

## 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	HJ
5	ATS Reporting Office (ARO)	NIL
6	MET Briefing Office	NIL
7	ATS	Available on request 4 HR PN in advance to Udonthani Aerodrome Control Tower and Loei Approach Control Unit via AFTN VTUDZTZX and VTBBZAZX or FAX +664 224 6803 ext 7109 and +662 285 9610
8	Fuelling	NIL
9	Handling	NIL
10	Security	NIL
11	De-icing	NIL
12	Remarks	NIL

## 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: Concrete and asphalt Strength: PCN 42/F/C/X/T
3	Altimeter checkpoint location and elevation	NIL
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	NIL
2	RWY and TWY markings and LGT	RWY and TWY: Marked
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		
RWY/Area affected	Obstacle type Elevation Markings/LGT	Coordinates	Obstacle type Elevation Markings/LGT	Coordinates	
a	b	c	a	b	
NIL	Radio mast HGT 110 M painted red/white LGTD on top	172800N 1014220E	NIL	NIL	NIL

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	2300-1200 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 Concrete and asphalt	172548.12N 1014309.10E	THR 817 FT TDZ 817 FT
19	196.47°	2100x45	PCN 42/F/C/X/T Concrete and asphalt	172653.63N 1014329.77E	THR 860 FT TDZ 860 FT

Slope of RWY-SWY	SWY dimensions (M)	CWY dimensions (M)	Strip dimensions (M)	OFZ	Remarks
7	8	9	10	11	12
-0.60%	60x60	NIL	2430x150	NIL	NIL
-0.90%	60x60	NIL	2430x150	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	2160	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	Green	PAPI Left 3°	NIL	NIL	2100 M 60 M White, LIM	Red	NIL	NIL
19	RTIL	Green	PAPI Left 3°	NIL	NIL	2100 M 60 M White, LIM	Red	NIL	NIL

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
2	LDI location and LGT Anemometer location and LGT	NIL
3	TWY edge and centre line lighting	EDGE: All Taxiways
4	Secondary power supply/switch-over time	Secondary power at tower and air field lighting (AFL).
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	23:00-11:00	1)Emergency Frequency
TWR	Loei Tower	118.35 MHZ 236.6 MHZ 121.5 MHZ <sup>1)</sup>	23:00-11:00	
ATIS	Loei Airport	126.25 MHZ	23:00-11:00	

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, 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 follow; <ol style="list-style-type: none"> <li>1. 40 NM orbit <ul style="list-style-type: none"> <li>- RDL030-050° ALT should not below 10000 FT</li> <li>- RDL051-100° ALT should not below 7000 FT</li> <li>- RDL101-130° ALT should not below 10000 FT</li> <li>- RDL131-200° ALT should not below 5000 FT</li> <li>- RDL201-250° ALT should not below 12000 FT</li> <li>- RDL251-270° ALT should not below 13000 FT</li> </ul> </li> <li>2. 20 NM orbit (Due to border limited) <ul style="list-style-type: none"> <li>- RDL271-029° ALT should not below 4500 FT</li> </ul> </li> </ol>

## 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. IMPLEMENTATION OF THE CONTINUOUS DESCENT OPERATIONS (CDO) FOR ARRIVALS INTO LOEI AIRPORT

#### 1.1 Condition of Use

##### 1.1.1 Conditions for Conducting a CDO

1.1.1.1 CDO application can be either under Surveillance or Procedural environment.

1.1.1.2 CDO can be requested by pilot or initiated by ATC. Pilot should request CDO at least 5 minutes prior to reaching Top of Descent (TOD) for any type of approach.

**Note:** 1. There is limited benefit if CDO clearance is received at altitude lower than 10,000 FT.

**Note:** 2. In case of CDO procedure being impractical due to an emergency, weather condition, traffic situation or any other reasons, an alternate instruction will be issued by ATC, or requested by pilot.

##### 1.1.2 Application of Other ATC Procedures

1.1.2.1 When conducting CDO, standard ATC procedures continue to apply. ATC may issue clearance to an intermediate approach level while facilitating a CDO profile.

1.1.2.2 In doing so, ATC shall endeavour to issue further descent clearance prior to the CDO flight reaching the last assigned altitude so as to prevent aircraft from levelling off.

