

1. GENERAL

1.1. ATIS

ATIS 125.25
127.4 (Russian)

1.2. LOW VISIBILITY PROCEDURES (LVP)

1.2.1. GENERAL

LVP shall come into force, when RWY visibility values are less than 550m.

The commencement of LVP will be broadcasted by ATIS: "Low visibility procedures in progress".

The term "Low visibility procedure" means, that an interval shall be maintained between arriving ACFT to provide ILS critical area clear of other ACFT, when ACFT is on final approach.

1.2.2. ARRIVAL

Vacating of RWY 12 via TWY A or B.

When the flight crew has doubts in taxiing safety, the pilot shall stop the ACFT and request Follow-me car.

ACFT arriving on RWY 12 shall be met after landing by the Follow-me car on TWY A or B on flight crews request. Further taxiing of ACFT after the Follow-me car shall be carried out under control of GND controller.

Pilots should not request start-up clearance when the value of RVR is below the APT take-off minimum.

1.2.3. DEPARTURE

Towing of ACFT shall be carried out with navigation and flashing lights switched on.

It is prohibited to cross the RWY holding position line designated by lighting markers and DAY marking on TWYs A thru D and Z without TWR controller's permission.

1.3. TAXI PROCEDURES

Taxiing out to RWY, crossing RWY and along RWY by TWR controller's permission only.

Taxiing or towing on apron under supervision of GND controller.

In the DAYTIME when visibility is 2000m or less and at NIGHT taxiing via TWY C (on the segment from unserviceable RWY to TWY M) and then via TWY M to apron 1 by Follow-me car.

TWY Z restricted to MTOW 100t.

Taxiing along TR1 through the apron MAX wingspan 166'/50.5m.

1.4. PARKING INFORMATION

Taxiing and towing into stands as well as towing out of stands to start-up points shall be carried out by marshaller's instruction.

Stands 1 thru 29 available for helicopters.

Stand 5 is available for de-icing.

1.5. OTHER INFORMATION

TWY D is available as a RWY turn pad.

Birds in vicinity of APT.

2. ARRIVAL

2.1. COMMUNICATION FAILURE PROCEDURES

Maintain the last flight level assigned and acknowledged or at flight level indicated in the flight plan towards VORDME MNW (NDB/MKR MD). After passing MNW (MD) proceed to holding area MM003 or MM011 depending on active RWY. After passing MM003/MM011 execute racetrack pattern on heading 205°/25°, descend to FL 70 and hold to burn out (dump) fuel. Afterwards land according to IAP.

2.2. NOISE ABATEMENT PROCEDURES

RWY 30

Noise abatement procedures shall be executed by all ACFT. If special meteorological conditions, such as considerable wind, cumulo-nimbus clouds etc. are present in arrival and approach sectors, ATC unit may, if it is considered necessary for safety reasons, at its own discretion or by a pilot-in-command's request deviate from the provisions stated below.

Restrictions

The required noise abatement procedures shall not be observed over the overflowed areas in the following cases:

- if there is ice, slush, water, mud, rubber, oil etc on RWY and friction coefficient is 0.4 or less;
- when ceiling is less than 150m or VIS is less than 1800m;
- when crosswind component (including gusts) on RWY exceeds 7m/sec;
- when tailwind component on RWY exceeds 2.5m/sec;
- when wind shear is forecasted or reported, or when it is expected that unfavourable weather conditions may influence ACFT approach and landing.

During instrument as well as visual approach it is not allowed to fly below ILS GP.

No noise abatement procedure shall envisage the increasing of indicated air speed during descent.

A displacement of THR shall not be used as a noise abatement measure.

AIR-GROUND communication shall be kept to a minimum.

Downwind landing of ACFT taking into account friction coefficient shall be allowed in cases when this direction is optimal for noise abatement over the city or in cases when upwind landing does not provide safety or is prohibited. A tailwind component shall correspond to the norms established in Airplane Flight Manual.

Reverse thrust power (with the exception of idle thrust) shall be used only for safety reasons.

2.3. CAT II OPERATIONS

RWY 12 approved for CAT II operations, special aircrew and ACFT certification required.

3. DEPARTURE

3.1. START-UP, PUSH-BACK AND TAXI PROCEDURES

Start-up of ACFT engines in the process of its towing is prohibited.

ACFT crews shall activate transponder (Mode S) before request for push-back or engines start-up and deactivate it after parking into stand.

3.2. NOISE ABATEMENT PROCEDURES

Noise abatement procedures during take-off and climbing phase shall be executed by all ACFT, except in case of reduction of flight safety and in case of engine failure.

Restrictions

Downwind take-off taking into account friction coefficient shall be cleared in cases when the direction is optimal for noise abatement over the city or in cases when upwind take-off does not ensure safety or is prohibited. The tailwind component shall correspond to the norms established in the Flight Manual.

The minimum indicated air speed during climb shall not be less than $V_2 + 10$ KT or less than prescribed in the Flight Manual if higher.

Maintaining the minimum indicated air speed of climb is not required if it leads to the exceeding of the minimum permissible angle of attack.

The reduction of power shall not be applied until:

- reaching 2030' (300m);
- the established standard power mode enables to maintain the established climb gradient of not less than 4% at the above specified speed and with maximum certified take-off mass;
- take-off flight path provides overflying of all obstacles located under the flight path with sufficient clearance when all engines are operating normally and also taking into account possible engine failure and time period necessary for the rest engines to develop full power.

Special Take-off Procedure

Apply two special take-off procedures, NADP 1 and NADP 2. Use any of them for reaching necessary effect (ICAO Doc 8168, Vol I, Part VII, Chapter 3).

3.3. COMMUNICATION FAILURE PROCEDURES

3.3.1. COMMUNICATION FAILURE AFTER TAKE-OFF OR MISSED APPROACH

If at 1700' (200m) communication with MINERALNYYE VODY-Krug is not established continue climbing to 4000' (900m), fly according to IAP and land at Mineralnyye Vody AD depending on meteorological conditions and ACFT landing mass.

If due to meteorological conditions or other reasons it is impossible to land at Mineralnyye Vody AD, after carrying out the aerodrome traffic circuit flight and passing VORDME MNW (NDB/MKR MD) at 3000' (600m) or after going around ACFT has the right to proceed:

- to the destination AD climbing to altitude (FL) and along the route according to flight plan and land at the destination AD with minimum deviations from the time indicated in the flight plan;
- to the alternate AD, chosen when making a decision for departure, at MEL or at FL specially established for a flight without radio communication depending on flight direction (FL 140 - FL 150 or FL 240 - FL 250) along departure route climbing to the indicated FL;
- to holding area MM003 or MM011, depending on active RWY heading climbing to FL 70. After passing MM003/MM011, execute racetrack pattern on heading 205°/025° and hold to burn out (dump) fuel. Afterwards land according to IAP.

3. DEPARTURE

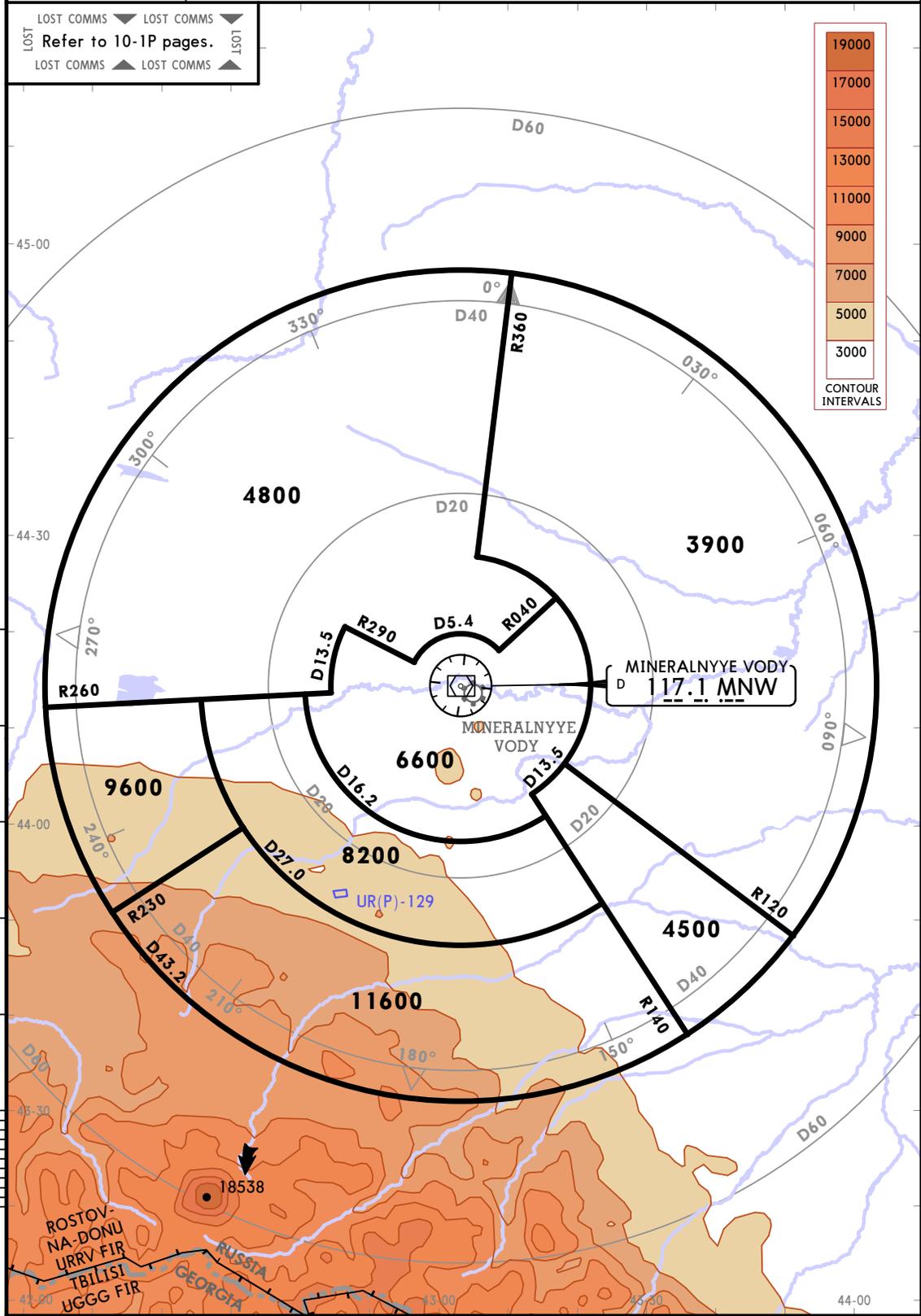
3.3.2. COMMUNICATION FAILURE DURING CLIMB TO ALTITUDE (FL)

Maintain the last FL (altitude) assigned and acknowledged until CTA exit point. After that pilot has the right:

- to proceed to the destination AD climbing to altitude (FL) and along the route according to flight plan and land at the destination AD with minimum deviations from the time indicated in the flight plan;
- to return to the departure AD at the lower flight level of the same direction nearest to the assigned one, not below safe flight altitude, or at flight level specially established for a flight without radio communication depending on flight direction (FL 140 - FL 150 or FL 240 - FL 250).

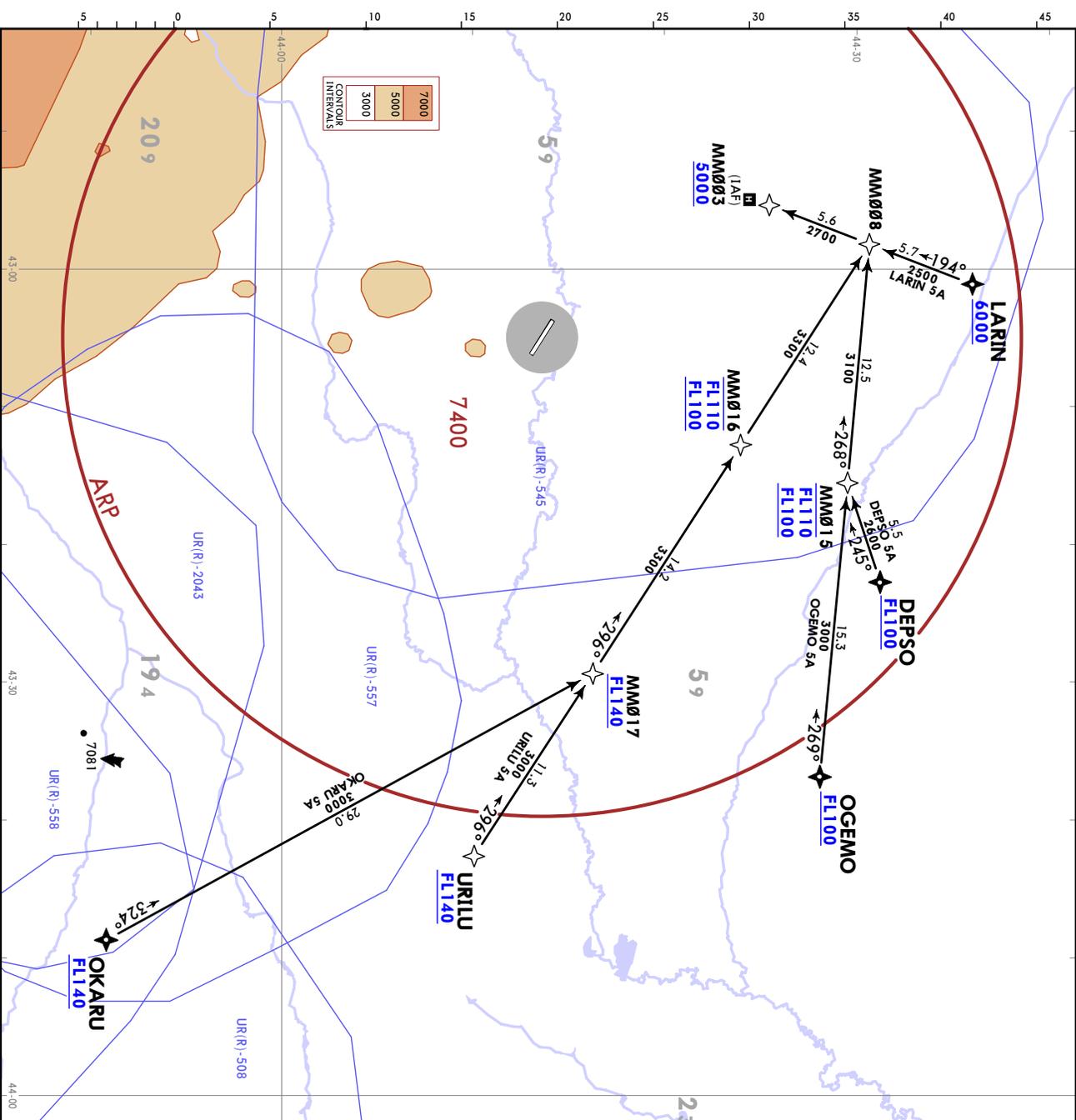
After passing VORDME MNW (NDB/MKR MD) proceed to holding area MM003 or MM011 depending on active RWY. After passing MM003/MM011 execute race-track pattern on heading 205°/25°, descend to FL 70 and hold to burn out (dump) fuel. Afterwards land according to IAP.

MINERALNYYE VODY Krug (TWR/R) 120.7	Alt Set: hPa (MM on request) Trans level: FL80 FL90 if pressure is less than 1013 hPa (760 mm) FL100 if pressure is less than 977 hPa (733 mm)
Apt Elev 1047	Trans alt: 7000 1. This chart may only be used for cross-checking of altitudes assigned while under RADAR control. 2. When vectoring is carried out under low-temperature conditions, minimum vectoring altitudes for IFR flight must be temperature corrected.



CHANGES: Chart completely revised.

URMM/MRV
MINERALNYE VODY



Alt Elev 1047
125.25 (Russian 127.4)

Alt Set: hPa (MM on request)
Trans level: FL80
FL90 if pressure is less than 1013 hPa (760 mm)
FL100 if pressure is less than 977 hPa (735 mm)
1. GNSS required.
2. RNAV 1.

DEPZO 5A [DEPSSA] Ⓛ
OGEMO 5A [OGEM5A] Ⓛ
BY ATC
LARIN 5A [LARISA] Ⓛ
OKARU 5A [OKAR5A] Ⓛ
URILU 5A [URIL5A] Ⓛ
RNAV ARRIVALS
(RWY 12)

Ⓛ Not available when UR(R)-545 active.
Ⓜ Not available when UR(R)-508, UR(R)-545, UR(R)-557, UR(R)-558, UR(R)-2043 active.

HOLDING OVER
MMØØ3
MAX FL100
MHA 3900
025°
205°

LOST COMMS	LOST COMMS	LOST COMMS	FEET METERS
COMMS	Refer to 10-1P pages.	COMMS	QNH (QFE)
LOST COMMS	LOST COMMS	LOST	7400 (1940)
			6000 (1515)
			5000 (1210)

ATIS
125.25 (Russian **127.4**)

Apt Elev
1047

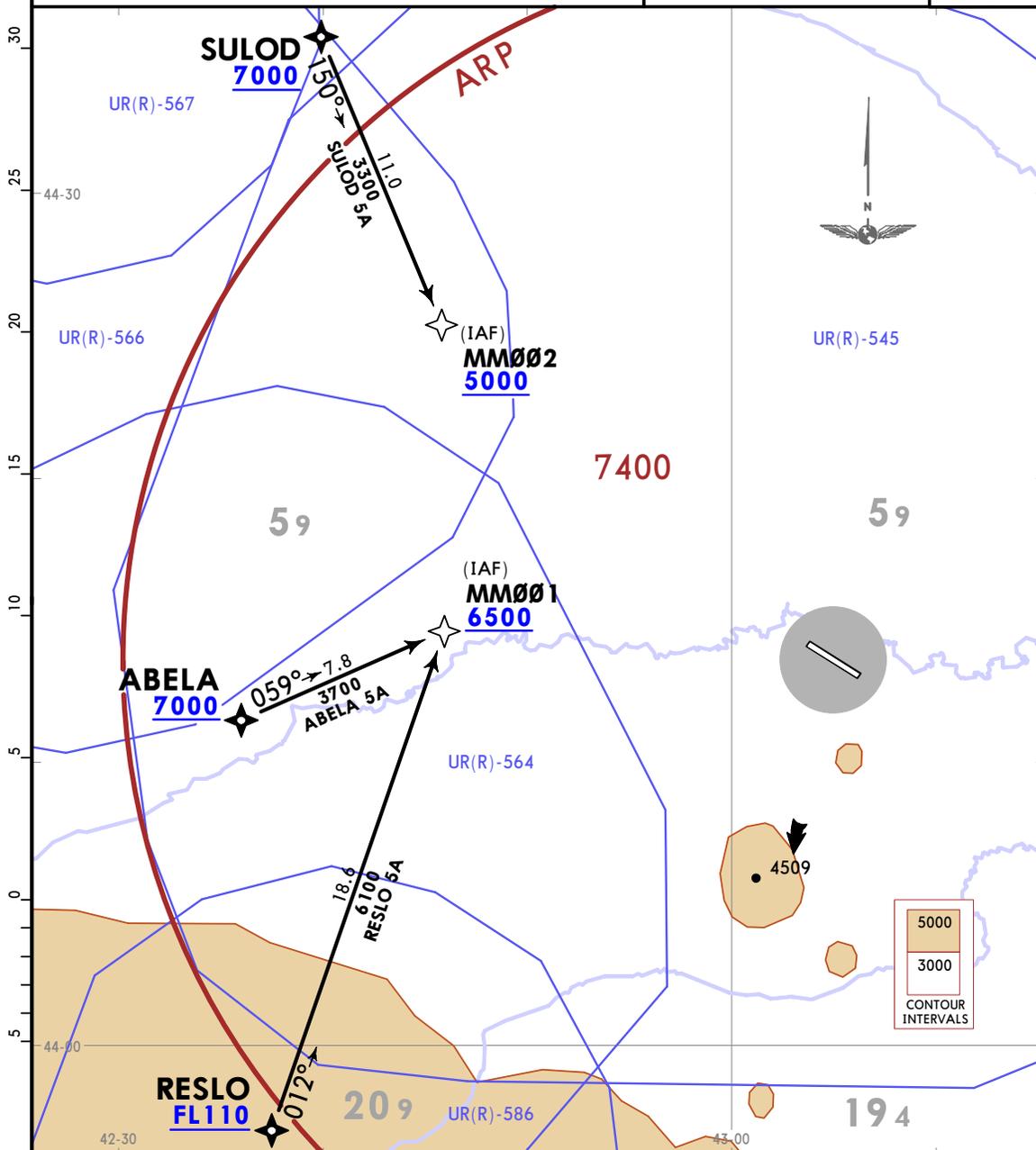
Alt Set: hPa (MM on request)
Trans level:
FL80
FL90 if pressure is less than 1013 hPa (760 mm)
FL100 if pressure is less than 977 hPa (733 mm)

1. GNSS required.
2. RNAV 1.

ABELA 5A [ABEL5A] ①
RESLO 5A [RESL5A] ②
SULOD 5A [SULO5A] ③
RNAV ARRIVALS
(RWY 12)

- ① Not available when UR(R)-545, UR(R)-564, UR(R)-566 active.
- ② Not available when UR(R)-545, UR(R)-564, UR(R)-586 active.
- ③ Not available when UR(R)-545, UR(R)-566, UR(R)-567 active.

LOST COMMS	LOST COMMS	COMMS	FEET	METERS
Refer to 10-1P pages.	Refer to 10-1P pages.		QNH	(QFE)
			7400	(1940)
			7000	(1820)
			6500	(1670)
			5000	(1210)



27 NOV 20

10-2B EFF 3 Dec

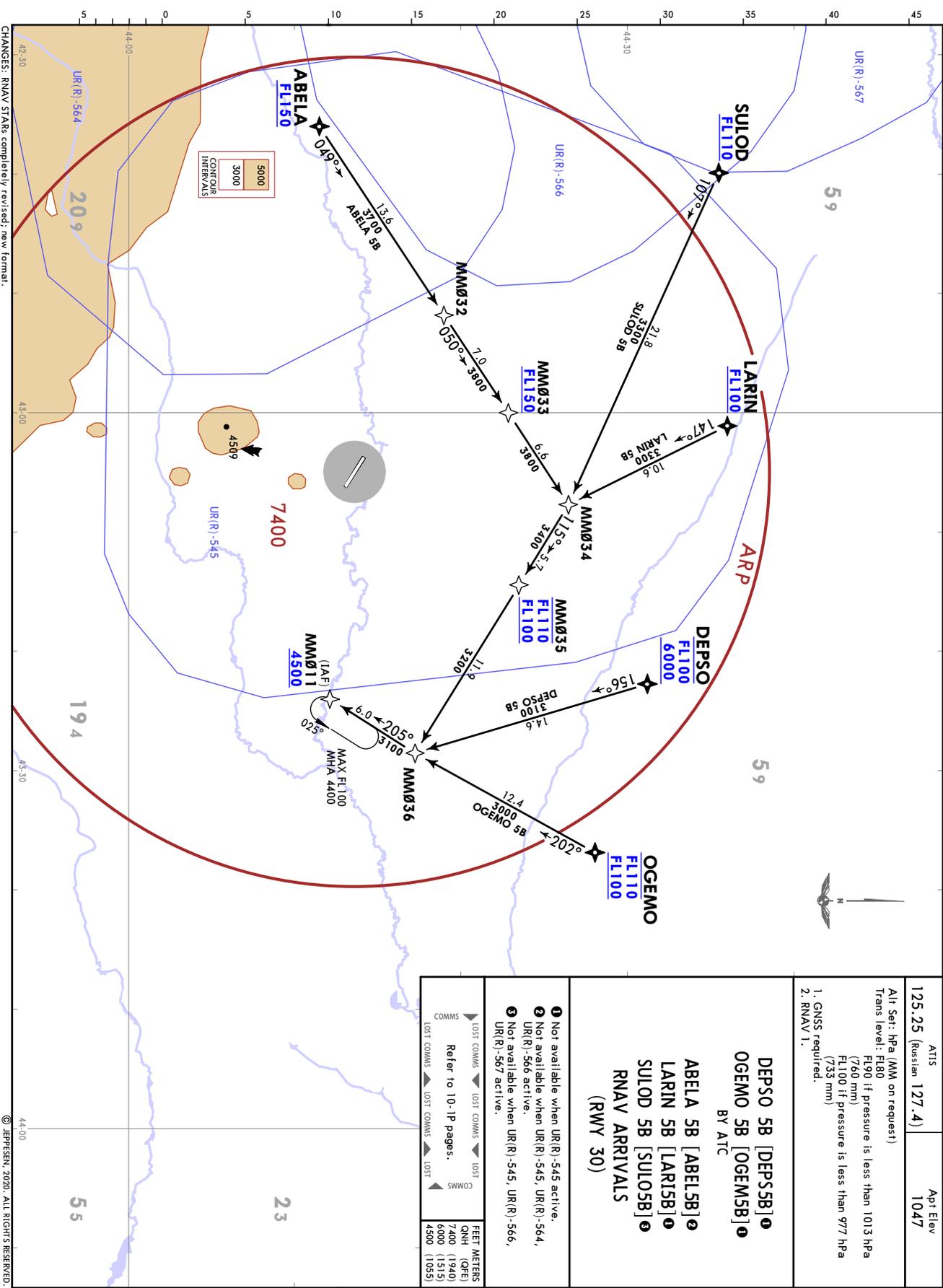
ATIS	125.25 (Russian 127.4)	Ap't Elev	1047
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Alt Set: hPa (MM on request)
Trans level: FL80
FL90 if pressure is less than 1013 hPa
(760 mm)
FL100 if pressure is less than 977 hPa
(735 mm)
1. GNSS required.
2. RNAV 1.

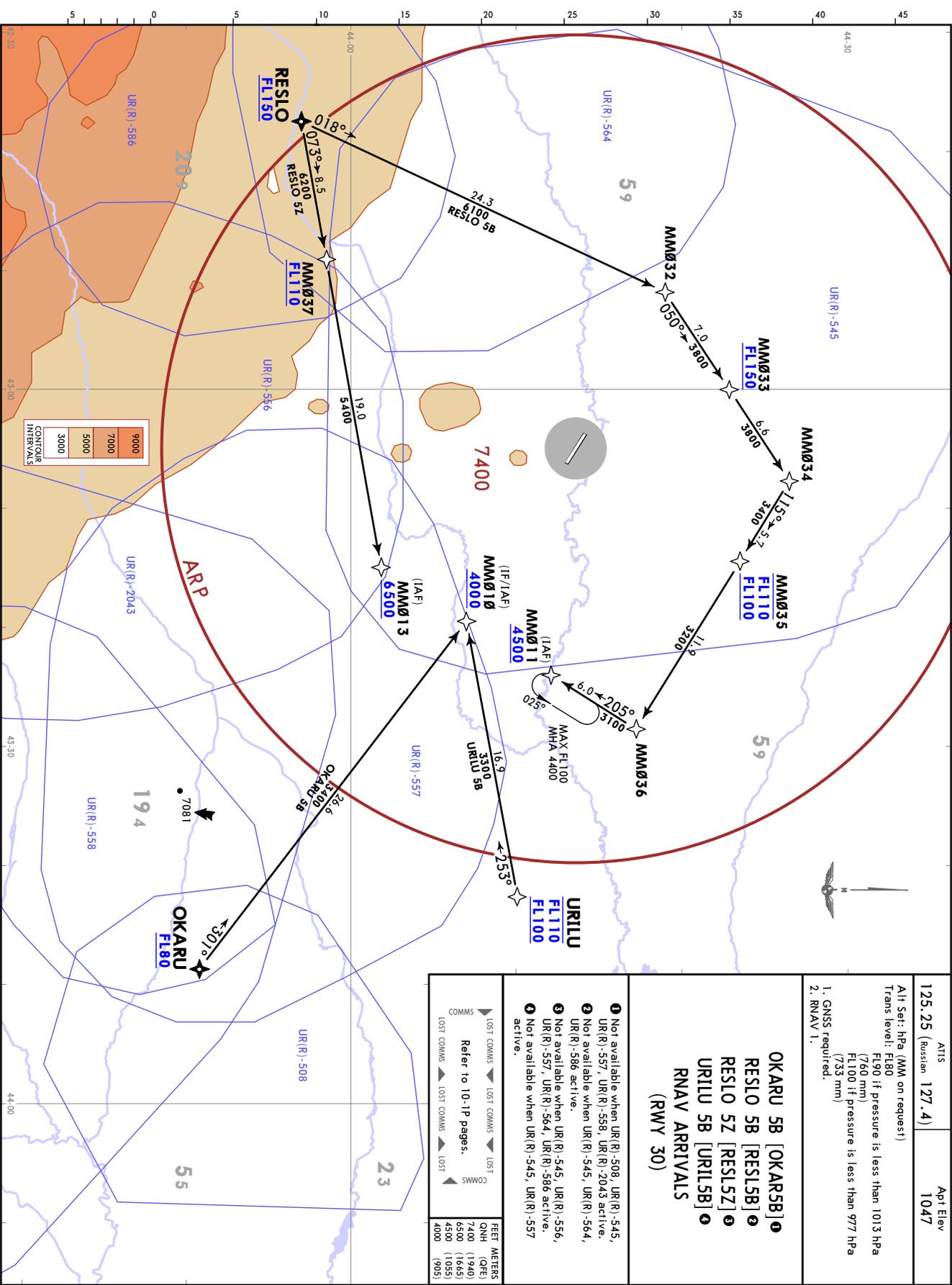
DEPSO 5B [DEPSSB] ①
OGEMO 5B [OGEM5B] ①
BY ATC

ABELA 5B [ABEL5B] ②
LARIN 5B [LAR5B] ①
SULOD 5B [SULO5B] ②
RNAV ARRIVALS
(RWY 30)

- ① Not available when UR(R)-545 active.
 - ② Not available when UR(R)-545, UR(R)-564, UR(R)-566 active.
 - ③ Not available when UR(R)-545, UR(R)-566, UR(R)-567 active.
- | | | | | |
|-----------------------|-------------|-------------|-------------|-------------|
| COMMMS | LOST COMMMS | LOST COMMMS | LOST COMMMS | FEET METERS |
| Refer to 10-1P pages. | | | | QNH (QFE) |
| | | | | 7400 (1940) |
| | | | | 6000 (1515) |
| | | | | 4500 (1055) |



CHANGES: RNAV STARS completely revised; new format.



125.25 (Russian 127.4)	Atis Elev
	1047

Alt Set: hPa (MM on request)
Trans level: FL80
FL90 if pressure is less than 1013 hPa
(760 mm)
FL100 if pressure is less than 977 hPa
(733 mm)
1. GNSS required.
2. RNAV 1.

OKARU 5B [OKAR5B] ●
RESLO 5B [RESL5B] ●
RESLO 5Z [RESL5Z] ●
URILU 5B [URL5B] ●
RNAV ARRIVALS
(RWY 30)

- Not available when UR(R)-508, UR(R)-545, UR(R)-557, UR(R)-558, UR(R)-2043 active.
- Not available when UR(R)-545, UR(R)-564, UR(R)-586 active.
- Not available when UR(R)-545, UR(R)-556, UR(R)-557, UR(R)-564, UR(R)-586 active.
- Not available when UR(R)-545, UR(R)-557 active.

LOST COMMS	LOST COMMS	LOST COMMS	LOST COMMS	FEET	METERS
COMMS	Refer to 10-1P pages.	COMMS	COMMS	QNH	(QFE)
LOST COMMS	LOST COMMS	LOST COMMS	LOST COMMS	7400	(1940)
				6500	(1665)
				4500	(1055)
				4000	(905)

CHANGES: RNAV STARS completely revised; new format. © JEPPESEN, 2020. ALL RIGHTS RESERVED.

URMM/MRV
MINERALNYE VODY

Alt Elev
1047

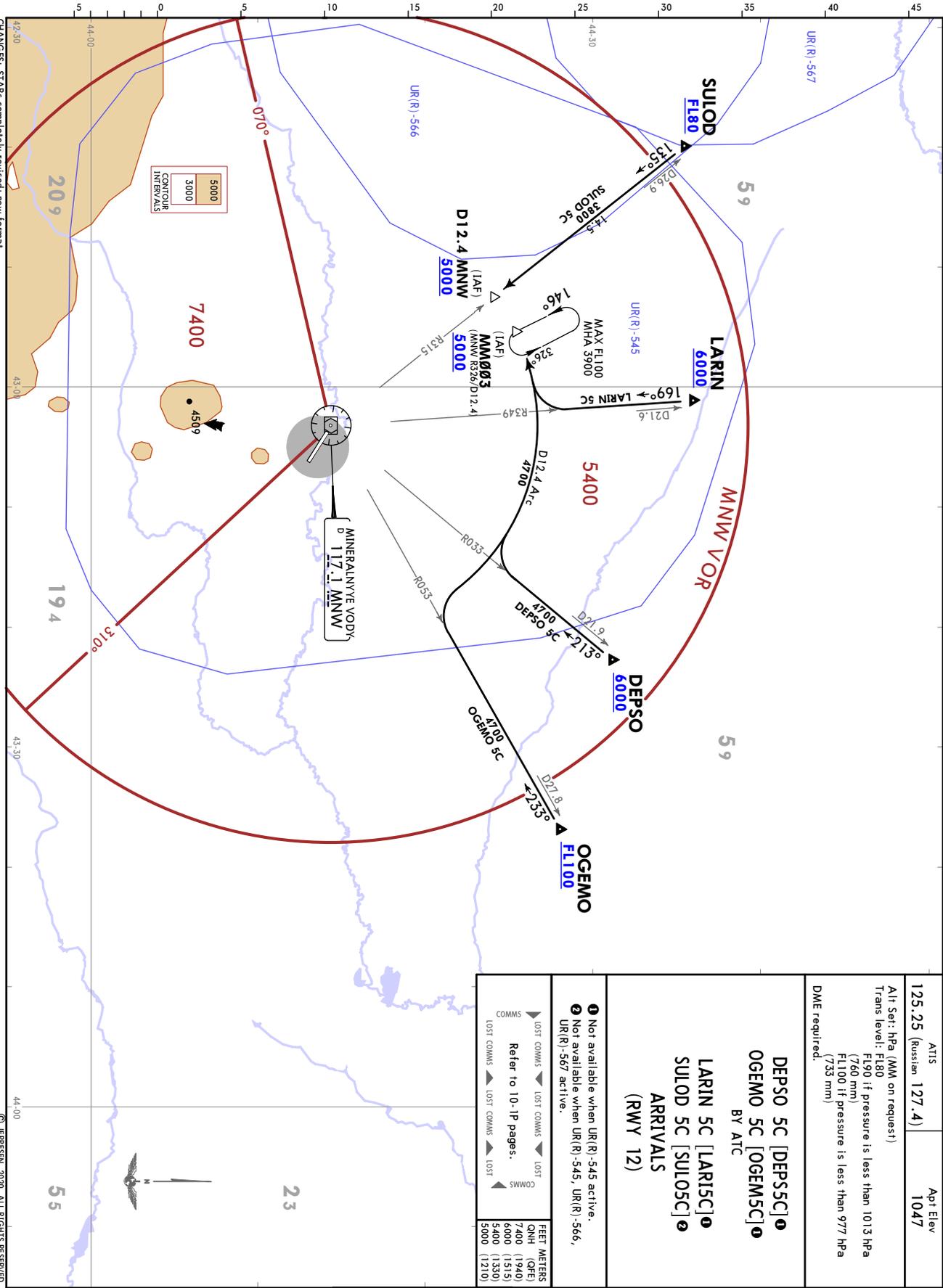
125.25 (Russian 127.4)

Alt Set: hPa (MM on request)
Trans level: FL80
FL90 if pressure is less than 1013 hPa
(760 mm)
FL100 if pressure is less than 977 hPa
(735 mm)
DME required.

DEPSO 5C [DEP55C] ①
OGEMO 5C [OGEM5C] ①
BY ATC
LARIN 5C [LAR15C] ①
SULOD 5C [SUL05C] ②
ARRIVALS
(RWY 12)

① Not available when UR(R)-545 active.
② Not available when UR(R)-545, UR(R)-566,
UR(R)-567 active.

COMMS	LOST COMMS	LOST COMMS	LOST COMMS	FEET METERS
Refer to 10-1P pages.	QNH (QFE)			
LOST COMMS	LOST COMMS	LOST COMMS	LOST COMMS	7400 (1940)
				6000 (1515)
				5400 (1330)
				5000 (1210)



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URMM/MRV
MINERALNYE VODY

JEPPESEN MINERALNYE VODY, RUSSIA
27 NOV 20 10-2E EEF 3 Dsc

STAR

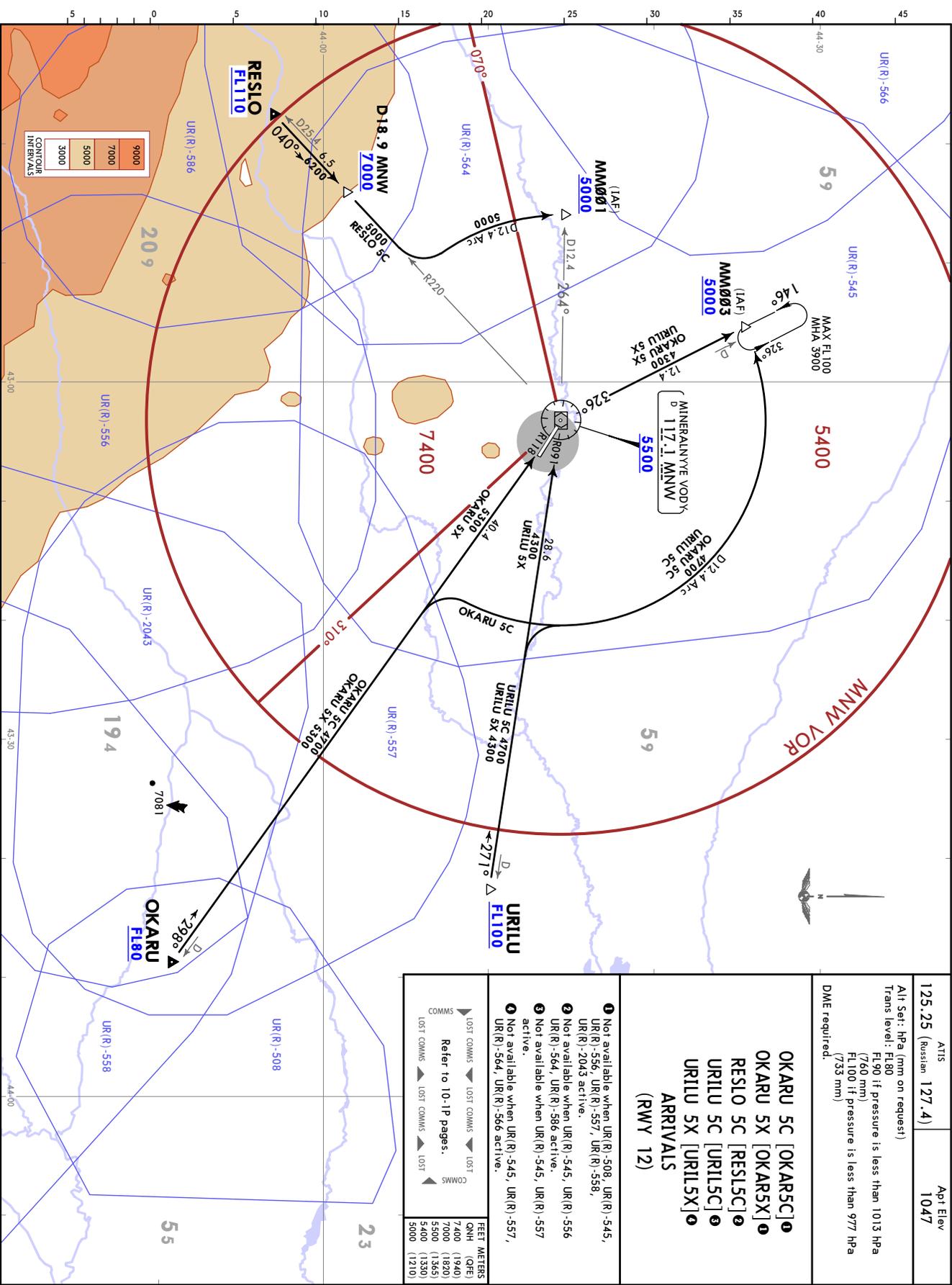
ATIS 125.25 (Russian 127.4) Apt Elev 1047

Alt Set: hPa (mm on request)
Trans level: FL80
FL90 if pressure is less than 1013 hPa
(760 mm)
FL100 if pressure is less than 977 hPa
(733 mm)
DME required.

