;

c) A TRANSITION *if it has been assigned*;

d) An assigned level.

2.2.8.3 A pilot shall request an alternative approach procedure if cleared via a STAR that requires the use of navigation aids not available on board the aircraft.

2.2.8.4 RNAV 1 requires the use of aircraft equipment having the capability of turn anticipation, so that fly-by way points are flown correctly. Pilots-in-command of aircraft not so equipped shall seek an alternative STAR or arrival instruction.

2.2.8.5 Once a STAR clearance has been issued, it remains valid unless ATC cancels it by use of the phrase "Cancel STAR".

2.2.9 **Vertical restrictions**

2.2.9.1 Vertical restrictions are depicted on each TRANSITION and ARRIVAL.

2.2.9.2 Vertical restrictions are referred to a DME, except where the relative angle between the aircraft track and the DME site is excessive, in which case a crossing radial will be used. Along RNAV 1 STAR and Transitions, vertical restrictions are referred to specific waypoints. The altitude restrictions is depicted on the plan view and reported in the arrival coding tables.

2.2.9.3 Under normal circumtances, the initial vertical restriction depicted on the chart is designed to contain the aircraft in controlled airspace, that is, at or above the minimum flight altitude for the applicable ATS route until the aircraft is established inside the TMA. Subsequent vertical restrictions ensure clearance above terrain, clearance above VFR Routes and, in some cases, clearance above departing aircraft.

2.2.9.4 A pilot shall descend to an ATC assigned level, but shall without exception, adhere to vertical restrictions on the cleared TRANSITION unless the restrictions are specifically cancelled.
Example of phraseology to cancel level restrictions could be:

"(callsign) descend to (altitude) altitude restrictions on the STAR cancelled".
"(callsign) descend to (altitude), altitude restrictions at (point) cancelled".

Note: ATC may clear an arrival to track to an intermediate point along the STAR for track shortening or for traffic resolution. Pilots shall ignore the vertical restrictions of the waypoints that the aircraft will track abeam of, but shall without exception, adhere to the vertical restrictions of the waypoint that the aircraft is tracking to and any subsequent vertical restriction.

2.2.10 **STAR identification**

2.2.10.1 An ARRIVAL is identified by the following items:

a) A basic indicator consisting in the name of the fix at the start of the ARRIVAL route;

b) A validity indicator consisting in a number to identify the current procedure;

c) A route indicator, if required, consisting in a letter of the alphabet;

d) The word ARRIVAL.
Example: "*KIDOT ONE PAPA ARRIVAL".*

2.2.10.2 For parallel runway operations, the expected landingrunway will be nominated.

2.2.10.3 A TRANSITION is identified by the following items:

a) A basic indicator consisting in the name of the fix at the start of the TRANSITION route;

b) A route indicator consisting in a letter of the alphabet , but only when different routes start at the same fix;

c) The word TRANSITION.
Example: "*PULIP BRAVO TRANSITION" (meaning that there are at least two TRANSITION routes starting from the PULIP fix)*.

2.2.10.4 Amendments to an ARRIVAL or a TRANSITION will result in the affected chart being issued with the next number in sequence. Any change on the KIDOT ONE P ARRIVAL chart, for example, would result in the chart being re-issued as KIDOT TWO PAPA ARRIVAL. After NINE, numbers start again at ONE.

Note: *In some cases a particular ARRIVAL will be depicted on more than one chart. In this case, a change on one chart will require the re-issue of more than one chart.*

3 DEPARTING FLIGHTS

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3.1.6 **SID identification and location**

3.1.6.1 SIDs are categorised generally in accordance with the departure runway.

3.1.6.2 A SID is identified by:

a) A basic indicator consisting in the name of the fix joining the departure procedure to the ATS route;

b) A validity indicator consisting in a number to identify the current procedure;

c) A route indicator, consisting in a letter of the alphabet;

d) The word DEPARTURE.

Example: "*KIMAT ONE CHARLIE DEPARTURE"; or, following the first amendment "KIMAT TWO CHARLIE DEPARTURE*".

3.1.7 **SID Clearence and Procedures**

3.1.7.1 Under normal circumtances a SID will form a part of the airways clearance issued to pilots pre-departure. The airways clearance in such cases will be issued in the following order:

a) CLEARED TO (destination/route/clearance limit)

b) Level

c) SID identifier followed by the word DEPARTURE;

d) SQUAWK CODE (.....)

e) Other instructions.

Example: "*(c/s...)....Cleared to Hong Kong ROMEO 208, Flight planned route, cruise flight level 330, PIBOS ONE CHARLIE departure, squawk code 3216*"

3.1.7.2 The pilot shall include the SID identifier in the standard airways clearance readback.

3.1.7.3 A pilot shall request an alternative departure procedure if cleared via a SID that requires the use of navigation aids not available on board the aircraft.

