VTUL AD 2.1 AERODROME LOCATION INDICATOR AND NAME

VTUL - LOEI / LOEI AIRPORT

VTUL AD 2.2 AERODROME GEOGRAPHICAL AND ADMINISTRATIVE DATA

1	ARP coordinates and site at AD	172620.88N 1014319.43E
2	Direction and distance from (city)	5 KM, from city
3	Elevation/Reference temperature	860 FT/30°C
4	Geoid Undulation at AD ELEV PSN	NIL
5	MAG VAR/Annual change	0.82°W (2016)/0.0°E
6	AD Administration, address, telephone, telefax, telex, AFS	Director of Loei Airport Loei Airport Loei Province 42000 Thailand Tel: +664 281 2654 +664 281 1521 Fax: +664 281 2654 AFS: VTULYDYX
7	Types of traffic permitted (IFR/VFR)	IFR/VFR
8	Remarks	Operator: Department of Airports

VTUL AD 2.3 OPERATIONAL HOURS

1	Aerodrome Operator	2300-1100
2	Customs and immigration	NIL
3	Health and sanitation	NIL
4	AIS Briefing Office	NIL
5	ATS Reporting Office (ARO)	2300-1100
6	MET Briefing Office	NIL
7	ATS	2300-1100
8	Fuelling	NIL
9	Handling	NIL
10	Security	NIL
11	De-icing	NIL
12	Remarks	ATS Reporting Office (ARO): Located at Udon Thani Air Traffic Control Centre (1st floor of tower building) Tel: +664 223 0124 +669 2262 3477 Fax: +664 224 2797

VTUL AD 2.4 HANDLING SERVICES AND FACILITIES

1	Cargo-handling facilities	NIL
2	Fuel/oil types	NIL
3	Fuelling facilities/capacity	NIL
4	De-icing facilities	NIL
5	Hangar space for visiting aircraft	NIL
6	Repair facilities for visiting aircraft	NIL
7	Remarks	NIL

VTUL AD 2.5 PASSENGER FACILITIES

1	Hotels	In the city
2	Restaurants	In the city
3	Transportation	NIL
4	Medical facilities	NIL
5	Bank and Post Office	NIL
6	Tourist Office	NIL
7	Remarks	NIL

VTUL AD 2.6 RESCUE AND FIRE FIGHTING SERVICES

1	AD category for fire fighting	Category 6
2	Rescue equipment	Yes
3	Capability for removal of disabled aircraft	NIL
4	Remarks	NIL

VTUL AD 2.7 SEASONAL AVAILABILITY - CLEARING

1	Types of clearing equipment	NIL
2	Clearance priorities	NIL
3	Remarks	The aerodrome is available all seasons.

VTUL AD 2.8 APRONS, TAXIWAYS AND CHECK LOCATIONS/POSITIONS DATA

1	Apron surface and strength	Surface: Concrete Strength: PCN 45/R/C/X/T
2	Taxiway width, surface and strength	Width: 23 M Surface: Asphaltic concrete Strength: PCN 42/F/C/X/T
3	Altimeter checkpoint location and elevation	Location: At apron Elevation: 854 FT (260.36 M)
4	VOR checkpoints	NIL
5	INS checkpoints	NIL
6	Remarks	NIL

VTUL AD 2.9 SURFACE MOVEMENT GUIDANCE AND CONTROL SYSTEM AND MARKINGS

1	Use of aircraft stand ID signs, TWY guide lines and visual docking/parking guidance system of aircraft stands	Aircraft stand ID signs: Marked TWY guide lines: Yes VDGS of aircraft stands: NIL, aircraft parking shall follow marshaller strictly.
2	RWY and TWY markings and LGT	RWY marking: RWY Designation, THR, TDZ, RCL, Aiming Point and Side Stripe RWY LGT: THR, RWY Edge and RWY End TWY marking: TWY CL, TWY Edge and RWY Holding Position TWY LGT: TWY Edge
3	Stop bars	NIL
4	Remarks	NIL

VTUL AD 2.10 AERODROME OBSTACLES

In approach/TKOF areas			In circling areas and at AD		Remarks
1			2		3
RWY/Area affected	**Obstacle type Elevation Markings/LGT**	**Coordinates**	**Obstacle type Elevation Markings/LGT**	**Coordinates**	
a	**b**	**c**	**a**	**b**	
RWY 19 / APCH area RWY 01 / TKOF area	NDB 895 FT (272.70 M) Painted red/white LGTD	172656.04N 1014336.15E	AWOS 842 FT (256.55 M) Painted red/white LGTD	172558.51N 1014315.27E	NIL
	Billboard 887 FT (270.50 M) NIL / NIL	172722.12N 1014345.43E	AWOS 839 FT (255.78 M) Painted red/white LGTD	172558.70N 1014315.31E	
	Radio mast 953 FT (290.62 M) Painted red/white LGTD	172711.03N 1014345.85E	NDB 895 FT (272.90 M) Painted red/white LGTD	172654.08N 1014334.85E	
	Radio mast 950 FT (289.49 M) Painted red/white LGTD	172749.59N 1014342.73E	Water tank 908 FT (276.88 M) Painted red/white LGTD	172646.66N 1014338.31E	
	Telecommunication mast 951 FT (289.76 M) Painted red/white LGTD	172749.95N 1014340.24E	Radio mast 1,011 FT (308.23 M) Painted red/white LGTD	172605.39N 1014336.40E	
	Telecommunication mast 959 FT (292.32 M) Painted red/white LGTD	172749.16N 1014342.65E	Radio mast 978 FT (298.02 M) Painted red/white LGTD	172611.09N 1014338.99E	
			Radio mast 901 FT (274.57 M) NIL / NIL	172643.69N 1014336.74E	
			Radio mast 1,174 FT (357.92 M) Painted red/white LGTD	172831.80N 1014323.91E	

In approach/TKOF areas			In circling areas and at AD		Remarks
1			2		3
RWY/Area affected	Obstacle type Elevation Markings/LGT	Coordinates	Obstacle type Elevation Markings/LGT	Coordinates	
a	b	c	a	b	
			Radio mast 1,229 FT (374.61 M) Painted red/white LGTD	172332.84N 1014417.61E	
			Telecommunication mast 1,002 FT (305.35 M) Painted red/white LGTD	172549.63N 1014339.64E	
			Telecommunication mast 976 FT (297.58 M) NIL / NIL	172551.36N 1014337.45E	
			Telecommunication mast 974 FT (296.89 M) Painted red/white LGTD	172659.38N 1014352.17E	
			Telecommunication mast 1,076 FT (328.07 M) NIL / LGTD	172726.74N 1014221.36E	
			Telecommunication mast 1,026 FT (312.62 M) Painted red/white LGTD	172734.24N 1014216.47E	
			Telecommunication mast 1,046 FT (318.78 M) Painted red/white LGTD	172733.58N 1014233.92E	
			Telecommunication mast 1,077 FT (328.24 M) Painted red/white LGTD	172353.67N 1014412.43E	
			Lightning rod on top of building 918 FT (279.76 M) NIL / NIL	172612.28N 1014326.63E	
			Apron flood light pole 942 FT (287.18 M) NIL / LGTD	172641.80N 1014335.10E	
			Apron flood light pole 941 FT (286.74 M) NIL / LGTD	172643.84N 1014335.75E	
			Apron flood light pole 940 FT (286.40 M) NIL / LGTD	172646.49N 1014336.57E	