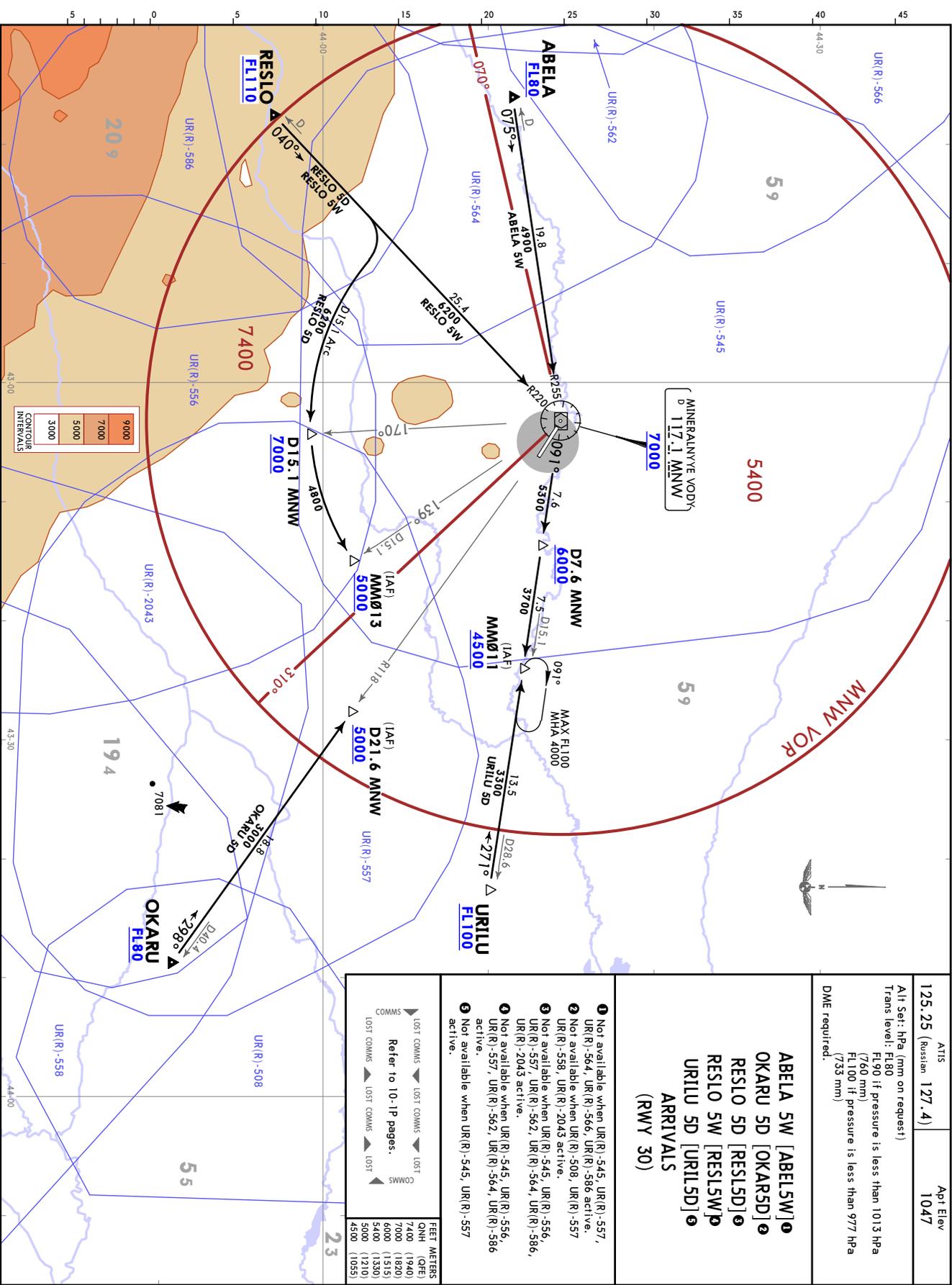
OKARU SC [OKAR5C] ①
OKARU 5X [OKAR5X] ①
RESLO 5C [RESL5C] ①
URILU 5C [URIL5C] ①
URILU 5X [URIL5X] ①
ARRIVALS
(RWY 12)

- 1 Not available when UR(R)-508, UR(R)-545, UR(R)-556, UR(R)-557, UR(R)-558, UR(R)-2043 active.
- 2 Not available when UR(R)-545, UR(R)-556, UR(R)-564, UR(R)-586 active.
- 3 Not available when UR(R)-545, UR(R)-557 active.
- 4 Not available when UR(R)-545, UR(R)-557, UR(R)-564, UR(R)-566 active.

COMMS	LOST COMMS	LOST COMMS	COMMS	LOST COMMS	FEET METERS
LOST COMMS	LOST COMMS	LOST COMMS	COMMS	LOST COMMS	QNH (QFE)
					7400 (1940)
					7000 (1820)
					5500 (1365)
					5400 (1330)
					5000 (1210)



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ATIS	125.25 (Russian 127.4)	App Elev	1047
Alt Set: hPa (mm on request)			
Trans level: FL80			
FL90 if pressure is less than 1013 hPa			
(760 mm)			
FL100 if pressure is less than 977 hPa			
(733 mm)			
DME required.			

ABELA 5W [ABEL5W] **①**
 OKARU 5D [OKAR5D] **②**
 RESLO 5D [RESL5D] **③**
 RESLO 5W [RESL5W] **④**
 URILU 5D [URIL5D] **⑤**
 ARRIVALS
 (RWY 30)

- Not available when UR(R)-545, UR(R)-557, UR(R)-564, UR(R)-566, UR(R)-586 active.
- Not available when UR(R)-508, UR(R)-557, UR(R)-558, UR(R)-2043 active.
- Not available when UR(R)-545, UR(R)-556, UR(R)-557, UR(R)-562, UR(R)-564, UR(R)-586, UR(R)-2043 active.
- Not available when UR(R)-545, UR(R)-556, UR(R)-557, UR(R)-562, UR(R)-564, UR(R)-586 active.
- Not available when UR(R)-545, UR(R)-557 active.

FEET METERS	
QNH (QFE)	QNH (QFE)
7400 (1940)	7400 (1940)
7000 (1820)	7000 (1820)
6000 (1515)	6000 (1515)
5000 (1200)	5000 (1200)
4500 (1055)	4500 (1055)

LOST COMMS LOST COMMS LOST COMMS
 Refer to 10-1P pages.
 LOST COMMS LOST COMMS LOST COMMS

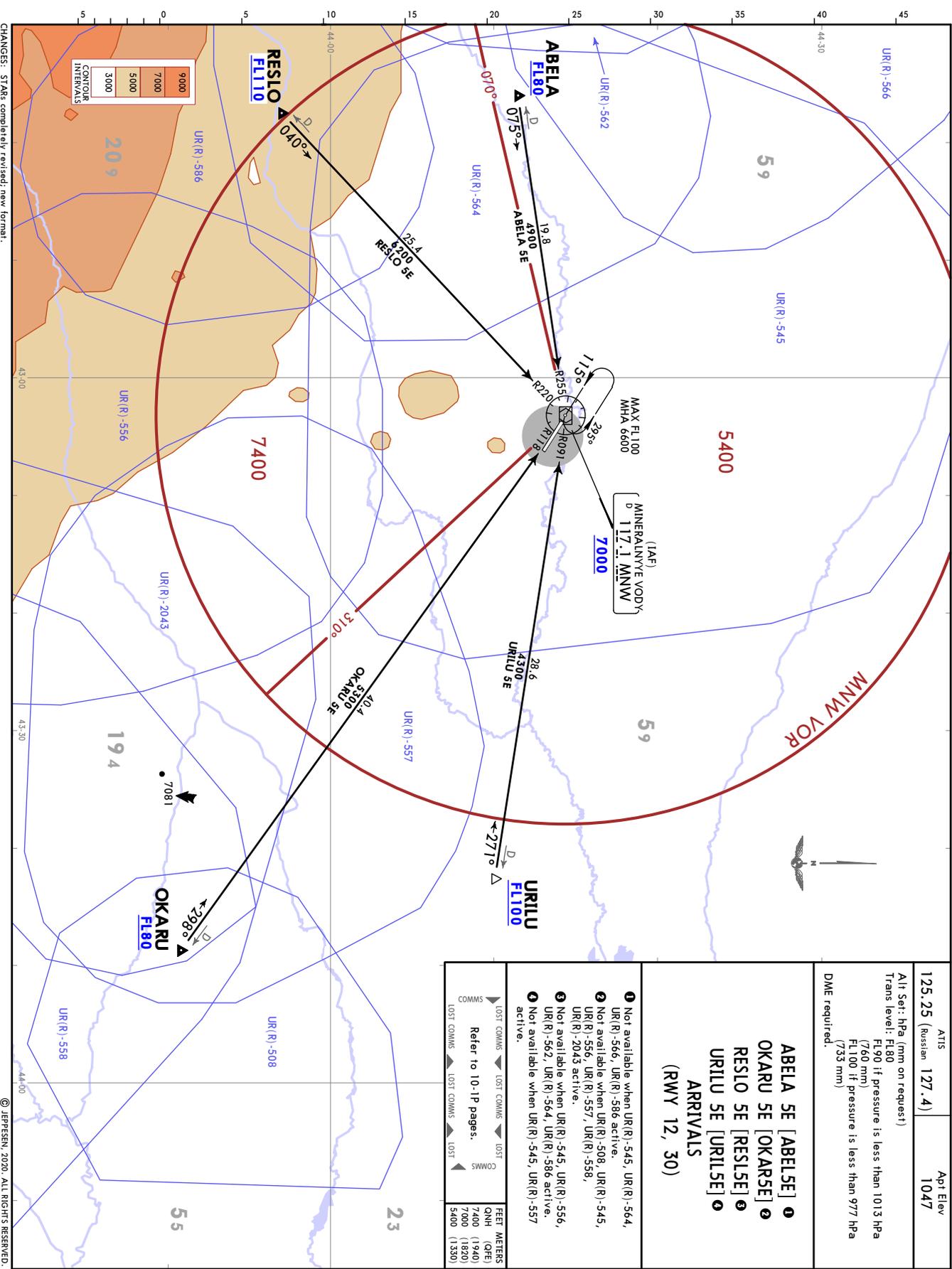
CHANGES: STARS completely revised; new format.
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ATIS	125.25 (Russian 127.4)	Ap't Elev	1047
Alt Set: hPa (mm on request)			
Trans level: FL80			
FL90 if pressure is less than 1013 hPa (760 mm)			
FL100 if pressure is less than 977 hPa (733 mm)			
DME required.			

ABELA SE [ABELSE] ①
OKARU SE [OKARSE] ②
RESLO SE [RESLSE] ③
URILU SE [URILSE] ④
ARRIVALS
(RWY 12, 30)

- Not available when UR(R)-545, UR(R)-564, UR(R)-566, UR(R)-586 active.
- Not available when UR(R)-508, UR(R)-545, UR(R)-556, UR(R)-557, UR(R)-558, UR(R)-2043 active.
- Not available when UR(R)-545, UR(R)-556, UR(R)-567, UR(R)-564, UR(R)-586 active.
- Not available when UR(R)-545, UR(R)-557 active.

LOST COMMS	LOST COMMS	LOST COMMS	FEET METERS
LOST COMMS	LOST COMMS	LOST COMMS	QNH (QFE)
LOST COMMS	LOST COMMS	LOST COMMS	7400 (1940)
LOST COMMS	LOST COMMS	LOST COMMS	7000 (1820)
LOST COMMS	LOST COMMS	LOST COMMS	5400 (1330)



CHANGES: STARS completely revised; new format.

27 NOV 20 10-2K EFF 3 Desc

ATIS	125.25 (Russian 127.4)	ApI Elev	1047
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Alt Set: hPa (MM on request)
Trans level: FL80
FL90 if pressure is less than 1013 hPa (760 mm)
FL100 if pressure is less than 977 hPa (733 mm)
DME required.

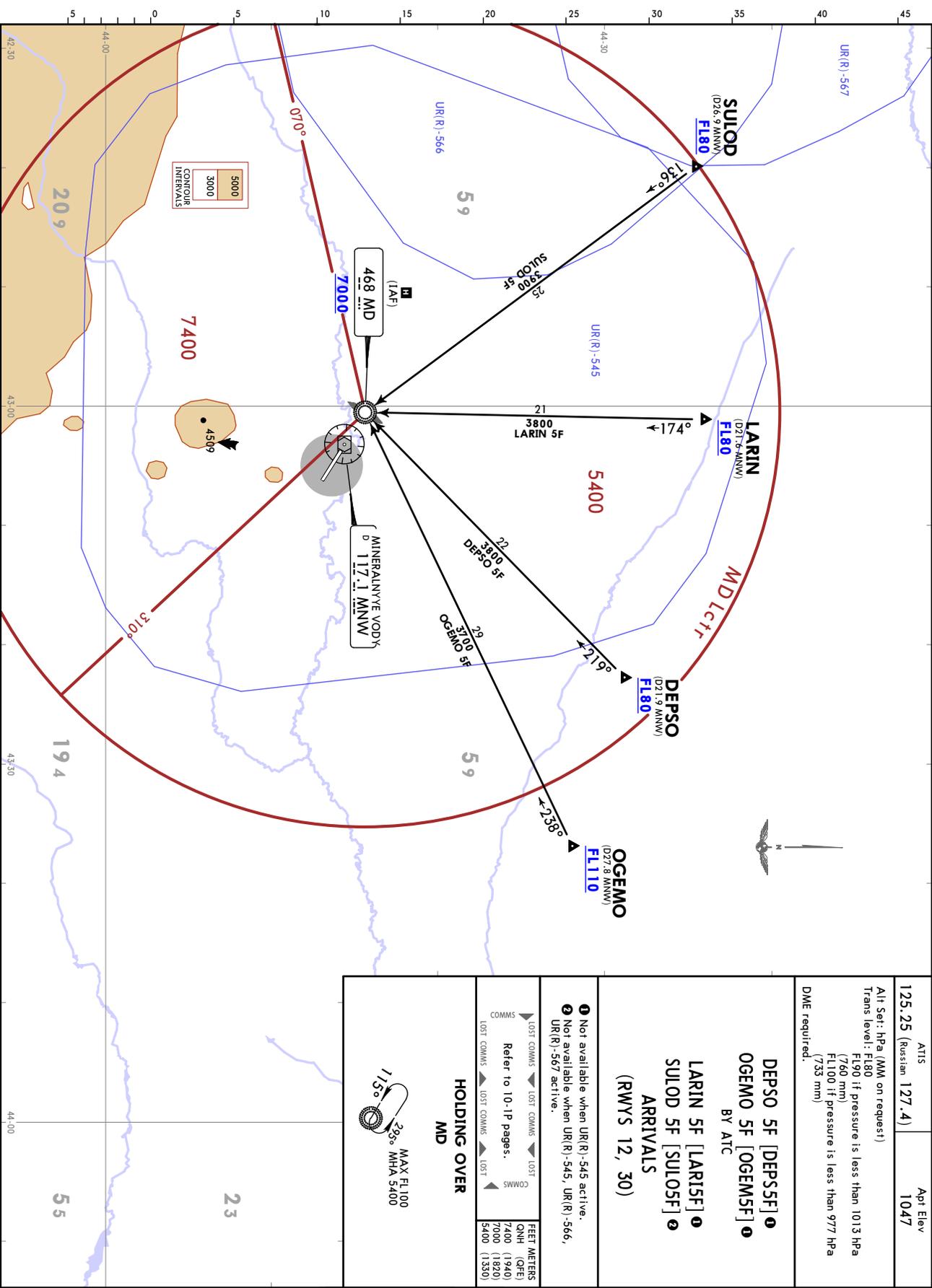
DEPSO 5F [DEPSSF] ①
OGEMO 5F [OGEM5F] ①
BY ATC
LARIN 5F [LARISF] ①
SULOD 5F [SULOSF] ②
ARRIVALS
(RWYS 12, 30)

① Not available when UR(R)-545 active.
② Not available when UR(R)-545, UR(R)-566, UR(R)-567 active.

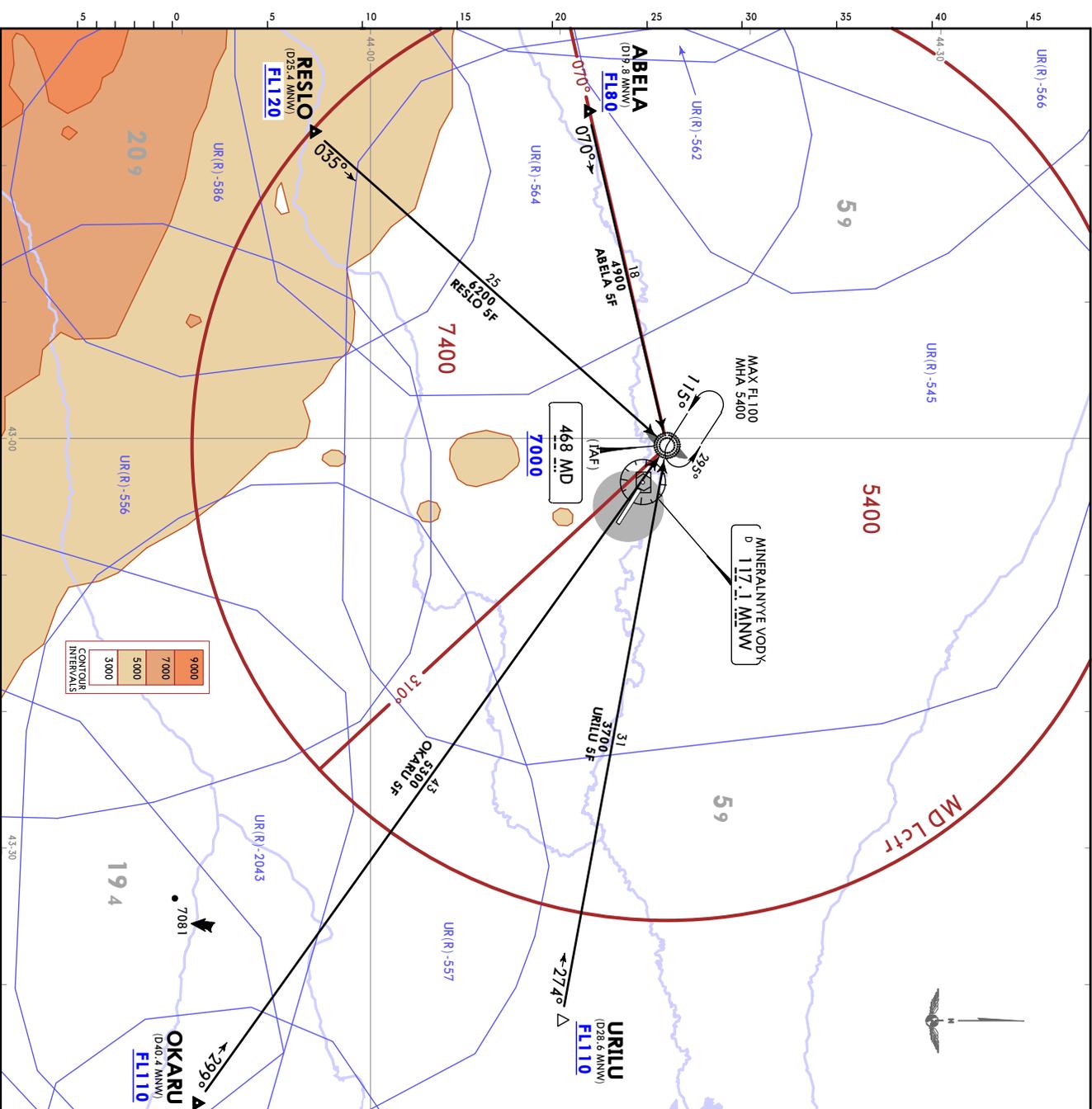
LOST COMMS	LOST COMMS	LOST COMMS	LOST COMMS	FEET METERS
COMMS	COMMS	COMMS	COMMS	QNH (QFE)
LOST COMMS	LOST COMMS	LOST COMMS	LOST COMMS	7400 (1940)
				7000 (1820)
				5400 (1330)

HOLDING OVER
MD

MAX FL100
235° MHA 5400



ATIS	125.25 (Russian 127.4)	Appt Elev	1047
Alt Set: hPa (mm on request)			
Trans level: FL80			
FL90 if pressure is less than 1013 hPa (760 mm)			
FL100 if pressure is less than 977 hPa (733 mm)			
DME required.			
ABELA SF [ABELSF] ① OKARU SF [OKARSF] ② RESLO SF [RESLSF] ③ URILU SF [URILSF] ④ ARRIVALS (RWY 12, 30)			
<p>① Not available when UR(R)-545, UR(R)-564, UR(R)-566, UR(R)-586 active.</p> <p>② Not available when UR(R)-508, UR(R)-545, UR(R)-556, UR(R)-557, UR(R)-558, UR(R)-2043 active.</p> <p>③ Not available when UR(R)-545, UR(R)-556, UR(R)-567, UR(R)-564, UR(R)-586 active.</p> <p>④ Not available when UR(R)-545, UR(R)-557 active.</p>			
LOST COMMS	LOST COMMS	LOST COMMS	FEET METERS
LOST COMMS	LOST COMMS	LOST COMMS	OMH (QFE)
LOST COMMS	LOST COMMS	LOST COMMS	7000 (1940)
LOST COMMS	LOST COMMS	LOST COMMS	7000 (1820)
LOST COMMS	LOST COMMS	LOST COMMS	5400 (1330)



CHANGES: STARS completely revised; new format.

CHANGES: RNAV SIDs completely revised; new format.

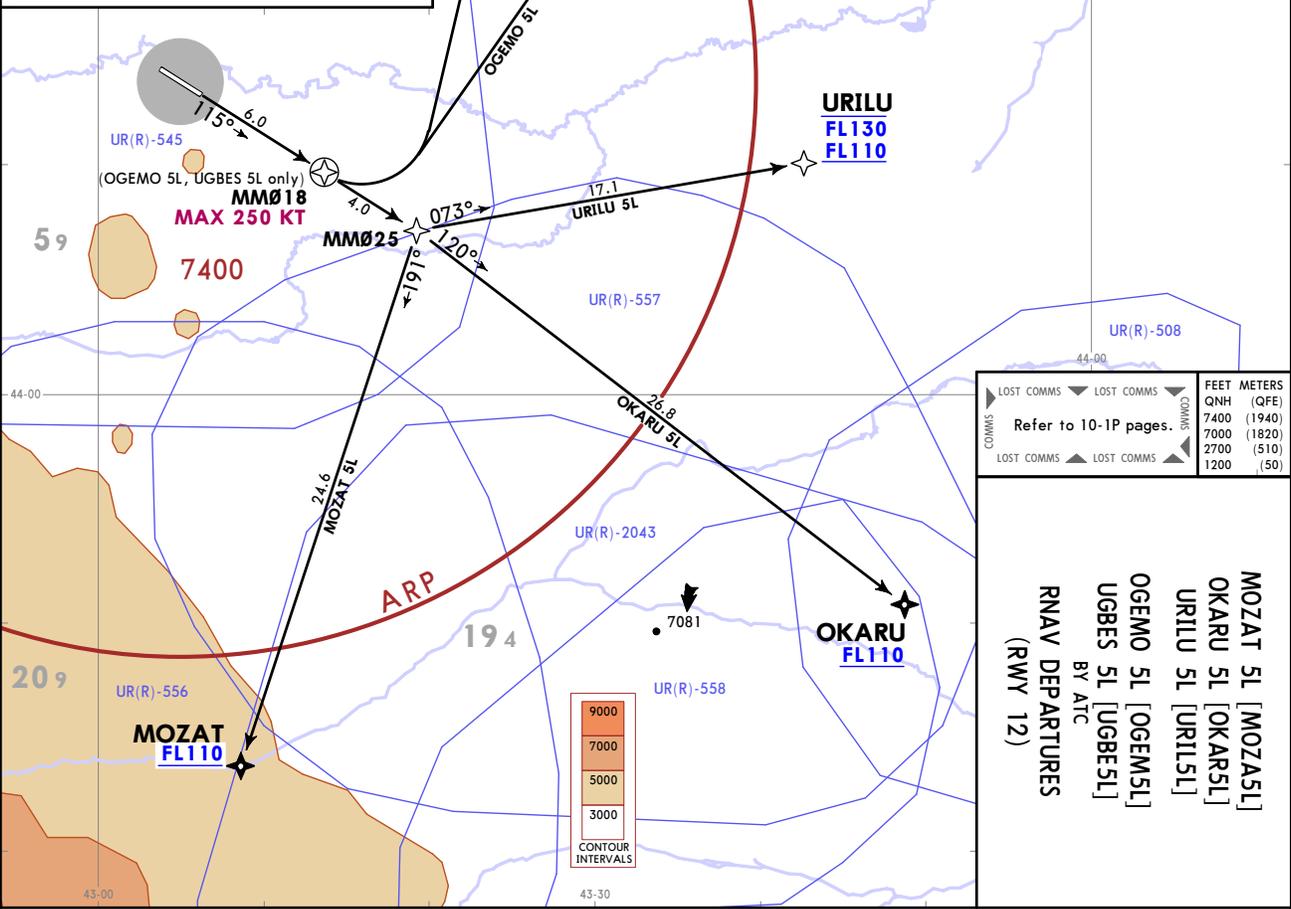
Apt Elev 1047
Trans alt: 7000 QNH (QFE on request)
1. GNSS required.
2. RNAV 1.

MOZAT 5L [MOZA5L] ①
OKARU 5L [OKAR5L] ②
URILU 5L [URIL5L] ③
OGEMO 5L [OGEM5L] ③
UGBES 5L [UGBE5L] ③
BY ATC
RNAV DEPARTURES
(RWY 12)

- ① Not available when UR(R)-545, UR(R)-556, UR(R)-557, UR(R)-2043 active.
- ② Not available when UR(R)-508, UR(R)-545, UR(R)-557, UR(R)-558, UR(R)-2043 active.
- ③ Not available when UR(R)-545, UR(R)-557, active.

These SIDs require minimum climb gradients of
MOZAT 5L: 3.7% up to 2700, then 4.7% up to FL110 due to airspace structure.
OGEMO 5L: 3.4% up to 1200, then 5.1% up to FL110 due to airspace structure.
OKARU 5L: 3.4% up to 1200, then 4.4% up to FL110 due to airspace structure.
UGBES 5L: 3.4% up to 1200.
URILU 5L: 3.4% up to 1200, then 5.9% up to FL110 due to airspace structure.

Gnd speed-KT	75	100	150	200	250	300
3.4% V/V (fpm)	258	344	516	689	861	1033
3.7% V/V (fpm)	281	375	562	749	937	1124
4.4% V/V (fpm)	334	446	668	891	1114	1337
5.1% V/V (fpm)	387	516	775	1033	1291	1549
5.9% V/V (fpm)	448	597	896	1195	1494	1792



COMMS		FEET METERS	
▼ LOST COMMS	▼ LOST COMMS	QNH (QFE)	
Refer to 10-IP pages.		7400 (1940)	
▼ LOST COMMS	▼ LOST COMMS	7000 (1820)	
		2700 (510)	
		1200 (50)	

MOZAT 5L [MOZA5L]
 OKARU 5L [OKAR5L]
 URILU 5L [URIL5L]
 OGEMO 5L [OGEM5L]
 UGBES 5L [UGBE5L]
 BY ATC
 RNAV DEPARTURES
 (RWY 12)

Apt Elev 1047
1. GNSS required.
2. RNAV 1.
Trans alt: 7000 QNH (QFE on request)

ABELA 5L [ABEL5L] ①
LARIN 5L [LARISL] ②
RESLO 5L [RESLSL] ③
SULO 5L [SULO5L] ④
RNAV DEPARTURES
(RWY 12)

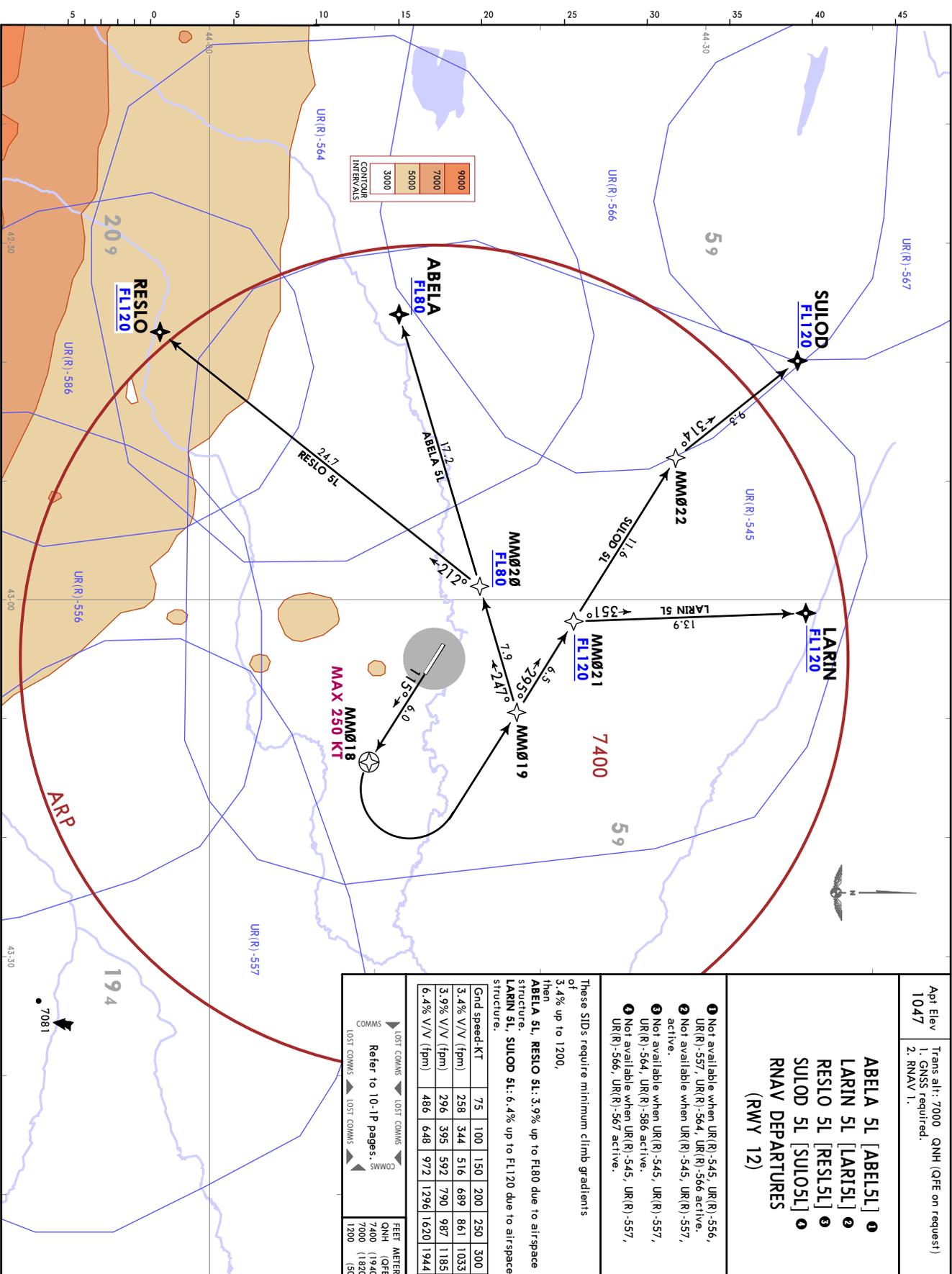
- ① Not available when UR(R)-545, UR(R)-556, UR(R)-557, UR(R)-564, UR(R)-566 active.
- ② Not available when UR(R)-545, UR(R)-557, active.
- ③ Not available when UR(R)-545, UR(R)-557, UR(R)-564, UR(R)-586 active.
- ④ Not available when UR(R)-545, UR(R)-557, UR(R)-566, UR(R)-567 active.

These SIDs require minimum climb gradients of 3.4% up to 1200.

Then
ABELA 5L, RESLO 5L: 3.9% up to FL80 due to airspace structure.
LARIN 5L, SULO 5L: 6.4% up to FL120 due to airspace structure.

Grid speed-KT	75	100	150	200	250	300
3.4% V/V (fpm)	258	344	516	689	861	1033
3.9% V/V (fpm)	296	395	592	790	987	1185
6.4% V/V (fpm)	486	648	972	1296	1620	1944

LOST COMMS	LOST COMMS	COMMS	FEET METERS
Refer to 10-1P pages.	Refer to 10-1P pages.	Refer to 10-1P pages.	QNH (QFE)
			7400 (1940)
			7000 (1820)
			1200 (360)



CHANGES: RNAV SIDs completely revised; new format.

27 NOV 20 10-3B EFF 3 Dec

Apt Elev 1047
Trans alt: 7000 QNH (QFE on request)
1. GNSS required.
2. RNAV 1.

LARIN 5M [LARI5M] ①
OKARU 5M [OKAR5M] ②
URILU 5M [URIL5M] ①
OGEMO 5M [OGEM5M] ①
UGBES 5M [UGBE5M] ①
BY ATC
RNAV DEPARTURES
(RWY 30)

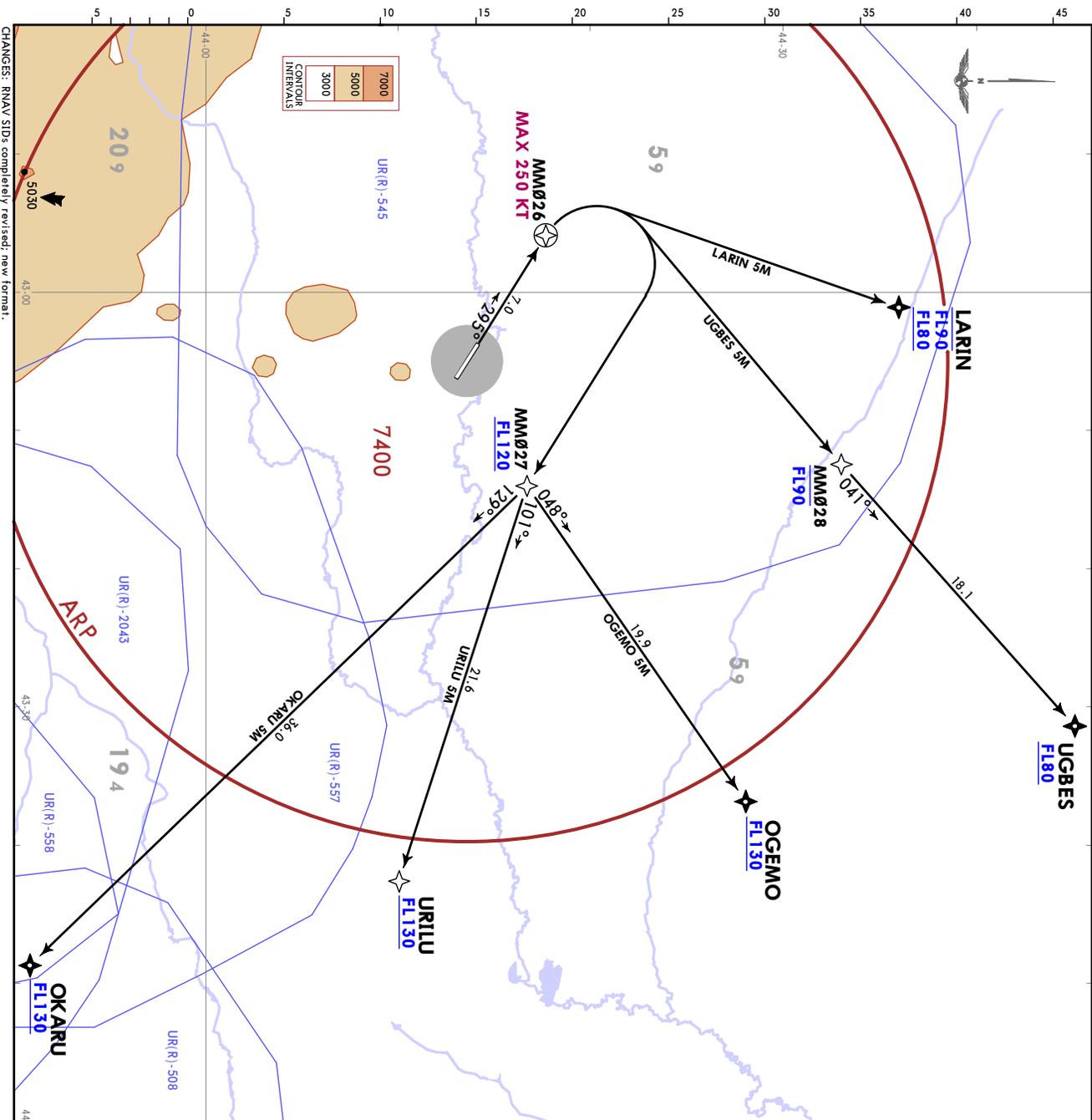
- ① Not available when UR(R)-545 active.
- ② Not available when UR(R)-508, UR(R)-545, UR(R)-557, UR(R)-558, UR(R)-2043 active.