##### 1.1.3 Change of Runway-In-Use

1.1.3.1 In case of change on Runway-in-Use prior to aircraft reaching Intermediate Fix (IF), i.e. from RWY 19 to RWY 01 CDO procedure shall be cancelled.

1.1.3.2 Pilot should then re-plan arrival route to the revised landing runway and inform ATC if the flight would still be able to meet all required speed/altitude restrictions.

##### 1.1.4 Aircraft Type

CDO procedure is applicable for FMS capable aircraft.

##### 1.1.5 Arrival Routes

CDO procedure is in place for all aircraft on W39 inbound to Loei Airport

##### 1.1.6 Operations Time

CDO is available 24 hours.

##### 1.1.7 Available Runway

CDO procedure is available for RWY 19.

## 1.1.8 Types of Approach

## 1.1.8.1 RNAV (GNSS) RWY 19

## 1.1.8.2 VOR RWY 19

## 1.1.9 Speed

When traffic permits, aircraft will operate at an optimum speed calculated by FMS, depending on aircraft type. The following speed guidance should be applicable in case of high traffic volume.

Flight Status	Speed Range
Above 10 000 FT.	250 – 320 IAS
Below 10 000 FT.	220 – 250 IAS
Final Segment (up to 4 NM)	160 – 180 IAS

## 1.1.10 Minimum Flight Altitude

1.1.10.1 Outside LOEI TMA, aircraft shall comply with altitude constraints of the CDO procedure.

1.1.10.2 Inside LOEI TMA, during CDO, minimum safety altitudes are identical to those within Instrument Approach Procedures required.

## 1.2 CDO Procedure

1.2.1 Before aircraft reaching TOD (approximately 80 NM from the airport), either pilot or ATC can initiate CDO using phraseologies described in paragraph 1.3.

1.2.2 When all requirements for CDO are met and situation permits, CDO will commence.

1.2.3 Pilot shall operate aircraft FMS to plan optimal descent profile and report CDO execution commencing descent.

1.2.4 Aircraft should descend continuously on normal arrival route to LOEI TMA

1.2.5 Longitudinal separation required will be at least 10 minutes between CDO traffic.

## 1.2.6 CDO Operations

## 1.2.6.1 RNAV (GNSS) RWY 19

Aircraft Arriving on W39

Aircraft Arriving on W39 after passing, DUBAL 20 NM from LOEI DVOR, altitude not lower than 8,000 FT., then proceed to SUPVO altitude not lower than 8,000 FT., and follow the RNAV GNSS RWY 19 procedure as published in AIP Thailand.

## 1.2.6.2 VOR RWY 19

Aircraft Arriving on W39

Aircraft Arriving on W39 after passing, 20 NM from LOEI DVOR, altitude not lower than 7,000 FT., then proceed to IAF (LOYALL) altitude 7,000 FT., and follow the VOR RWY 19 procedure as published in AIP Thailand.

## 1.2.7 Radio Communications Failure

1.2.7.1 In the event of radio communication failure, CDO flight will be terminated immediately.

1.2.7.2 Pilot is to apply radio failure procedures stated in AIP Thailand ENR 1.6-7 paragraph 6.

## 1.3 Phraseology

1.3.1 The following phraseology does not phrases and regular radiotelephony procedure words contain in Doc 4444 and Doc 9432, but it enables clear and concise communications between pilot and controller to maintain safety of CDO arrivals.

## 1.3.2 ATC-initiated CDO

“(aircraft call sign), (ATC unit), CDO AVAILABLE, DO YOU ACCEPT?”