In approach/TKOF areas			In circling areas and at AD		Remarks
1			2		3
RWY/Area affected	Obstacle type Elevation Markings/LGT	Coordinates	Obstacle type Elevation Markings/LGT	Coordinates	
a	b	c	a	b	
			ATC tower 945 FT (287.90 M) Painted red/white LGTD	172643.51N 1014335.96E	

VTUL AD 2.11 METEOROLOGICAL INFORMATION PROVIDED

1	Associated MET Office	Aeronautical Meteorological Station-Loei, Upper Northeastern Meteorological Center, Thai Meteorological Department (TMD)
2	Hours of service MET Office outside hours	2200-1200 NIL
3	Office responsible for TAF preparation Periods of validity	Supply TAF from Upper Northeastern Meteorological Center 24 HR
4	Type of landing forecast Interval of issuance	TREND 1 HR
5	Briefing/consultation provided	Personal Consultation Tel: +664 281 4639 ext. 6715
6	Flight documentation Language(s) used	NIL
7	Charts and other information available for briefing or consultation	S, U85, Daily Weather Forecast, satellite and radar images
8	Supplementary equipment available for providing information	Automated Weather Observation System (AWOS)
9	ATS units provided with information	Loei TWR
10	Additional information (limitation of service, etc.)	NIL

VTUL AD 2.12 RUNWAY PHYSICAL CHARACTERISTICS

Designations RWY NR	TRUE BRG	Dimensions of RWY(M)	Strength (PCN) and surface of RWY and SWY	THR coordinates RWY end coordinates THR geoid undulation	THR elevation and highest elevation of TDZ of precision APP RWY
1	2	3	4	5	6
01	016.47°	2100x45	PCN 42/F/C/X/T Asphaltic concrete	172548.12N 1014309.10E	THR 817 FT
19	196.47°	2100x45	PCN 42/F/C/X/T Asphaltic concrete	172653.63N 1014329.77E	THR 860 FT

Slope of RWY-SWY	SWY dimensions (M)	CWY dimensions (M)	Strip dimensions (M)	RESA dimensions (M)	Location & description of arresting system	OFZ	Remarks
7	8	9	10	11	12	13	14
-0.60%	NIL	NIL	2280x280	160x90	NIL	NIL	NIL
-0.90%	60x45	NIL	2280x280	240x90	NIL	NIL	NIL

VTUL AD 2.13 DECLARED DISTANCES

RWY Designator	TORA (M)	TODA (M)	ASDA (M)	LDA (M)	Remarks
1	2	3	4	5	6
01	2100	2100	2100	2100	NIL
19	2100	2100	2160	2100	NIL

VTUL AD 2.14 APPROACH AND RUNWAY LIGHTING

RWY Designator	APCH LGT type LEN INTST	THR LGT colour WBAR	VASIS (MEHT) PAPI	TDZ, LGT LEN	RWY Centre Line LGT Length, spacing, colour, INTST	RWY edge LGT LEN, spacing, colour INTST	RWY End LGT colour WBAR	SWY LGT LEN (M) colour	Remarks
1	2	3	4	5	6	7	8	9	10
01	SALS 420 M LIH	Green NIL	PAPI Left 3° (48.61 FT)	NIL	NIL	2100 M 60 M FM 0 M - 1500 M White, FM 1500 M -2100 M Yellow, 5 steps, LIH	Red NIL	NIL	NIL
19	NIL	Green NIL	PAPI Left 3° (52.65 FT)	NIL	NIL	2100 M 60 M FM 0 M - 1500 M White, FM 1500 M -2100 M Yellow, 5 steps, LIH	Red NIL	60 M Red	RTIL

VTUL AD 2.15 OTHER LIGHTING, SECONDARY POWER SUPPLY

1	ABN/IBN location, characteristics and hours of operation	ABN: At Tower Building FLG W G EV 7 SEC IBN: NIL

2	LDI location and LGT Anemometer location and LGT	LDI: NIL Anemometer: NIL WDI: 1. Wind cone at 300 M from THR 01 off set to the left side 80 M from RCL, illuminated. 2. Wind cone at 300 M from THR 19 off set to the left side 110 M from RCL, illuminated.
3	TWY edge and centre line lighting	TWY edge: All TWY TWY centre line: NIL
4	Secondary power supply/switch-over time	Secondary power supply to all lighting at Airfield Lighting (AFL) building.
5	Remarks	NIL

VTUL AD 2.16 HELICOPTER LANDING AREA

1	Coordinates TLOF or THR of FATO Geoid undulation	NIL
2	TLOF and/or FATO elevation M/FT	NIL
3	TLOF and FATO area dimensions, surface, strength, marking	NIL
4	True and MAG BRG of FATO	NIL
5	Declared distance available	NIL
6	APP and FATO lighting	NIL
7	Remarks	NIL

VTUL AD 2.17 ATS AIRSPACE

1	Designation and lateral limits	A circle of 5 NM radius centred on Loei DVOR/DME (172649.38N 1014323.12E)
2	Vertical limits	2000 FT/AGL
3	Airspace classification	C
4	ATS unit call sign Language(s)	Loei Tower English, Thai
5	Transition altitude	11000 FT
6	Remarks	NIL

VTUL AD 2.18 ATS COMMUNICATION FACILITIES

Service designation	Call sign	Frequency	Hours of operation	Remarks
1	2	3	4	5
APP	Loei Approach	122.55 MHZ 121.5 MHZ[1)]	As AD OPR HR	[1)]Emergency frequency
TWR	Loei Tower	118.35 MHZ 236.6 MHZ 121.5 MHZ[1)]	As AD OPR HR	
ATIS	Loei Airport	126.25 MHZ	As AD OPR HR	

VTUL AD 2.19 RADIO NAVIGATION AND LANDING AIDS

Type of aid, MAG VAR CAT of ILS/MLS (For VOR/ILS/ MLS, give declination)	ID	Frequency	Hours of operation	Position of transmitting antenna coordinates	Elevation of DME transmitting antenna	Remarks
1	2	3	4	5	6	7
NDB	LY	325 KHZ	H24	172655.09N 1014335.41E	NIL	NDB: unusable due to excessive needle swing bearing 255 to 205 degrees, counter clockwise below 8000 FT.
DVOR/DME	LOY	115.9 MHZ CH106X	H24	172649.38N 1014323.12E		DVOR/DME restriction, 1. Unusable due to roughness out of tolerance – Radial 020° between 10-11 DME altitude 3 000 FT – Radial 243° between 7-8 DME altitude 6 000 FT and between 32-33 DME altitude 7 500 FT 2. Due to mountainous terrain surround DVOR/DME station, coverage check does not provide adequate signal to 40 NM at the required altitude in various areas as follows: 2.1 40 NM orbit – Radial 030°-050° altitude should not below 10 000 FT – Radial 051°-100° altitude should not below 7 000 FT – Radial 101°-130° altitude should not below 10 000 FT – Radial 131°-200° altitude should not below 5 000 FT – Radial 201°-250° altitude should not below 12 000 FT – Radial 251°-270° altitude should not below 13 000 FT 2.2 20 NM orbit (Due to border limited) – Radial 271°-029° altitude should not below 4 500 FT

VTUL AD 2.20 LOCAL AERODROME REGULATIONS

1. 180 DEGREE TURN ON THE RUNWAY

To prevent runway pavement damage, all aircraft code letter C or higher are not allowed to make 180 degree turn on the runway. The turn shall be made on the runway turn pad at the end of runway 01 and 19 only. Any breach done by the aircraft operator shall be recorded and reported to The Civil Aviation Authority of Thailand/The Headquarter of that operator shall be liable for the compensation caused by such violation.