3.1.7.4 A SID is cancelled by the phrase "CANCEL SID". ATC will then issue alternative departure instructions.

3.1.7.5 An amended SID may be issued by ATC any time up until an aircraft commences pushback. After taxi, SIDs may be cancelled, but not amended except for extenuating circumtances. In the case of an amended SID being issued after taxi, a pilot is entitled to refuse the new SID and request alternative departure instructions. Alternative instructions could include a radar departure, or a visual departure onto track in VMC by day.

3.1.7.6 Once an aircraft is airborne, a SID shall not be cancelled by ATC until the aircraft reaches the minimum radar vectoring altitude in a radar enviroment, or the higher of the MSA or ATS route minimum flight level in a non radar environment.

3.1.7.7 Cancellation of a SID is a prerequisite for radar vectoring. On completion of radar vectoring an aircraft shall not be recleared to intercept a SID; rather, ATC shall issue positive tracking instructions for the aircraft to intercept its cleared ATS route.

3.1.7.8 On first contact with Approach after becoming airborne a pilot shall advise the SID identifier, the last level vacated to the nearest 100ft and the assigned level.
Example: *"Lumpur Approach...(c/s)... PIBOS ONE CHARLIEdeparture, leaving one thousand seven hundred feet, CLIMBING TO altitude....."*

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ENR 1.6 RADAR SERVICES AND PROCEDURES

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2.6 **KL International Airport, Sepang**

2.6.1 If total radio communication failure occurs to an aircraft bound for the Kuala Lumpur International Airport, before being given and acknowledged a specific STAR, the pilot-in-command shall:

a) Transmit blind position reports and intentions if the aircraft's transmitter is presumed seviceable;

b) Proceed via current flight plan route or as cleared by ATC to VKL maintaining the last assigned flight level;

c) Commence descent in the VKL hold (inbound track 320° right turn) at, or as close as possible to, the EAT last received and acknowledged or, if no EAT has been received and acknowledged, at or as close as possible to the ETA over VKL calculated from the current flight plan;

d) Carry out ILS or LOC Approach procedure for KLIA runway 14L;

e) land on runway 14L, if possible, within 30 minutes of the ETA calculated in c), or the last ETA acknowledged whichever is the later;

f) if a landing on runway 14L is not possible due to aerodrome wind conditions, the pilot-in-command shall:

i) in **VMC**, go around, join right hand downwind runway 32R for a visual approach RWY 32R;

ii) in **IMC**, go around, climb to 6000 feet on runway heading, return to VKL thence carry out ILS or LOC approach procedure runway 32R

g) If runway 14L/32R is **not available,** ATC will switch the **runway and approach lights on and off repeatedly** to warn the pilot-in-command. The pilot-in-command shall:

i) in **VMC,** go around, join right hand downwind for visual approach runway 32L;

ii) in **IMC,** go around, climb to 6000 feet on runway heading, return to VKL thence then carry out ILS or LOC approach procedure for runway 32L.

2.6.2 If total radio communication failure occurs to an aircraft bound for the Kuala Lumpur International Airport, after having been given and acknowledged a specific STAR, the pilot-in-command shall follow the STAR and land on the assigned RWY.

2.11 **PROCEDURES TO BE ADOPTED IN THE EVENT OF FAILURE OF KUALA LUMPUR VOR/DME (VKL)**

2.11.1 Runway operations at KLIA will be confined to either segregated operations or single runway operations only.

2.11.2 Aircraft with RNAV capabilities may still be used SIDs and STARs. RNAV aircraft tracking on SIDs and STARs will be radar monitored by ATC and routed as follows:

a) Inbound aircraft to KL International Airport or Sultan Abdul Aziz Shah Airport, Subang may be cleared via the ATS routes and STARs;

b) Outbound aircraft from KL International Airport or Sultan Abdul Aziz Shah Airport, Subang, may be cleared via SIDs to the ATS routes.

2.11.3 Aircraft, which do not have RNAV capabilities, will have their SIDs and STARs terminated and ATC will, as appropriate, clear aircraft as follows:

a) Arriving aircraft:

i) Aircraft already assigned STARs will have their STARs cancelled, and will be radar vectored to final approach. Aircraft may be cleared to use KIKAL THREE Arrival and LAPIR THREE Arrival procedures;

ii) Aircraft not yet issued with a STAR will be radar vectored to final approach;

iii) Aircraft will be cleared by ATS routes. Pilots-in-command shall use available alternate radio navigation aids. ATC will provide radar surveillance and assistance to the pilot-in-command to maintain the correct track.

b) Departing aircraft:

i) Aircraft already established on SIDs will be radar vectored to intercept the outbound ATS routes;

ii) Aircraft that have been issued with SIDs, but have not departed as yet will have their SIDs cancelled;

iii) Published Radar Departure procedures shall be used;

iv) In case of aircraft departing from a runway for which radar departures have not been published, it will be issued with radar departure instructions that will require:

1. Pilots to maintain runway heading; and

2. ATC to vector the aircraft to intercept the ATS route when the aircraft has climbed above the Minimum Safe Altitude shown on the Radar Vectoring Area Chart.