- 1.3.3 Pilots response to ATC-initiated CDO
  - 1.3.3.1 “(aircraft call sign), ACCEPT CDO”
  - 1.3.3.2 “(aircraft call sign), NEGATIVE CDO”
- 1.3.4 Pilot-requested CDO
  - “(ATC Unit), (aircraft call sign), REQUEST CDO (type of approach) APPROACH”
- 1.3.5 Approval CDO by Bangkok Area Control Centre
  - “(aircraft call sign), CDO (type of approach) APPROVED DESCEND TO (level or altitude), QNH (number)”
- 1.3.6 Denial CDO by Bangkok Area Control Centre
  - 1.3.6.1 “(aircraft call sign), UNABLE TO APPROVED, DUE TO (reason)”
  - 1.3.6.2 “(aircraft call sign), EXPECT CDO FROM LOEI APPROACH”
- 1.3.7 CDO Cleared or Approved by LOEI Approach Control Unit
  - 1.3.7.1 “(aircraft call sign), CDO DESCEND TO (level or altitude), QNH (number), INFORMATION....CURRENT EXPECT (type of approach) APPROACH RWY (number)”
  - 1.3.7.2 “(aircraft call sign), DESCENT TO (level) QNH (number) CDO (type of approach) APPROVED”
- 1.3.8 CDO Cancellation
  - 1.3.8.1 “(aircraft call sign), CANCEL CDO DUE TO (reason), STOP DESCEND (level or altitude), QNH (number)”
  - 1.3.8.2 “(aircraft call sign), CDO TERMINATED DUE TO (reason)”
- 1.3.9 Resuming CDO
  - “(aircraft call sign), RESUME CDO DIRECT (point), DESCEND TO (level or altitude), QNH (number), CLEAR (type of approach) APPROACH RWY 19”
- 1.3.10 Pilot report leaving assigned level
  - “(aircraft call sign), CDO LEAVING (level)”
- 1.3.11 Warning of aircraft below CDO Profile
  - “(aircraft call sign), BELOW CDO PROFILE, ALTITUDE SHOULD BE (altitude) OR ABOVE”
- 1.4 Information/Training
  - 1.4.1 Each airline must ensure that, for each type of aircraft, pilots are aware of CDO performance requirements.
  - 1.4.2 Airlines are expected to define strategy to be adopted to drag-generating parts extension to stabilize aircraft in landing configuration at an altitude in compliance with flight safety, taking into account glide path at 3.5° in Final Approach.

**VTUL AD 2.23 ADDITIONAL INFORMATION**

NIL

**VTUL AD 2.24 CHARTS RELATED TO AN AERODROME**

Chart name	Page
Aerodrome Chart - ICAO	AD 2-VTUL-2-1
Instrument Approach Chart - ICAO - VOR RWY 19	AD 2-VTUL-8-1
Instrument Approach Chart - ICAO - VOR RWY 19 (Fix and point list table)	AD 2-VTUL-8-2
Instrument Approach Chart - ICAO - RNAV (GNSS) RWY 19	AD 2-VTUL-8-3
Instrument Approach Chart - ICAO - RNAV (GNSS) RWY 19 (Tabular description)	AD 2-VTUL-8-4
Instrument Approach Chart - ICAO - RNAV (GNSS) RWY 19 (Waypoint list table)	AD 2-VTUL-8-5