VTUL AD 2.21 NOISE ABATEMENT PROCEDURES

NIL

VTUL AD 2.22 FLIGHT PROCEDURES

1. IFR DEPARTURES OTHER THAN VIA SID

IFR departure procedures described below are determined for the purpose of case when an instrument departure via SID is impossible or undesirable.

2. VISUAL DEPARTURES

Visual departures during take-off and initial climb-out are permitted during the daytime and Visual Meteorological Conditions (VMC). ATC clearance to execute a visual departure may be issued upon request of the pilot or upon initiative of the ATC and accepted by the pilot.

To execute a visual departure

- meteorological conditions in the direction of take-off and the following climb-out shall enable visual reference to terrain up to Minimum Sector Altitude (MSA) or Minimum Flight Altitude (MFA) stated in ATC clearance,
- the pilot shall be responsible for obstacle clearance until such specified altitude,
- the pilot prior to take-off shall agree to execute this procedure,
- the ATC clearance shall be readback,

3. OMNIDIRECTIONAL DEPARTURES

Omnidirectional departures during take-off and initial climb-out are permitted during the day and night. ATC clearance to execute an omnidirectional departure may be issued upon request of the pilot or upon initiative of the ATC and accepted by the pilot.

To execute an omnidirectional departure:

- the pilot shall be maintaining a minimum climb gradient up to specific altitude as published shown as below,
- the pilot shall be responsible for adherence to such obtained ATC clearance,
- the pilot prior to take-off shall agree to execute this procedure,
- The ATC clearance shall be readback,

- Runway 01:

LOEI OMNI 01 Departure: Required climb gradient 365 ft per NM (6.0%) until 6,400 ft.

Ground speed	Knot	65	75	100	150	200	250	300
Rate of climb 6.0%	(ft/min)	395	456	608	912	1216	1519	1823

No turn before DER.
After departure climb straight ahead until 3,000 ft (or altitude assigned by ATC between 3,000 ft – 5,700 ft), then comply with ATC clearance issued (or as directed by ATC).

- Runway 19:

LOEI OMNI 19 Departure: Required climb gradient 414 ft per NM (6.8%) until 6,400 ft.

Ground speed	Knot	65	75	100	150	200	250	300
Rate of climb 6.8%	(ft/min)	448	516	689	1033	1377	1722	2066

No turn before DER.
After departure climb straight ahead until 3,000 ft (or altitude assigned by ATC between 3,000 ft – 5,700 ft), then comply with ATC clearance issued (or as directed by ATC).

VTUL AD 2.23 ADDITIONAL INFORMATION

1. BIRD CONCENTRATIONS

1.1 Bird Concentrations in the vicinity of the aerodrome

1.1.1 A number of varieties of birds are found in Loei Airport mostly during the rainy season (May to October) and the winter season (November to February), the very small to moderate medium birds commonly found in Loei Airport include the following:

- Hirundo rustica weighting: 0.07-0.2 KG Period: November-February

(2300-0300 UTC)

- Vanellus indicus weighting: 0.2-0.5 KG Period: May to October

1.1.2 There could be some activities to reduce birds and make the area unattractive for birds such as devices generating sound, mowing the grass and other plants.

VTUL AD 2.24 CHARTS RELATED TO AN AERODROME

AERODROME CHART - ICAO

17 26 20.88 N
101 43 19.43 E

ELEV 860 FT

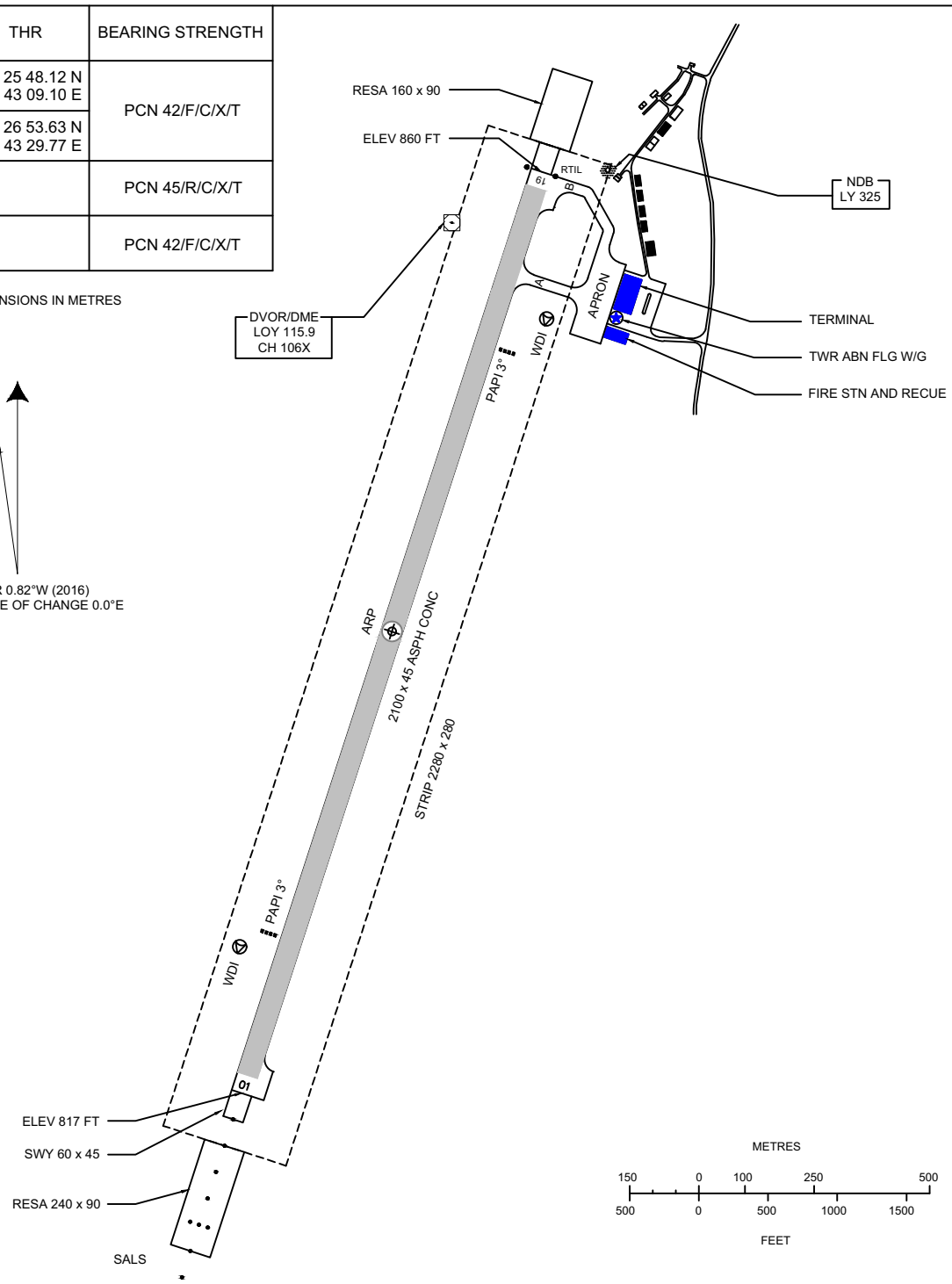
TWR	118.35
	236.6

LOEI / Loei

RWY	DIRECTION (TRUE BRG)	THR	BEARING STRENGTH
01	016.47°	17 25 48.12 N 101 43 09.10 E	PCN 42/F/C/X/T
19	196.47°	17 26 53.63 N 101 43 29.77 E	
APRON			PCN 45/R/C/X/T
TWY A AND B			PCN 42/F/C/X/T