These SIDs require minimum climb gradients of 3.6% up to 1700.

LARIN 5M: 4.4% up to FL80 due to airspace structure.
OGEMO 5M, OKARU 5M, URILU 5M: 6.8% up to FL110 due to airspace structure.

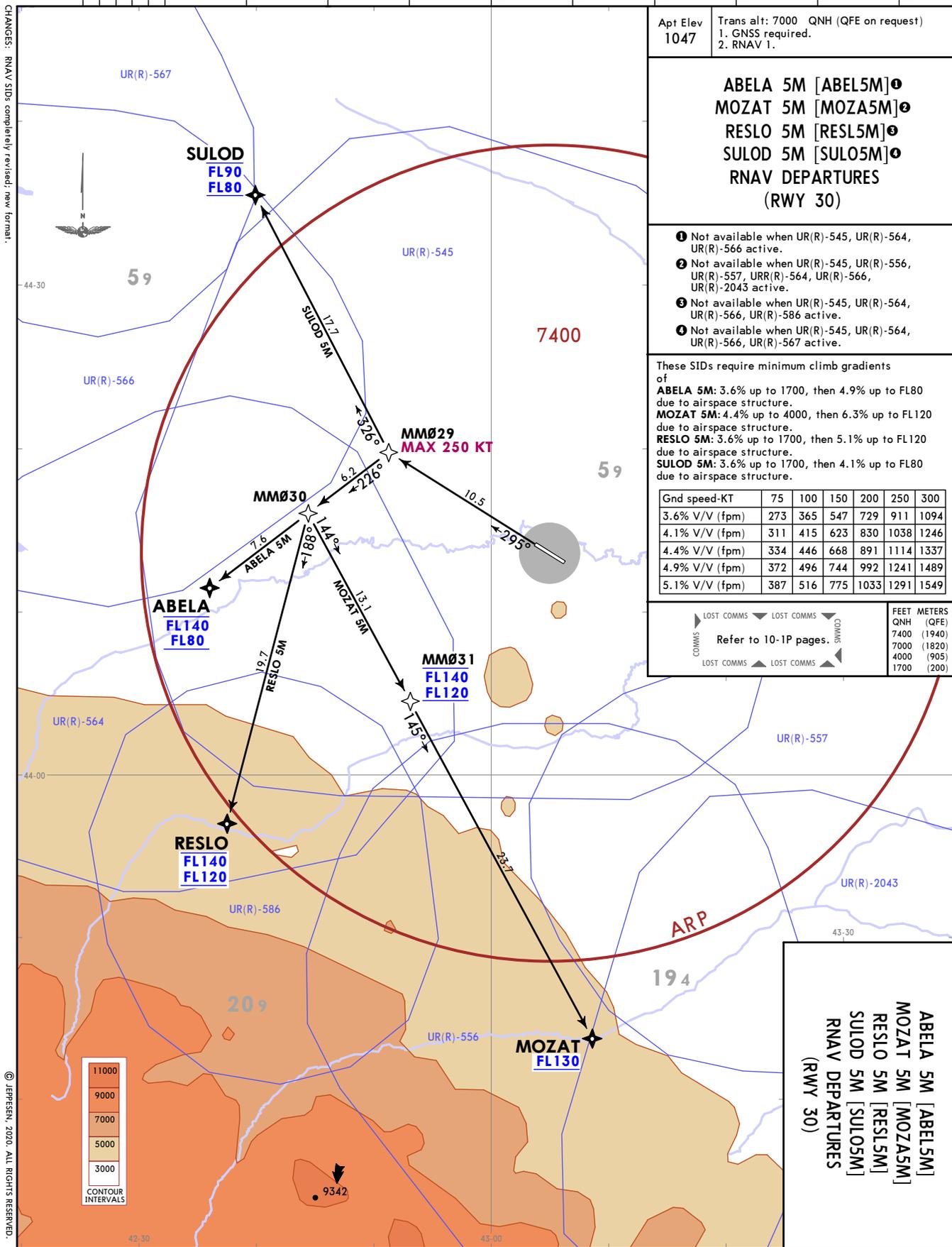
Gnd speed-KT	75	100	150	200	250	300
3.6% V/V (fpm)	273	365	547	729	911	1094
4.4% V/V (fpm)	334	446	668	891	1114	1337
6.8% V/V (fpm)	516	689	1033	1377	1722	2066

LOST COMMS	LOST COMMS	COMMS	FEET METERS
Refer to 10-1P pages.	Refer to 10-1P pages.	Refer to 10-1P pages.	QNH (QFE)
LOST COMMS	LOST COMMS	LOST COMMS	7000 (1840)
			1700 (1820)
			1200 (2000)



CHANGES: RNAV SIDs completely revised; new format.

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Apt Elev
1047

Trans alt: 7000 QNH (QFE on request)
1. GNSS required.
2. RNAV 1.

ABELA 5M [ABEL5M]①
MOZAT 5M [MOZA5M]②
RESLO 5M [RESL5M]③
SULOD 5M [SULO5M]④
RNAV DEPARTURES
(RWY 30)

- ① Not available when UR(R)-545, UR(R)-564, UR(R)-566 active.
- ② Not available when UR(R)-545, UR(R)-556, UR(R)-557, UR(R)-564, UR(R)-566, UR(R)-2043 active.
- ③ Not available when UR(R)-545, UR(R)-564, UR(R)-566, UR(R)-586 active.
- ④ Not available when UR(R)-545, UR(R)-564, UR(R)-566, UR(R)-567 active.

These SIDs require minimum climb gradients of

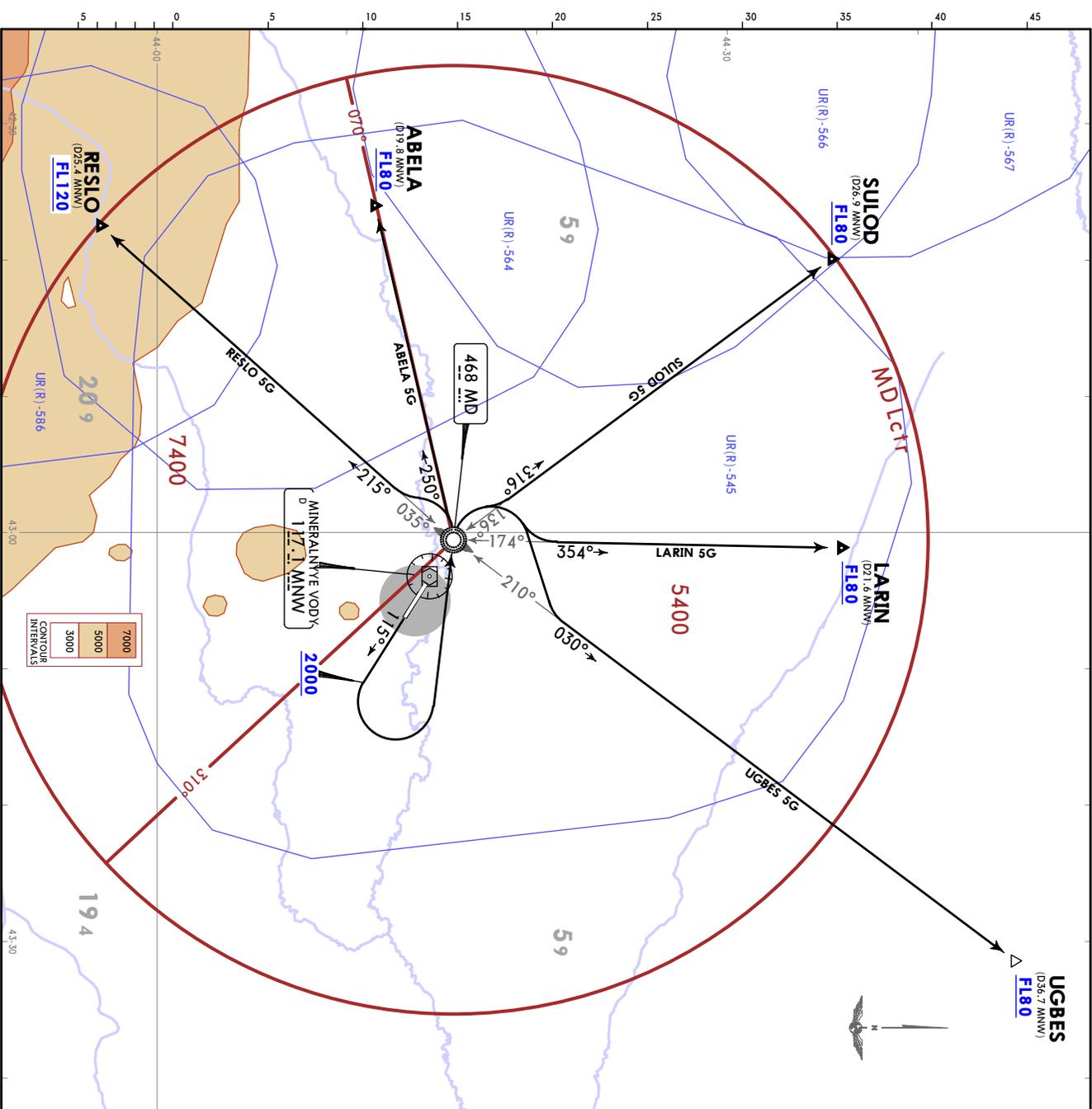
ABELA 5M: 3.6% up to 1700, then 4.9% up to FL80 due to airspace structure.
MOZAT 5M: 4.4% up to 4000, then 6.3% up to FL120 due to airspace structure.
RESLO 5M: 3.6% up to 1700, then 5.1% up to FL120 due to airspace structure.
SULOD 5M: 3.6% up to 1700, then 4.1% up to FL80 due to airspace structure.

Gnd speed-KT	75	100	150	200	250	300
3.6% V/V (fpm)	273	365	547	729	911	1094
4.1% V/V (fpm)	311	415	623	830	1038	1246
4.4% V/V (fpm)	334	446	668	891	1114	1337
4.9% V/V (fpm)	372	496	744	992	1241	1489
5.1% V/V (fpm)	387	516	775	1033	1291	1549

Refer to 10-1P pages.

FEET	METERS
7400	(1940)
7000	(1820)
4000	(905)
1700	(200)

CHANGES: RNAV SIDs completely revised; new format.
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Apt Elev 1047
 1. DME required.
 2. Turn before DER is PROHIBITED.
 Trans alt: 7000 QNH (QFE on request)

- ABELA 5G [ABEL5G] ①
 - LARIN 5G [LARI5G] ①
 - RESLO 5G [RESL5G] ②
 - SULOD 5G [SULO5G] ③
 - UGBES 5G [UGBE5G] ①
- DEPARTURES
(RWY 12)

- ① Not available when UR(R)-545, UR(R)-564, UR(R)-566 active.
- ② Not available when UR(R)-545, UR(R)-564, UR(R)-567, UR(R)-586 active.
- ③ Not available when UR(R)-545, UR(R)-564, UR(R)-566, UR(R)-567 active.

Refer to 10-1P pages.

COMMS	LOST COMMS	LOST COMMS	COMMS	LOST COMMS	LOST COMMS	COMMS
7400	(1940)	7400	(1820)	5400	(1330)	2600
5400	(480)	2000	(295)			

These SIDs require minimum climb gradients of

ABELA 5G, LARIN 5G, SULOD 5G, UGBES 5G: 5.4% up to 2600.

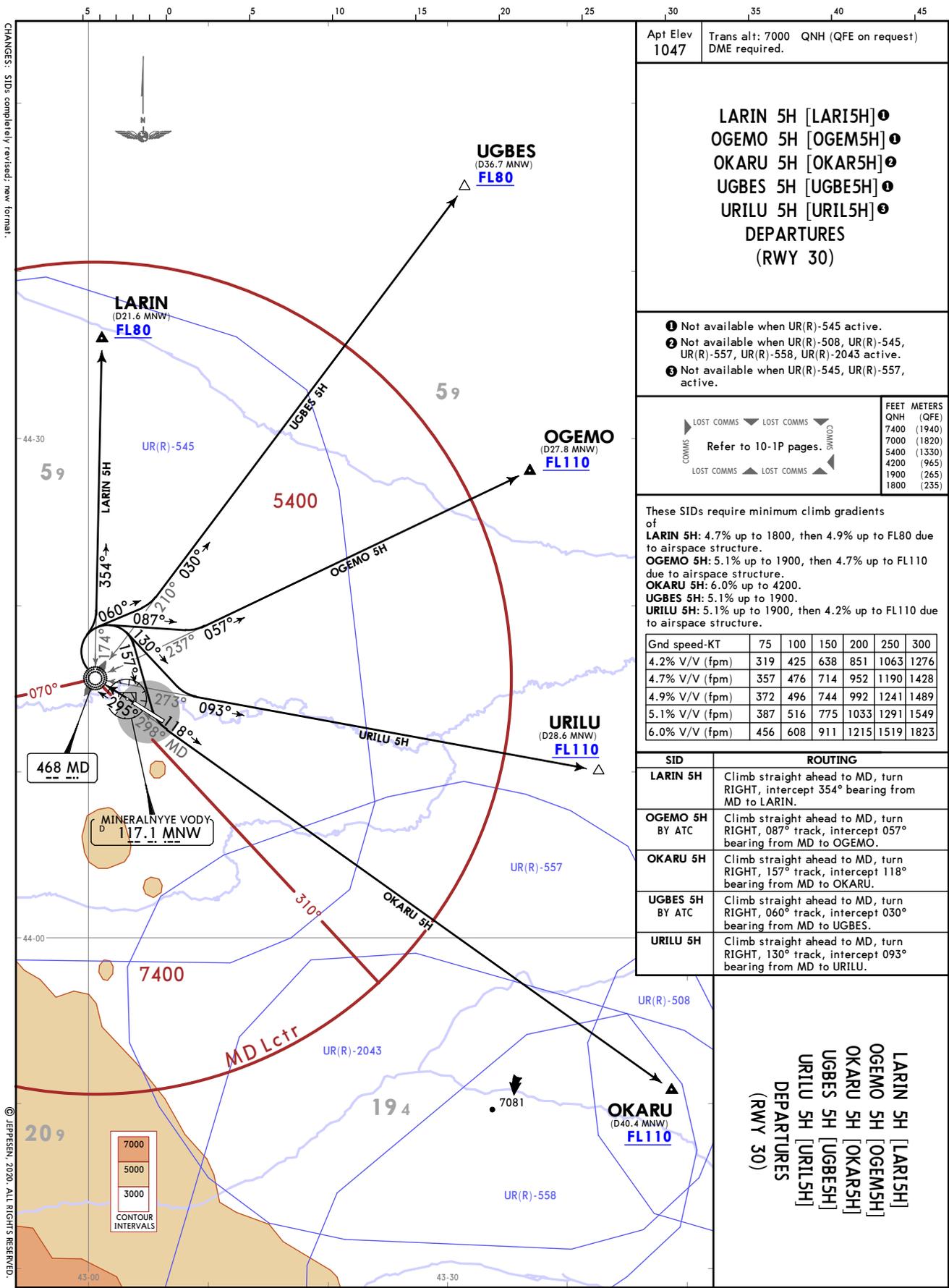
RESLO 5G: 5.4% up to 2600, then 3.9% up to FL120 due to airspace structure.

Gnd speed-KT	75	100	150	200	250	300
3.9% V/V (fpm)	296	395	592	790	987	1185
5.4% V/V (fpm)	410	547	820	1094	1367	1641

SID	ROUTING
ABELA 5G	Climb straight ahead, at 2000 or above turn LEFT to MD, intercept 250° bearing from MD to ABELA.
LARIN 5G	Climb straight ahead, at 2000 or above turn LEFT to MD, turn RIGHT, intercept 354° bearing from MD to LARIN.
RESLO 5G	Climb straight ahead, at 2000 or above turn LEFT to MD, intercept 215° bearing from MD to RESLO.
SULOD 5G	Climb straight ahead, at 2000 or above turn LEFT to MD, intercept 316° bearing from MD to SULOD.
UGBES 5G BY ATC	Climb straight ahead, at 2000 or above turn LEFT to MD, turn RIGHT, intercept 030° bearing from MD to UGBES.

CHANGES: SIDs completely revised; new format.

CHANGES: SIDs completely revised; new format.



Apt Elev 1047
Trans alt: 7000 QNH (QFE on request)
DME required.

LARIN 5H [LARI5H] ❶
OGEMO 5H [OGEM5H] ❶
OKARU 5H [OKAR5H] ❷
UGBES 5H [UGBE5H] ❸
URILU 5H [URIL5H] ❸
DEPARTURES
(RWY 30)

- ❶ Not available when UR(R)-545 active.
- ❷ Not available when UR(R)-508, UR(R)-545, UR(R)-557, UR(R)-558, UR(R)-2043 active.
- ❸ Not available when UR(R)-545, UR(R)-557, active.

LOST COMMS		COMMS	FEET METERS	
LOST COMMS		COMMS	QNH (QFE)	
Refer to 10-1P pages.			7400 (1940)	
			7000 (1820)	
			5400 (1320)	
			4200 (965)	
			1900 (265)	
			1800 (235)	

These SIDs require minimum climb gradients of

LARIN 5H: 4.7% up to 1800, then 4.9% up to FL80 due to airspace structure.

OGEMO 5H: 5.1% up to 1900, then 4.7% up to FL110 due to airspace structure.

OKARU 5H: 6.0% up to 4200.

UGBES 5H: 5.1% up to 1900.

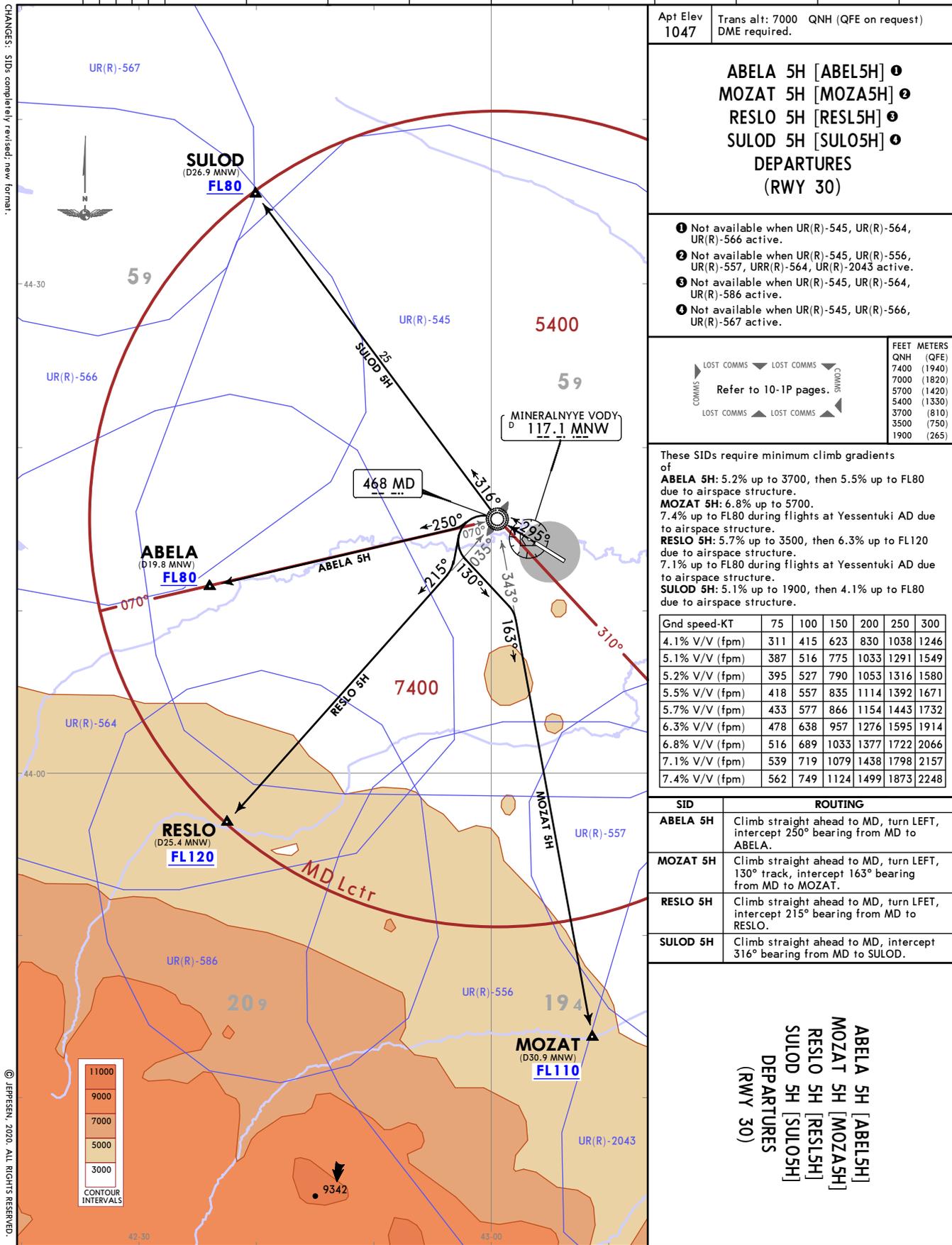
URILU 5H: 5.1% up to 1900, then 4.2% up to FL110 due to airspace structure.

Gnd speed-KT	75	100	150	200	250	300
4.2% V/V (fpm)	319	425	638	851	1063	1276
4.7% V/V (fpm)	357	476	714	952	1190	1428
4.9% V/V (fpm)	372	496	744	992	1241	1489
5.1% V/V (fpm)	387	516	775	1033	1291	1549
6.0% V/V (fpm)	456	608	911	1215	1519	1823

SID	ROUTING
LARIN 5H	Climb straight ahead to MD, turn RIGHT, intercept 354° bearing from MD to LARIN.
OGEMO 5H BY ATC	Climb straight ahead to MD, turn RIGHT, 087° track, intercept 057° bearing from MD to OGEMO.
OKARU 5H	Climb straight ahead to MD, turn RIGHT, 157° track, intercept 118° bearing from MD to OKARU.
UGBES 5H BY ATC	Climb straight ahead to MD, turn RIGHT, 060° track, intercept 030° bearing from MD to UGBES.
URILU 5H	Climb straight ahead to MD, turn RIGHT, 130° track, intercept 093° bearing from MD to URILU.

LARIN 5H [LARI5H]
OGEMO 5H [OGEM5H]
OKARU 5H [OKAR5H]
UGBES 5H [UGBE5H]
URILU 5H [URIL5H]
DEPARTURES
(RWY 30)

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Apt Elev 1047 Trans alt: 7000 QNH (QFE on request) DME required.

ABELA 5H [ABEL5H] ①
MOZAT 5H [MOZASH] ②
RESLO 5H [RESL5H] ③
SULOD 5H [SULO5H] ④
DEPARTURES (RWY 30)

- ① Not available when UR(R)-545, UR(R)-564, UR(R)-566 active.
- ② Not available when UR(R)-545, UR(R)-556, UR(R)-557, URR(R)-564, UR(R)-2043 active.
- ③ Not available when UR(R)-545, UR(R)-564, UR(R)-586 active.
- ④ Not available when UR(R)-545, UR(R)-566, UR(R)-567 active.

FEET	METERS
QNH (QFE)	
7400 (1940)	
7000 (1820)	
5700 (1420)	
5400 (1330)	
3700 (810)	
3500 (750)	
1900 (265)	

Refer to 10-1P pages.

These SIDs require minimum climb gradients of

- ABELA 5H:** 5.2% up to 3700, then 5.5% up to FL80 due to airspace structure.
- MOZAT 5H:** 6.8% up to 5700.
- RESLO 5H:** 5.7% up to 3500, then 6.3% up to FL120 due to airspace structure.
- SULOD 5H:** 5.1% up to 1900, then 4.1% up to FL80 due to airspace structure.

Gnd speed-KT	75	100	150	200	250	300
4.1% V/V (fpm)	311	415	623	830	1038	1246
5.1% V/V (fpm)	387	516	775	1033	1291	1549
5.2% V/V (fpm)	395	527	790	1053	1316	1580
5.5% V/V (fpm)	418	557	835	1114	1392	1671
5.7% V/V (fpm)	433	577	866	1154	1443	1732
6.3% V/V (fpm)	478	638	957	1276	1595	1914
6.8% V/V (fpm)	516	689	1033	1377	1722	2066
7.1% V/V (fpm)	539	719	1079	1438	1798	2157
7.4% V/V (fpm)	562	749	1124	1499	1873	2248

SID	ROUTING
ABELA 5H	Climb straight ahead to MD, turn LEFT, intercept 250° bearing from MD to ABELA.
MOZAT 5H	Climb straight ahead to MD, turn LEFT, 130° track, intercept 163° bearing from MD to MOZAT.
RESLO 5H	Climb straight ahead to MD, turn LEFT, intercept 215° bearing from MD to RESLO.
SULOD 5H	Climb straight ahead to MD, intercept 316° bearing from MD to SULOD.

ABELA 5H [ABEL5H]
MOZAT 5H [MOZASH]
RESLO 5H [RESL5H]
SULOD 5H [SULO5H]
DEPARTURES (RWY 30)

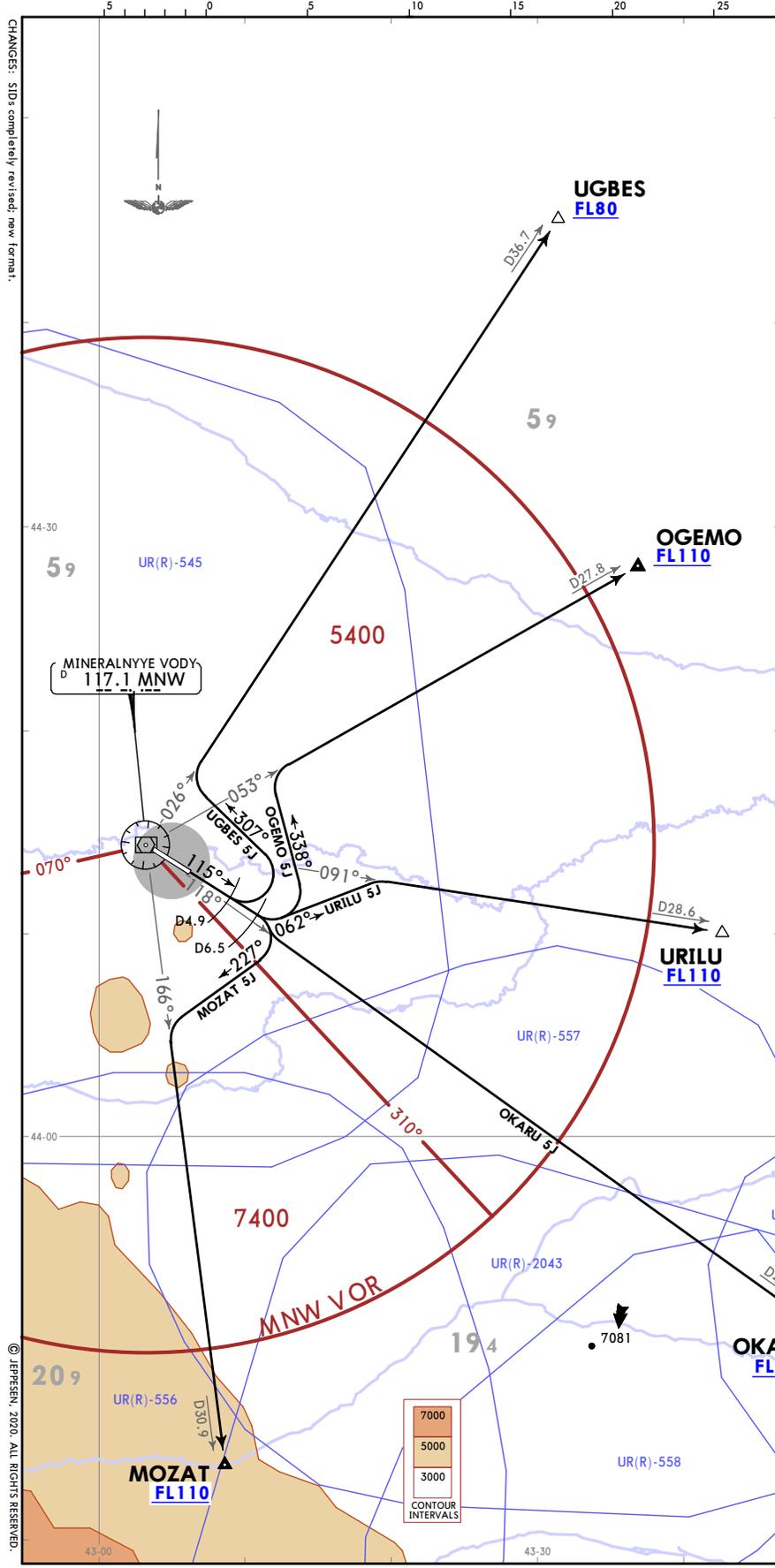
URM/ MRV
 MINERALNYE VODY
 27 NOV 20 10-3G EFF 3 Dec
 JEPPESEN MINERALNYE VODY, RUSSIA
 SID

CHANGES: SIDs completely revised; new format.
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URMM/MRV
MINERALNYE VODY

27 NOV 20
JEPPESSEN
MINERALNYE VODY,
RUSSIA
SID

CHANGES: SIDs completely revised; new format.



Apt Elev 1047
Trans alt: 7000 QNH (QFE on request)
DME required.

- MOZAT 5J [MOZA5J] ❶**
OGEMO 5J [OGEM5J] ❷
OKARU 5J [OKAR5J] ❸
UGBES 5J [UGBE5J] ❹
URILU 5J [URIL5J] ❹
- DEPARTURES
(RWY 12)**

- ❶ Not available when UR(R)-545, UR(R)-556, UR(R)-557, UR(R)-2043 active.
- ❷ Not available when UR(R)-545 active.
- ❸ Not available when UR(R)-508, UR(R)-545, UR(R)-557, UR(R)-558, UR(R)-2043 active.
- ❹ Not available when UR(R)-545, UR(R)-557, active.

LOST COMMS	LOST COMMS	COMMS	COMMS
Refer to 10-1P pages.			
LOST COMMS	LOST COMMS	LOST COMMS	LOST COMMS

FEET METERS	
QNH (QFE)	
7400 (1940)	
7000 (1820)	
5400 (1330)	
1900 (265)	
1800 (235)	

These SIDs require minimum climb gradients of

MOZAT 5J: 7.7% up to 5400, then 3.8% up to FL110 due to airspace structure.

OGEMO 5J: 3.6% up to 1900, then 5.0% up to FL110 due to airspace structure.

OKARU 5J: 3.6% up to 1900, then 4.4% up to FL110 due to airspace structure.

UGBES 5J: 5.1% up to 1800.

URILU 5J: 3.6% up to 1900, then 6.1% up to FL110 due to airspace structure.

Gnd speed-KT	75	100	150	200	250	300
3.6% V/V (fpm)	273	365	547	729	911	1094
3.8% V/V (fpm)	289	385	577	770	962	1154
4.4% V/V (fpm)	334	446	668	891	1114	1337
5.0% V/V (fpm)	380	506	760	1013	1266	1519
5.1% V/V (fpm)	387	516	775	1033	1291	1549
6.1% V/V (fpm)	463	618	927	1235	1544	1853
7.7% V/V (fpm)	585	780	1170	1560	1949	2339

SID	ROUTING
MOZAT 5J	Climb straight ahead to D6.5 MNW, turn RIGHT, 227° track, intercept MNW R166 to MOZAT.
OGEMO 5J BY ATC	Climb straight ahead to D6.5 MNW, turn LEFT, 338° track, intercept MNW R053 to OGEMO.
OKARU 5J	Climb straight ahead to D6.5 MNW, intercept MNW R118 to OKARU.
UGBES 5J BY ATC	Climb straight ahead to D4.9 MNW, turn LEFT, 307° track, intercept MNW R026 to UGBES.
URILU 5J	Climb straight ahead to D6.5 MNW, turn LEFT, 062° track, intercept MNW R091 to URILU.

- MOZAT 5J [MOZA5J]**
OGEMO 5J [OGEM5J]
OKARU 5J [OKAR5J]
UGBES 5J [UGBE5J]
URILU 5J [URIL5J]
- DEPARTURES
(RWY 12)**

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Api Elev 1047 Trans alt: 7000 QNH (QFE on request)
DME required.

ABELA 5J [ABEL5J] ①
LARIN 5J [LAR15J] ②
LARIN 5U [LAR15U] ③
RESLO 5J [RES15J] ④
SULOD 5J [SUL05J] ⑤
DEPARTURES
(RWY 12)

- Not available when UR(R)-545, UR(R)-564, UR(R)-566, UR(R)-586 active.
- Not available when UR(R)-545, UR(R)-564, UR(R)-566 active.
- Not available when UR(R)-545, UR(R)-556, UR(R)-557, UR(R)-564 active.
- Not available when UR(R)-545, UR(R)-564, UR(R)-586 active.
- Not available when UR(R)-545, UR(R)-564, UR(R)-566, UR(R)-567 active.

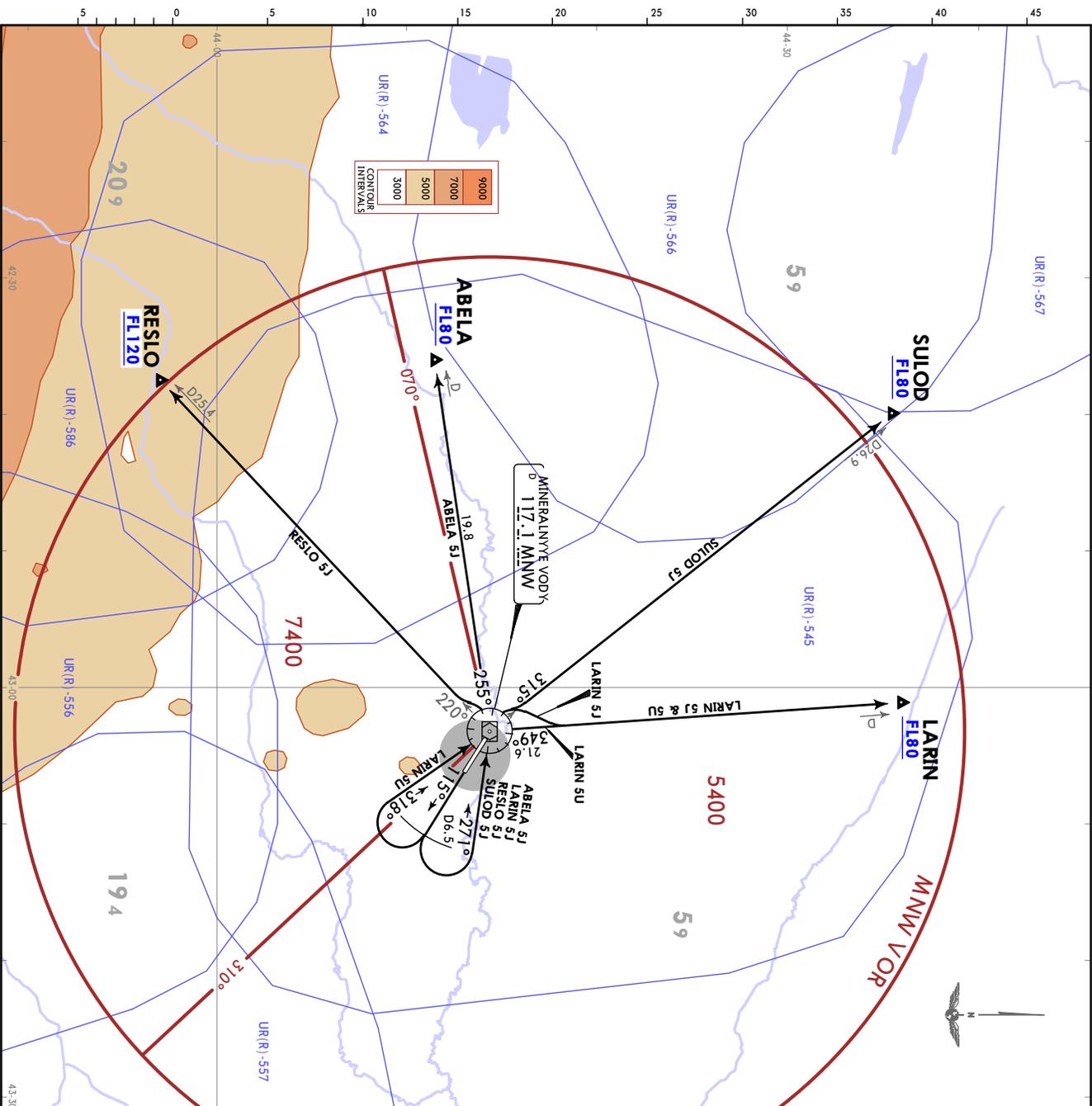
LOST COMMS	LOST COMMS	COMMS	FEEET METERS
Refer to 10-1P pages.	Refer to 10-1P pages.	Refer to 10-1P pages.	QNH (QFE)
LOST COMMS	LOST COMMS	LOST COMMS	7400 (1940)
			7000 (1820)
			5400 (1330)
			4200 (965)

These SIDs require minimum climb gradients of
ABELA 5J, LARIN 5J, SULOD 5J: 3.9% up to 4200.
LARIN 5U: 7.7% up to 5400.
RESLO 5J: 3.9% up to 4200, then 4.2% up to FL120 due to airspace structure.
 3.6% up to FL80 during flights at Yessentuki AD due to airspace structure.

Gnd speed-KT	75	100	150	200	250	300
3.6% V/V (fpm)	273	365	547	729	911	1094
3.9% V/V (fpm)	296	395	592	790	987	1185
4.2% V/V (fpm)	319	425	638	851	1063	1276
7.7% V/V (fpm)	585	780	1170	1560	1949	2339

SID ROUTING

SID	ROUTING
ABELA 5J	Climb straight ahead to D6.5 MNW, turn LEFT to MNW, intercept MNW R255 to ABELA.
LARIN 5J	Climb straight ahead to D6.5 MNW, turn LEFT to MNW, intercept MNW R349 to LARIN.
LARIN 5U	Climb straight ahead to D6.5 MNW, turn RIGHT to MNW, intercept MNW R349 to LARIN.
RESLO 5J	Climb straight ahead to D6.5 MNW, turn LEFT to MNW, intercept MNW R220 to RESLO.
SULOD 5J	Climb straight ahead to D6.5 MNW, turn LEFT to MNW, intercept MNW R315 to SULOD.