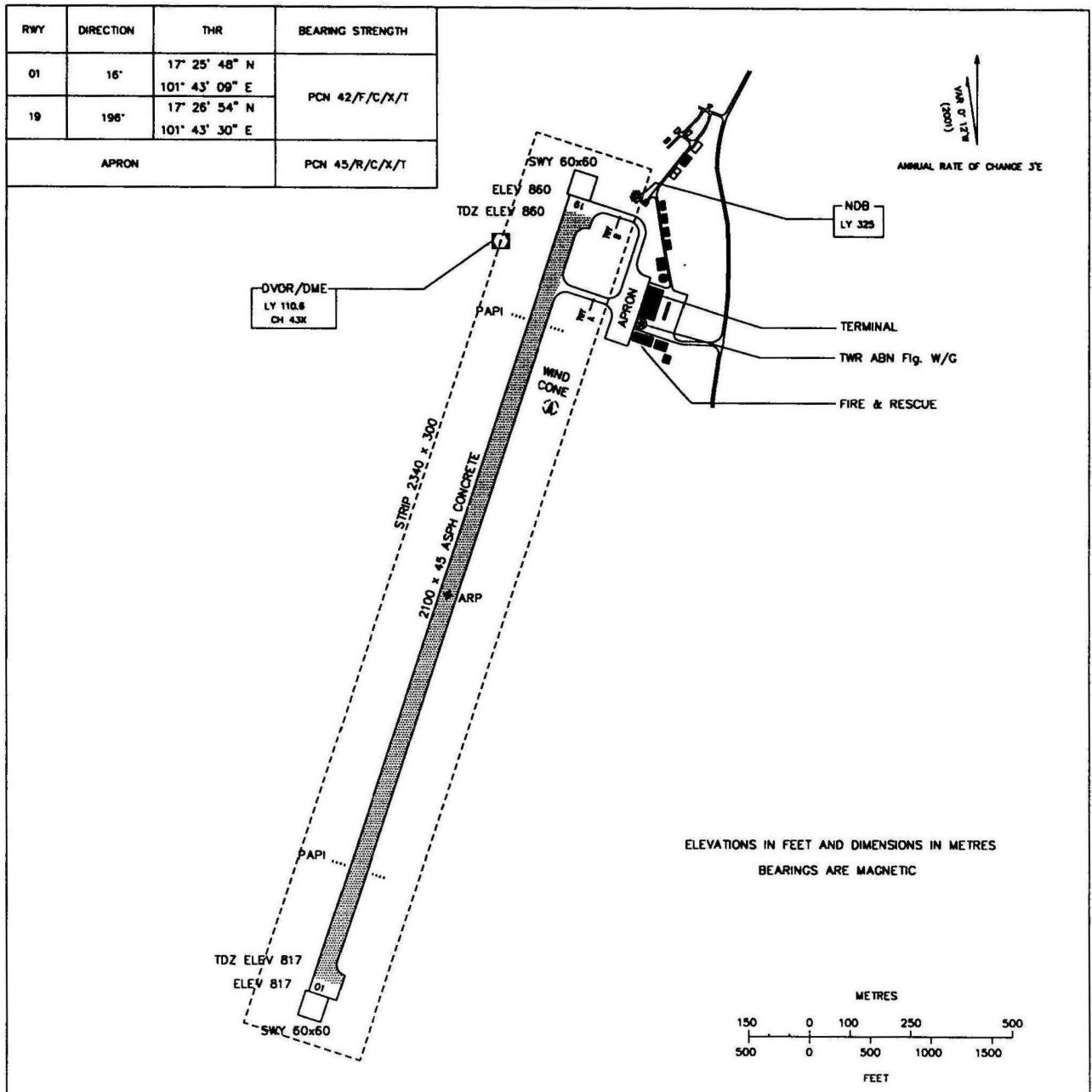
AERODROME CHART-ICAO

17° 26' 21" N  
101° 43' 19" E

ELEV 860 ft  
262 m

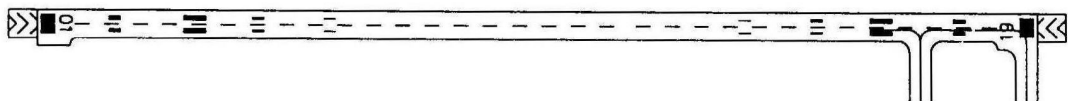
TWR 122.5

LOEI/Loei

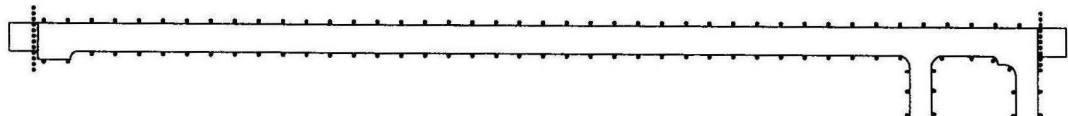


Remark : COORDINATE ARE WGS-84

MARKING AIDS RWY 01/19 AND EXIT TWY



LIGHTING AIDS RWY 01/19 AND EXIT TWY

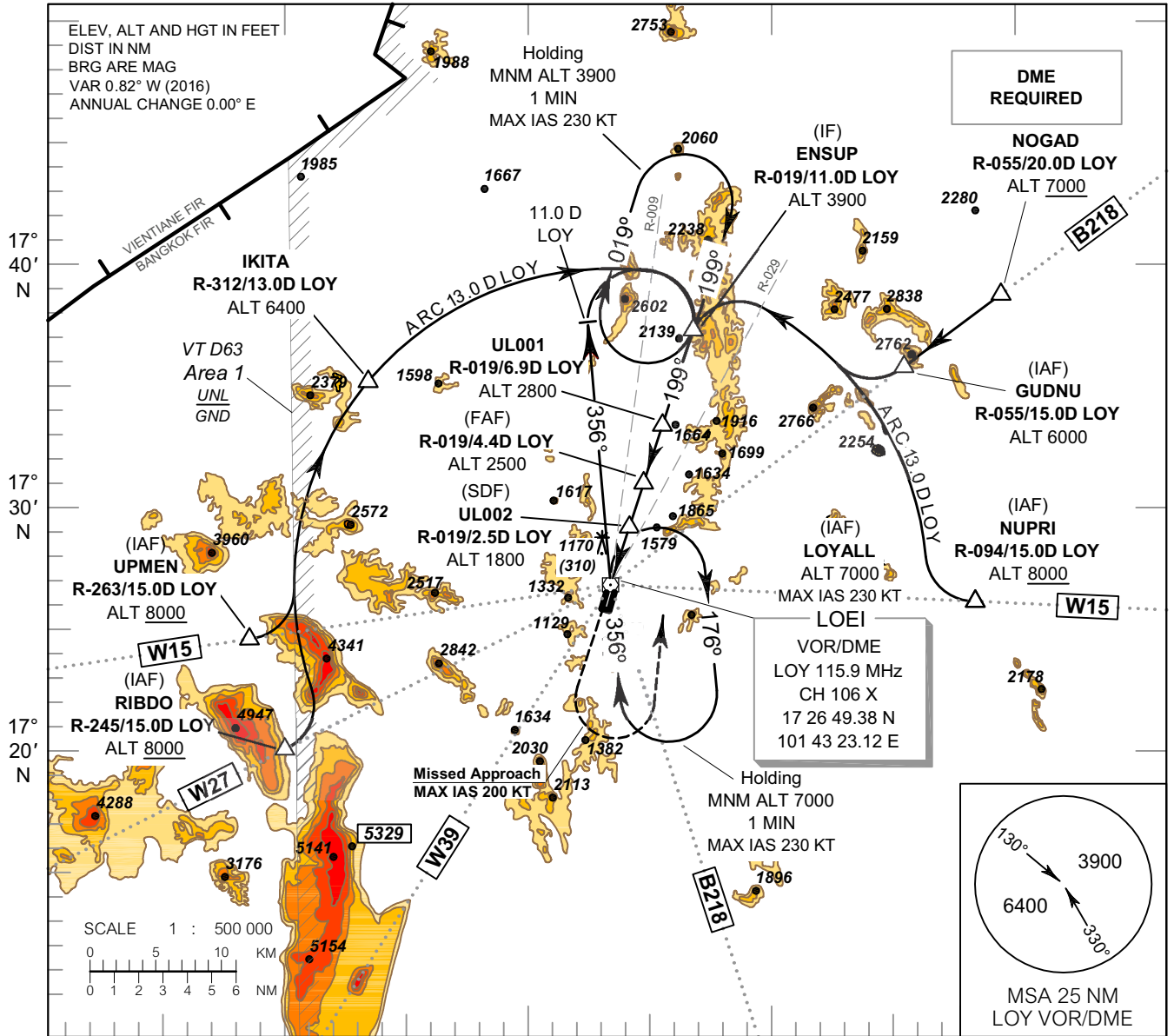


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**INSTRUMENT AERODROME ELEV 860 FT**  
**APPROACH HEIGHTS RELATED TO**  
**CHART - ICAO AERODROME ELEV**

APP : 122.55  
TWR : 118.35 , 121.5

**LOEI / Loei (VTUL)**  
**VOR RWY19**

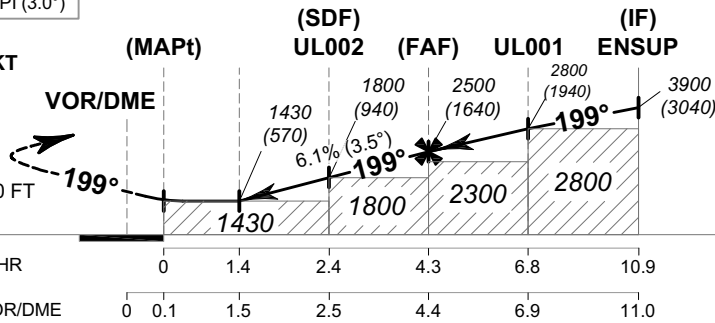


Descent Gradient not coincident with PAPI (3.0°)

**MISSED APPROACH :**

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 3900 FT and hold or as directed by ATC.