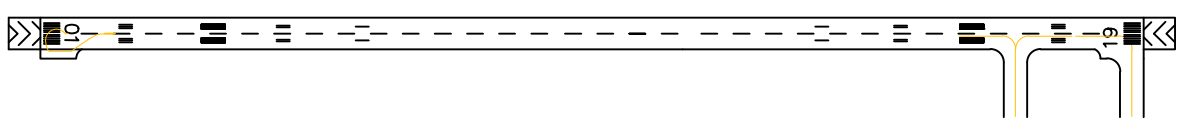
ELEVATIONS IN FEET AND DIMENSIONS IN METRES
BEARINGS ARE MAGNETIC

MAG VAR 0.82°W (2016)
ANNUAL RATE OF CHANGE 0.0°E

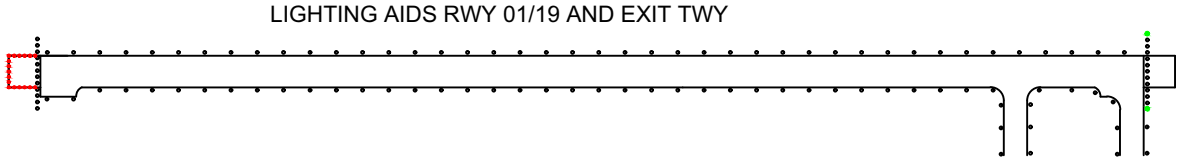


Remark : COORDINATE ARE WGS-84

MARKING AIDS RWY 01/19 AND EXIT TWY



LIGHTING AIDS RWY 01/19 AND EXIT TWY



CHANGE : REVISED CHART. TWR FREQ. TABULAR INFO. MAG VAR. ANNUAL RATE OF CHANGE. TDZ ELEV CANCELLED.
RESA 01/19 DIMS. RTIL RWY 19. SALS RWY 01. DVOR/DME FREQ. WDI. RIGHT PAPI 01/19 CANCELLED. SWY 01 CANCELLED.

INTENTIONALLY BLANK

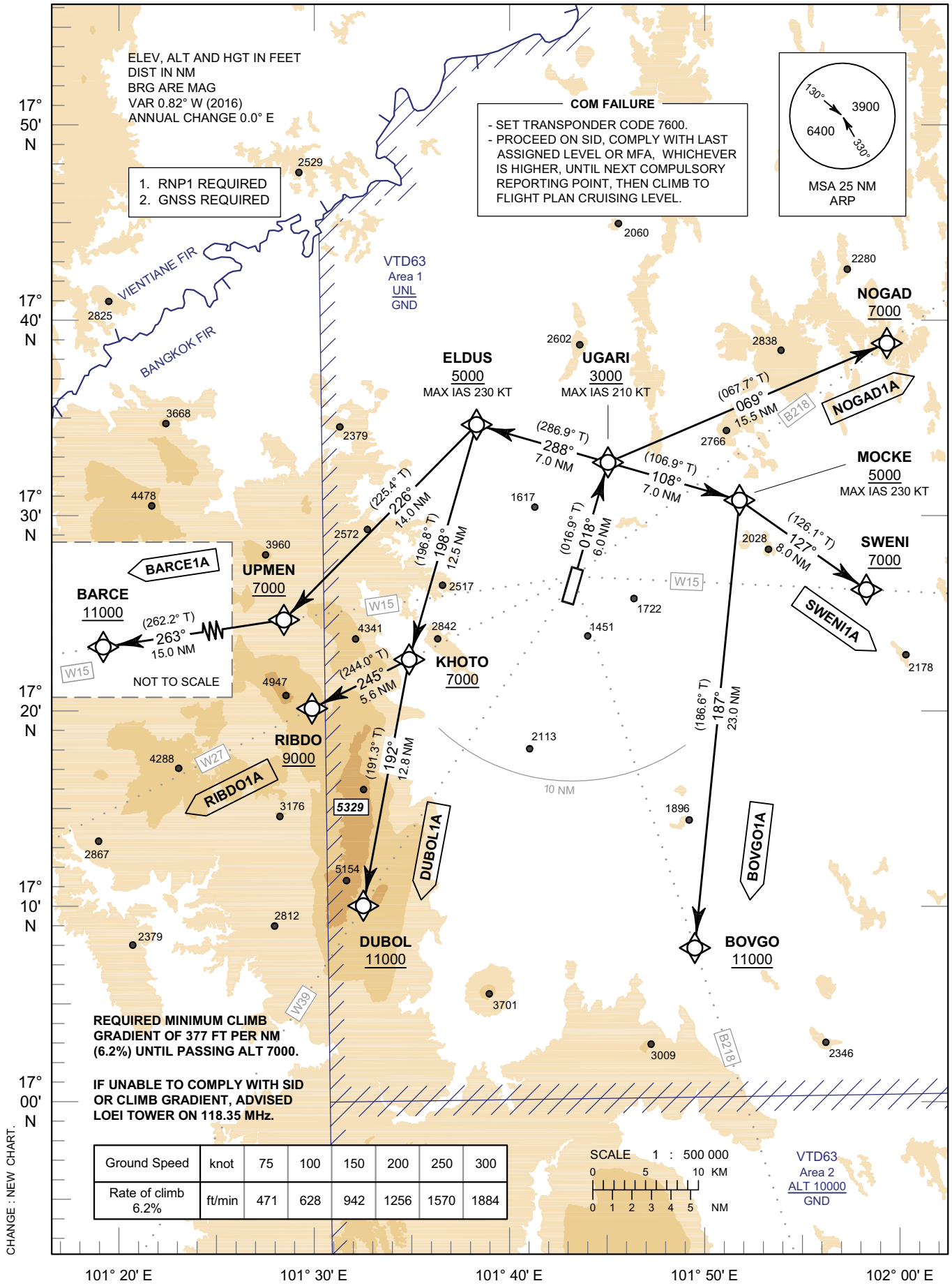
STANDARD DEPARTURE CHART - INSTRUMENT (SID) - ICAO

TRANSITION ALTITUDE
11000 FT

APP : 122.55
TWR : 118.35 , 236.6
ATIS : 126.25

LOEI / Loei (VTUL)
RNAV RWY01

BARCE1A BOVGO1A DUBOL1A
NOGAD1A RIBDO1A SWENI1A



STANDARD DEPARTURE CHART - INSTRUMENT (SID) - ICAO

LOEI / Loei (VTUL) RNAV RWY01

BARCE1A BOVGO1A DUBOL1A
NOGAD1A RIBDO1A SWENI1A

CHANGE : NEW CHART.