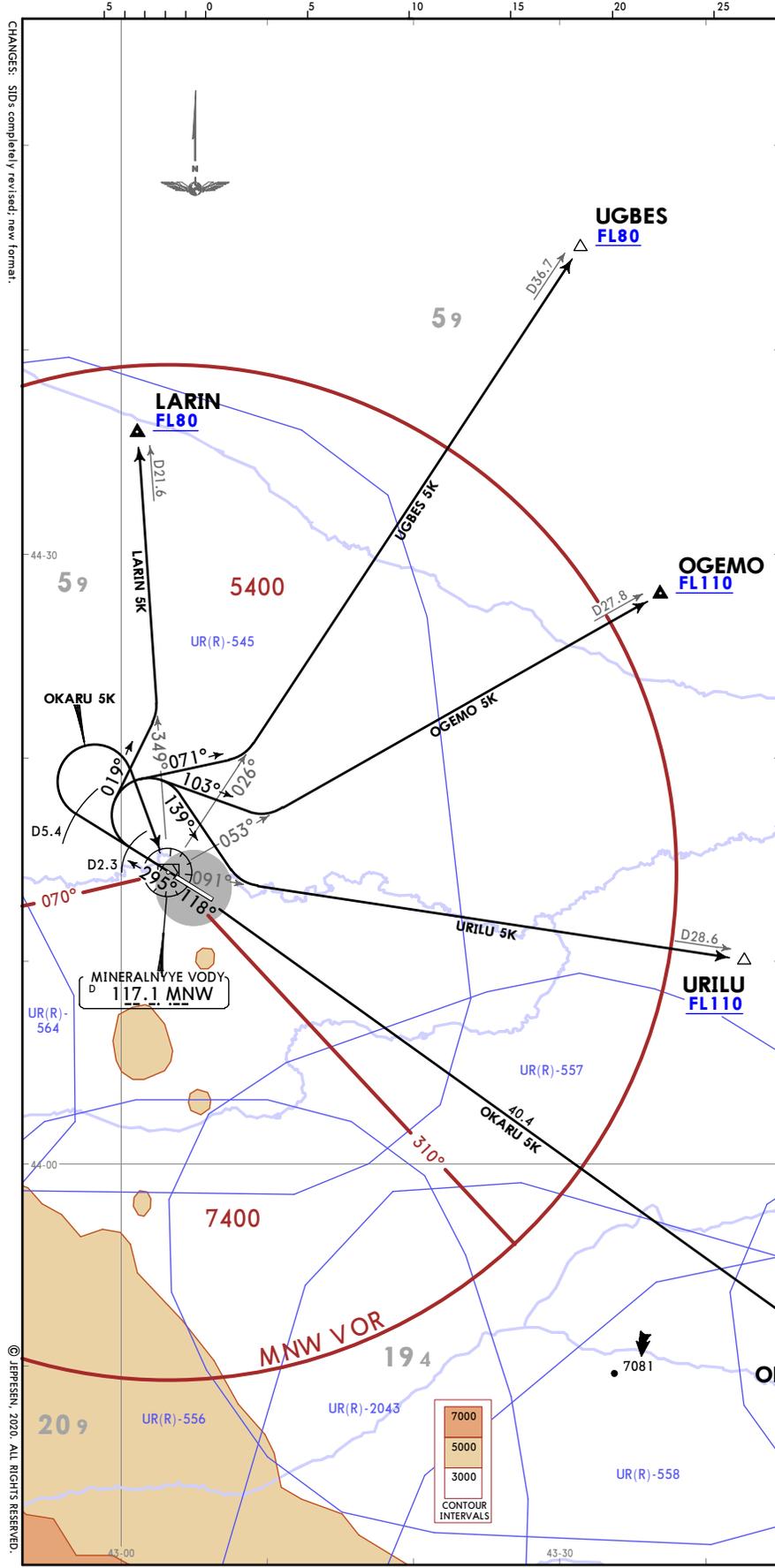


CHANGES: SIDs completely revised; new format.

URMM/MRV
MINERALNYE VODY

27 NOV 20 (10-3K) EFF 3 Dec
JEPPESEN
MINERALNYE VODY
RUSSIA
SID

CHANGES: SIDs completely revised; new format.



Apt Elev 1047
Trans alt: 7000 QNH (QFE on request)
DME required.

- LARIN 5K [LARI5K] ❶
 - OGEMO 5K [OGEM5K] ❷
 - OKARU 5K [OKAR5K] ❸
 - UGBES 5K [UGBE5K] ❹
 - URILU 5K [URIL5K] ❺
- DEPARTURES
(RWY 30)

- ❶ Not available when UR(R)-545 active.
- ❷ Not available when UR(R)-508, UR(R)-545, UR(R)-556, UR(R)-557, UR(R)-558, UR(R)-564, UR(R)-2043 active.
- ❸ Not available when UR(R)-545, UR(R)-557 active.

LOST COMMS	LOST COMMS	COMMS	COMMS
Refer to 10-1P pages.			
LOST COMMS	LOST COMMS	COMMS	COMMS
FEET		METERS	
QNH (QFE)		QNH (QFE)	
7400 (1940)		7400 (1940)	
7000 (1820)		7000 (1820)	
6200 (1575)		6200 (1575)	
5400 (1330)		5400 (1330)	
1900 (265)		1900 (265)	

These SIDs require minimum climb gradients of

LARIN 5K: 5.1% up to 1900, then 4.8% up to FL80 due to airspace structure.

OGEMO 5K: 5.1% up to 1900, then 4.6% up to FL110 due to airspace structure.

OKARU 5K: 4.8% up to 6200.

UGBES 5K: 5.1% up to 1900.

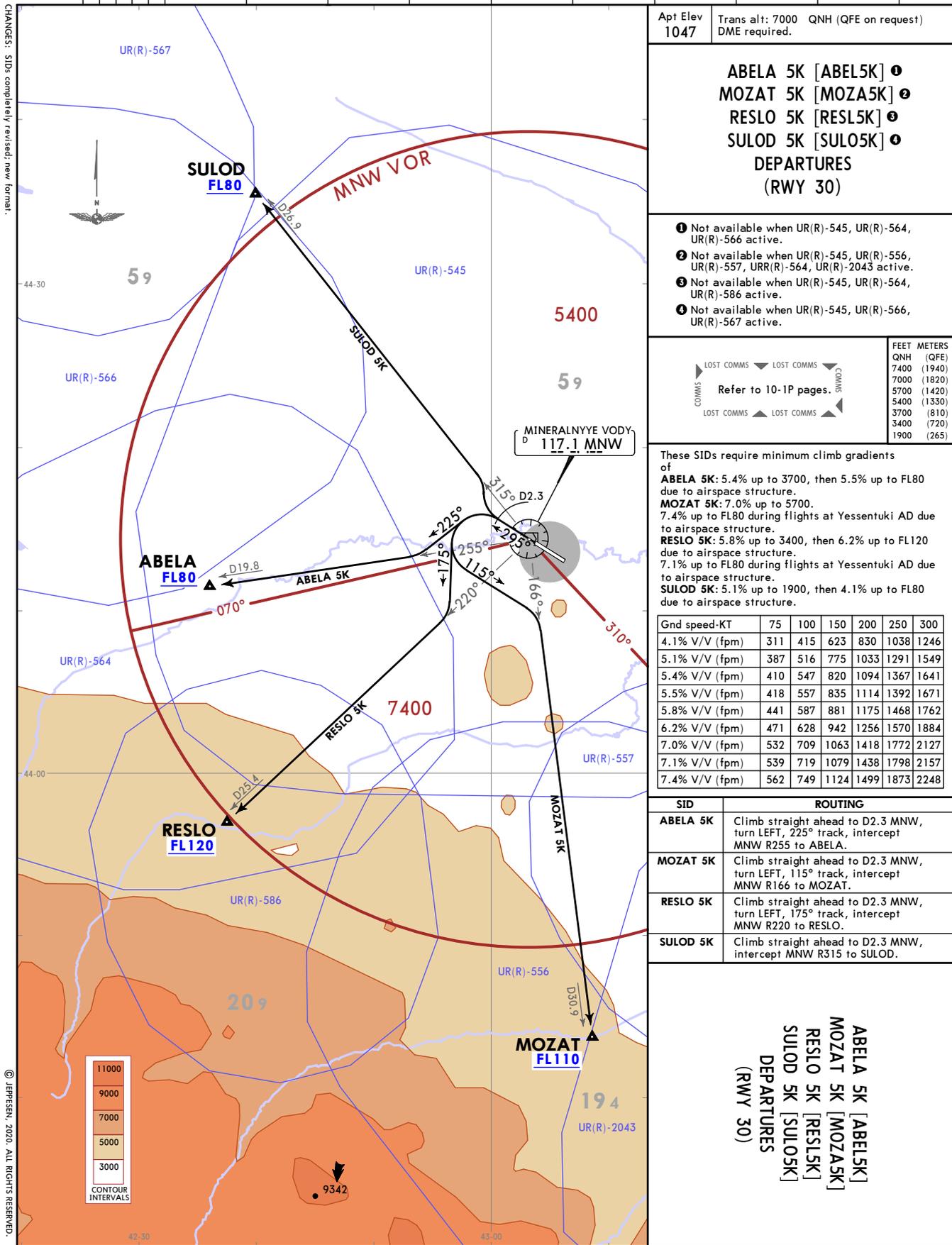
URILU 5K: 5.1% up to 1900, then 4.1% up to FL110 due to airspace structure.

Gnd speed-KT	75	100	150	200	250	300
4.1% V/V (fpm)	311	415	623	830	1038	1246
4.6% V/V (fpm)	349	466	699	932	1165	1397
4.8% V/V (fpm)	365	486	729	972	1215	1458
5.1% V/V (fpm)	387	516	775	1033	1291	1549

SID	ROUTING
LARIN 5K	Climb straight ahead to D2.3 MNW, turn RIGHT, 019° track, intercept MNW R349 to LARIN.
OGEMO 5K BY ATC	Climb straight ahead to D2.3 MNW, turn RIGHT, 103° track, intercept MNW R053 to OGEMO.
OKARU 5K	Climb straight ahead to D5.4 MNW, turn RIGHT to MNW, intercept MNW R118 to OKARU.
UGBES 5K BY ATC	Climb straight ahead to D2.3 MNW, turn RIGHT, 071° track, intercept MNW R026 to UGBES.
URILU 5K	Climb straight ahead to D2.3 MNW, turn RIGHT, 139° track, intercept MNW R091 to URILU.

LARIN 5K [LARI5K]
OGEMO 5K [OGEM5K]
OKARU 5K [OKAR5K]
UGBES 5K [UGBE5K]
URILU 5K [URIL5K]
DEPARTURES
(RWY 30)

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Apt Elev 1047 Trans alt: 7000 QNH (QFE on request) DME required.

ABELA 5K [ABEL5K] ①
MOZAT 5K [MOZAS5K] ②
RESLO 5K [RESL5K] ③
SULOD 5K [SULO5K] ④
DEPARTURES
(RWY 30)

- ① Not available when UR(R)-545, UR(R)-564, UR(R)-566 active.
- ② Not available when UR(R)-545, UR(R)-556, UR(R)-557, URR(R)-564, UR(R)-2043 active.
- ③ Not available when UR(R)-545, UR(R)-564, UR(R)-586 active.
- ④ Not available when UR(R)-545, UR(R)-566, UR(R)-567 active.

LOST COMMS	LOST COMMS	COMMS	COMMS
Refer to 10-1P pages.			
LOST COMMS	LOST COMMS	LOST COMMS	LOST COMMS

FEET	METERS	QNH	(QFE)
7400	1940	7000	1820
5700	1420	5400	1330
3700	810	3400	720
1900	265		

These SIDs require minimum climb gradients of

ABELA 5K: 5.4% up to 3700, then 5.5% up to FL80 due to airspace structure.

MOZAT 5K: 7.0% up to 5700.

RESLO 5K: 5.8% up to 3400, then 6.2% up to FL120 due to airspace structure.

SULOD 5K: 5.1% up to 1900, then 4.1% up to FL80 due to airspace structure.

Gnd speed-KT	75	100	150	200	250	300
4.1% V/V (fpm)	311	415	623	830	1038	1246
5.1% V/V (fpm)	387	516	775	1033	1291	1549
5.4% V/V (fpm)	410	547	820	1094	1367	1641
5.5% V/V (fpm)	418	557	835	1114	1392	1671
5.8% V/V (fpm)	441	587	881	1175	1468	1762
6.2% V/V (fpm)	471	628	942	1256	1570	1884
7.0% V/V (fpm)	532	709	1063	1418	1772	2127
7.1% V/V (fpm)	539	719	1079	1438	1798	2157
7.4% V/V (fpm)	562	749	1124	1499	1873	2248

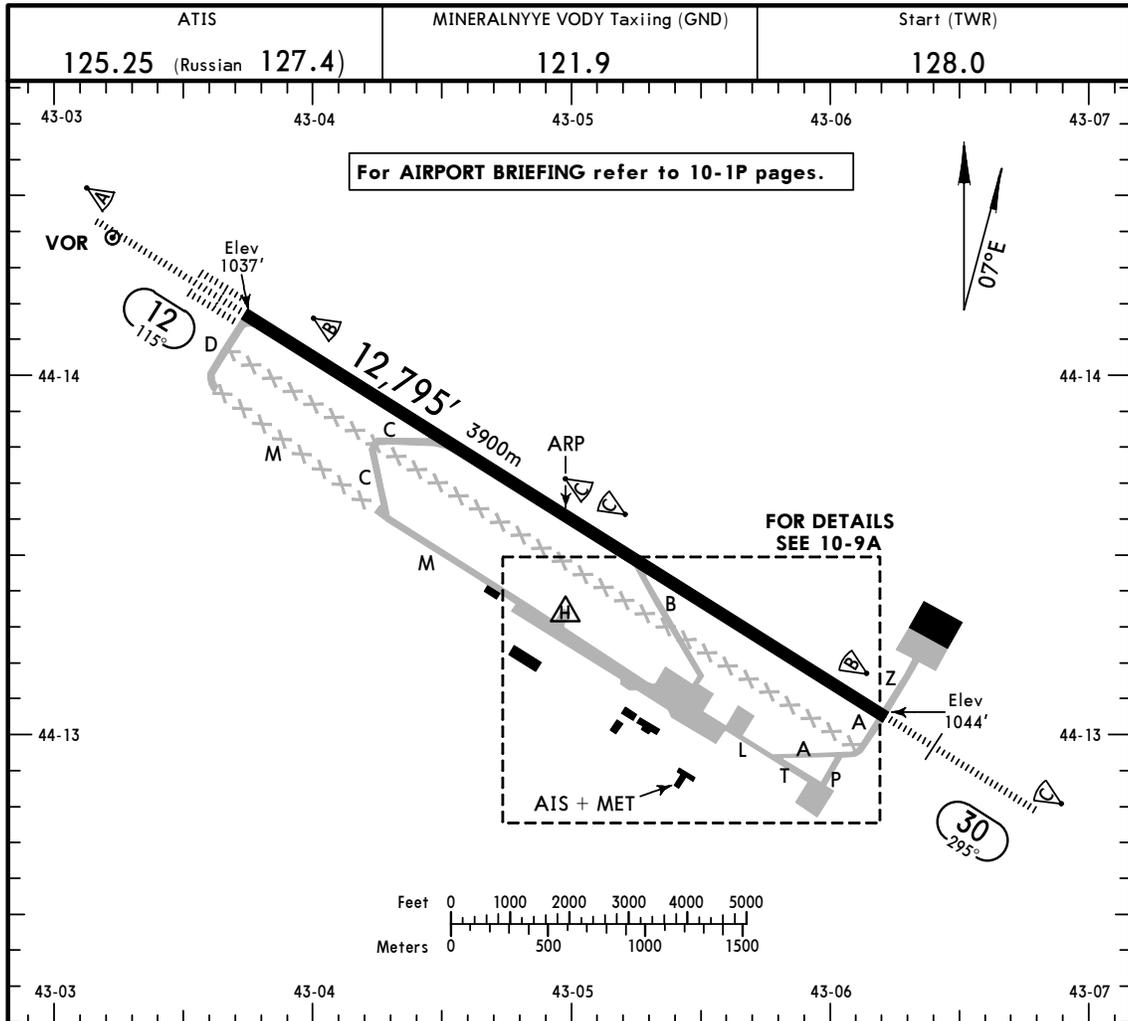
SID	ROUTING
ABELA 5K	Climb straight ahead to D2.3 MNW, turn LEFT, 225° track, intercept MNW R255 to ABELA.
MOZAT 5K	Climb straight ahead to D2.3 MNW, turn LEFT, 115° track, intercept MNW R166 to MOZAT.
RESLO 5K	Climb straight ahead to D2.3 MNW, turn LEFT, 175° track, intercept MNW R220 to RESLO.
SULOD 5K	Climb straight ahead to D2.3 MNW, intercept MNW R315 to SULOD.

ABELA 5K [ABEL5K]
MOZAT 5K [MOZAS5K]
RESLO 5K [RESL5K]
SULOD 5K [SULO5K]
DEPARTURES
(RWY 30)

URMN/MRV
 MINERALNYE VODY
 27 NOV 20 10-3L
 JEPPESEN MINERALNYE VODY, RUSSIA
 EFF 3 Dec
 SID

CHANGES: SIDs completely revised; new format.

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ADDITIONAL RUNWAY INFORMATION

RWY	HIRL(59m) CL(15m) HIALS-II TDZ	① ② RVR	USABLE LENGTHS		TAKE-OFF	WIDTH
			Threshold	Glide Slope		
12	HIRL(59m) CL(15m) HIALS-II TDZ	① ② RVR		11,762' 3585m	④	197' 60m
30	HIRL(59m) CL(15m) HIALS PAPI-L(3.0°)	③ RVR		11,823' 3604m		

- ① PAPI-L (angle 3.0°).
- ② HST-B with HSTIL.
- ③ HST-C with HSTIL.

④ TAKE-OFF RUN AVAILABLE

RWY 12:

From rwy head 12,795' (3900m)
 twy C int 8317' (2535m)

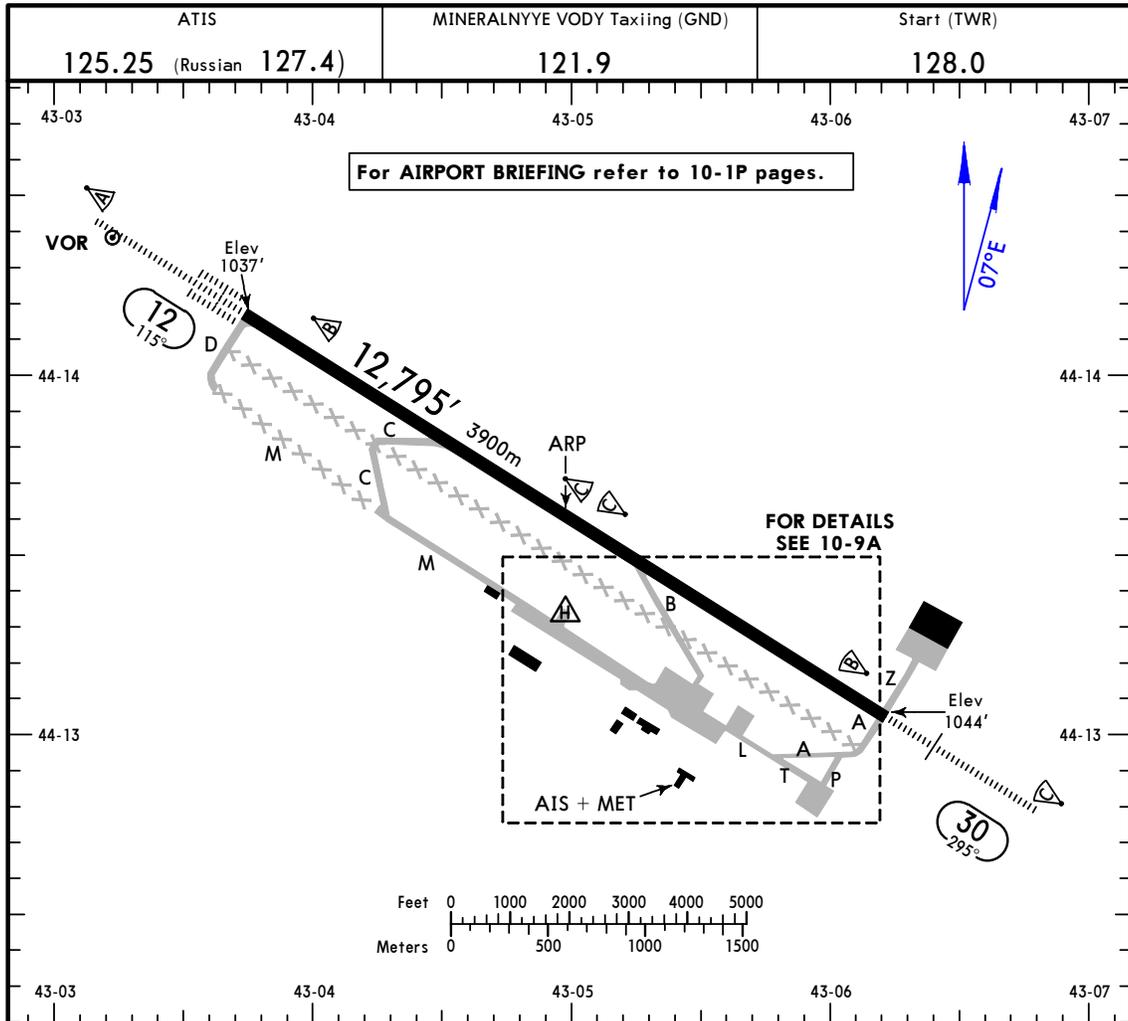
RWY 30:

From rwy head 12,795' (3900m)
 twy B int 7480' (2280m)

Std

TAKE-OFF

HIRL & CL (spacing 15m or less) & relevant RVR	RL & CL & relevant RVR	RL & CL	RL & RCLM		RL or CL		Adequate Vis Ref	
			DAY	NIGHT	DAY	NIGHT	DAY	NIGHT
TDZ R125m Mid R125m Rollout R125m	TDZ R150m Mid R150m Rollout R150m	R200m	R300m		R400m		R/V500m	NA



ADDITIONAL RUNWAY INFORMATION

RWY	HIRL(59m) CL(15m) HIALS-II TDZ	① ② RVR	USABLE LENGTHS		TAKE-OFF	WIDTH
			Threshold	Glide Slope		
12	HIRL(59m) CL(15m) HIALS-II TDZ	① ② RVR		11,762' 3585m	④	197'
30	HIRL(59m) CL(15m) HIALS PAPI-L(3.0°)	③ RVR		11,823' 3604m		

- ① PAPI-L (angle 3.0°).
- ② HST-B with HSTIL.
- ③ HST-C with HSTIL.

④ TAKE-OFF RUN AVAILABLE

RWY 12:

From rwy head 12,795' (3900m)
twy C int 8317' (2535m)

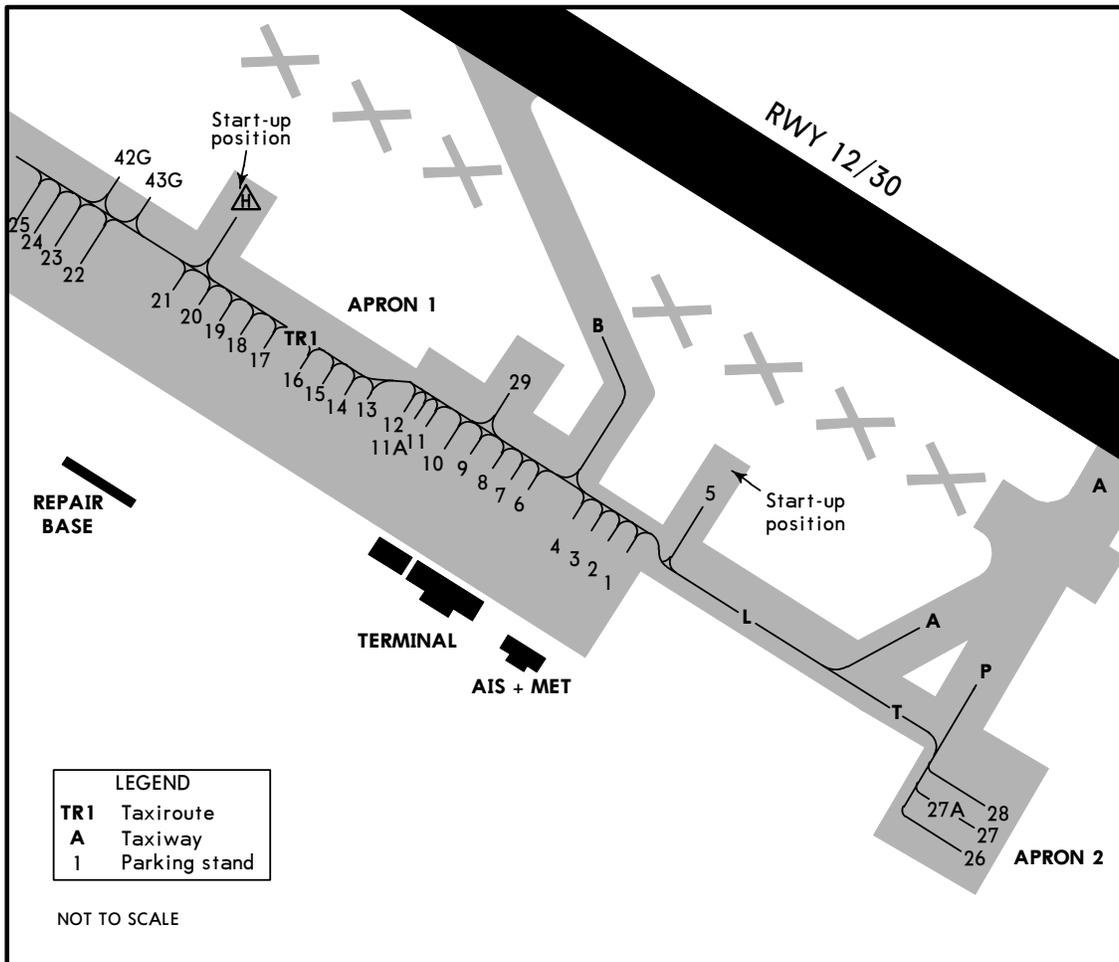
RWY 30:

From rwy head 12,795' (3900m)
twy B int 7480' (2280m)

Std

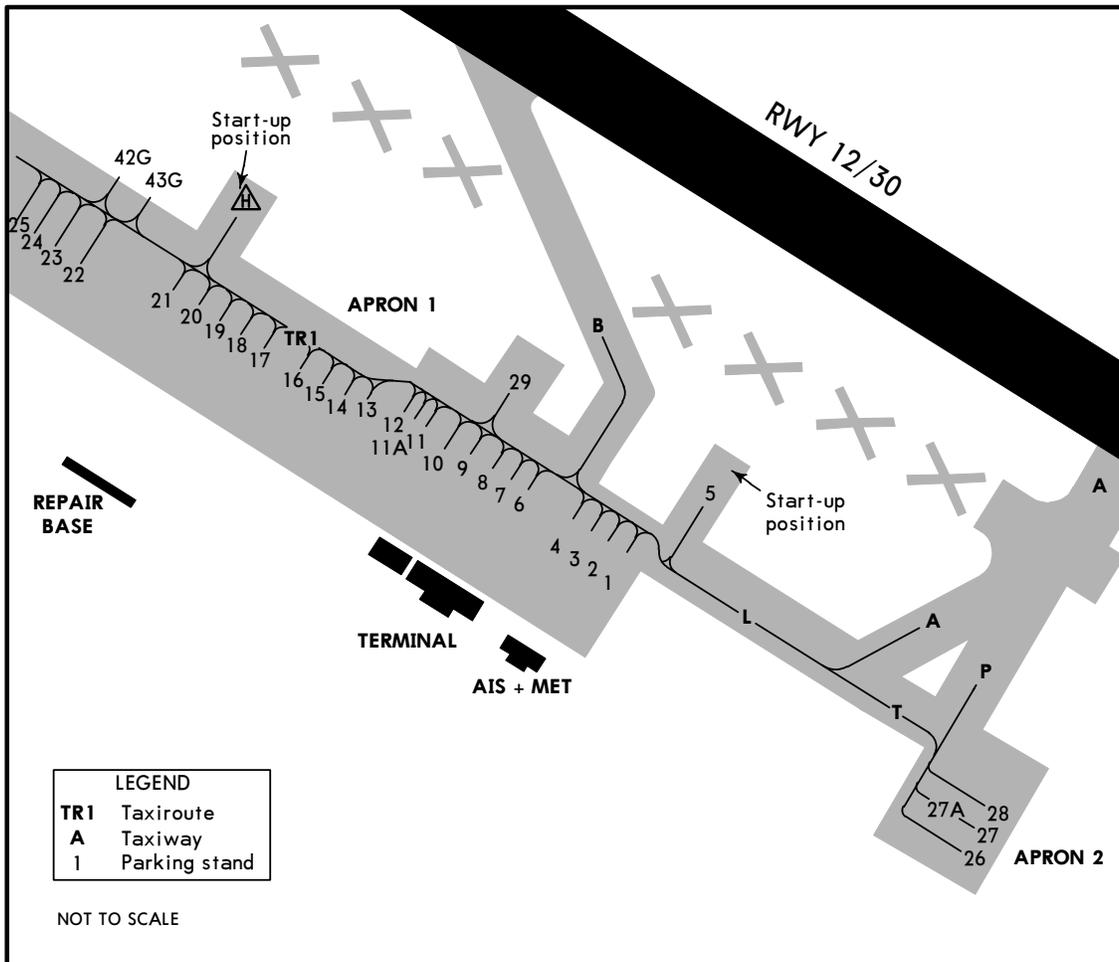
TAKE-OFF

HIRL & CL (spacing 15m or less) & relevant RVR	RL & CL & relevant RVR	RL & CL	RL & RCLM	RL or CL	RL or RCLM	Adequate Vis Ref	
			DAY	NIGHT	DAY	DAY	NIGHT
TDZ R125m Mid R125m Rollout R125m	TDZ R150m Mid R150m Rollout R150m	R200m	R300m		R400m	R/V500m	NA



INS COORDINATES

STAND No.	COORDINATES	STAND No.	COORDINATES
1, 2	N44 13.0 E043 05.5	23 thru 25	N44 13.3 E043 04.8
3, 4	N44 13.0 E043 05.4	26	N44 12.8 E043 05.9
5	N44 13.0 E043 05.6	27	N44 12.8 E043 06.0
6	N44 13.1 E043 05.4	27A	N44 12.8 E043 05.9
7 thru 9	N44 13.1 E043 05.3	28	N44 12.8 E043 06.0
10 thru 11A	N44 13.1 E043 05.2	29	N44 13.2 E043 05.3
12	N44 13.2 E043 05.2	42G	N44 13.3 E043 04.9
13 thru 16	N44 13.2 E043 05.1	43G	N44 13.3 E043 05.0
17 thru 19	N44 13.2 E043 05.0		
20 thru 22	N44 13.3 E043 04.9		



INS COORDINATES

STAND No.	COORDINATES	STAND No.	COORDINATES
1, 2	N44 13.0 E043 05.5	23 thru 25	N44 13.3 E043 04.8
3, 4	N44 13.0 E043 05.4	26	N44 12.8 E043 05.9
5	N44 13.0 E043 05.6	27	N44 12.8 E043 06.0
6	N44 13.1 E043 05.4	27A	N44 12.8 E043 05.9
7 thru 9	N44 13.1 E043 05.3	28	N44 12.8 E043 06.0
10 thru 11A	N44 13.1 E043 05.2	29	N44 13.2 E043 05.3
12	N44 13.2 E043 05.2	42G	N44 13.3 E043 04.9
13 thru 16	N44 13.2 E043 05.1	43G	N44 13.3 E043 05.0
17 thru 19	N44 13.2 E043 05.0		
20 thru 22	N44 13.3 E043 04.9		

STRAIGHT-IN RWY	A	B	C	D
12 CAT 2 ILS Z, Y or X	1137' (100') RA115'R300m	1137' (100') RA115'R300m	1137' (100') RA115'R300m	1149' (112') RA129'OR300m
ILS Z, Y or X FULL	1237' (200') R550m	1237' (200') R550m	1237' (200') R550m	1237' (200') R550m
TDZ or CL out	② R550m	② R550m	② R550m	② R550m
ALS out	R1200m	R1200m	R1200m	R1200m
GLS FULL	1237' (200') R550m	1237' (200') R550m	1237' (200') R550m	1237' (200') R550m
TDZ or CL out	② R550m	② R550m	② R550m	② R550m
ALS out	R1200m	R1200m	R1200m	R1200m
③ LOC Z or Y with D2.7 IMD	1720' (683') R1500m	1720' (683') R1500m	1720' (683') R2400m	1720' (683') R2400m
③ LOC Z or Y w/o D2.7 IMD	1820' (783') R1500m	1820' (783') R1500m	1820' (783') R2400m	1820' (783') R2400m
③ LOC X	1820' (783') R1500m	1820' (783') R1500m	1820' (783') R2400m	1820' (783') R2400m
RNP LNAV/VNAV	1397' (360') R900m	1407' (370') R1000m	1427' (390') R1100m	1457' (420') R1200m
ALS out	R1500m	R1500m	R1800m	R1900m
③ RNP LNAV	1730' (693') R1500m	1730' (693') R1500m	1730' (693') R2400m	1730' (693') R2400m
③ VOR Z with D2.5	1790' (753') R1500m	1790' (753') R1500m	1790' (753') R2400m	1790' (753') R2400m
③ VOR Z w/o D2.5	1820' (783') R1500m	1820' (783') R1500m	1820' (783') R2400m	1820' (783') R2400m
③ VOR Y	2190' (1153') R1500m	2190' (1153') R1500m	2190' (1153') R2400m	2190' (1153') R2400m
VOR Y	2190' (1153') R4800m	2190' (1153') R4800m	2190' (1153') R5000m	2190' (1153') R5000m
③ NDB Z or Y	1960' (923') R1500m	1960' (923') R1500m	1960' (923') R2400m	1960' (923') R2400m
30 ILS Z, Y or X	1244' (200') ② R550m	1244' (200') ② R550m	1244' (200') ② R550m	1244' (200') ② R550m
FULL	② R550m	② R550m	② R550m	② R550m
ALS out	R1200m	R1200m	R1200m	R1200m
GLS FULL	1237' (200') ② R550m	1237' (200') ② R550m	1237' (200') ② R550m	1237' (200') ② R550m
ALS out	R1200m	R1200m	R1200m	R1200m
③ LOC Z or Y with D3.1 IMW/ D5.7 MNW ALS out	1660' (616') R1500m R1500m	1660' (616') R1500m R1500m	1660' (616') R2100m R2400m	1660' (616') R2100m R2400m
③ LOC X with D3.1 IMW/ D5.7 MNW ALS out	1700' (656') R1500m R1500m	1700' (656') R1500m R1500m	1700' (656') R2300m R2400m	1700' (656') R2300m R2400m
③ LOC Z, Y or X w/o D3.1 IMW/ D5.7 MNW	2040' (996') R1500m	2040' (996') R1500m	2040' (996') R2400m	2040' (996') R2400m

① Without autoland: R350m.

② R750m when a Flight Director or Autopilot or HUD to DA is not used.

③ Continuous Descent Final Approach.

30 (contd)	RNP LNAV/VNAV ALS out	1334' (290') R750m R1400m	1344' (300') R750m R1400m	1354' (310') R750m R1400m	1364' (320') R750m R1400m
	① RNP LNAV ALS out	1700' (656') R1500m R1500m	1700' (656') R1500m R1500m	1700' (656') R2300m R2400m	1700' (656') R2300m R2400m
	① VOR Z with D5.7	1800' (756') R1500m	1800' (756') R1500m	1800' (756') R2400m	1800' (756') R2400m
	① VOR Z w/o D5.7	2040' (996') R1500m	2040' (996') R1500m	2040' (996') R2400m	2040' (996') R2400m
	① VOR Y	2140' (1096') R1500m	2140' (1096') R1500m	2140' (1096') R2400m	2140' (1096') R2400m
	VOR Y ALS out	2140' (1096') R4300m R5000m	2140' (1096') R4300m R5000m	2140' (1096') R4500m R5000m	2140' (1096') R4500m R5000m

① Continuous Descent Final Approach.

CIRCLE-TO-LAND ②	100 KT	135 KT	180 KT	205 KT
	1890' (843')	1890' (843')	2180' (1133')	2330' (1283')
after VOR Y 12	2190' (1143')	2190' (1143')	2190' (1143')	2330' (1283')
after NDB Z or Y 12	1960' (913')	1960' (913')	2180' (1133')	2330' (1283')
NDB B or A 12	2210' (1163')	2210' (1163')	2210' (1163')	2330' (1283')
after VOR Z 30	2040' (993')	2040' (993')	2180' (1133')	2330' (1283')
after VOR Y 30	2140' (1093')	2140' (1093')	2180' (1133')	2330' (1283')
NDB C 30	2170' (1123')	2170' (1123')	2180' (1133')	2330' (1283')
	V1500m	V1600m	V2400m	V3600m

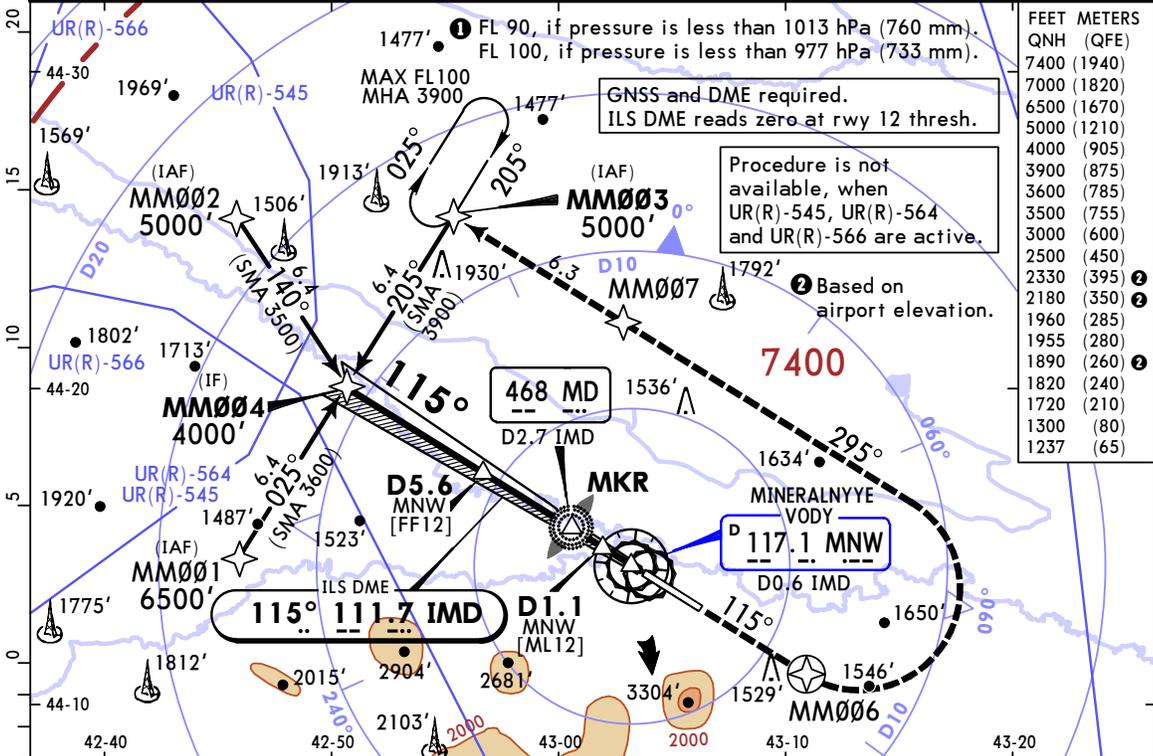
② Prohibited South of airport.