TA 11000  
ELEV 860 FT  
(THR RWY19)

OCA/H	A	B	C	D	Distance (LOY)	1.5D	2D	3D	4D	FAF		
Straight - in approach	1430 (570)				Altitude (Height)	1430 (570)	1615 (755)	1985 (1125)	2355 (1495)	2500 (1640)		
					Ground speed	knot	70	90	100	120	140	160
Circling (OCH AAL)	2400 (1540)				Rate of descent	(ft/min)	432	556	618	741	865	988

**INSTRUMENT** AERODROME ELEV 860 FT  
**APPROACH** HEIGHTS RELATED TO  
**CHART - ICAO** AERODROME ELEV

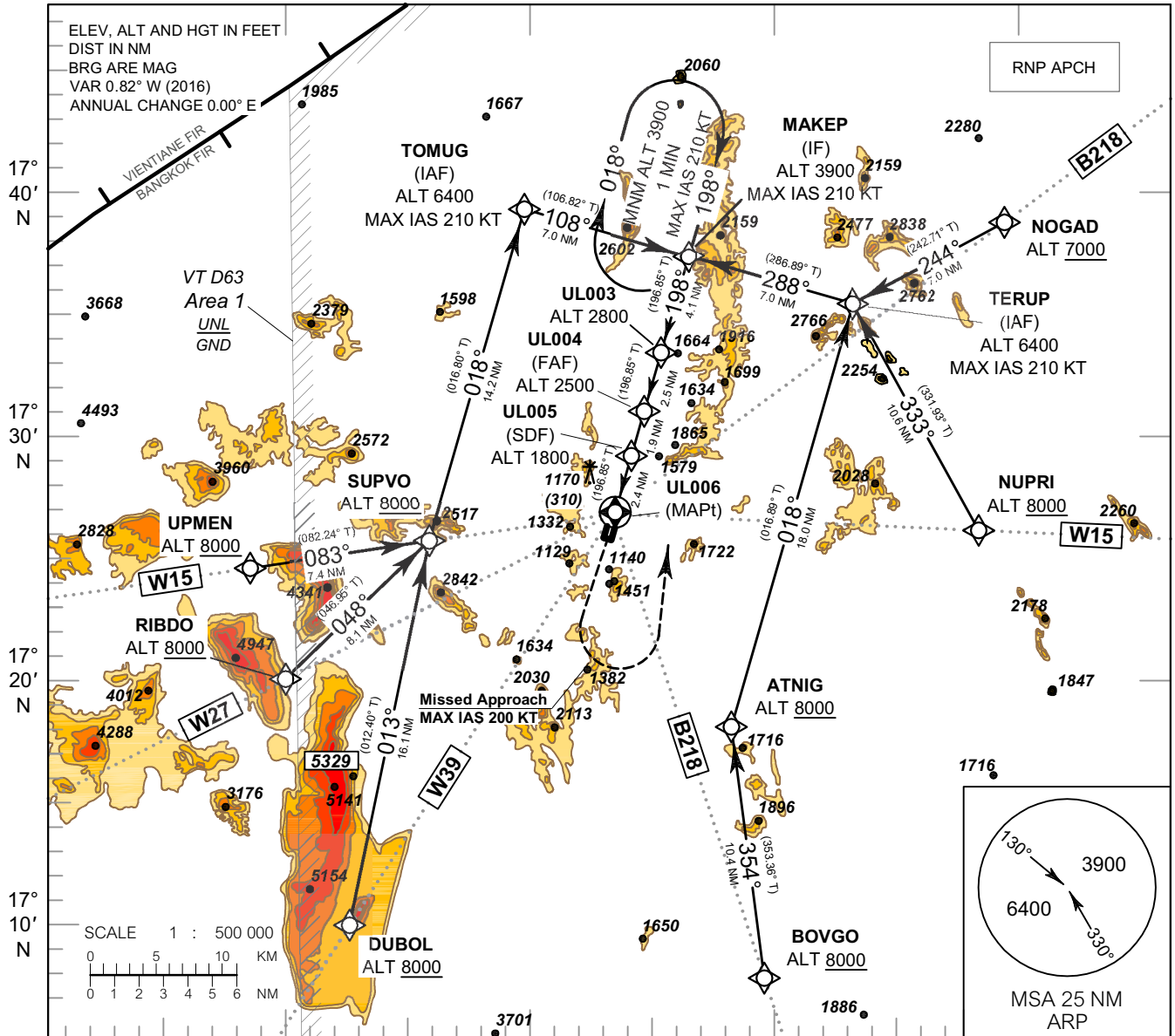
**LOEI / Loei (VTUL)**  
**VOR RWY19**

(IAF) LOYALL	LOY	17 26 49.38 N	101 43 23.12 E
(IAF) RIBDO	R-245 / 15.0 D LOY	17 20 13.68 N	101 29 17.58 E
(IAF) UPMEN	R-263 / 15.0 D LOY	17 24 47.68 N	101 27 50.87 E
IKITA	R-312 / 13.0 D LOY	17 35 20.75 N	101 33 05.54 E
(IAF) NUPRI	R-094 / 15.0 D LOY	17 25 55.41 N	101 59 02.73 E
NOGAD	R-055 / 20.0 D 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
(IF) ENSUP	R-019 / 11.0 D LOY	17 37 19.65 N	101 46 54.81 E
UL001	R-019 / 6.9 D LOY	17 33 25.02 N	101 45 35.96 E