TABULAR DESCRIPTION

RNAV RWY01

Serial Number	Path Descriptor	Waypoint Identifier	Flyover	Course ° M (° T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KT)	VPA/ TCH	Navigation Specification
BARCE1A											
010	-	DER RWY01	-	-	+0.82	-	-	-	-	-	RNP 1
020	CF	UGARI	-	018° (016.9°)	+0.82	6.0	-	+3000	-210	-	RNP 1
030	TF	ELDUS	-	288° (286.9°)	+0.82	7.0	-	+5000	-230	-	RNP 1
040	TF	UPMEN	-	226° (225.4°)	+0.82	14.0	-	+7000	-	-	RNP 1
050	TF	BARCE	-	263° (262.2°)	+0.82	15.0	-	+11000	-	-	RNP 1
BOVGO1A											
010	-	DER RWY01	-	-	+0.82	-	-	-	-	-	RNP 1
020	CF	UGARI	-	018° (016.9°)	+0.82	6.0	-	+3000	-210	-	RNP 1
030	TF	MOCKE	-	108° (106.9°)	+0.82	7.0	-	+5000	-230	-	RNP 1
040	TF	BOVGO	-	187° (186.6°)	+0.82	23.0	-	+11000	-	-	RNP 1
DUBOL1A											
010	-	DER RWY01	-	-	+0.82	-	-	-	-	-	RNP 1
020	CF	UGARI	-	018° (016.9°)	+0.82	6.0	-	+3000	-210	-	RNP 1
030	TF	ELDUS	-	288° (286.9°)	+0.82	7.0	-	+5000	-230	-	RNP 1
040	TF	KHOTO	-	198° (196.8°)	+0.82	12.5	-	+7000	-	-	RNP 1
050	TF	DUBOL	-	192° (191.3°)	+0.82	12.8	-	+11000	-	-	RNP 1
NOGAD1A											
010	-	DER RWY01	-	-	+0.82	-	-	-	-	-	RNP 1
020	CF	UGARI	-	018° (016.9°)	+0.82	6.0	-	+3000	-210	-	RNP 1
030	TF	NOGAD	-	069° (067.7°)	+0.82	15.5	-	+7000	-	-	RNP 1
RIBDO1A											
010	-	DER RWY01	-	-	+0.82	-	-	-	-	-	RNP 1
020	CF	UGARI	-	018° (016.9°)	+0.82	6.0	-	+3000	-210	-	RNP 1
030	TF	ELDUS	-	288° (286.9°)	+0.82	7.0	-	+5000	-230	-	RNP 1
040	TF	KHOTO	-	198° (196.8°)	+0.82	12.5	-	+7000	-	-	RNP 1
050	TF	RIBDO	-	245° (244.0°)	+0.82	5.6	-	+9000	-	-	RNP 1
SWENI1A											
010	-	DER RWY01	-	-	+0.82	-	-	-	-	-	RNP 1
020	CF	UGARI	-	018° (016.9°)	+0.82	6.0	-	+3000	-210	-	RNP 1
030	TF	MOCKE	-	108° (106.9°)	+0.82	7.0	-	+5000	-230	-	RNP 1
040	TF	SWENI	-	127° (126.1°)	+0.82	8.0	-	+7000	-	-	RNP 1

WAYPOINT LIST

RNAV RWY01

Waypoint Identifier	Coordinates	Waypoint Identifier	Coordinates
DER RWY01	17° 26' 53.63" N 101° 43' 29.77" E	MOCKE	17° 30' 37.19" N 101° 52' 19.60" E
BARCE	17° 22' 44.72" N 101° 12' 18.80" E	NOGAD	17° 38' 33.69" N 102° 00' 20.87" E
BOVGO	17° 07' 39.61" N 101° 49' 35.15" E	RIBDO	17° 20' 13.68" N 101° 29' 17.58" E
DUBOL	17° 10' 03.52" N 101° 31' 53.94" E	SWENI	17° 25' 55.41" N 101° 59' 02.73" E
ELDUS	17° 34' 41.66" N 101° 38' 18.21" E	UGARI	17° 32' 39.55" N 101° 45' 18.98" E
KHOTO	17° 22' 40.76" N 101° 34' 31.47" E	UPMEN	17° 24' 47.68" N 101° 27' 50.87" E

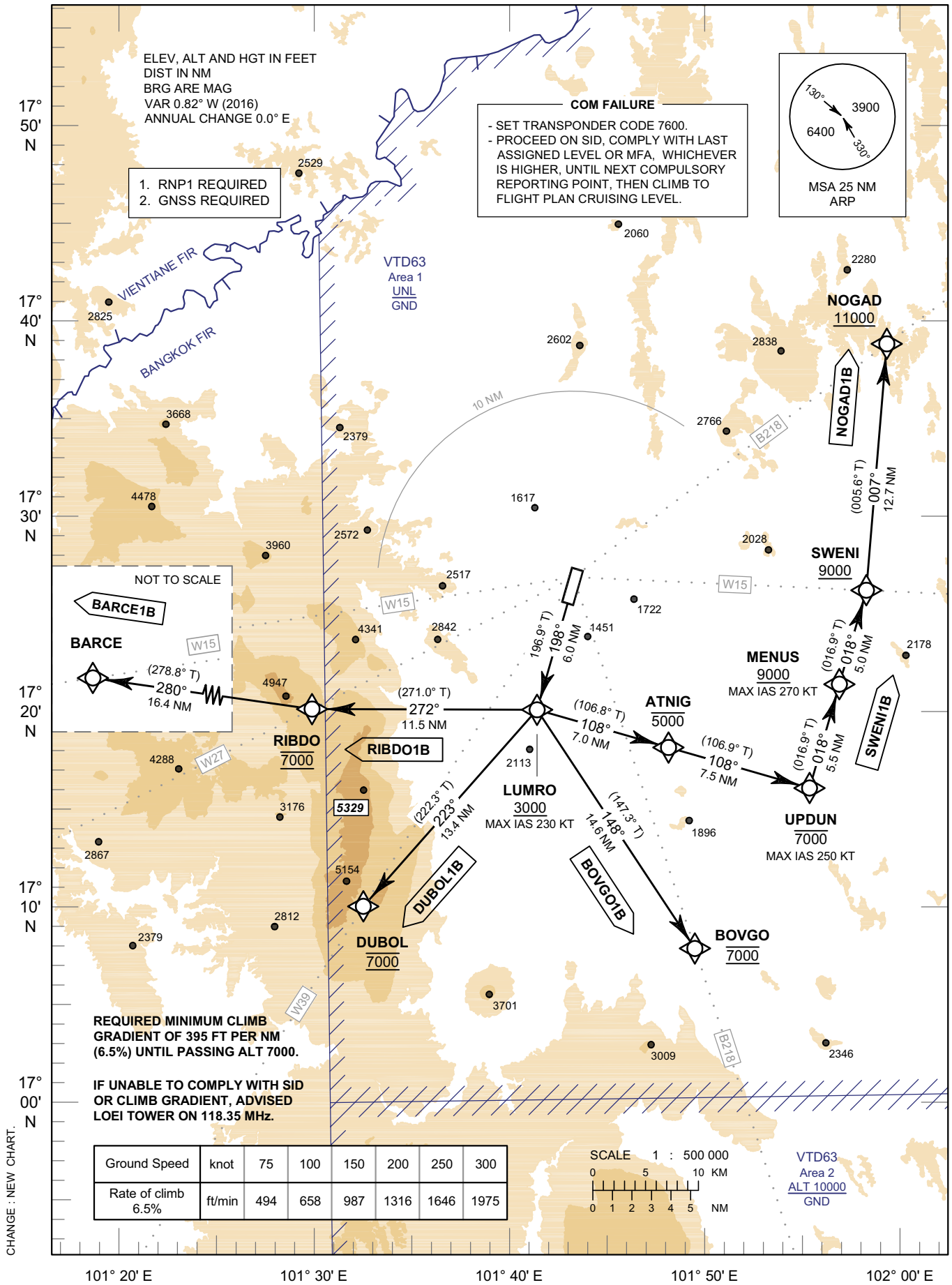
STANDARD DEPARTURE CHART - INSTRUMENT (SID) - ICAO

TRANSITION ALTITUDE
11000 FT

APP : 122.55
TWR : 118.35 , 236.6
ATIS : 126.25

LOEI / Loei (VTUL)
RNAV RWY19

BARCE1B BOVGO1B DUBOL1B
NOGAD1B RIBDO1B SWENI1B



STANDARD DEPARTURE CHART - INSTRUMENT (SID) - ICAO

LOEI / Loei (VTUL) RNAV RWY19

BARCE1B BOVGO1B DUBOL1B
NOGAD1B RIBDO1B SWENI1B

CHANGE : NEW CHART.