TAKE-OFF

		Low Visibility Take-off						Adequate Vis Ref	
HIRL & CL (spacing 15m or less) & relevant RVR	RL & CL & relevant RVR	RL & CL	RL & RCLM	RL or CL	RL or RCLM	RL or CL			
			DAY	NIGHT	DAY	NIGHT	DAY	NIGHT	
TDZ R125m Mid R125m Rollout R125m	TDZ R150m Mid R150m Rollout R150m	R200m	R300m		R/V400m		R/V500m	NA	

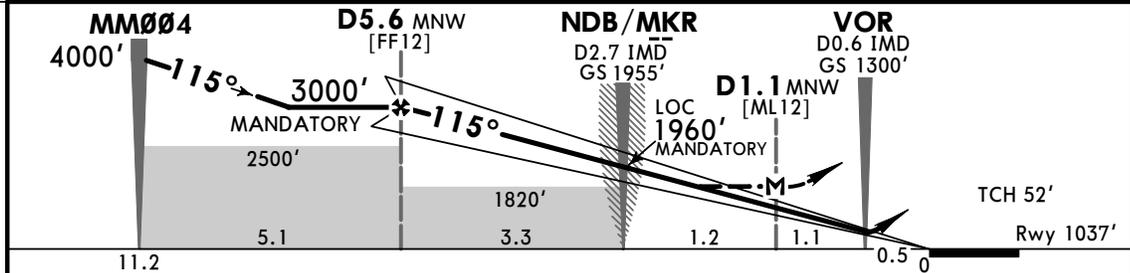
URMM/MRV **A** **JEPPESEN MINERALNYE VODY, RUSSIA**
MINERALNYE VODY 27 NOV 20 **(11-1)** **Eff 3 Dec** **ILS Z or LOC Z Rwy 12**

ATIS 125.25 (Russian 127.4)		MINERALNYE VODY Approach 119.3	MINERALNYE VODY Krug (TWR/R) 120.7	MINERALNYE VODY Start (TWR) 128.0	Ground 121.9
LOC IMD 111.7	Final Apt Crs 115°	D5.6 MNW MANDATORY 3000' (1963')	CAT II ILS CAT I ILS Refer to Minimums	Apt Elev 1047' Rwy 1037'	<p>7400 MSA ARP</p>
MISSED APCH: Climb STRAIGHT AHEAD to MM006 , then turn LEFT to MM007 , then proceed to MM003 climbing to 5000' or above.					
Alt Set: hPa (mm on req) Rwy Elev: 37 hPa Trans level: FL 80 1 Trans alt: 7000' RNAV 1 for initial and missed approach.					



FEET	METERS
7400	(1940)
7000	(1820)
6500	(1670)
5000	(1210)
4000	(905)
3900	(875)
3600	(785)
3500	(755)
3000	(600)
2500	(450)
2330	(395)
2180	(350)
1960	(285)
1955	(280)
1890	(260)
1820	(240)
1720	(210)
1300	(80)
1237	(65)

LOC (GS out)	MNW DME	5.6	5.4	4.3	3.2	2.2
	ALTITUDE	3000'	2950'	2610'	2260'	1920'



Gnd speed-Kts	120	140	160	180	HIALS-II PAPI MM006	
ILS GS or LOC Descent Angle	3.00°	637	743	849		955
MAP at D1.1 MNW						

	STRAIGHT-IN LANDING				CIRCLE-TO-LAND	
	ILS CAT II ILS	CAT I		LOC (GS out)		Prohibited South of airport
C	C: RA 115' DA(H) 1137' (100') D: RA 129' DA(H) 1149' (112')	DA(H) 1237' (200')		with D2.7 IMD CDFA DA/MDA(H) 1720' (683')	w/o D2.7 IMD CDFA DA/MDA(H) 1820' (783')	
D	1 R300m	R550m	2 R550m R1200m	R2400m	R2400m	205 2330' (1283') V3600m

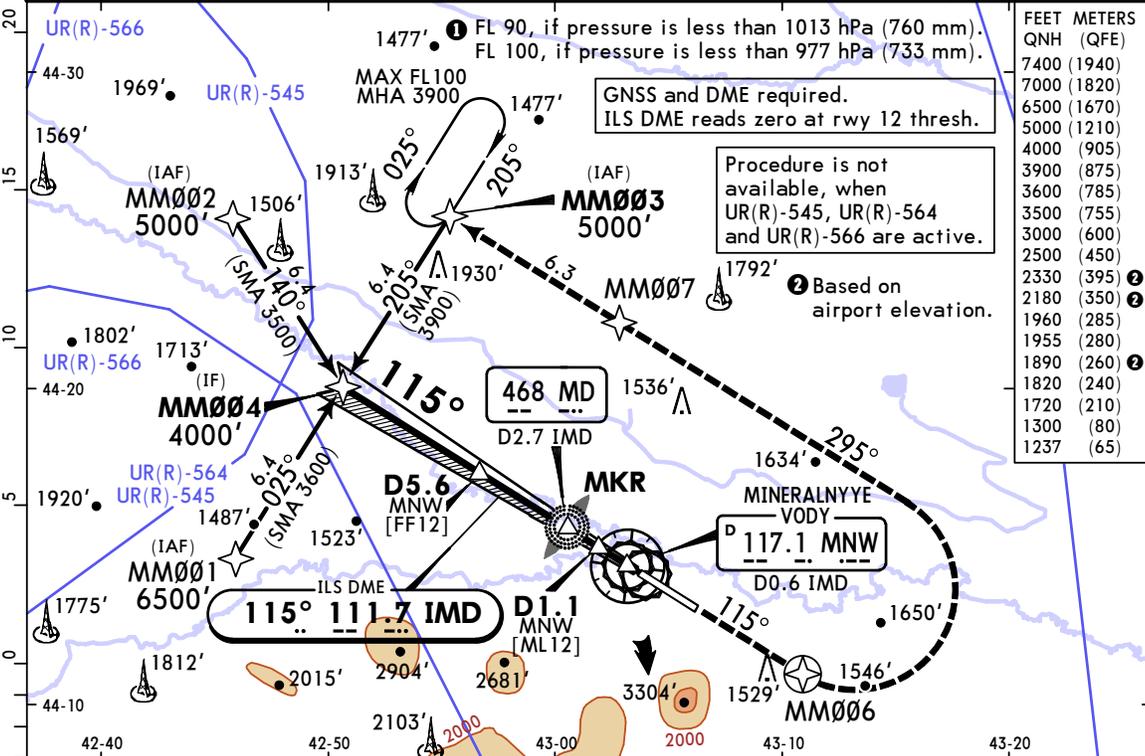
1 CAT D without autoland: R350m. **2** R750m when a Flight Director or Autopilot or HUD to DA is not used.
3 VNAV DA(H) in lieu of MDA(H) depends on operator policy.

URMM/MRV

MINERALNYYE VODY

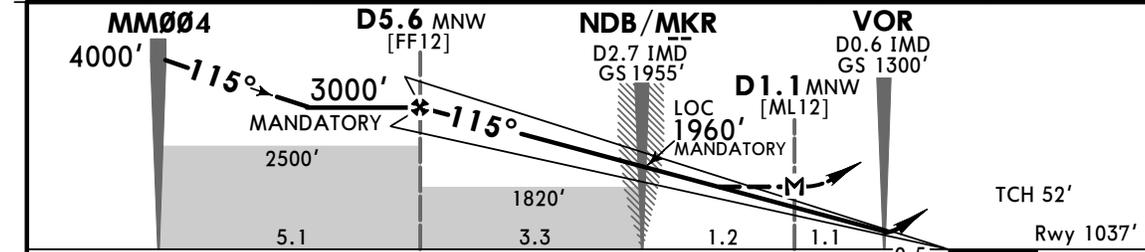
JEPPESEN MINERALNYYE VODY, RUSSIA
 27 NOV 20 **(11-1) Eff 3 Dec** ILS Z or LOC Z Rwy 12

BRIEFING STRIP	ATIS 125.25 (Russian 127.4)	MINERALNYYE VODY Approach 119.3	MINERALNYYE VODY Krug (TWR/R) 120.7	MINERALNYYE VODY Start (TWR) 128.0	Ground 121.9	
	LOC IMD 111.7	Final Apch Crs 115°	D5.6 MNW MANDATORY 3000' (1963')	ILS DA(H) 1237' (200')	Apt Elev 1047' Rwy 1037'	7400
	MISSED APCH: Climb STRAIGHT AHEAD to MM006, then turn LEFT to MM007, then proceed to MM003 climbing to 5000' or above.					
Alt Set: hPa (mm on req) Rwy Elev: 37 hPa Trans level: FL 80 1 Trans alt: 7000' RNAV 1 for initial and missed approach.						



FEET	METERS
7400	(1940)
7000	(1820)
6500	(1670)
5000	(1210)
4000	(905)
3900	(875)
3600	(785)
3500	(755)
3000	(600)
2500	(450)
2330	(395)
2180	(350)
1960	(285)
1955	(280)
1890	(260)
1820	(240)
1720	(210)
1300	(80)
1237	(65)

LOC (GS out)	MNW DME ALTITUDE	5.6 3000'	5.4 2950'	4.3 2610'	3.2 2260'	2.2 1920'
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Gnd speed-Kts	70	90	100	120	140	160	HIALS-II PAPI MM006	
ILS GS or LOC Descent Angle	3.00°	372	478	531	637	743		849
MAP at D1.1 MNW								

	STRAIGHT-IN LANDING				CIRCLE-TO-LAND	
	ILS		LOC (GS out)		Prohibited South of airport	
	with D2.7 IMD CDFA		w/o D2.7 IMD CDFA			
	DA(H) 1237' (200')		DA(MDA(H)) 1720' (683')		DA(MDA(H)) 1820' (783')	
	FULL	TDZ or CL out	ALS out	ALS out	ALS out	ALS out
A				R1500m	R1500m	100 1890' (843') V1500m
B	R550m	1 R550m	R1200m			135 1890' (843') V1600m
C				R2400m	R2400m	180 2180' (1133') V2400m
D						205 2330' (1283') V3600m

1 R750m when a Flight Director or Autopilot or HUD to DA is not used.
2 VNAV DA(H) in lieu of MDA(H) depends on operator policy.

URMM/MRV

MINERALNYYE VODY 27 NOV 20

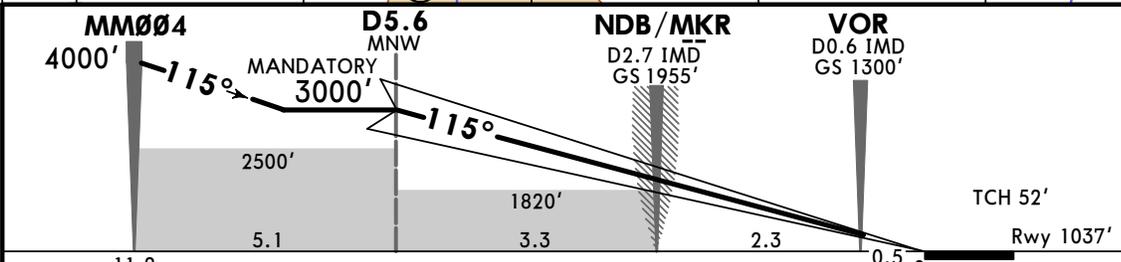
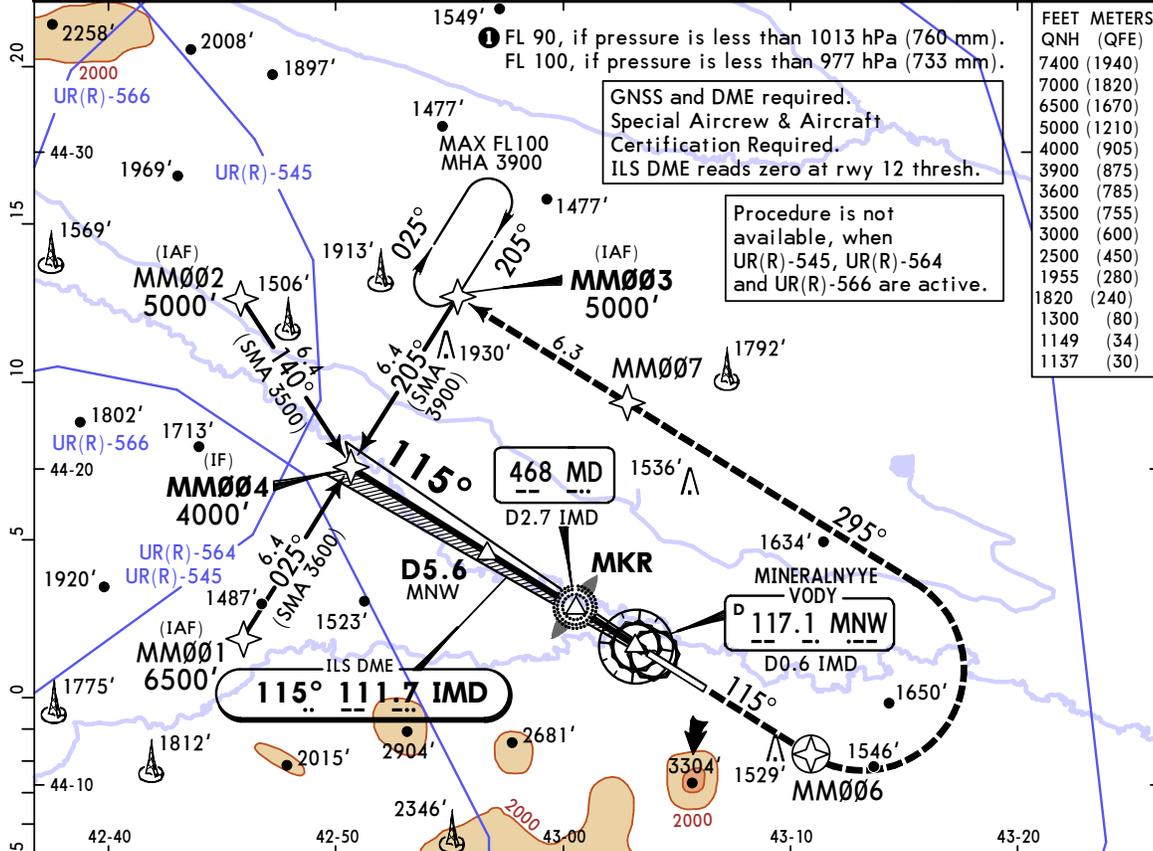


JEPPESEN MINERALNYYE VODY, RUSSIA

(11-1A) Eff 3 Dec

CAT II ILS Z Rwy 12

ATIS 125.25 (Russian 127.4)		MINERALNYYE VODY Approach 119.3	MINERALNYYE VODY Krug (TWR/R) 120.7	MINERALNYYE VODY Start (TWR) 128.0	Ground 121.9
LOC IMD 111.7	Final Apch Crs 115°	D5.6 MNW MANDATORY 3000' (1963')	CAT II ILS RA/DA(H) Refer to Minimums	Apt Elev 1047' Rwy 1037'	
MISSED APCH: Climb STRAIGHT AHEAD to MM006, then turn LEFT to MM007, then proceed to MM003 climbing to 5000' or above.					
Alt Set: hPa (mm on req) Rwy Elev: 37 hPa Trans level: FL 80 Trans alt: 7000' RNAV 1 for initial and missed approach.					



Gnd speed-Kts	70	90	100	120	140	160	
GS	3.00°	372	478	531	637	743	849

HIALS-II
PAPI
MM006

Std		STRAIGHT-IN LANDING CAT II ILS	
ABC RA 115' DA(H) 1137' (100')	D RA 129' DA(H) 1149' (112')		

R300m

CAT D without autoland: R350m.

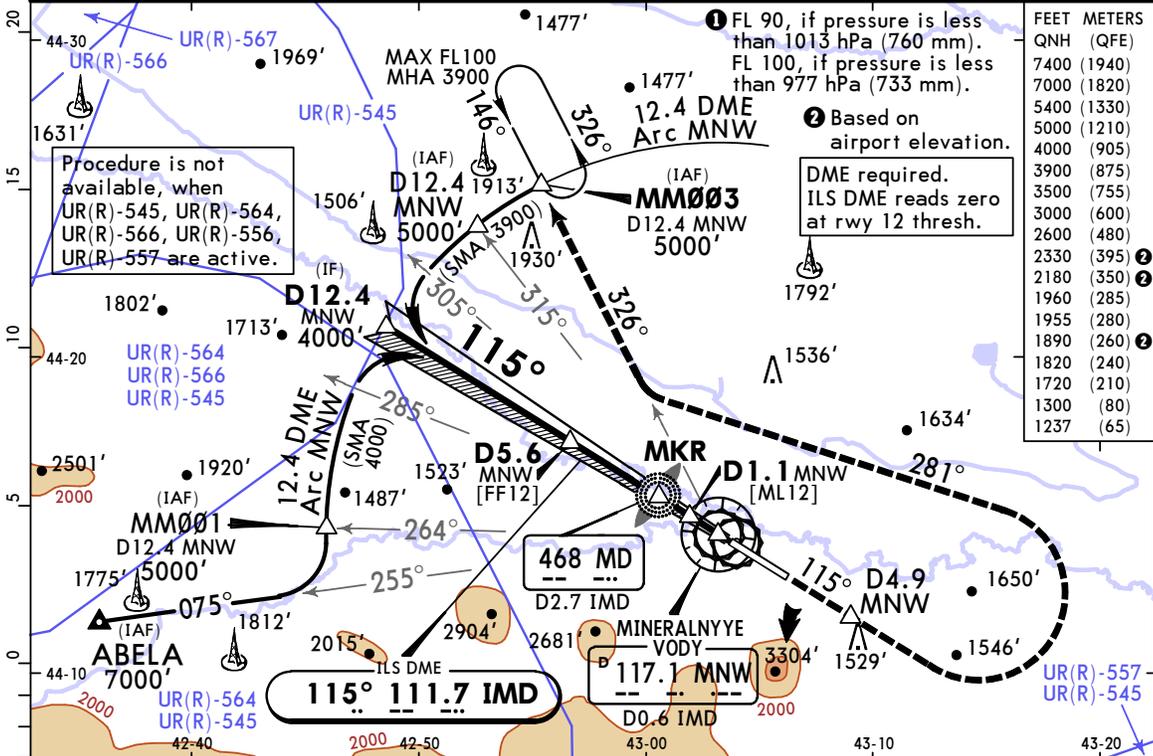
PANS OPS

BRIEFING STRIP

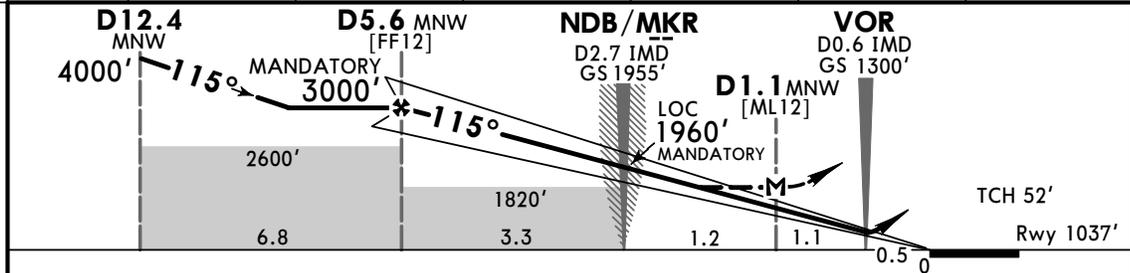
URMM/MRV
MINERALNYYE VODY

JEPPESEN MINERALNYYE VODY, RUSSIA
27 NOV 20 **(11-2) Eff 3 Dec** ILS Y or LOC Y Rwy 12

ATIS 125.25 (Russian 127.4)		MINERALNYYE VODY Approach 119.3	MINERALNYYE VODY Krug (TWR/R) 120.7	MINERALNYYE VODY Start (TWR) 128.0	Ground 121.9
LOC IMD 111.7	Final Apch Crs 115°	D5.6 MNW MANDATORY 3000' (1963')	ILS DA(H) 1237' (200')	Apt Elev 1047' Rwy 1037'	
MISSED APCH: Climb STRAIGHT AHEAD to D4.9 MNW, after reaching 3500' or above turn LEFT onto track 281° to intercept R-326 MNW, then proceed to D12.4 MNW climbing to 5000' or above.					
Alt Set: hPa (mm on req) Rwy Elev: 37 hPa Trans level: FL 80 ① Trans alt: 7000'					MSA MNW VOR



LOC (GS out)	MNW DME	5.6	5.4	4.3	3.2	2.2
	ALTITUDE	3000'	2950'	2610'	2260'	1920'



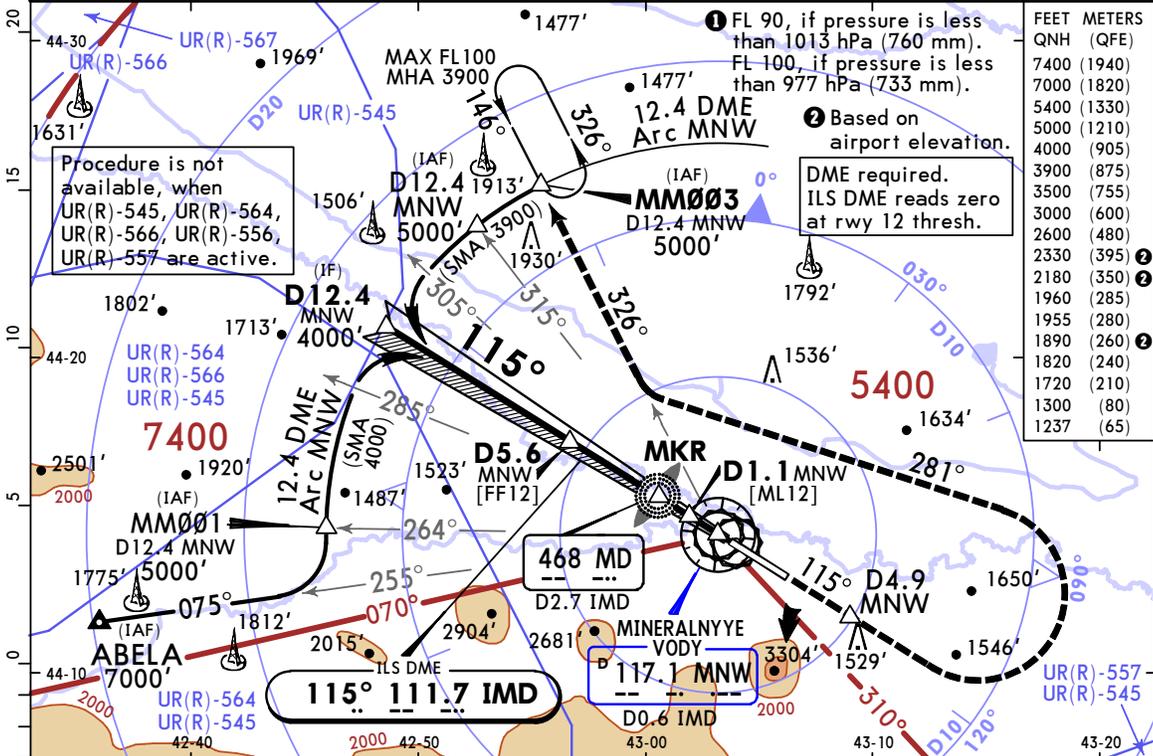
Gnd speed-Kts	70	90	100	120	140	160		D4.9 MNW ↑
ILS GS or LOC Descent Angle	3.00°	372	478	531	637	849		
MAP at D1.1 MNW								

A	ILS STRAIGHT-IN LANDING				LOC (GS out)		CIRCLE-TO-LAND	
	FULL	TDZ or CL out	ALS out	ALS out	w/o D2.7 IMD CDFA	w/o D2.7 IMD CDFA	Prohibited South of airport	
	DA(H) 1237' (200')				② DA/MDA(H) 1720' (683')		② DA/MDA(H) 1820' (783')	
							Max Kts	MDA(H)
B	R550m	① R550m	R1200m		R1500m	R1500m	100	1890' (843') V1500m
C							135	1890' (843') V1600m
D					R2400m	R2400m	180	2180' (1133') V2400m
							205	2330' (1283') V3600m

① R750m when a Flight Director or Autopilot or HUD to DA is not used.
② VNAV DA(H) in lieu of MDA(H) depends on operator policy.

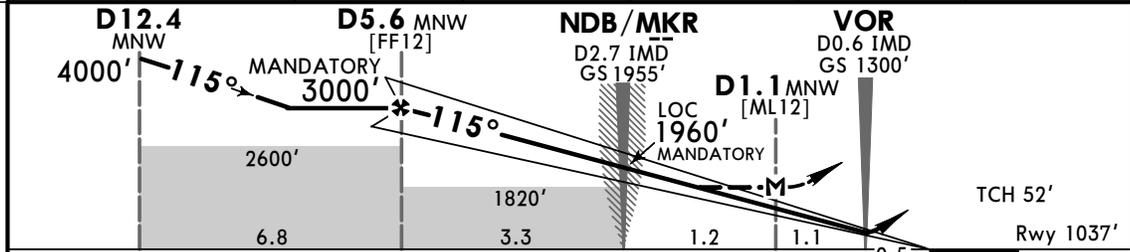
URMM/MRV **JEPPESEN MINERALNYYE VODY, RUSSIA**
MINERALNYYE VODY 27 NOV 20 **(11-2) Eff 3 Dec** ILS Y or LOC Y Rwy 12

ATIS 125.25 (Russian 127.4)		MINERALNYYE VODY Approach 119.3	MINERALNYYE VODY Krug (TWR/R) 120.7	MINERALNYYE VODY Start (TWR) 128.0	Ground 121.9
LOC IMD 111.7	Final Apc Crs 115°	D5.6 MNW MANDATORY 3000' (1963')	CAT II ILS CAT I ILS Refer to Minimums	Apt Elev 1047' Rwy 1037'	
MISSED APCH: Climb STRAIGHT AHEAD to D4.9 MNW, after reaching 3500' or above turn LEFT onto track 281° to intercept R-326 MNW, then proceed to D12.4 MNW climbing to 5000' or above.					
Alt Set: hPa (mm on req) Rwy Elev: 37 hPa Trans level: FL 80 Trans alt: 7000'					MSA MNW VOR



FEET	METERS
QNH (QFE)	
7400 (1940)	
7000 (1820)	
5400 (1330)	
5000 (1210)	
4000 (905)	
3900 (875)	
3500 (755)	
3000 (600)	
2600 (480)	
2330 (395)	
2180 (350)	
1960 (285)	
1955 (280)	
1890 (260)	
1820 (240)	
1720 (210)	
1300 (80)	
1237 (65)	

LOC (GS out)	MNW DME	5.6	5.4	4.3	3.2	2.2
	ALTITUDE	3000'	2950'	2610'	2260'	1920'

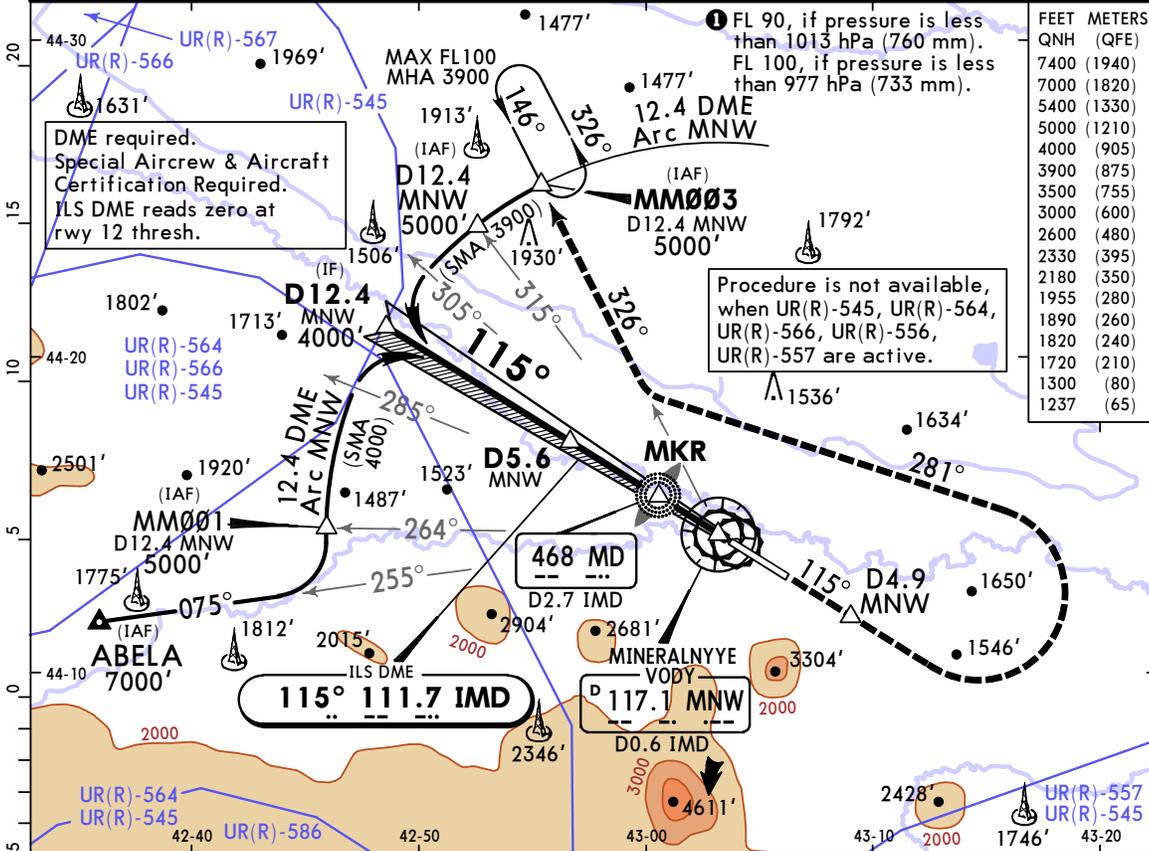


Gnd speed-Kts	120	140	160	180	HIALS-II PAPI D4.9 MNW	
ILS GS or LOC Descent Angle	3.00°	637	743	849		955
MAP at D1.1 MNW						

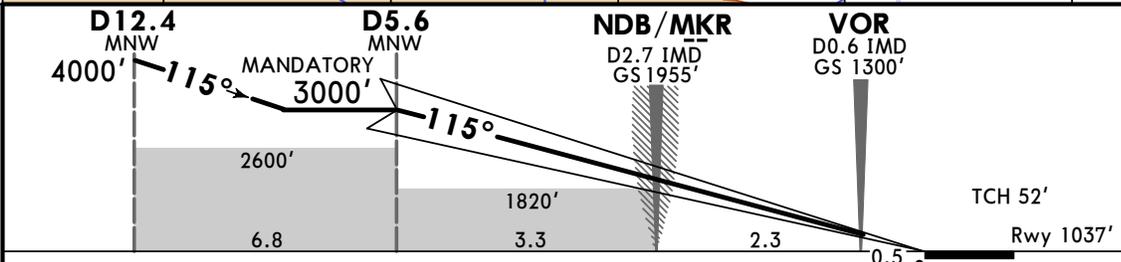
Std	STRAIGHT-IN LANDING				CIRCLE-TO-LAND	
	ILS	CAT I		LOC (GS out)		Prohibited South of airport
	CAT II ILS C: RA 115' DA(H) 1137' (100') D: RA 129' DA(H) 1149' (112')	CAT I DA(H) 1237' (200')		with D2.7 IMD CDFA DA/MDA(H) 1720' (683')	w/o D2.7 IMD CDFA DA/MDA(H) 1820' (783')	
C	1 R300m	R550m	2 R550m R1200m	R2400m	R2400m	2180' (1133') V2400m
D						2330' (1283') V3600m

1 CAT D without autoland: R350m. **2** R750m when a Flight Director or Autopilot or HUD to DA is not used. **3** VNAV DA(H) in lieu of MDA(H) depends on operator policy.

ATIS 125.25 (Russian 127.4)		MINERALNYYE VODY Approach 119.3	MINERALNYYE VODY Krug (TWR/R) 120.7	MINERALNYYE VODY Start (TWR) 128.0	Ground 121.9
LOC 111.7	Final Apch Crs 115°	D5.6 MNW MANDATORY 3000' (1963')	CAT II ILS RA/DA(H) Refer to Minimums	Apt Elev 1047' Rwy 1037'	
MISSED APCH: Climb STRAIGHT AHEAD to D4.9 MNW, after reaching 3500' or above turn LEFT onto track 281° to intercept R-326 MNW, then proceed to D12.4 MNW climbing to 5000' or above.					
Alt Set: hPa (mm on req) Rwy Elev: 37 hPa Trans level: FL 80 Trans alt: 7000'					MSA MNW VOR



FEET	METERS
7400	(1940)
7000	(1820)
5400	(1330)
5000	(1210)
4000	(905)
3900	(875)
3500	(755)
3000	(600)
2600	(480)
2330	(395)
2180	(350)
1955	(280)
1890	(260)
1820	(240)
1720	(210)
1300	(80)
1237	(65)



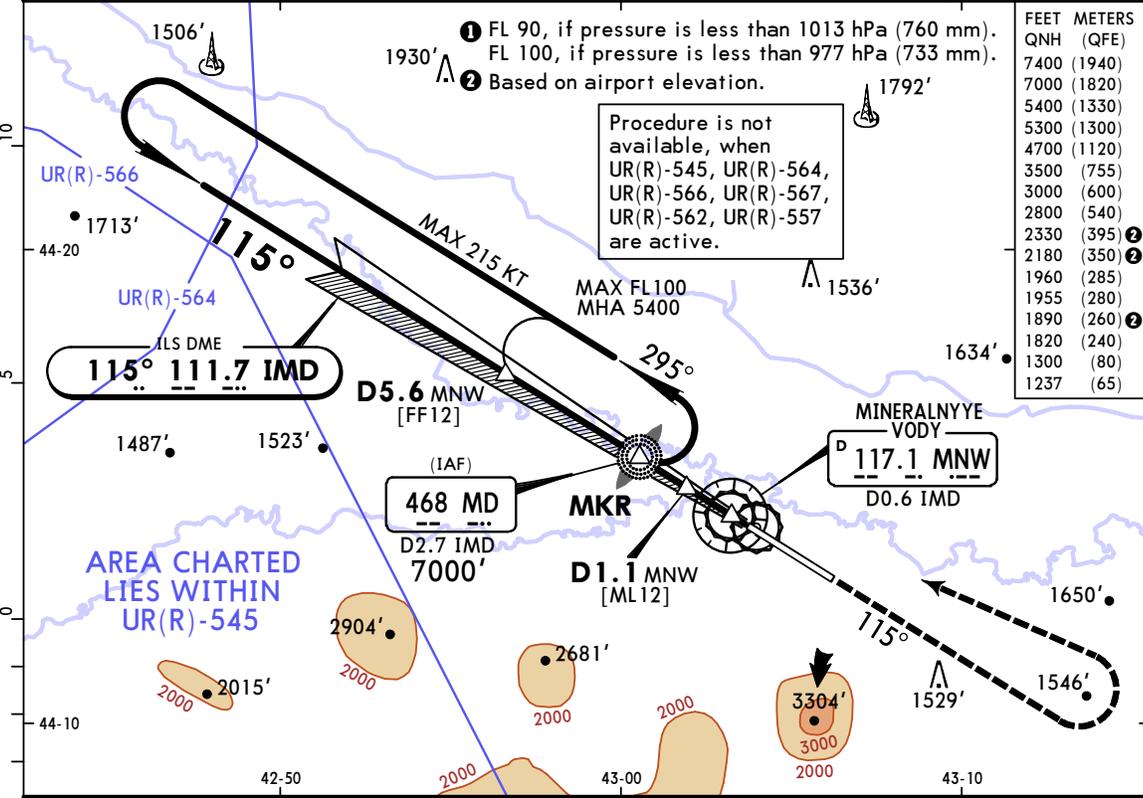
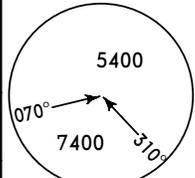
Gnd speed-Kts	70	90	100	120	140	160	HIALS-II PAPI D4.9 MNW
GS	3.00°	372	478	531	637	743	

Std STRAIGHT-IN LANDING CAT II ILS	
ABC RA 115' DA(H) 1137' (100')	D RA 129' DA(H) 1149' (112')

R300m

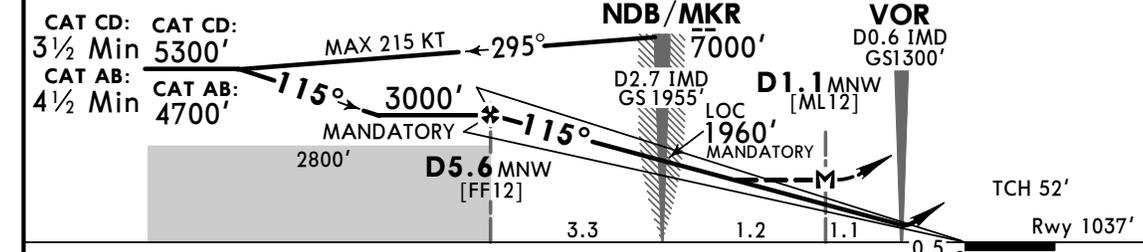
CAT D without autoland: R350m.