(FAF)	R-019 / 4.4 D LOY	17 31 01.68 N	101 44 47.81 E
(SDF) UL002	R-019 / 2.5 D LOY	17 29 12.73 N	101 44 11.23 E
(MAPt)	R-019 / 0.1 D LOY	17 26 55.11 N	101 43 25.04 E

**INSTRUMENT APPROACH CHART - ICAO** **AERODROME ELEV 860 FT**  
**HEIGHTS RELATED TO AERODROME ELEV**

APP : 122.55  
TWR : 118.35 , 121.5

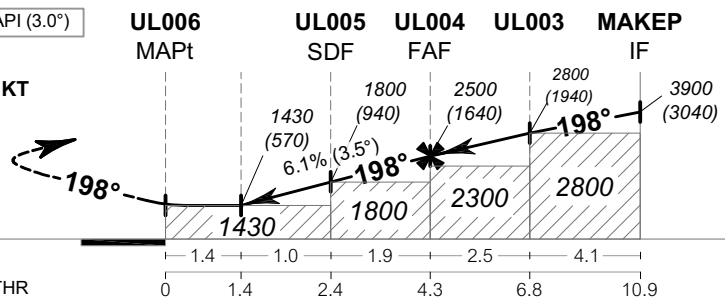
**LOEI / Loei (VTUL)**  
**RNAV (GNSS) RWY19**



Descent Gradient not coincident with PAPI (3.0°)

**MISSED APPROACH :**

**Speed restricted to MAX IAS 200 KT until after turn.**  
Climb on track 198° to 2000 FT, then turn left direct to MAKEP at 3900 FT and hold or as directed by ATC.



TA 11000  
ELEV 860 FT  
(THR RWY19)

OCA/H	A	B	C	D	NM to NEXT WPT	1.4NM	2NM	3NM	4NM	FAF		
LNAV	1430 (570)				Altitude (Height)	1430 (570)	1650 (790)	2020 (1160)	2395 (1535)	2500 (1640)		
					Ground speed	knot	70	90	100	120	140	160
Circling (OCH AAL)	2400 (1540)				Rate of descent	(ft/min)	432	556	618	741	865	988