TABULAR DESCRIPTION

RNAV RWY19

Serial Number	Path Descriptor	Waypoint Identifier	Flyover	Course ° M (° T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KT)	VPA/ TCH	Navigation Specification
BARCE1B											
010	-	DER RWY19	-	-	+0.82	-	-	-	-	-	RNP 1
020	CF	LUMRO	-	198° (196.9°)	+0.82	6.0	-	+3000	-230	-	RNP 1
030	TF	RIBDO	-	272° (271.0°)	+0.82	11.5	-	@7000	-	-	RNP 1
040	TF	BARCE	-	280° (278.8°)	+0.82	16.4	-	-	-	-	RNP 1
BOVGO1B											
010	-	DER RWY19	-	-	+0.82	-	-	-	-	-	RNP 1
020	CF	LUMRO	-	198° (196.9°)	+0.82	6.0	-	+3000	-230	-	RNP 1
030	TF	BOVGO	-	148° (147.3°)	+0.82	14.6	-	@7000	-	-	RNP 1
DUBOL1B											
010	-	DER RWY19	-	-	+0.82	-	-	-	-	-	RNP 1
020	CF	LUMRO	-	198° (196.9°)	+0.82	6.0	-	+3000	-230	-	RNP 1
030	TF	DUBOL	-	223° (222.3°)	+0.82	13.4	-	@7000	-	-	RNP 1
NOGAD1B											
010	-	DER RWY19	-	-	+0.82	-	-	-	-	-	RNP 1
020	CF	LUMRO	-	198° (196.9°)	+0.82	6.0	-	+3000	-230	-	RNP 1
030	TF	ATNIG	-	108° (106.8°)	+0.82	7.0	-	-5000	-	-	RNP 1
040	TF	UPDUN	-	108° (106.9°)	+0.82	7.5	-	-7000	-250	-	RNP 1
050	TF	MENUS	-	018° (016.9°)	+0.82	5.5	-	+9000	-270	-	RNP 1
060	TF	SWENI	-	018° (016.9°)	+0.82	5.0	-	+9000	-	-	RNP 1
070	TF	NOGAD	-	007° (005.6°)	+0.82	12.7	-	+11000	-	-	RNP 1
RIIBDO1B											
010	-	DER RWY19	-	-	+0.82	-	-	-	-	-	RNP 1
020	CF	LUMRO	-	198° (196.9°)	+0.82	6.0	-	+3000	-230	-	RNP 1
030	TF	RIBDO	-	272° (271.0°)	+0.82	11.5	-	@7000	-	-	RNP 1
SWENI1B											
010	-	DER RWY19	-	-	+0.82	-	-	-	-	-	RNP 1
020	CF	LUMRO	-	198° (196.9°)	+0.82	6.0	-	+3000	-230	-	RNP 1
030	TF	ATNIG	-	108° (106.8°)	+0.82	7.0	-	-5000	-	-	RNP 1
040	TF	UPDUN	-	108° (106.9°)	+0.82	7.5	-	-7000	-250	-	RNP 1
050	TF	MENUS	-	018° (016.9°)	+0.82	5.5	-	+9000	-270	-	RNP 1
060	TF	SWENI	-	018° (016.9°)	+0.82	5.0	-	+9000	-	-	RNP 1

WAYPOINT LIST

RNAV RWY19

Waypoint Identifier	Coordinates	Waypoint Identifier	Coordinates
DER RWY19	17° 25' 48.12" N 101° 43' 09.10" E	MENUS	17° 21' 07.25" N 101° 57' 31.40" E
ATNIG	17° 18' 00.22" N 101° 48' 19.99" E	NOGAD	17° 38' 33.69" N 102° 00' 20.87" E
BARCE	17° 22' 44.72" N 101° 12' 18.80" E	RIBDO	17° 20' 13.68" N 101° 29' 17.58" E
BOVGO	17° 07' 39.61" N 101° 49' 35.15" E	SWENI	17° 25' 55.41" N 101° 59' 02.73" E
DUBOL	17° 10' 03.52" N 101° 31' 53.94" E	UPDUN	17° 15' 48.74" N 101° 55' 50.55" E
LUMRO	17° 20' 02.18" N 101° 41' 20.01" E		