ATIS 125.25 (Russian 127.4)		MINERALNYYE VODY Approach 119.3	MINERALNYYE VODY Krug (TWR/R) 120.7	MINERALNYYE VODY Start (TWR) 128.0	Ground 121.9
LOC 111.7	Final Apch Crs 115°	D5.6 MNW MANDATORY 3000' (1963')	ILS DA(H) 1237' (200')	Apt Elev 1047' Rwy 1037'	
MISSED APCH: Climb STRAIGHT AHEAD to 3500' or above, turn LEFT to NDB/MKR climbing to 5300' or above.					
Alt Set: hPa (mm on req) Rwy Elev: 37 hPa Trans level: FL 80 ① Trans alt: 7000'					
1. Radar control and DME required. 2. ILS DME reads zero at rwy 12 thresh.					MSA MD NDB/MKR



FEET	METERS
7400	(1940)
7000	(1820)
5400	(1330)
5300	(1300)
4700	(1120)
3500	(755)
3000	(600)
2800	(540)
2330	(395)
2180	(350)
1960	(285)
1955	(280)
1890	(260)
1820	(240)
1300	(80)
1237	(65)

LOC (GS out)	MNW DME ALTITUDE	5.6	5.4	4.3	3.2	2.2
		3000'	2950'	2610'	2260'	1920'



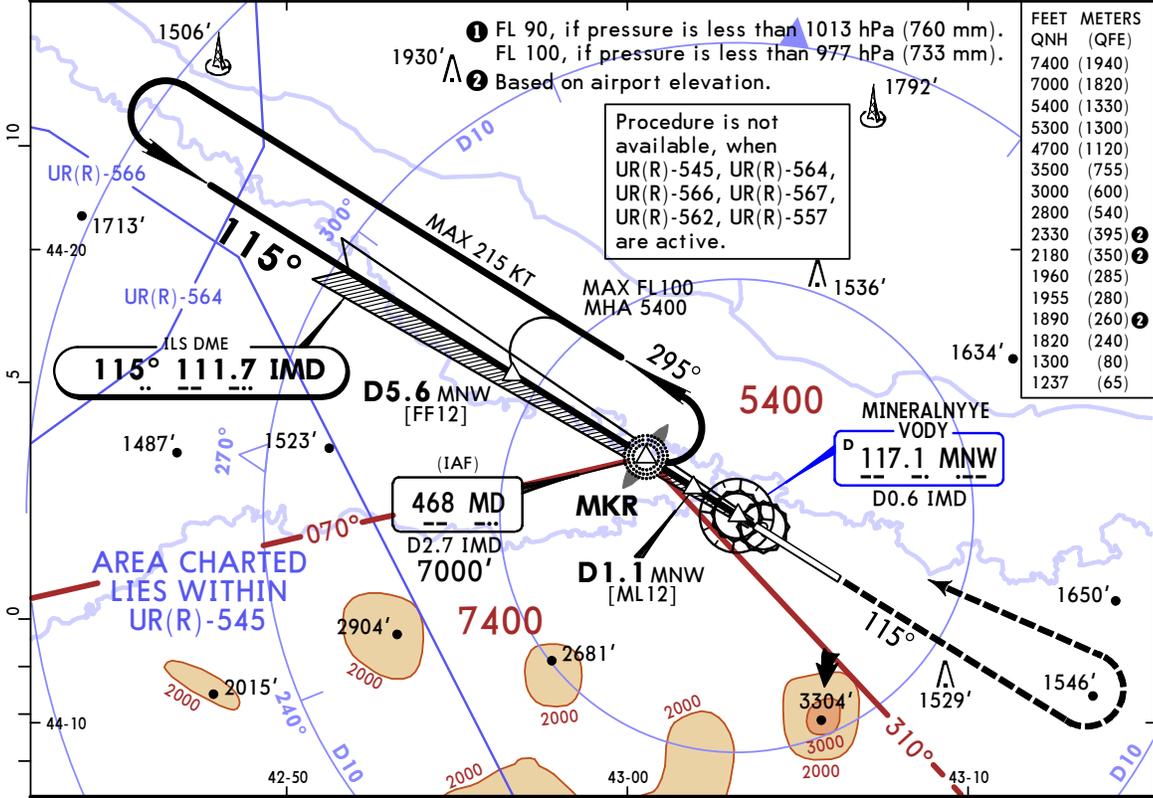
Gnd speed-Kts	70	90	100	120	140	160	HIALS-II PAPI 3500'
ILS GS or LOC Descent Angle	3.00°	372	478	531	637	849	
MAP at D1.1 MNW							

PANS OPS	ILS STRAIGHT-IN LANDING			LOC (GS out) CDFFA		CIRCLE-TO-LAND	
	DA(H) 1237' (200')	Mandatory		② DA/MDA(H) 1820' (783')		Prohibited South of airport	
A	FULL	TDZ or CL out	ALS out	ALS out		Max Kts	MDA(H)
B	R550m	① R550m	R1200m	R1500m		100	1890' (843') V1500m
C				R2400m		135	1890' (843') V1600m
D						180	2180' (1133') V2400m
						205	2330' (1283') V3600m

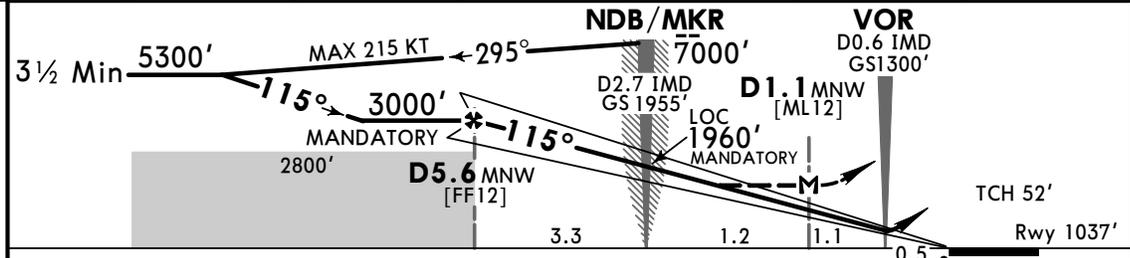
① R750m when a Flight Director or Autopilot or HUD to DA is not used.
 ② VNAV DA(H) in lieu of MDA(H) depends on operator policy.

URMM/MRV **A** **JEPPESEN MINERALNYYE VODY, RUSSIA**
MINERALNYYE VODY 27 NOV 20 **(11-3)** **Eff 3 Dec** **ILS X or LOC X Rwy 12**

ATIS 125.25 (Russian 127.4)		MINERALNYYE VODY Approach 119.3	MINERALNYYE VODY Krug (TWR/R) 120.7	MINERALNYYE VODY Start (TWR) 128.0	Ground 121.9
LOC IMD 111.7	Final Apch Crs 115°	D5.6 MNW MANDATORY 3000' (1963')	CAT II ILS CAT I ILS Refer to Minimums	Apt Elev 1047' Rwy 1037'	
MISSED APCH: Climb STRAIGHT AHEAD to 3500' or above, turn LEFT to NDB/MKR climbing to 5300' or above.					
Alt Set: hPa (mm on req) Rwy Elev: 37 hPa Trans level: FL 80 1 Trans alt: 7000'					MSA MD NDB/MKR
1. Radar control and DME required. 2. ILS DME reads zero at rwy 12 thresh.					



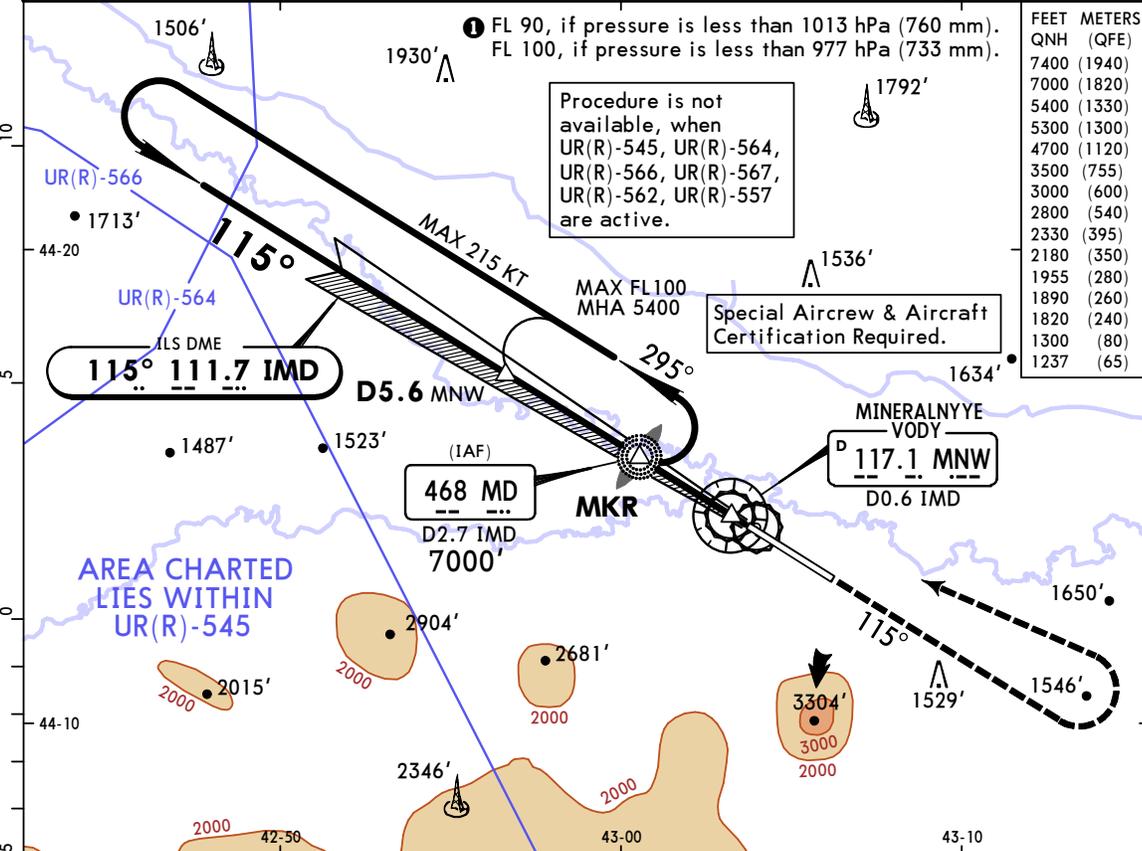
LOC (GS out)	MNW DME ALTITUDE	5.6 3000'	5.4 2950'	4.3 2610'	3.2 2260'	2.2 1920'
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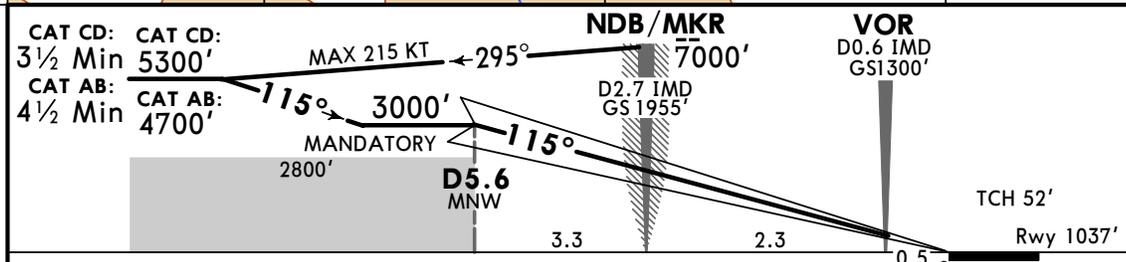
Std CAT II ILS C: RA 115' DA(H) 1137' (100') D: RA 129' DA(H) 1149' (112')	ILS STRAIGHT-IN LANDING CAT I DA(H) 1237' (200')	LOC (GS out) CDFA 3 DA/MDA(H) 1820' (783')	CIRCLE-TO-LAND Prohibited South of airport
C R300m	FULL R550m	ALS out R2400m	Max Kts 180 2180' (1133') V2400m
D R300m	2 R550m R1200m	R2400m	205 2330' (1283') V3600m

1 CAT D without autoland: R350m. **2** R750m when a Flight Director or Autopilot or HUD to DA is not used. **3** VNAV DA(H) in lieu of MDA(H) depends on operator policy.

ATIS 125.25 (Russian 127.4)		MINERALNYYE VODY Approach 119.3	MINERALNYYE VODY Krug (TWR/R) 120.7	MINERALNYYE VODY Start (TWR) 128.0	Ground 121.9
LOC 111.7	Final Apch Crs 115°	D5.6 MNW MANDATORY 3000' (1963')	CAT II ILS RA/DA(H) Refer to Minimums	Apt Elev 1047' Rwy 1037'	
MISSED APCH: Climb STRAIGHT AHEAD to 3500' or above, turn LEFT to NDB/MKR climbing to 5300' or above.					
Alt Set: hPa (mm on req) Rwy Elev: 37 hPa Trans level: FL 80 Trans alt: 7000'					MSA MD NDB/MKR
1. Radar control and DME required. 2. ILS DME reads zero at rwy 12 thresh.					



FEET	METERS
QNH (QFE)	
7400 (1940)	
7000 (1820)	
5400 (1330)	
5300 (1300)	
4700 (1120)	
3500 (755)	
3000 (600)	
2800 (540)	
2330 (395)	
2180 (350)	
1955 (280)	
1890 (260)	
1820 (240)	
1300 (80)	
1237 (65)	



Gnd speed-Kts	70	90	100	120	140	160	HIALS-II PAPI 3500'
GS	3.00°	372	478	531	637	743	

Std STRAIGHT-IN LANDING CAT II ILS	
ABC RA 115' DA(H) 1137' (100')	D RA 129' DA(H) 1149' (112')

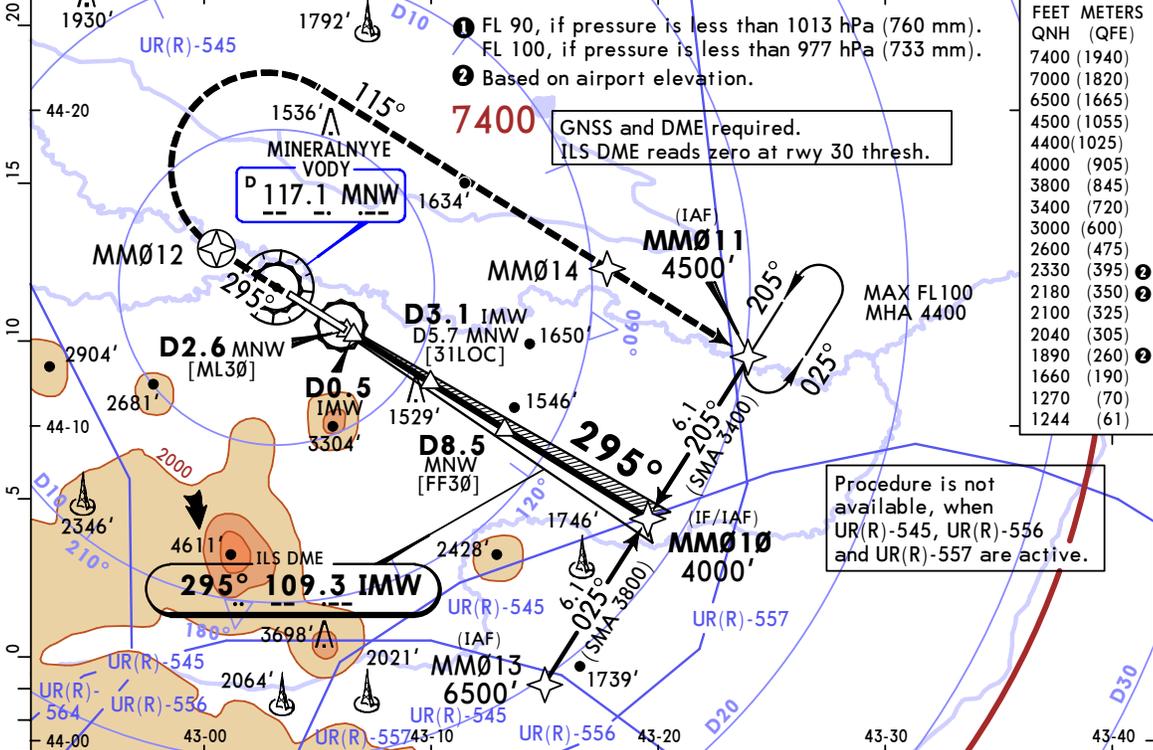
R300m

CAT D without autoland: R350m.

URMM/MRV **A** **JEPPESEN MINERALNYYE VODY, RUSSIA**
 MINERALNYYE VODY 27 NOV 20 **11-4** Eff 3 Dec ILS Z or LOC Z Rwy 30

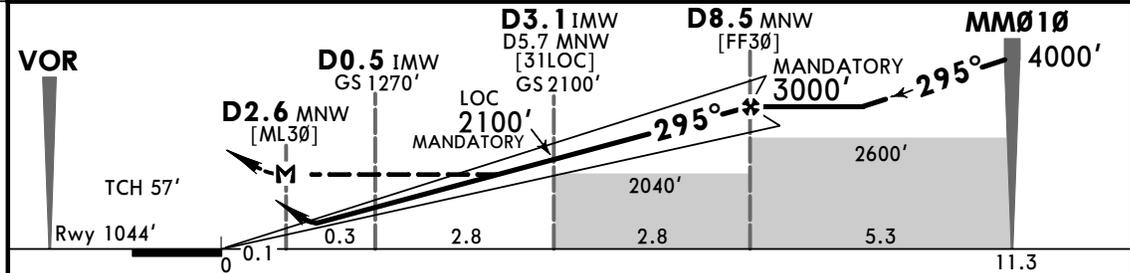
ATIS 125.25 (Russian 127.4)	MINERALNYYE VODY Approach 119.3	MINERALNYYE VODY Krug (TWR/R) 120.7	MINERALNYYE VODY Start (TWR) 128.0	Ground 121.9
LOC IMW 109.3	Final Apch Crs 295°	D8.5 MNW MANDATORY 3000' (1956')	ILS DA(H) 1244' (200')	Apt Elev 1047' Rwy 1044'
MISSED APCH: Climb STRAIGHT AHEAD to MM012, turn RIGHT to MM014, then proceed to MM011 climbing to 4500' or above.				7400
Alt Set: hPa (mm on req) Rwy Elev: 37 hPa Trans level: FL 80 1 Trans alt: 7000'				
RNAV 1 for initial and missed approach.				

MSA ARP



Procedure is not available, when UR(R)-545, UR(R)-556 and UR(R)-557 are active.

LOC (GS out)	MNW DME ALTITUDE	5.9 2190'	7.0 2530'	8.1 2880'	8.5 3000'
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Gnd speed-Kts	120	140	160	180	HIALS PAPI MM012
ILS GS or LOC Descent Angle	3.00°	637	743	849	
MAP at D2.6 MNW					

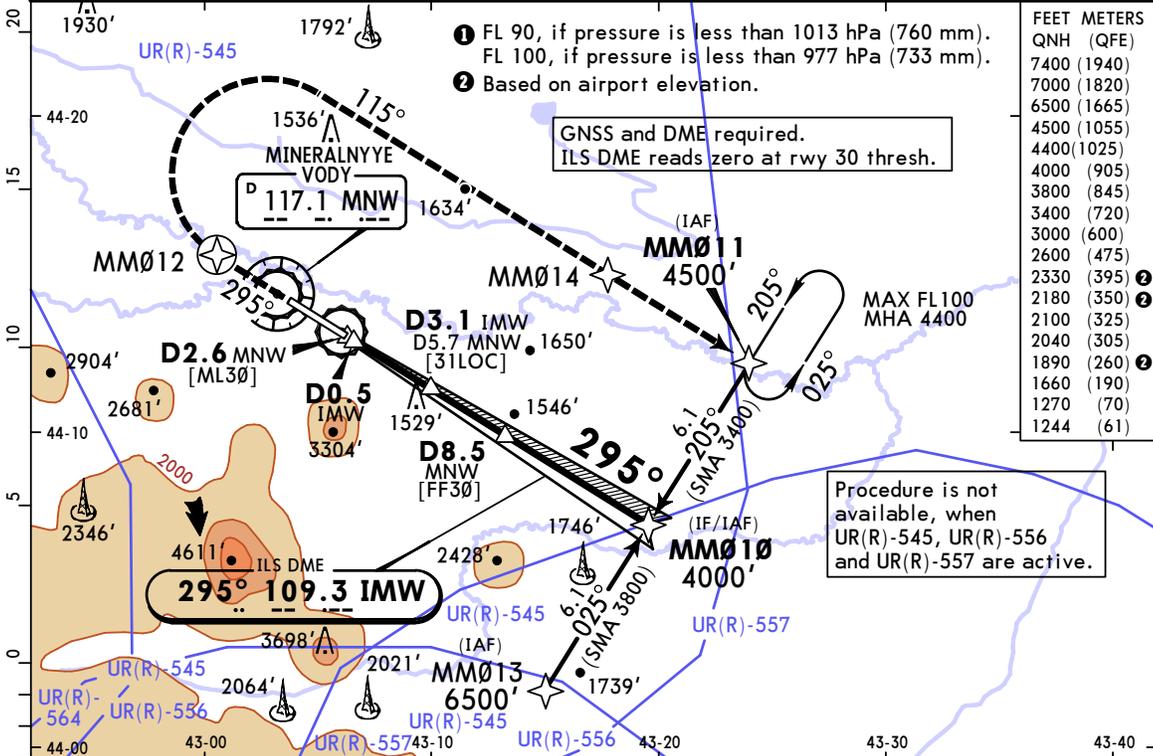
Std	ILS		STRAIGHT-IN LANDING LOC (GS out)		CIRCLE-TO-LAND
	FULL	ALS out	with D3.1 IMW/D5.7 MNW CDFA	w/o D3.1 IMW/D5.7 MNW CDFA	
	DA(H) 1244' (200')		DA/MDA(H) 1660' (616')	DA/MDA(H) 2040' (996')	Prohibited South of airport
					Max Kts MDA(H)
C	1 R550m	R1200m	R2100m	R2400m	180 2180' (1133') V2400m
D					205 2330' (1283') V3600m

1 R750m when a Flight Director or Autopilot or HUD to DA is not used.
2 VNAV DA(H) in lieu of MDA(H) depends on operator policy.

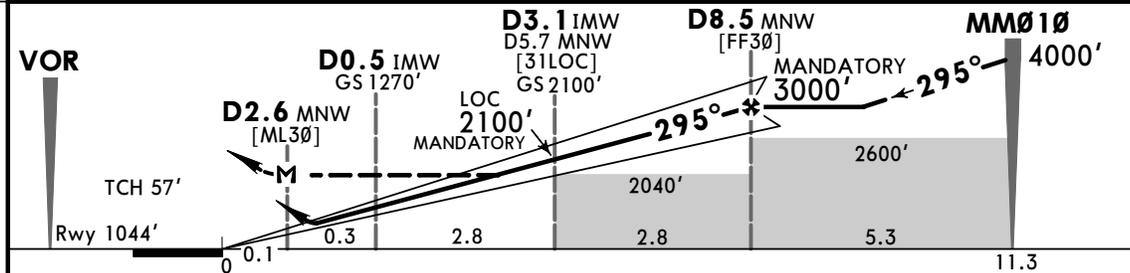
URMM/MRV
MINERALNYYE VODY

JEPPESEN MINERALNYYE VODY, RUSSIA
27 NOV 20 **(11-4) Eff 3 Dec** ILS Z or LOC Z Rwy 30

ATIS 125.25 (Russian 127.4)		MINERALNYYE VODY Approach 119.3	MINERALNYYE VODY Krug (TWR/R) 120.7	MINERALNYYE VODY Start (TWR) 128.0	Ground 121.9
LOC IMW 109.3	Final Apch Crs 295°	D8.5 MNW MANDATORY 3000' (1956')	ILS DA(H) 1244' (200')	Apt Elev 1047' Rwy 1044'	
MISSED APCH: Climb STRAIGHT AHEAD to MM012, turn RIGHT to MM014, then proceed to MM011 climbing to 4500' or above.					
Alt Set: hPa (mm on req) Rwy Elev: 37 hPa Trans level: FL 80 ① Trans alt: 7000' RNAV 1 for initial and missed approach.					



LOC (GS out)	MNW DME ALTITUDE	5.9 2190'	7.0 2530'	8.1 2880'	8.5 3000'
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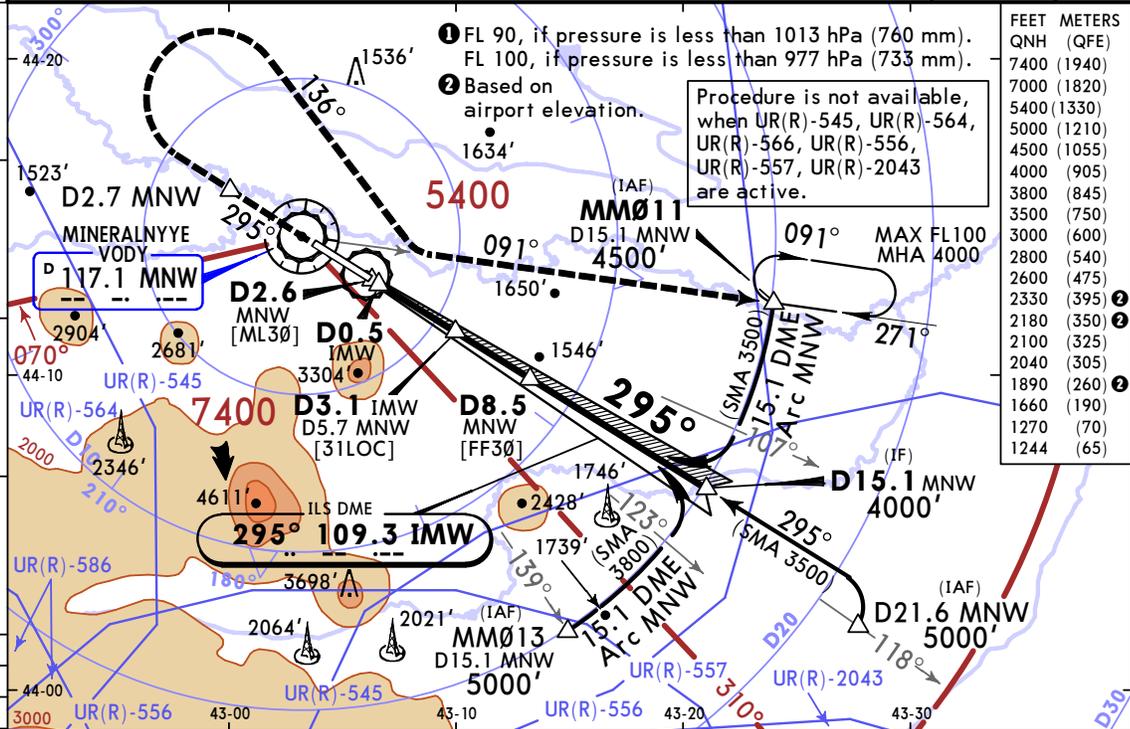
Gnd speed-Kts	70	90	100	120	140	160	HIALS PAPI 	MM012 	
ILS GS or LOC Descent Angle	3.00°	372	478	531	637	743			849
MAP at D2.6 MNW									

Std ILS DA(H) 1244' (200') FULL ALS out	STRAIGHT-IN LANDING LOC (GS out) with D3.1 IMW/D5.7 MNW CDFA ② DA/MDA(H) 1660' (616') ALS out		w/o D3.1 IMW/D5.7 MNW CDFA ② DA/MDA(H) 2040' (996') ALS out		CIRCLE-TO-LAND Prohibited South of airport Max Kts MDA(H) 100 1890' (843') V1500m 135 1890' (843') V1600m 180 2180' (1133') V2400m 205 2330' (1283') V3600m
	A	R1500m		R1500m	
B	① R550m	R1200m		R2400m	
C	R2100m		R2400m	R2400m	
D	R2100m		R2400m	R2400m	

① R750m when a Flight Director or Autopilot or HUD to DA is not used.
 ② VNAV DA(H) in lieu of MDA(H) depends on operator policy.

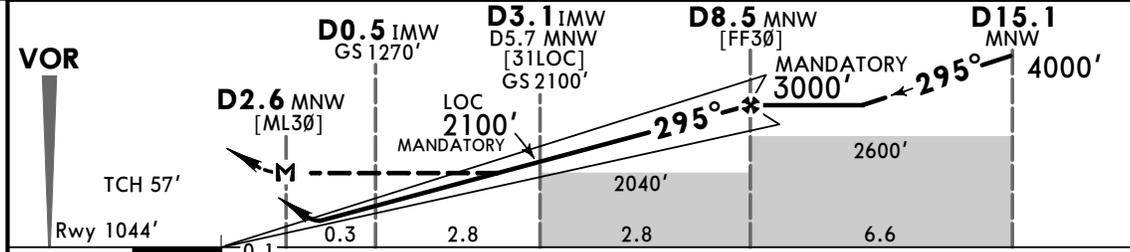
URMM/MRV **JEPPESEN MINERALNYYE VODY, RUSSIA**
MINERALNYYE VODY 27 NOV 20 **(11-5) Eff 3 Dec** **ILS Y or LOC Y Rwy 30**

ATIS 125.25 (Russian 127.4)		MINERALNYYE VODY Approach 119.3	MINERALNYYE VODY Krug (TWR/R) 120.7	MINERALNYYE VODY Start (TWR) 128.0	Ground 121.9
LOC IMW 109.3	Final Apch Crs 295°	D8.5 MNW MANDATORY 3000' (1956')	ILS DA(H) 1244' (200')	Apt Elev 1047' Rwy 1044'	<p>MSA MNW VOR</p>
MISSED APCH: Climb STRAIGHT AHEAD to D2.7 MNW, after reaching 2800' or above turn RIGHT onto track 136° to intercept R-091 MNW, then proceed to D15.1 MNW climbing to 4500' or above.					
Alt Set: hPa (mm on req) Rwy Elev: 38 hPa Trans level: FL 80 1 Trans alt: 7000' 1. DME required. 2. ILS DME reads zero at rwy 30 thresh.					



FEET	METERS
7400	(1940)
7000	(1820)
5400	(1330)
5000	(1210)
4500	(1055)
4000	(905)
3800	(845)
3500	(750)
3000	(600)
2800	(540)
2600	(475)
2330	(395)
2180	(350)
2100	(325)
2040	(305)
1890	(260)
1660	(190)
1270	(70)
1244	(65)

LOC (GS out)	MNW DME	5.9	7.0	8.1	8.5
	ALTITUDE	2190'	2530'	2880'	3000'



Gnd speed-Kts	120	140	160	180	HIALS PAPI D2.7 MNW
ILS GS or LOC Descent Angle	3.00°	637	743	849	
MAP at D2.6 MNW					

Std	STRAIGHT-IN LANDING				CIRCLE-TO-LAND
	ILS		LOC (GS out)		
	with D3.1 IMW/D5.7 MNW CDFA		w/o D3.1 IMW/D5.7 MNW CDFA		Prohibited South of airport
	DA(H) 1244' (200')	DA/MDA(H) 1660' (616')	DA/MDA(H) 2040' (996')	DA/MDA(H) 2040' (996')	
	FULL	ALS out	ALS out	ALS out	Max Kts
C					180
D	1 R550m	R1200m	R2100m	R2400m	205
					2180' (1133') V2400m
					2330' (1283') V3600m

1 R750m when a Flight Director or Autopilot or HUD to DA is not used.
2 VNAV DA(H) in lieu of MDA(H) depends on operator policy.

URMM/MRV

MINERALNYYE VODY

27 NOV 20

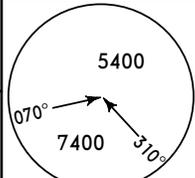
(11-5)

Eff 3 Dec

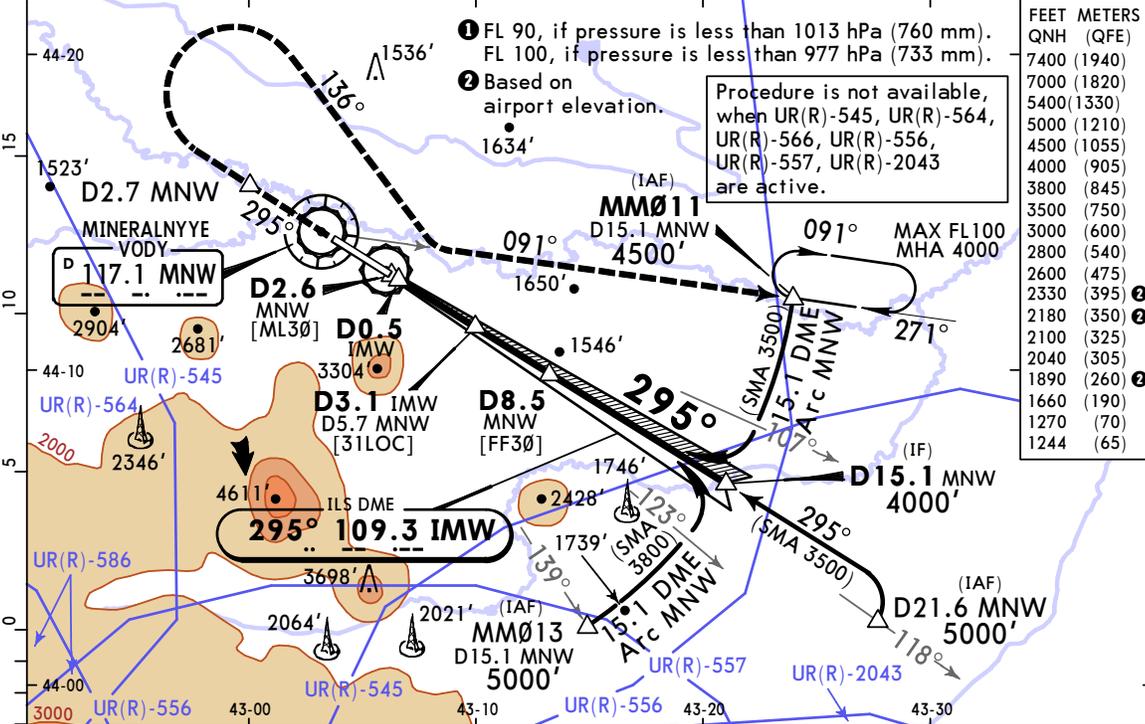
JEPPESEN MINERALNYYE VODY, RUSSIA

ILS Y or LOC Y Rwy 30

BRIEFING STRIP	ATIS 125.25 (Russian 127.4)	MINERALNYYE VODY Approach 119.3	MINERALNYYE VODY Krug (TWR/R) 120.7	MINERALNYYE VODY Start (TWR) 128.0	Ground 121.9
	LOC IMW 109.3	Final Apch Crs 295°	D8.5 MNW MANDATORY 3000' (1956')	ILS DA(H) 1244' (200')	Apt Elev 1047' Rwy 1044'
	MISSED APCH: Climb STRAIGHT AHEAD to D2.7 MNW, after reaching 2800' or above turn RIGHT onto track 136° to intercept R-091 MNW, then proceed to D15.1 MNW climbing to 4500' or above. Alt Set: hPa (mm on req) Rwy Elev: 38 hPa Trans level: FL 80 ① Trans alt: 7000' 1. DME required. 2. ILS DME reads zero at rwy 30 thresh.				

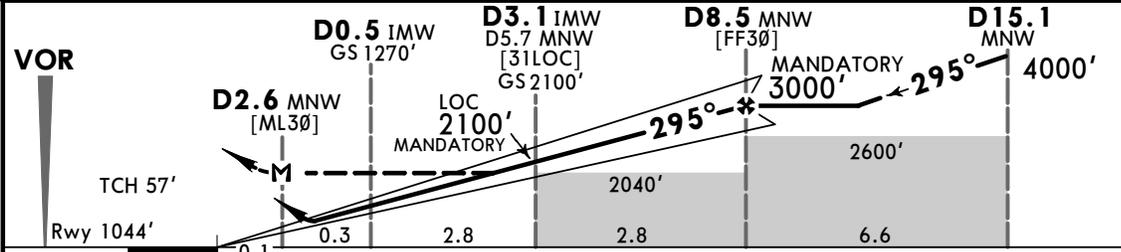


MSA MNW VOR

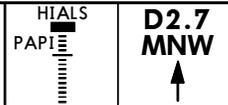


FEET	METERS
7400	(1940)
7000	(1820)
5400	(1330)
5000	(1210)
4500	(1055)
4000	(905)
3800	(845)
3500	(750)
3000	(600)
2800	(540)
2600	(475)
2330	(395)
2180	(350)
2100	(325)
2040	(305)
1890	(260)
1660	(190)
1270	(70)
1244	(65)

LOC (GS out)	MNW DME	5.9	7.0	8.1	8.5
	ALTITUDE	2190'	2530'	2880'	3000'



Gnd speed-Kts	70	90	100	120	140	160
ILS GS or LOC Descent Angle	3.00°	372	478	531	637	743
MAP at D2.6 MNW						

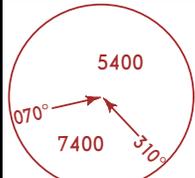


PANS OPS	STRAIGHT-IN LANDING				CIRCLE-TO-LAND
	ILS		LOC (GS out)		
	with D3.1 IMW/D5.7 MNW CDFA		w/o D3.1 IMW/D5.7 MNW CDFA		Prohibited South of airport
	DA(H) 1244' (200')		DA/MDA(H) 1660' (616')		
	FULL	ALS out	ALS out	ALS out	Max Kts
A					100
B	1 R550m	R1200m	R1500m	R1500m	135
C			R2100m	R2400m	180
D					205
					MDA(H)
					1890' (843') V1500m
					1890' (843') V1600m
					2180' (1133') V2400m
					2330' (1283') V3600m

① R750m when a Flight Director or Autopilot or HUD to DA is not used.
 ② VNAV DA(H) in lieu of MDA(H) depends on operator policy.