**INSTRUMENT AERODROME ELEV 860 FT**  
**APPROACH HEIGHTS RELATED TO**  
**CHART - ICAO AERODROME ELEV**

**LOEI / Loei (VTUL)**  
**RNAV (GNSS) RWY19**

TABULAR DESCRIPTION											
RNAV (GNSS) RWY19											
Serial	Path	Waypoint Identifier	Flyover	Course	Magnetic	Distance	Turn	Altitude	Speed	VPA/	Navigation
Number	Descriptor			° M (° T)	Variation	(NM)	Direction	(FT)	(KT)	TCH	Specification
010	IF	DUBOL	-	-	+0.82	-	-	+8000	-	-	RNP APCH
020	TF	SUPVO	-	013°(012.40°)	+0.82	16.1	R	+8000	-	-	RNP APCH
030	TF	TOMUG (IAF)	-	018°(016.80°)	+0.82	14.2	R	@6400	-210	-	RNP APCH
040	TF	MAKEP (IF)	-	108°(106.82°)	+0.82	7.0	-	@3900	-210	-	RNP APCH
010	IF	RIBDO	-	-	+0.82	-	-	+8000	-	-	RNP APCH
020	TF	SUPVO	-	048°(046.95°)	+0.82	8.1	L	+8000	-	-	RNP APCH
030	TF	TOMUG (IAF)	-	018°(016.80°)	+0.82	14.2	R	@6400	-210	-	RNP APCH
040	TF	MAKEP (IF)	-	108°(106.82°)	+0.82	7.0	-	@3900	-210	-	RNP APCH
010	IF	UPMEN	-	-	+0.82	-	-	+8000	-	-	RNP APCH
020	TF	SUPVO	-	083°(082.24°)	+0.82	7.4	L	+8000	-	-	RNP APCH
030	TF	TOMUG (IAF)	-	018°(016.80°)	+0.82	14.2	R	@6400	-210	-	RNP APCH
040	TF	MAKEP (IF)	-	108°(106.82°)	+0.82	7.0	-	@3900	-210	-	RNP APCH
010	IF	BOVGO	-	-	+0.82	-	-	+8000	-	-	RNP APCH
020	TF	ATNIG	-	354°(353.36°)	+0.82	10.4	R	+8000	-	-	RNP APCH
030	TF	TERUP (IAF)	-	018°(016.89°)	+0.82	18.0	L	@6400	-210	-	RNP APCH
040	TF	MAKEP (IF)	-	288°(286.89°)	+0.82	7.0	-	@3900	-210	-	RNP APCH
010	IF	NUPRI	-	-	+0.82	-	-	+8000	-	-	RNP APCH
020	TF	TERUP (IAF)	-	333°(331.93°)	+0.82	10.6	L	@6400	-210	-	RNP APCH
030	TF	MAKEP (IF)	-	288°(286.89°)	+0.82	7.0	-	@3900	-210	-	RNP APCH
010	IF	NOGAD	-	-	+0.82	-	-	+7000	-	-	RNP APCH
020	TF	TERUP (IAF)	-	244°(242.71°)	+0.82	7.0	R	@6400	-210	-	RNP APCH
030	TF	MAKEP (IF)	-	288°(286.89°)	+0.82	7.0	-	@3900	-210	-	RNP APCH
010	IF	MAKEP (IF)	-	-	+0.82	-	-	@3900	-210	-	RNP APCH
020	TF	UL003	-	198°(196.85°)	+0.82	4.1	-	@2800	-	-	RNP APCH
030	TF	UL004 (FAF)	-	198°(196.85°)	+0.82	2.5	-	@2500	-	-	RNP APCH
040	TF	UL005 (SDF)	-	198°(196.85°)	+0.82	1.9	-	@1800	-	-	RNP APCH
050	TF	UL006 (MAPt)	Y	198°(196.85°)	+0.82	2.4	-	@1430	-	-	RNP APCH
060	CA	-	-	198°(196.85°)	+0.82	-	-	+2000	-	-	RNP APCH
070	DF	MAKEP (IF)	-	-	+0.82	-	L	+3900	-200	-	RNP APCH
080	HM	MAKEP (IF)	Y	198°(196.85°)	+0.82	1 minute	R	+3900	-210	-	RNP APCH

**INSTRUMENT** AERODROME ELEV 860 FT  
**APPROACH** HEIGHTS RELATED TO  
**CHART - ICAO** AERODROME ELEV

**LOEI / Loei (VTUL)**

**RNAV (GNSS) RWY19**

<b>WAYPOINT LIST</b>	
<b>RNAV (GNSS) RWY19</b>	
Waypoint Identifier	Coordinates
DUBOL	17° 10' 03.52" N 101° 31' 53.94" E
RIBDO	17° 20' 13.68" N 101° 29' 17.58" E
UPMEN	17° 24' 47.68" N 101° 27' 50.87" E
SUPVO	17° 25' 47.60" N 101° 35' 30.10" E
TOMUG	17° 39' 24.17" N 101° 39' 47.24" E
BOVGO	17° 07' 39.61" N 101° 49' 35.15" E
ATNIG	17° 18' 00.22" N 101° 48' 19.99" E
NUPRI	17° 25' 55.41" N 101° 59' 02.73" E
NOGAD	17° 38' 33.69" N 102° 00' 20.87" E
TERUP	17° 35' 19.70" N 101° 53' 48.99" E
MAKEP	17° 37' 22.06" N 101° 46' 48.19" E
UL003	17° 33' 25.68" N 101° 45' 33.53" E
UL004	17° 31' 01.54" N 101° 44' 48.02" E
UL005	17° 29' 12.00" N 101° 44' 13.44" E
UL006 (THR 19)	17° 26' 53.63" N 101° 43' 29.77" E

**INTENTIONALLY BLANK**