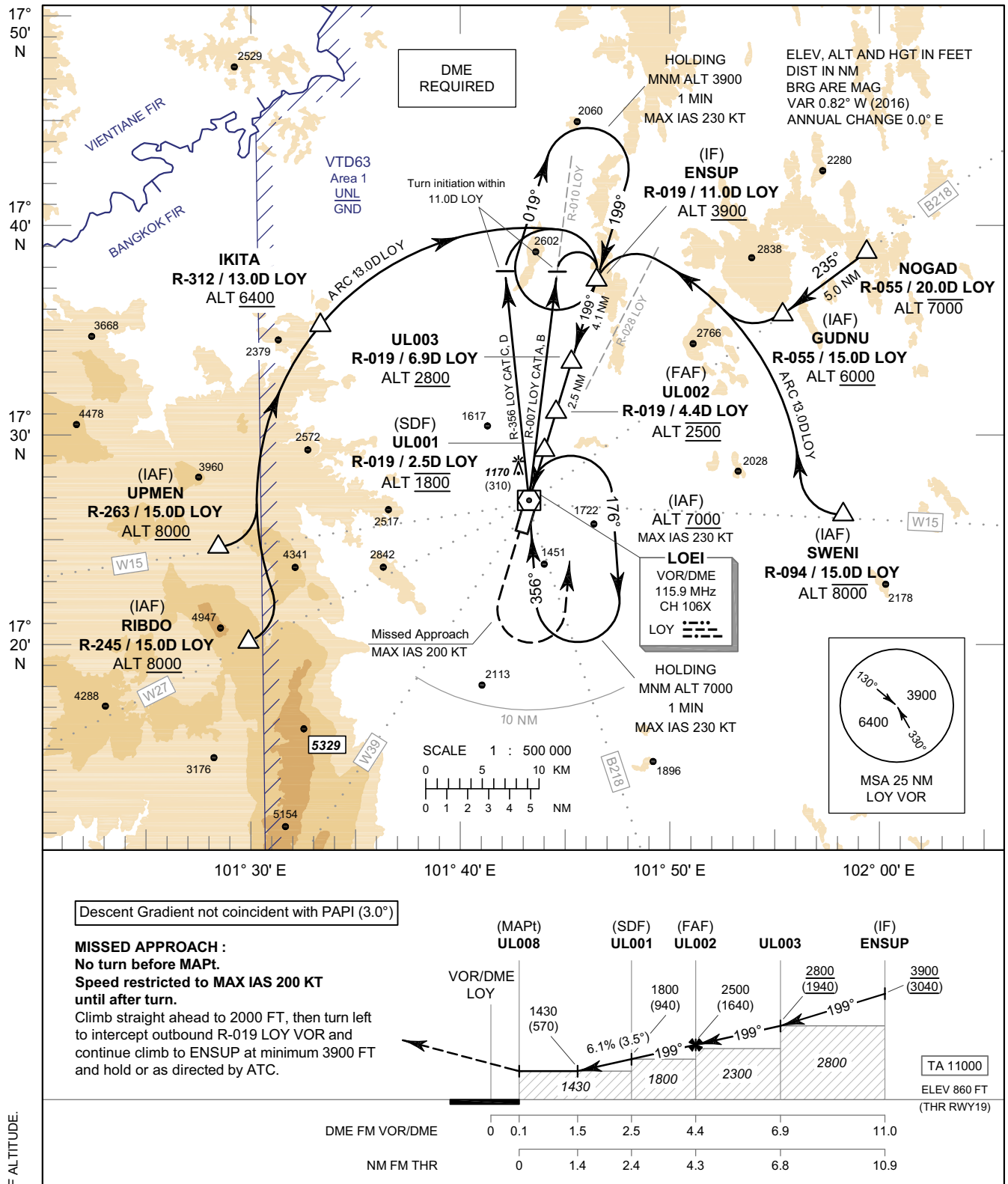
INSTRUMENT APPROACH CHART - ICAO

AERODROME ELEV 860 FT
HEIGHT RELATED TO AERODROME ELEV

APP : 122.55
TWR : 118.35 , 236.6
ATIS : 126.25

LOEI / Loei (VTUL)

VOR RWY19



Descent Gradient not coincident with PAPI (3.0°)

MISSED APPROACH :
No turn before MAPt.
Speed restricted to MAX IAS 200 KT until after turn.
Climb straight ahead to 2000 FT, then turn left to intercept outbound R-019 LOY VOR and continue climb to ENSUP at minimum 3900 FT and hold or as directed by ATC.

OCA/H	A	B	C	D
Straight - in Approach	1430 (570)			
Circling (OCH AAL)	2400 (1540)			

Distance (LOY)		1.5D	2D	3D	4D	FAF
Altitude (Height)		1430 (570)	1615 (755)	1985 (1125)	2355 (1495)	2500 (1640)
Ground Speed	knot	70	90	100	120	140	160
Rate of descent 6.1%	ft/min	432	556	618	741	865	988

CHANGE : MAPt NAME. SDF ALTITUDE.

INSTRUMENT APPROACH CHART - ICAO

AERODROME ELEV 860 FT
HEIGHT RELATED TO AERODROME ELEV

LOEI / Loei (VTUL)

VOR RWY19

Fix / Point		Corrdinates	
(IAF) VOR	LOY	17° 26' 49.38" N	101° 43' 23.12" E
(IAF) RIBDO	R-245 / 15.0D LOY	17° 20' 13.68" N	101° 29' 17.58" E
(IAF) UPMEN	R-263 / 15.0D LOY	17° 24' 47.68" N	101° 27' 50.87" E
IKITA	R-312 / 13.0D LOY	17° 35' 20.75" N	101° 33' 05.54" E
(IAF) SWENI	R-094 / 15.0D LOY	17° 25' 55.41" N	101° 59' 02.73" E
NOGAD	R-055 / 20.0D LOY	17° 38' 33.69" N	102° 00' 20.87" E
(IAF) GUDNU	R-055 / 15.0D LOY	17° 35' 37.80" N	101° 56' 06.27" E
(IAF) ENSUP	R-019 / 11.0D LOY	17° 37' 19.65" N	101° 46' 54.81" E
UL003	R-019 / 6.9D LOY	17° 33' 25.02" N	101° 45' 35.96" E
(FAF) UL002	R-019 / 4.4D LOY	17° 31' 01.68" N	101° 44' 47.81" E
(SDF) UL001	R-019 / 2.5D LOY	17° 29' 12.73" N	101° 44' 11.23" E
(MAPt) UL008	R-019 / 0.1D LOY	17° 26' 55.11" N	101° 43' 25.04" E

CHANGE : MAPt NAME.