URMM/MRV **A** **JEPPESEN MINERALNYE VODY, RUSSIA**
 MINERALNYE VODY 27 NOV 20 **11-6** Eff 3 Dec ILS X or LOC X Rwy 30

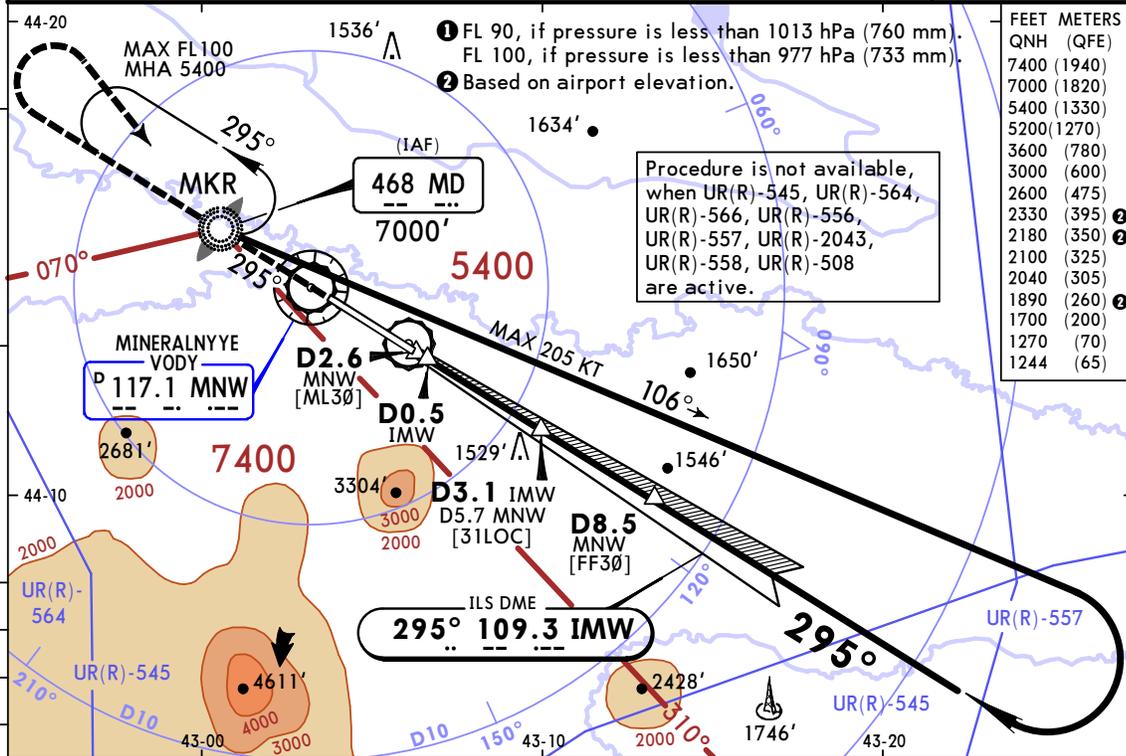
ATIS 125.25 (Russian 127.4)	MINERALNYE VODY Approach 119.3	MINERALNYE VODY Krug (TWR/R) 120.7	MINERALNYE VODY Start (TWR) 128.0	Ground 121.9
LOC IMW 109.3	Final Apch Crs 295°	D8.5 MNW MANDATORY 3000' (1956')	ILS DA(H) 1244' (200')	Apt Elev 1047' Rwy 1044'



MISSED APCH: Climb STRAIGHT AHEAD to 3600' or above, then turn RIGHT to NDB/MKR climbing to 5400' or above.

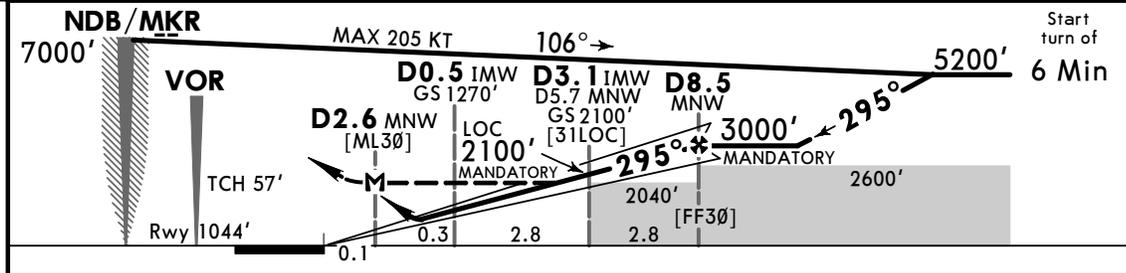
Alt Set: hPa (mm on req) Rwy Elev: 38 hPa Trans level: FL 80 ① Trans alt: 7000'

1. Radar control and DME required. 2. ILS DME reads zero at rwy 30 thresh.



FEET	METERS
7400	(1940)
7000	(1820)
5400	(1330)
5200	(1270)
3600	(780)
3000	(600)
2600	(475)
2330	(395)
2180	(350)
2100	(325)
2040	(305)
1890	(260)
1700	(200)
1270	(70)
1244	(65)

LOC (GS out)	MNW DME ALTITUDE	5.9 2190'	7.0 2530'	8.1 2880'	8.5 3000'
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Gnd speed-Kts	120	140	160	180	HIALS PAPI 3600'	
ILS GS or LOC Descent Angle	3.00°	637	743	849		955
MAP at D2.6 MNW						

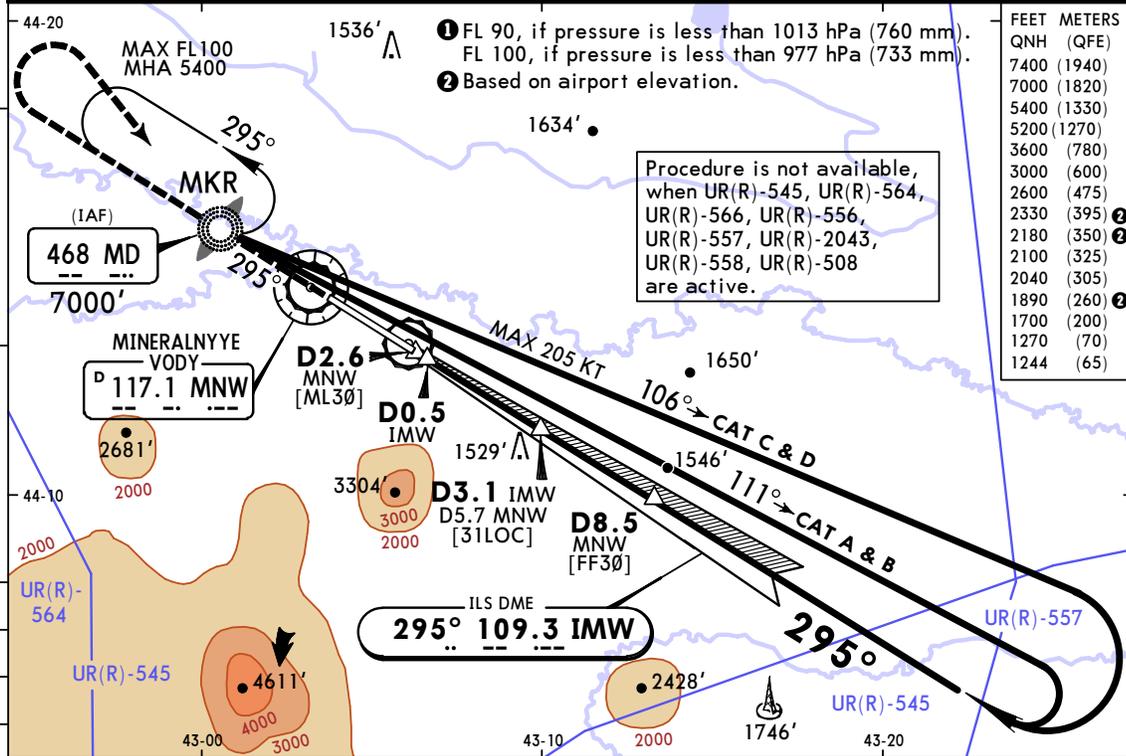
Std	STRAIGHT-IN LANDING				CIRCLE-TO-LAND
	ILS		LOC (GS out)		
	with D3.1 IMW/D5.7 MNW CDFA		w/o D3.1 IMW/D5.7 MNW CDFA		Prohibited South of airport
	DA(H) 1244' (200')	DA/MDA(H) 1700' (656')	DA/MDA(H) 2040' (996')	DA/MDA(H) 2040' (996')	
	FULL	ALS out	ALS out	ALS out	Max Kts MDA(H)
C	1 R550m	R1200m	R2300m	R2400m	180 2180' (1133') V2400m
D					205 2330' (1283') V3600m

① R750m when a Flight Director or Autopilot or HUD to DA is not used.
 ② VNAV DA(H) in lieu of MDA(H) depends on operator policy.

URMM/MRV
MINERALNYYE VODY

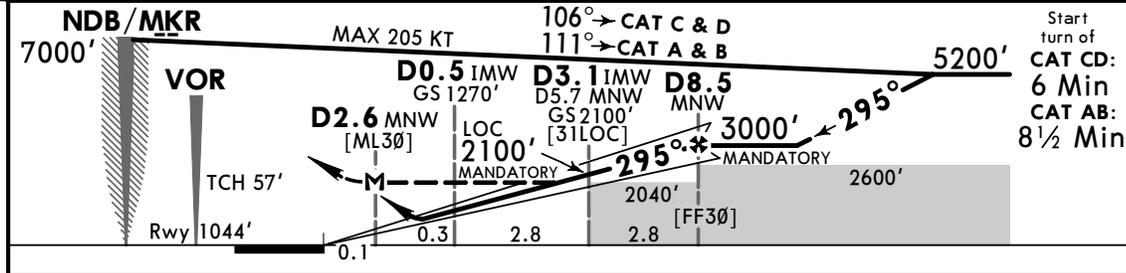
JEPPESEN MINERALNYYE VODY, RUSSIA
27 NOV 20 **11-6** Eff 3 Dec **ILS X or LOC X Rwy 30**

ATIS 125.25 (Russian 127.4)		MINERALNYYE VODY Approach 119.3	MINERALNYYE VODY Krug (TWR/R) 120.7	MINERALNYYE VODY Start (TWR) 128.0	Ground 121.9
LOC IMW 109.3	Final Apch Crs 295°	D8.5 MNW MANDATORY 3000' (1956')	ILS DA(H) 1244' (200')	Apt Elev 1047' Rwy 1044'	
MISSED APCH: Climb STRAIGHT AHEAD to 3600' or above, then turn RIGHT to NDB/MKR climbing to 5400' or above.					
Alt Set: hPa (mm on req) Rwy Elev: 38 hPa Trans level: FL 80 ① Trans alt: 7000' 1. Radar control and DME required. 2. ILS DME reads zero at rwy 30 thresh.					



FEET	METERS
QNH (QFE)	
7400 (1940)	
7000 (1820)	
5400 (1330)	
5200 (1270)	
3600 (780)	
3000 (600)	
2600 (475)	
2330 (395)	②
2180 (350)	②
2100 (325)	
2040 (305)	
1890 (260)	②
1700 (200)	
1270 (70)	
1244 (65)	

LOC (GS out)	MNW DME ALTITUDE	5.9 2190'	7.0 2530'	8.1 2880'	8.5 3000'
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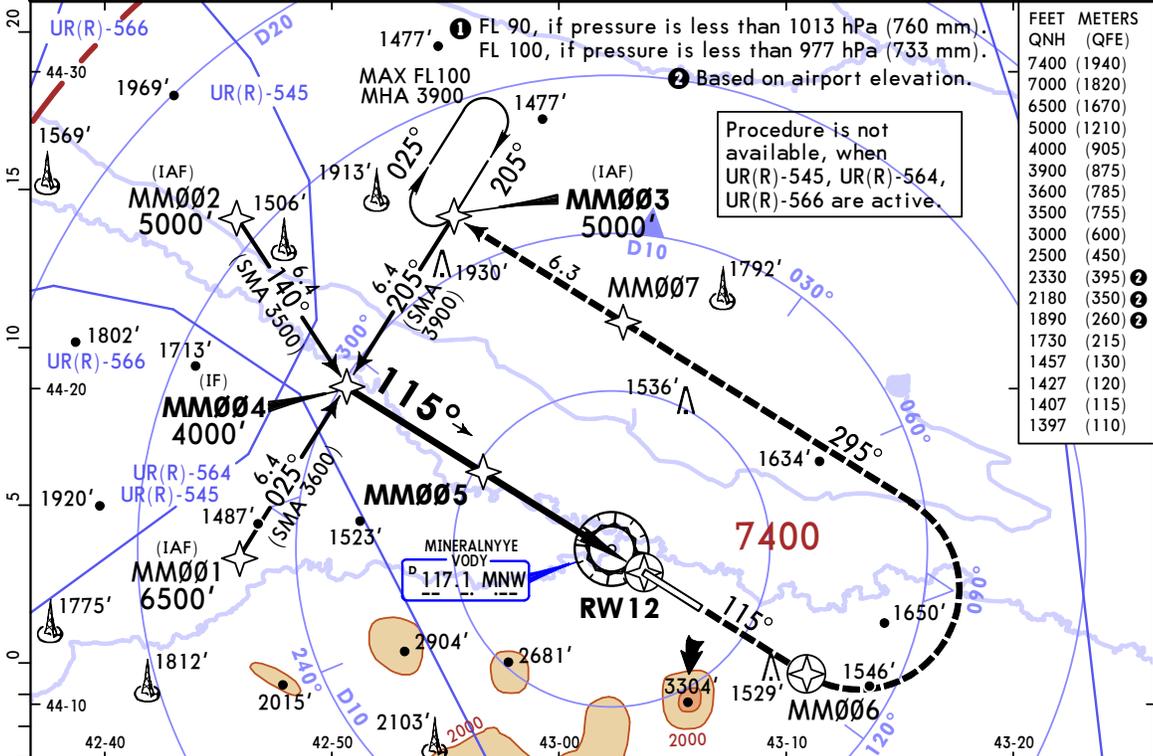


Gnd speed-Kts	70	90	100	120	140	160	HIALS PAPI 3600' ↑	
ILS GS or LOC Descent Angle	3.00°	372	478	531	637	743		849
MAP at D2.6 MNW								

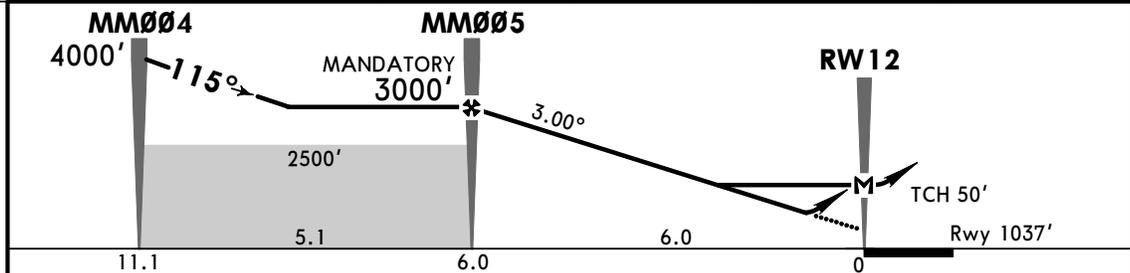
PANS OPS	STRAIGHT-IN LANDING				CIRCLE-TO-LAND
	ILS		LOC (GS out)		
	with D3.1 IMW/D5.7 MNW CDFA		w/o D3.1 IMW/D5.7 MNW CDFA		Prohibited South of airport
	DA(H) 1244' (200')	DA/MDA(H) 1700' (656')	DA/MDA(H) 1700' (656')	DA/MDA(H) 2040' (996')	
	FULL	ALS out	ALS out	ALS out	Max Kts
A					100
B	1 R550m	R1200m	R1500m	R1500m	135
C			R2300m	R2400m	180
D					205
					MDA(H)
					1890' (843') V1500m
					1890' (843') V1600m
					2180' (1133') V2400m
					2330' (1283') V3600m

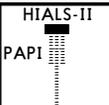
① R750m when a Flight Director or Autopilot or HUD to DA is not used.
 ② VNAV DA(H) in lieu of MDA(H) depends on operator policy.

ATIS 125.25 (Russian 127.4)		MINERALNYYE VODY Approach 119.3	MINERALNYYE VODY Krug (TWR/R) 120.7	MINERALNYYE VODY Start (TWR) 128.0	Ground 121.9
RNAV	Final Apch Crs 115°	MM005 MANDATORY 3000' (1963')	LNAV/VNAV DA(H) Refer to Minimums	Apt Elev 1047' Rwy 1037'	 7400 MSA ARP
MISSED APCH: Climb STRAIGHT AHEAD to MM006, then turn LEFT to MM007, then proceed to MM003 climbing to 5000' or above.					
Alt Set: hPa (mm on req) Rwy Elev: 37 hPa Trans level: FL 80 1 Trans alt: 7000'					
RNP apch. 1. GNSS required. 2. Baro-VNAV not authorized below -32°C.					



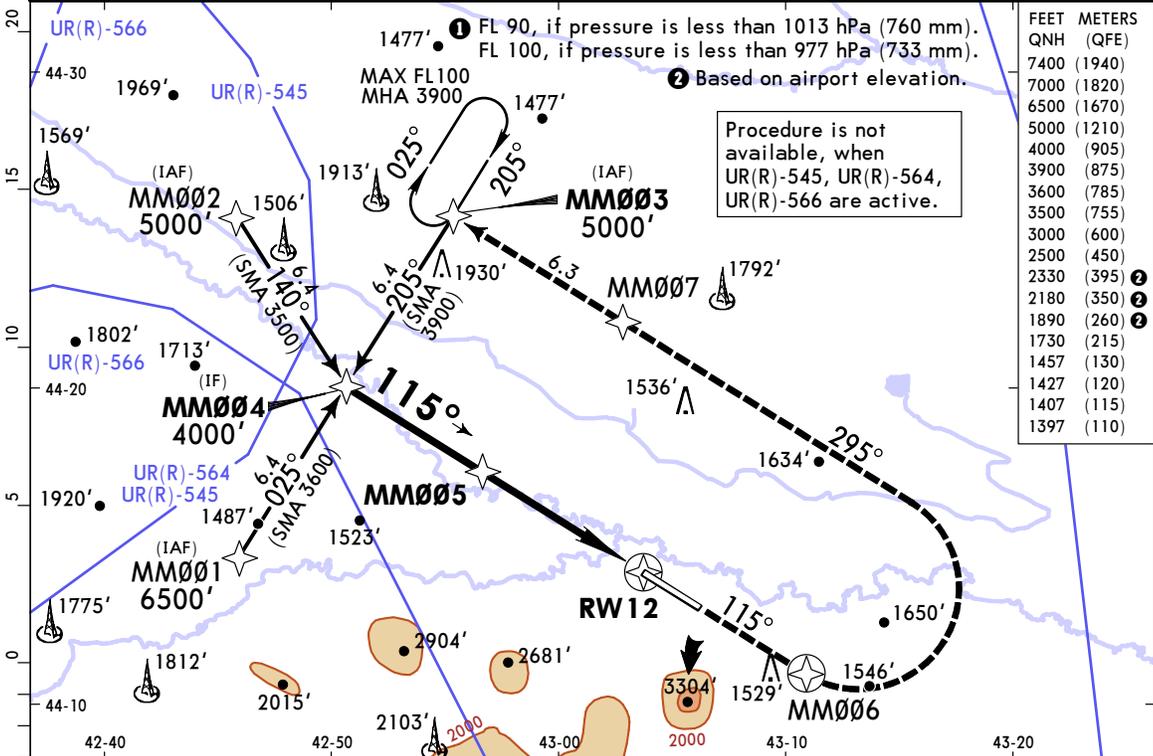
DIST to RW12	6.0	5.4	4.3	3.2	2.2
ALTITUDE	3000'	2810'	2460'	2120'	1770'



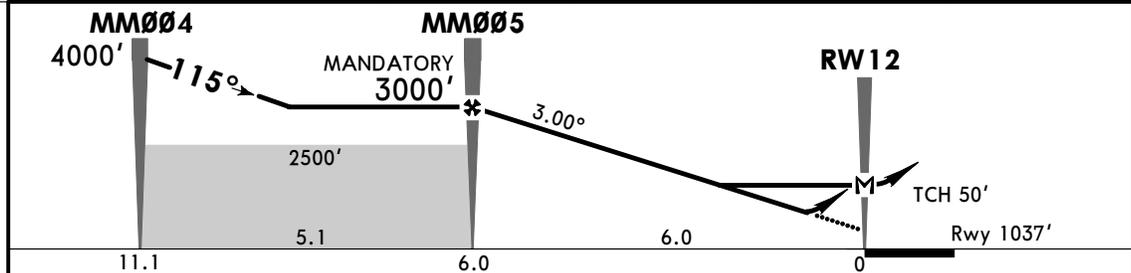
Gnd speed-Kts	120	140	160	180	 MM006
Descent Angle	3.00°	637	743	849	
LNAV/VNAV: MAP at DA					
LNAV: MAP at RW12					

Std	STRAIGHT-IN LANDING		CIRCLE-TO-LAND
	LNAV/VNAV	LNAV CDFA	
	DA(H) C: 1427' (390') D: 1457' (420')	DA/MDA(H) 1730' (693')	Prohibited South of airport
	ALS out	ALS out	Max Kts MDA(H)
C	R1100m	R1800m	180 2180' (1133') V2400m
D	R1200m	R1900m	205 2330' (1283') V3600m

ATIS 125.25 (Russian 127.4)		MINERALNYYE VODY Approach 119.3	MINERALNYYE VODY Krug (TWR/R) 120.7	MINERALNYYE VODY Start (TWR) 128.0	Ground 121.9
RNAV	Final Apch Crs 115°	MM005 MANDATORY 3000' (1963')	LNAV/VNAV DA(H) Refer to Minimums	Apt Elev 1047' Rwy 1037'	7400
MISSED APCH: Climb STRAIGHT AHEAD to MM006, then turn LEFT to MM007, then proceed to MM003 climbing to 5000' or above.					
Alt Set: hPa (mm on req) Rwy Elev: 37 hPa Trans level: FL 80 ① Trans alt: 7000'					
RNP apch. 1. GNSS required. 2. Baro-VNAV not authorized below -32°C.					MSA ARP



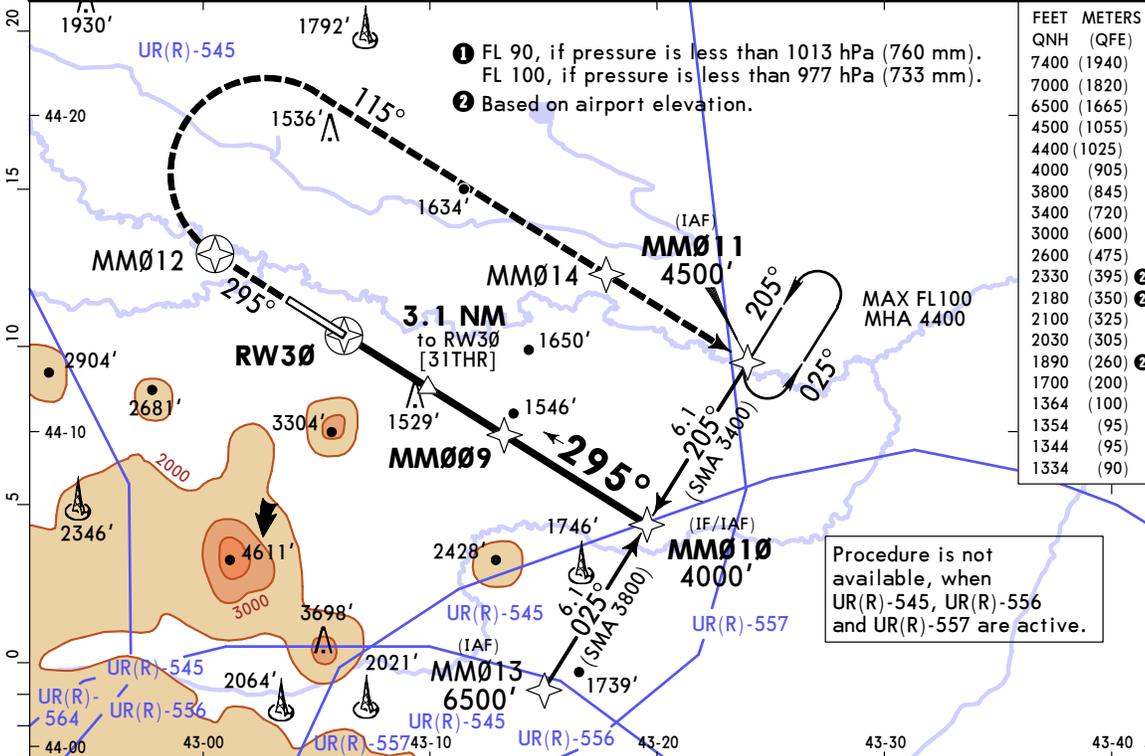
DIST to RW12	6.0	5.4	4.3	3.2	2.2
ALTITUDE	3000'	2810'	2460'	2120'	1770'



Gnd speed-Kts	70	90	100	120	140	160	HIALS-II PAPI MM006
Descent Angle	3.00°	372	478	531	637	743	
LNAV/VNAV: MAP at DA							
LNAV: MAP at RW12							

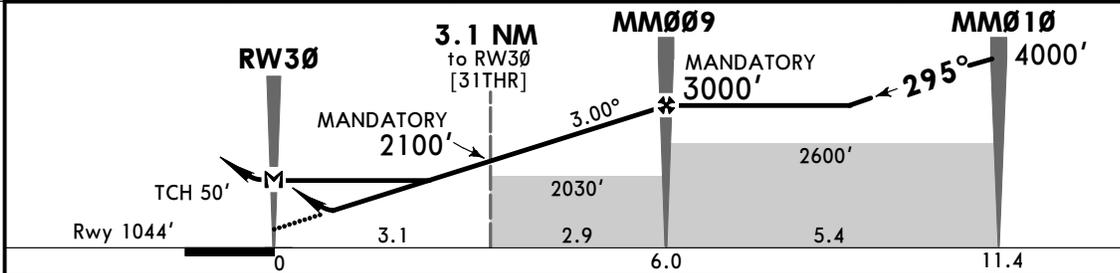
Std	STRAIGHT-IN LANDING		CIRCLE-TO-LAND
	LNAV/VNAV	LNAV CDFA	
	DA(H) A: 1397' (360') C: 1427' (390') B: 1407' (370') D: 1457' (420')	DA/MDA(H) 1730' (693')	Prohibited South of airport
	ALS out	ALS out	Max Kts
A	R900m	R1500m	100 1890' (843') V1500m
B	R1000m	R1500m	135 1890' (843') V1600m
C	R1100m	R1800m	180 2180' (1133') V2400m
D	R1200m	R1900m	205 2330' (1283') V3600m

ATIS 125.25 (Russian 127.4)		MINERALNYYE VODY Approach 119.3	MINERALNYYE VODY Krug (TWR/R) 120.7	MINERALNYYE VODY Start (TWR) 128.0	Ground 121.9
RNAV	Final Apch Crs 295°	MM009 MANDATORY 3000' (1956')	LNAV/VNAV DA(H) Refer to Minimums	Apt Elev 1047' Rwy 1044'	7400 MSA ARP
MISSED APCH: Climb STRAIGHT AHEAD to MM012, turn RIGHT to MM014, then proceed to MM011 climbing to 4500' or above.					
Alt Set: hPa (mm on req) Rwy Elev: 37 hPa Trans level: FL 80 ① Trans alt: 7000'					
RNP apch. 1. GNSS required. 2. Baro-VNAV not authorized below -32°C.					



FEET	METERS
QNH (QFE)	
7400 (1940)	
7000 (1820)	
6500 (1665)	
4500 (1055)	
4400 (1025)	
4000 (905)	
3800 (845)	
3400 (720)	
3000 (600)	
2600 (475)	
2330 (395)	
2180 (350)	②
2100 (325)	
2030 (305)	
1890 (260)	②
1700 (200)	
1364 (100)	
1354 (95)	
1344 (95)	
1334 (90)	

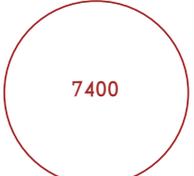
DIST to RW30	2.7	3.8	4.9	6.0
ALTITUDE	1960'	2300'	2650'	3000'

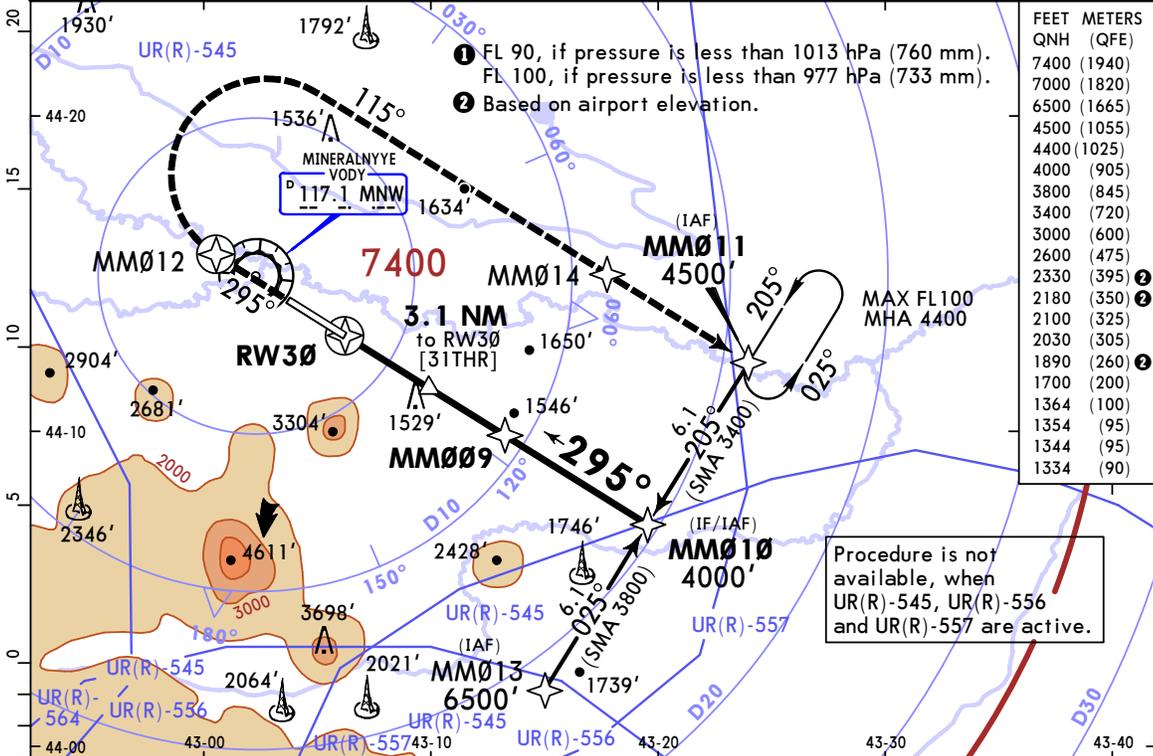


Gnd speed-Kts	70	90	100	120	140	160	HIALS PAPI MM012	
Descent Angle	3.00°	372	478	531	637	743		849
LNAV/VNAV: MAP at DA								
LNAV: MAP at RW30								

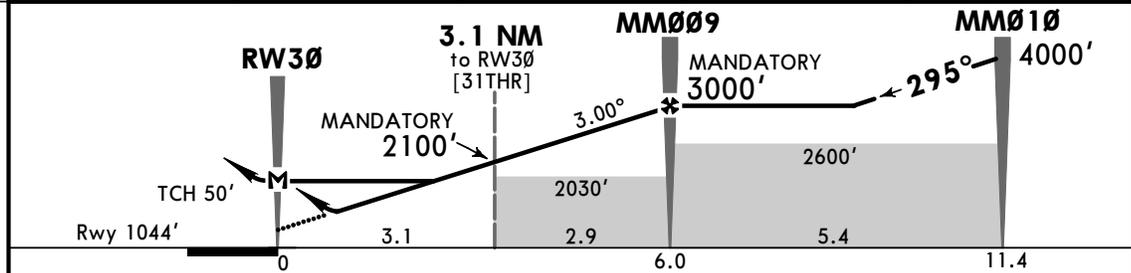
Std		STRAIGHT-IN LANDING		CIRCLE-TO-LAND	
LNAV/VNAV		LNAV CDFA		Prohibited South of airport	
DA(H) A: 1334' (290') C: 1354' (310') B: 1344' (300') D: 1364' (320')		DA/MDA(H) 1700' (656')			
ALS out		ALS out		Max Kts	MDA(H)
A				100	1890' (843') V1500m
B	R750m	R1400m	R1500m	135	1890' (843') V1600m
C				180	2180' (1133') V2400m
D			R2300m R2400m	205	2330' (1283') V3600m

① VNAV DA(H) in lieu of MDA(H) depends on operator policy.

ATIS 125.25 (Russian 127.4)		MINERALNYYE VODY Approach 119.3	MINERALNYYE VODY Krug (TWR/R) 120.7	MINERALNYYE VODY Start (TWR) 128.0	Ground 121.9
RNAV	Final Apch Crs 295°	MM009 MANDATORY 3000' (1956')	LNAV/VNAV DA(H) Refer to Minimums	Apt Elev 1047' Rwy 1044'	 7400 MSA ARP
MISSED APCH: Climb STRAIGHT AHEAD to MM012, turn RIGHT to MM014, then proceed to MM011 climbing to 4500' or above.					
Alt Set: hPa (mm on req) Rwy Elev: 37 hPa Trans level: FL 80 1 Trans alt: 7000'					
RNP apch. 1. GNSS required. 2. Baro-VNAV not authorized below -32°C.					



DIST to RW30	2.7	3.8	4.9	6.0
ALTITUDE	1960'	2300'	2650'	3000'

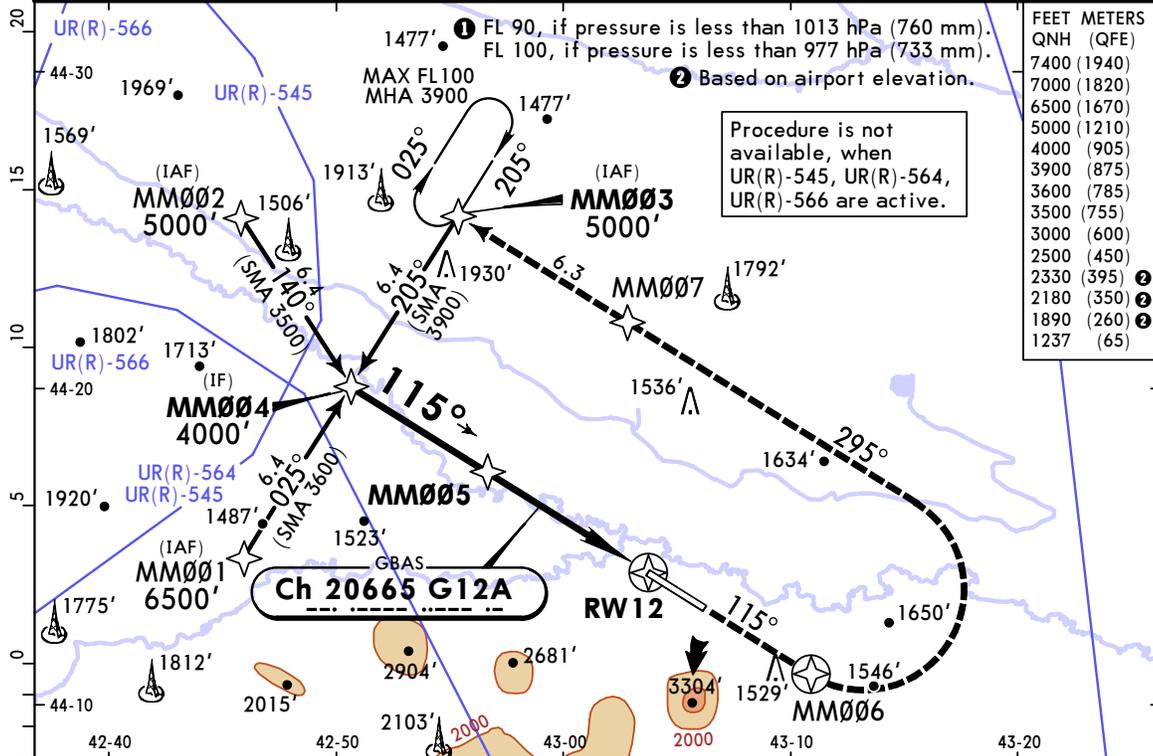
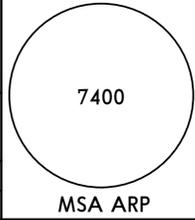


Gnd speed-Kts	120	140	160	180		MM012	
Descent Angle	3.00°	637	743	849			956
LNAV/VNAV: MAP at DA							
LNAV: MAP at RW30							

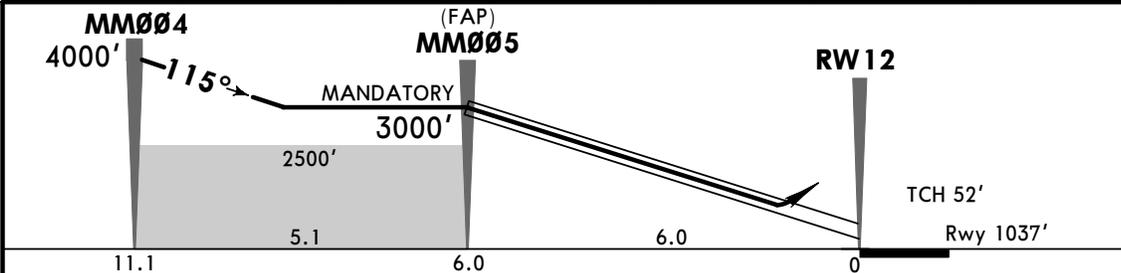
Std	STRAIGHT-IN LANDING				CIRCLE-TO-LAND	
	LNAV/VNAV		LNAV CDFA		Prohibited South of airport	
	DA(H) c: 1354' (310') d: 1364' (320')		DA/MDA(H) 1700' (656')		Max Kts MDA(H)	
	ALS out		ALS out		180 2180' (1133') V2400m	
C	R750m	R1400m	R2300m	R2400m	205 2330' (1283') V3600m	
D						

1 VNAV DA(H) in lieu of MDA(H) depends on operator policy.
 CHANGES: Procedure ident. MSA. Procedure. New AOM concept. © JEPPESEN, 2011, 2020. ALL RIGHTS RESERVED.

BRIEFING STRIP™	ATIS 125.25 (Russian 127.4)	MINERALNYYE VODY Approach 119.3	MINERALNYYE VODY Krug (TWR/R) 120.7	MINERALNYYE VODY Start (TWR) 128.0	Ground 121.9
	GBAS Ch 20665 G12A	Final Apch Crs 115°	MM005 MANDATORY 3000' (1963')	GLS DA(H) 1237' (200')	Apt Elev 1047' Rwy 1037'
	MISSED APCH: Climb STRAIGHT AHEAD to MM006, then turn LEFT to MM007, then proceed to MM003 climbing to 5000' or above.				
	Alt Set: hPa (mm on req) Rwy Elev: 37 hPa Trans level: FL 80 ① Trans alt: 7000' RNAV 1 for initial and missed approach. GNSS required.				