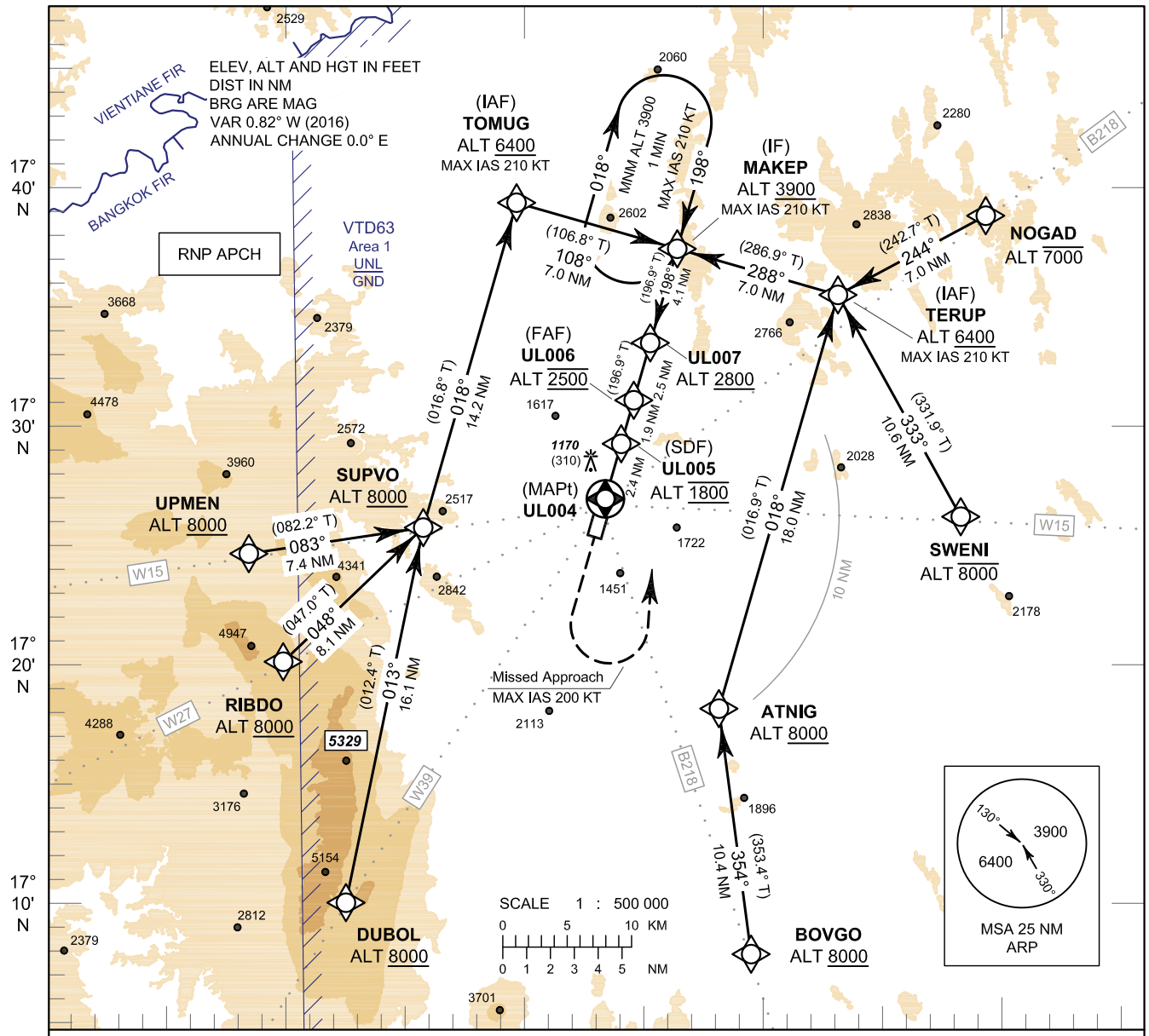
INSTRUMENT APPROACH CHART - ICAO

AERODROME ELEV 860 FT
HEIGHT RELATED TO AERODROME ELEV

APP : 122.55
TWR : 118.35 , 236.6
ATIS : 126.25

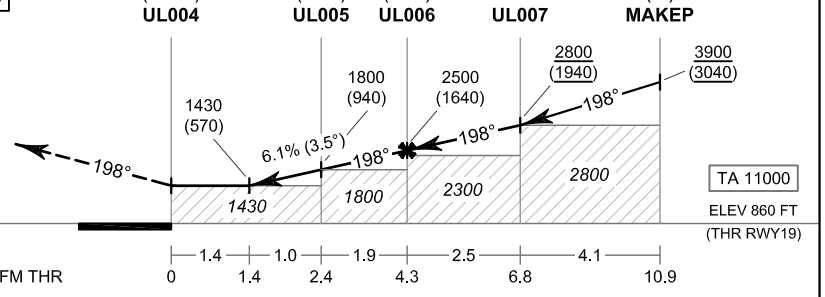
LOEI / Loei (VTUL)

RNP RWY19



Descent Gradient not coincident with PAPI (3.0°)

MISSED APPROACH :
No turn before MAPt.
Speed restrlcted to MAX IAS 200 KT until after turn.
Climb on track 198° to 2000 FT, then turn left direct to MAKEP at minimum 3900 FT and hold or as directed by ATC.



CHANGE : SDF ALTITUDE.

OCA/H	A	B	C	D
LNAV	1430 (570)			
Circling (OCH AAL)	2400 (1540)			

NM to NEXT WPT		1.4 NM	2 NM	3 NM	4D	FAF
Altitude (Height)		1430 (570)	1650 (790)	2020 (1160)	2395 (1535)	2500 (1640)
Ground Speed	knot	70	90	100	120	140	160
Rate of descent 6.1%	ft/min	432	556	618	741	865	988

INSTRUMENT APPROACH CHART - ICAO

AERODROME ELEV 860 FT
HEIGHT RELATED TO
AERODROME ELEV

LOEI / Loei (VTUL)

RNP RWY19

TABULAR DESCRIPTION

RNP RWY19

Serial Number	Path Descriptor	Waypoint Identifier	Flyover	Course ° M (° T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KT)	VPA/ TCH	Navigation Specification
010	IF	DUBOL	-	-	+0.82	-	-	+8000	-	-	RNP APCH
020	TF	SUPVO	-	013°(012.4°)	+0.82	16.1	-	+8000	-	-	RNP APCH
030	TF	(IAF) TOMUG	-	018°(016.8°)	+0.82	14.2	-	+6400	-210	-	RNP APCH
040	TF	(IF) MAKEP	-	108°(106.8°)	+0.82	7.0	-	+3900	-210	-	RNP APCH
010	IF	RIBDO	-	-	+0.82	-	-	+8000	-	-	RNP APCH
020	TF	SUPVO	-	048°(047.0°)	+0.82	8.1	-	+8000	-	-	RNP APCH
030	TF	(IAF) TOMUG	-	018°(016.8°)	+0.82	14.2	-	+6400	-210	-	RNP APCH
040	TF	(IF) MAKEP	-	108°(106.8°)	+0.82	7.0	-	+3900	-210	-	RNP APCH
010	IF	UPMEN	-	-	+0.82	-	-	+8000	-	-	RNP APCH
020	TF	SUPVO	-	083°(082.2°)	+0.82	7.4	-	+8000	-	-	RNP APCH
030	TF	(IAF) TOMUG	-	018°(016.8°)	+0.82	14.2	-	+6400	-210	-	RNP APCH
040	TF	(IF) MAKEP	-	108°(106.8°)	+0.82	7.0	-	+3900	-210	-	RNP APCH
010	IF	BOVGO	-	-	+0.82	-	-	+8000	-	-	RNP APCH
020	TF	ATNIG	-	354°(353.4°)	+0.82	10.4	-	+8000	-	-	RNP APCH
030	TF	(IAF) TERUP	-	018°(016.9°)	+0.82	18.0	-	+6400	-210	-	RNP APCH
040	TF	(IF) MAKEP	-	288°(286.9°)	+0.82	7.0	-	+3900	-210	-	RNP APCH
010	IF	SWENI	-	-	+0.82	-	-	-8000	-	-	RNP APCH
020	TF	(IAF) TERUP	-	333°(331.9°)	+0.82	10.6	-	+6400	-210	-	RNP APCH
030	TF	(IF) MAKEP	-	288°(286.9°)	+0.82	7.0	-	+3900	-210	-	RNP APCH
010	IF	NOGAD	-	-	+0.82	-	-	-7000	-	-	RNP APCH
020	TF	(IAF) TERUP	-	244°(242.7°)	+0.82	7.0	-	+6400	-210	-	RNP APCH
030	TF	(IF) MAKEP	-	288°(286.9°)	+0.82	7.0	-	+3900	-210	-	RNP APCH
010	TF	(IF) MAKEP	-	-	+0.82	-	-	+3900	-210	-	RNP APCH
020	TF	UL007	-	198°(196.9°)	+0.82	4.1	-	+2800	-	-	RNP APCH
030	TF	(FAF) UL006	-	198°(196.9°)	+0.82	2.5	-	@2500	-	-	RNP APCH
040	TF	(SDF) UL005	-	198°(196.9°)	+0.82	1.9	-	@1800	-	-	RNP APCH
050	TF	(MAPt@THR19) UL004	Y	198°(196.9°)	+0.82	2.4	-	@1430	-	-	RNP APCH
060	CA	-	-	198°(196.9°)	+0.82	-	-	+2000	-200	-	RNP APCH
070	DF	(IF) MAKEP	-	-	+0.82	-	L	-	-200	-	RNP APCH
080	HM	(IF) MAKEP	Y	198°(196.9°)	+0.82	1 minute	R	+3900	-210	-	RNP APCH

CHANGE : REVISED CHART.

INSTRUMENT APPROACH CHART - ICAO

AERODROME ELEV 860 FT
HEIGHT RELATED TO AERODROME ELEV

LOEI / Loei (VTUL)

RNP RWY19

WAYPOINT LIST

RNP RWY19	
Waypoint Identifier	**Coordinates**
ATNIG	17° 18' 00.22" N 101° 48' 19.99" E
BOVGO	17° 07' 39.61" N 101° 49' 35.15" E
DUBOL	17° 10' 03.52" N 101° 31' 53.94" E
MAKEP	17° 37' 22.06" N 101° 46' 48.19" E
NOGAD	17° 38' 33.69" N 102° 00' 20.87" E
RIBDO	17° 20' 13.68" N 101° 29' 17.58" E
SUPVO	17° 25' 47.60" N 101° 35' 30.10" E
SWENI	17° 25' 55.41" N 101° 59' 02.73" E
TERUP	17° 35' 19.70" N 101° 53' 48.99" E
TOMUG	17° 39' 24.17" N 101° 39' 47.24" E
UL004	17° 26' 53.63" N 101° 43' 29.77" E
UL005	17° 29' 12.00" N 101° 44' 13.44" E
UL006	17° 31' 01.54" N 101° 44' 48.02" E
UL007	17° 33' 25.68" N 101° 45' 33.53" E
UPMEN	17° 24' 47.68" N 101° 27' 50.87" E

CHANGE : REVISED CHART.

INTENTIONALLY BLANK