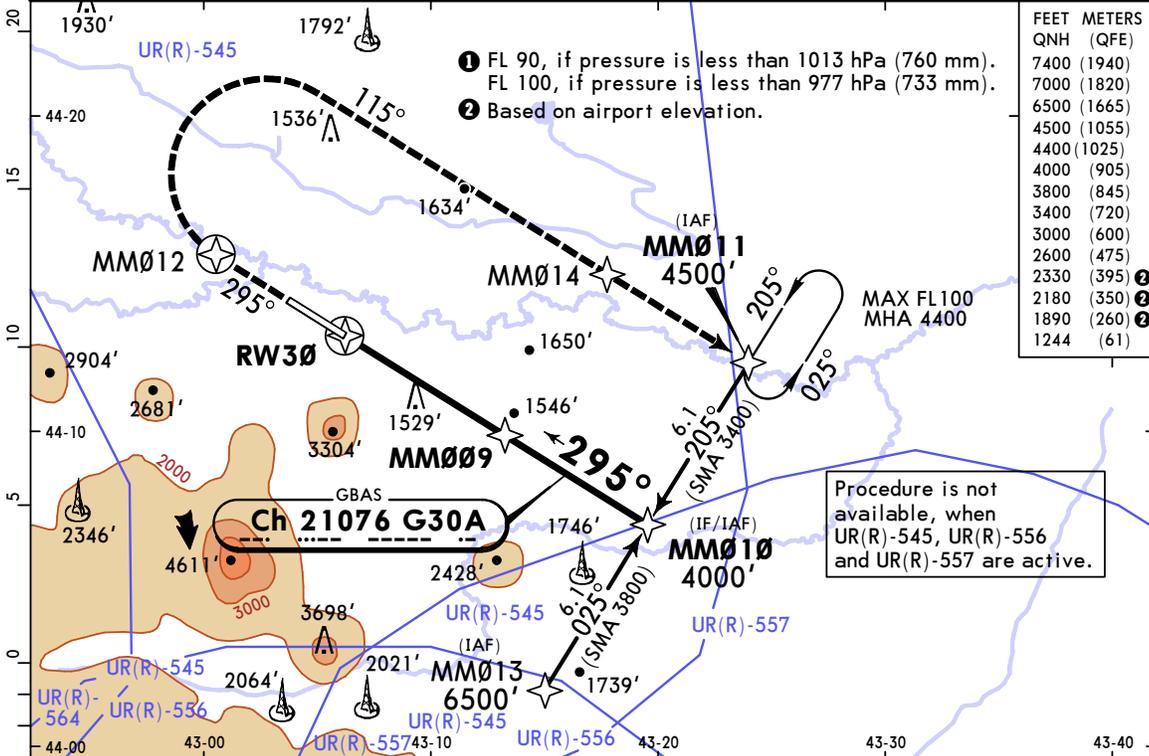
DIST to RW12	6.0	5.4	4.3	3.2	2.2	1.1
ALTITUDE	3000'	2810'	2460'	2120'	1770'	1430'



Gnd speed-Kts	70	90	100	120	140	160
Glide Path Angle	3.00°	372	478	531	637	849

PANS OPS	Std STRAIGHT-IN LANDING			CIRCLE-TO-LAND		
	GLS			Prohibited South of airport		
	DA(H) 1237' (200')			Max Kts	MDA(H)	
	FULL	TDZ or CL out	ALS out			
A	R550m	① R550m	100			1890' (843') V1500m
B			135			1890' (843') V1600m
C			180	2180' (1133') V2400m		
D			205	2330' (1283') V3600m		

BRIEFING STRIP	ATIS 125.25 (Russian 127.4)	MINERALNYYE VODY Approach 119.3	MINERALNYYE VODY Krug (TWR/R) 120.7	MINERALNYYE VODY Start (TWR) 128.0	Ground 121.9	
	GBAS Ch 21076 G30A	Final Apch Crs 295°	MM009 MANDATORY 3000' (1956')	GLS DA(H) 1244' (200')	Apt Elev 1047' Rwy 1044'	7400
	MISSED APCH: Climb STRAIGHT AHEAD to MM012, turn RIGHT to MM014, then proceed to MM011 climbing to 4500' or above.					
	Alt Set: hPa (mm on req) Rwy Elev: 37 hPa Trans level: FL 80 ① Trans alt: 7000'					
RNAV 1 for initial and missed approach. GNSS required.				MSA ARP		



FEET	METERS
QNH (QFE)	7400 (1940)
	7000 (1820)
	6500 (1665)
	4500 (1055)
	4400 (1025)
	4000 (905)
	3800 (845)
	3400 (720)
	3000 (600)
	2600 (475)
	2330 (395)
	2180 (350)
	1890 (260)
	1244 (61)

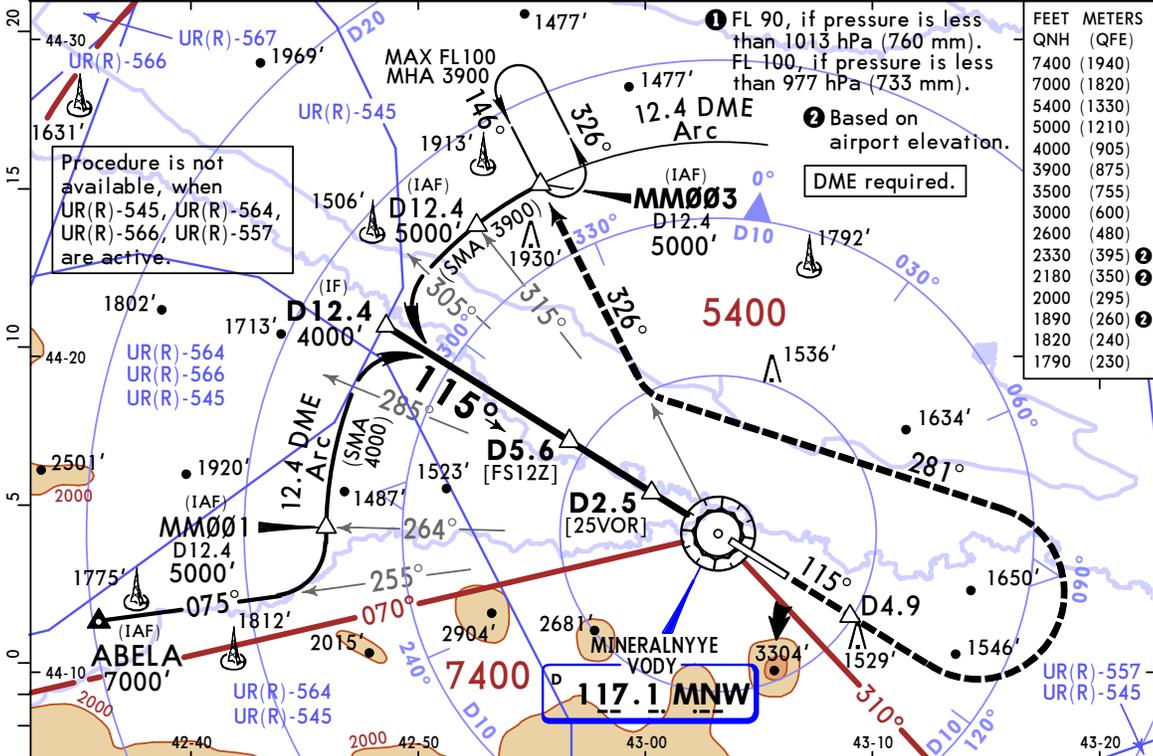
DIST to RW30	1.1	2.2	3.2	4.3	5.4	6.0
ALTITUDE	1440'	1780'	2130'	2470'	2810'	3000'

Gnd speed-Kts	70	90	100	120	140	160	HIALS PAPI	MM012 ↑
Glide Path Angle	3.00°	372	478	531	637	743		

PANS OPS	Std STRAIGHT-IN LANDING		CIRCLE-TO-LAND	
	GLS		Prohibited South of airport	
	DA(H) 1244' (200')			
	FULL	ALS out	Max Kts	MDA(H)
A	1 R550m	R1200m	100	1890' (843') V1500m
B			135	1890' (843') V1600m
C			180	2180' (1133') V2400m
D			205	2330' (1283') V3600m

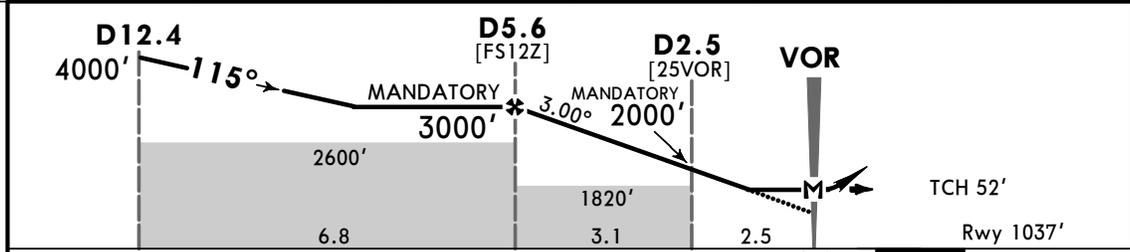
URMM/MRV **JEPPESSEN MINERALNYYE VODY, RUSSIA**
 MINERALNYYE VODY 27 NOV 20 **(13-1) Eff 3 Dec** VOR Z Rwy 12

ATIS 125.25 (Russian 127.4)		MINERALNYYE VODY Approach 119.3	MINERALNYYE VODY Krug (TWR/R) 120.7	MINERALNYYE VODY Start (TWR) 128.0	Ground 121.9
VOR MNW 117.1	Final Apch Crs 115°	D5.6 MANDATORY 3000' (1963')	DA/MDA(H) (CONDITIONAL) 1790' (753')	Apt Elev 1047' Rwy 1037'	
MISSED APCH: Climb on 115° to D4.9, after reaching 3500' or above turn LEFT onto track 281° to intercept R-326, then proceed to D12.4 climbing to 5000' or above.					
Alt Set: hPa (mm on req) Rwy Elev: 37 hPa Trans level: FL 80 ① Trans alt: 7000'					



FEET	METERS
7400	(1940)
7000	(1820)
5400	(1330)
5000	(1210)
4000	(905)
3900	(875)
3500	(755)
3000	(600)
2600	(480)
2330	(395)
2180	(350)
2000	(295)
1890	(260)
1820	(240)
1790	(230)

MNW DME	5.6	5.4	4.3	3.2	2.2
ALTITUDE	3000'	2950'	2610'	2260'	1920'



Gnd speed-Kts	120	140	160	180	HIALS-II PAPI D4.9 on 115°
Descent Angle 3.00°	637	743	849	955	
MAP at VOR					

	STRAIGHT-IN LANDING		CIRCLE-TO-LAND
	with D2.5 CDFA	w/o D2.5 CDFA	
Std	DA/MDA(H) 1790' (753') ALS out	DA/MDA(H) 1820' (783') ALS out	Prohibited South of airport Max Kts MDA(H)
C	R2400m		180 2180' (1133') V2400m
D	R2400m		205 2330' (1283') V3600m

① VNAV DA(H) in lieu of MDA(H) depends on operator policy.
 CHANGES: Procedure ident. MSA. Procedure. New AOM concept. © JEPPESSEN, 2011, 2020. ALL RIGHTS RESERVED.

URMM/MRV

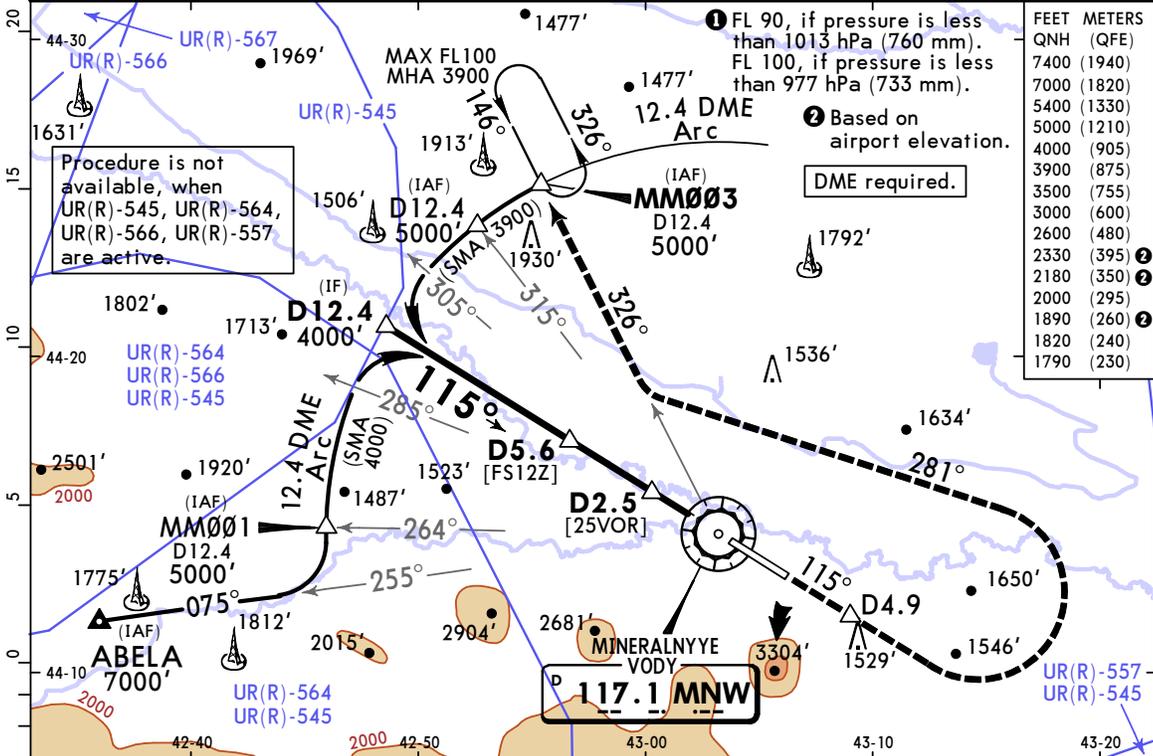
MINERALNYYE VODY 27 NOV 20

(13-1)

Eff 3 Dec

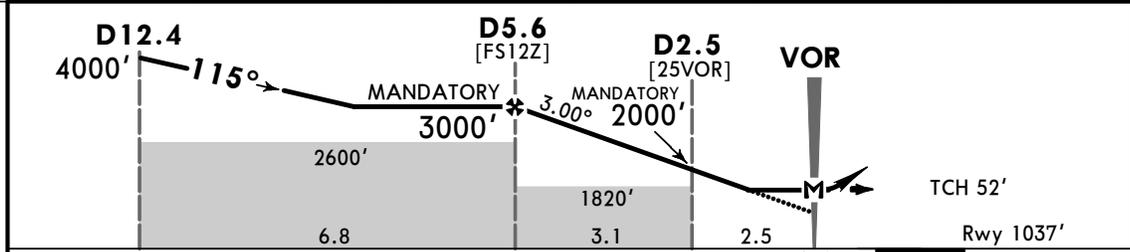
JEPPESEN MINERALNYYE VODY, RUSSIA
VOR Z Rwy 12

ATIS 125.25 (Russian 127.4)		MINERALNYYE VODY Approach 119.3	MINERALNYYE VODY Krug (TWR/R) 120.7	MINERALNYYE VODY Start (TWR) 128.0	Ground 121.9
VOR MNW 117.1	Final Apch Crs 115°	D5.6 MANDATORY 3000' (1963')	DA/MDA(H) (CONDITIONAL) 1790' (753')	Apt Elev 1047' Rwy 1037'	
MISSED APCH: Climb on 115° to D4.9, after reaching 3500' or above turn LEFT onto track 281° to intercept R-326, then proceed to D12.4 climbing to 5000' or above.					
Alt Set: hPa (mm on req) Rwy Elev: 37 hPa Trans level: FL 80 Trans alt: 7000'					



FEET	METERS
QNH (QFE)	
7400 (1940)	
7000 (1820)	
5400 (1330)	
5000 (1210)	
4000 (905)	
3900 (875)	
3500 (755)	
3000 (600)	
2600 (480)	
2330 (395)	②
2180 (350)	②
2000 (295)	
1890 (260)	②
1820 (240)	
1790 (230)	

MNW DME	5.6	5.4	4.3	3.2	2.2
ALTITUDE	3000'	2950'	2610'	2260'	1920'

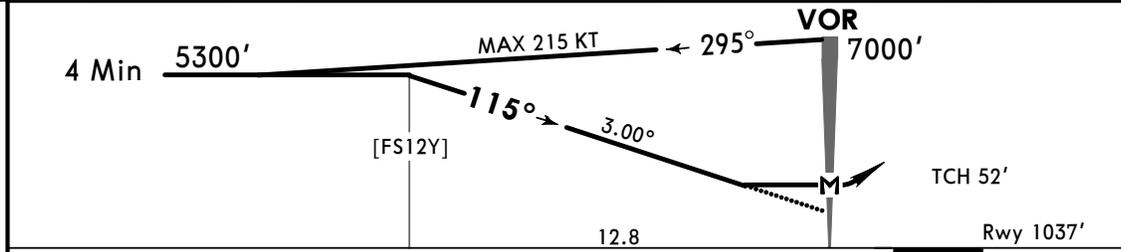
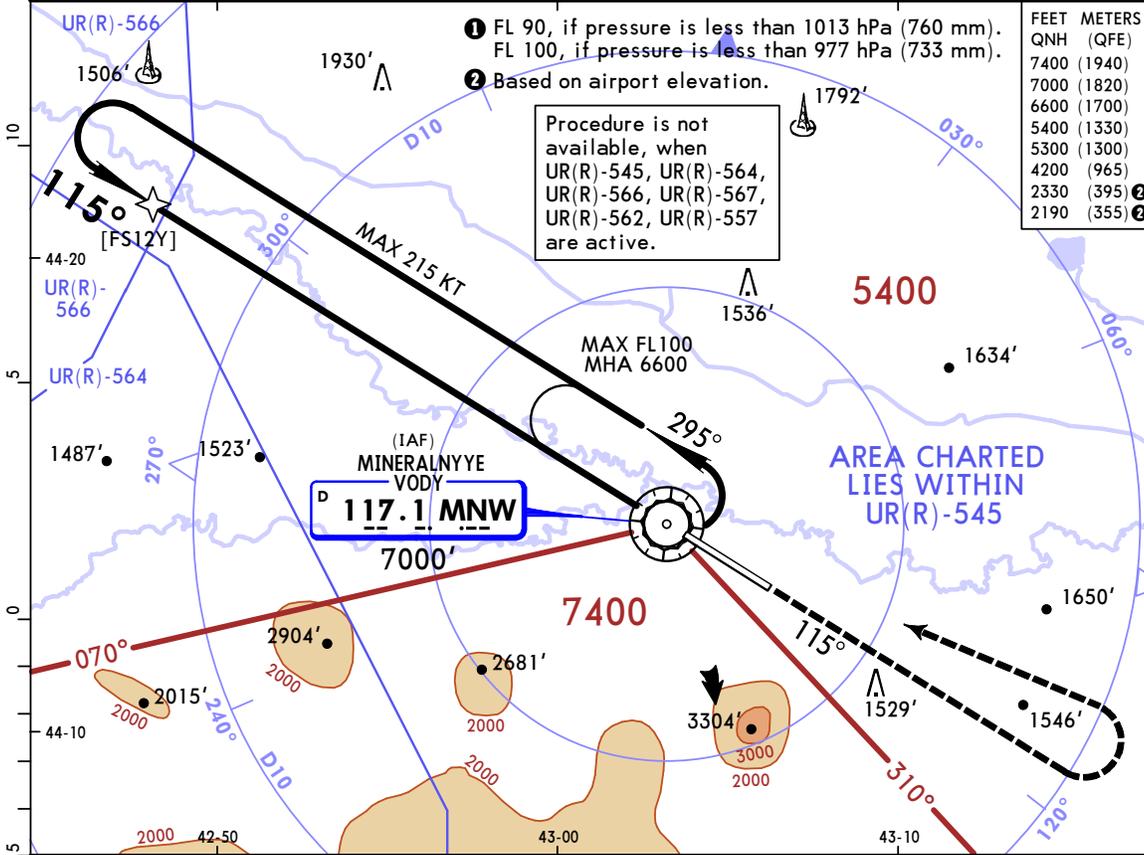


Gnd speed-Kts	70	90	100	120	140	160
Descent Angle 3.00°	372	478	531	637	743	849
MAP at VOR						

	STRAIGHT-IN LANDING		CIRCLE-TO-LAND
	with D2.5 CDFA	w/o D2.5 CDFA	
	1 DA/MDA(H) 1790' (753')	1 DA/MDA(H) 1820' (783')	Prohibited South of airport
	ALS out	ALS out	
A	R1500m	R1500m	Max Kts 100 MDA(H) 1890' (843') V1500m
B	R1500m	R1500m	135 1890' (843') V1600m
C	R2400m	R2400m	180 2180' (1133') V2400m
D	R2400m	R2400m	205 2330' (1283') V3600m

1 VNAV DA(H) in lieu of MDA(H) depends on operator policy.
 CHANGES: Procedure ident. MSA. Procedure. New AOM concept. © JEPPESEN, 2011, 2020. ALL RIGHTS RESERVED.

BRIEFING STRIP™	ATIS 125.25 (Russian 127.4)	MINERALNYYE VODY Approach 119.3	MINERALNYYE VODY Krug (TWR/R) 120.7	MINERALNYYE VODY Start (TWR) 128.0	Ground 121.9
	VOR MNW 117.1	Final Apch Crs 115°	No FAF	DA/MDA(H) 2190' (1153')	Apt Elev 1047' Rwy 1037'
MISSED APCH: Climb on 115° to 4200' or above, turn LEFT to VOR climbing to 5300' or above. Turn before MAP prohibited.					<p>MSA MNW VOR</p>
Alt Set: hPa (mm on req) Rwy Elev: 37 hPa Trans level: FL 80 1 Trans alt: 7000'					

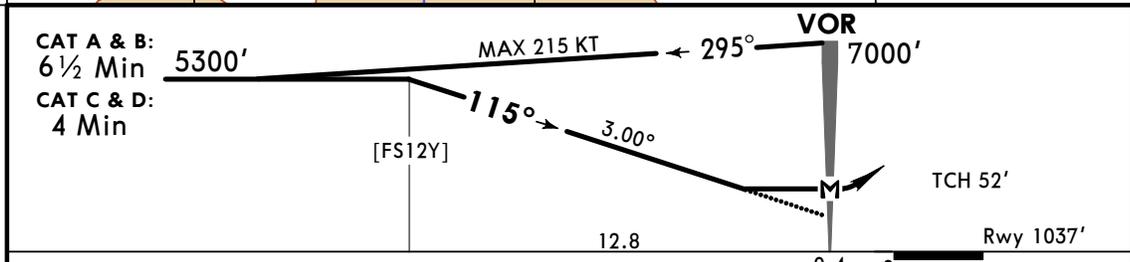
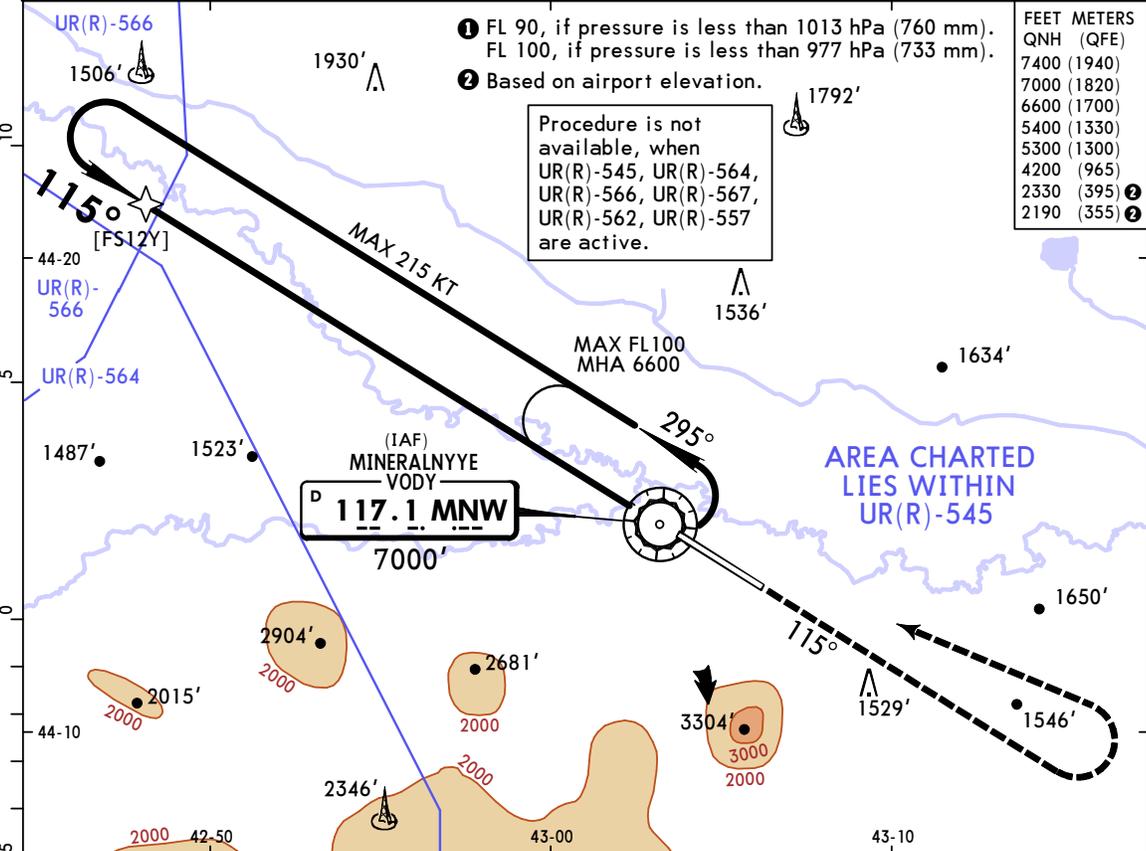


Gnd speed-Kts	120	140	160	180	HIALS-II PAPI 4200' on 115°
Descent Angle 3.00°	637	743	849	956	
MAP at VOR					CIRCLE-TO-LAND Prohibited South of airport
Std	STRAIGHT-IN LANDING				
CDFA 1 DA/MDA(H) 2190' (1153')					Max Kts MDA(H) 180 2190' (1143') V2400m 205 2330' (1283') V3600m
C	R2400m				
D					

1 VNAV DA(H) in lieu of MDA(H) depends on operator policy.
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BRIEFING STRIP™	ATIS 125.25 (Russian 127.4)	MINERALNYE VODY Approach 119.3	MINERALNYE VODY Krug (TWR/R) 120.7	MINERALNYE VODY Start (TWR) 128.0	Ground 121.9
	VOR MNW 117.1	Final Apch Crs 115°	No FAF	DA/MDA(H) 2190' (1153')	Apt Elev 1047' Rwy 1037'
MISSED APCH: Climb on 115° to 4200' or above, turn LEFT to VOR climbing to 5300' or above. Turn before MAP prohibited.					
Alt Set: hPa (mm on req) Rwy Elev: 37 hPa Trans level: FL 80 ① Trans alt: 7000'					

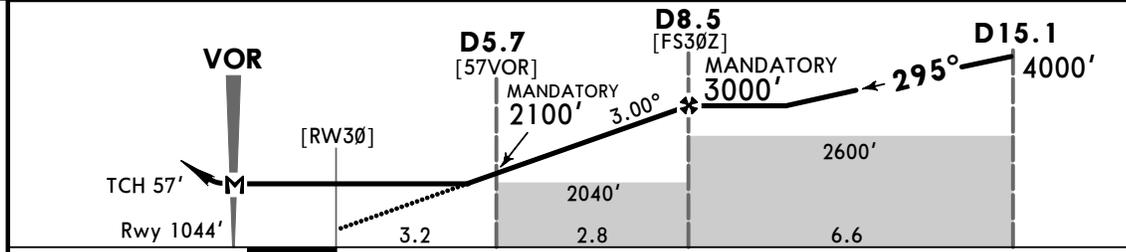
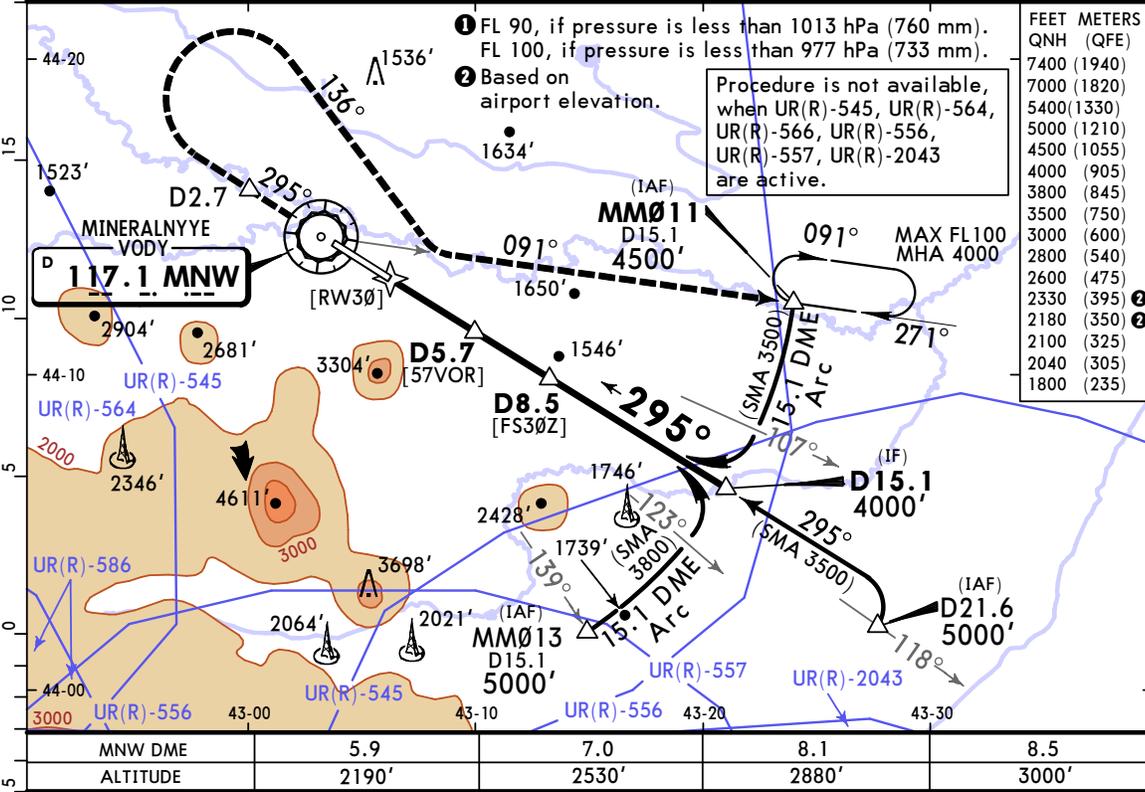


Gnd speed-Kts	70	90	100	120	140	160	HIALS-II PAPI	4200' on 115°
Descent Angle 3.00°	372	478	531	637	743	849		
MAP at VOR								

PANS OPS	Std STRAIGHT-IN LANDING			CIRCLE-TO-LAND		
	CDFA ① DA/MDA(H) 2190' (1153')			Prohibited South of airport		
A	R1500m			Max Kts	MDA(H)	
B	R1500m			100	2190' (1143') V1500m	
C	R2400m			135	2190' (1143') V1600m	
D	R2400m			180	2190' (1143') V2400m	
				205	2330' (1283') V3600m	

① VNAV DA(H) in lieu of MDA(H) depends on operator policy.
CHANGES: New procedure. © JEPPESSEN, 2020. ALL RIGHTS RESERVED.

BRIEFING STRIP™	ATIS 125.25 (Russian 127.4)	MINERALNYE VODY Approach 119.3	MINERALNYE VODY Krug (TWR/R) 120.7	MINERALNYE VODY Start (TWR) 128.0	Ground 121.9
	VOR MNW 117.1	Final Apch Crs 295°	D8.5 MANDATORY 3000' (1956')	DA/MDA(H) (CONDITIONAL) 1800' (756')	Apt Elev 1047' Rwy 1044'
	MISSED APCH: Climb STRAIGHT AHEAD to D2.7, after reaching 2800' or above turn RIGHT onto track 136° to intercept R-091, then proceed to D15.1 climbing to 4500' or above. Alt Set: hPa (mm on req) Rwy Elev: 38 hPa Trans level: FL 80 ① Trans alt: 7000' DME required.				

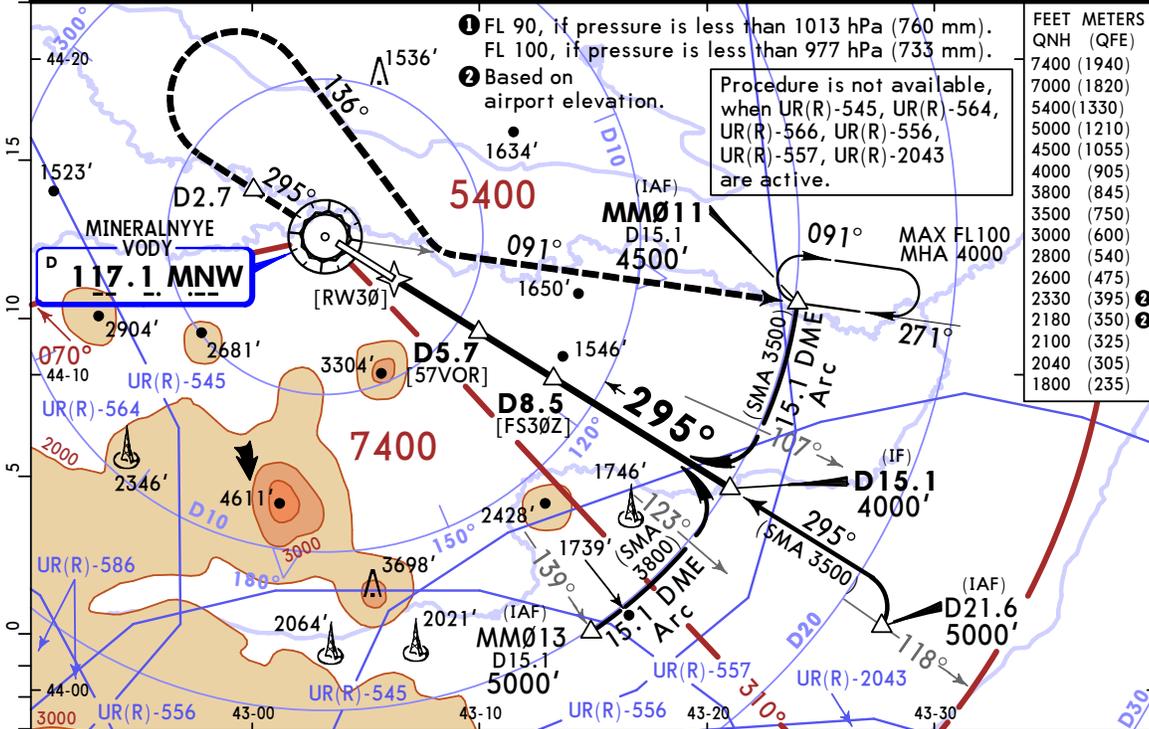


Gnd speed-Kts	70	90	100	120	140	160	HIALS PAPI	D2.7 ↑
Descent Angle 3.00°	372	478	531	637	743	849		
MAP at VOR								

	STRAIGHT-IN LANDING		CIRCLE-TO-LAND
	with D5.7 CDFA	w/o D5.7 CDFA	
	① DA/MDA(H) 1800' (756')	① DA/MDA(H) 2040' (996')	Prohibited South of airport
	ALS out	ALS out	Max Kts
A	R1500m	R1500m	100 2040' (993') V1500m
B	R1500m	R1500m	135 2040' (993') V1600m
C	R2400m	R2400m	180 2180' (1133') V2400m
D	R2400m	R2400m	205 2330' (1283') V3600m

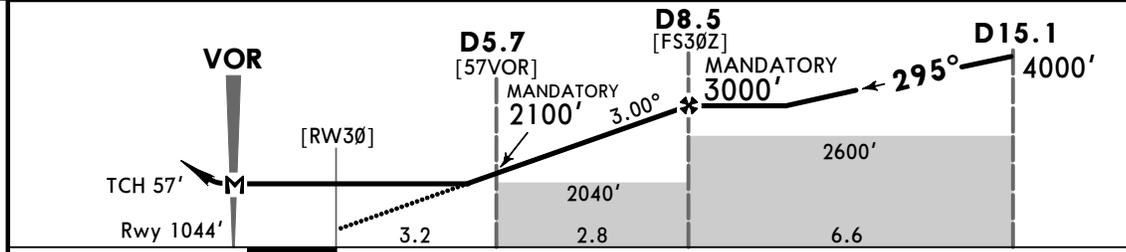
① VNAV DA(H) in lieu of MDA(H) depends on operator policy.
 CHANGES: Procedure ident. MSA. Procedure. New AOM concept. © JEPPESEN, 2015, 2020. ALL RIGHTS RESERVED.

ATIS 125.25 (Russian 127.4)		MINERALNYYE VODY Approach 119.3	MINERALNYYE VODY Krug (TWR/R) 120.7	MINERALNYYE VODY Start (TWR) 128.0	Ground 121.9
VOR MNW 117.1	Final Apch Crs 295°	D8.5 MANDATORY 3000' (1956')	DA/MDA(H) (CONDITIONAL) 1800' (756')	Apt Elev 1047' Rwy 1044'	
MISSED APCH: Climb STRAIGHT AHEAD to D2.7, after reaching 2800' or above turn RIGHT onto track 136° to intercept R-091, then proceed to D15.1 climbing to 4500' or above.					<p>MSA MNW VOR</p>
Alt Set: hPa (mm on req) Rwy Elev: 38 hPa Trans level: FL 80 1 Trans alt: 7000'					
DME required.					



FEET METERS	
QNH	(QFE)
7400	(1940)
7000	(1820)
5400	(1330)
5000	(1210)
4500	(1055)
4000	(905)
3800	(845)
3500	(750)
3000	(600)
2800	(540)
2600	(475)
2330	(395)
2180	(350)
2100	(325)
2040	(305)
1800	(235)

MNW DME	5.9	7.0	8.1	8.5
ALTITUDE	2190'	2530'	2880'	3000'

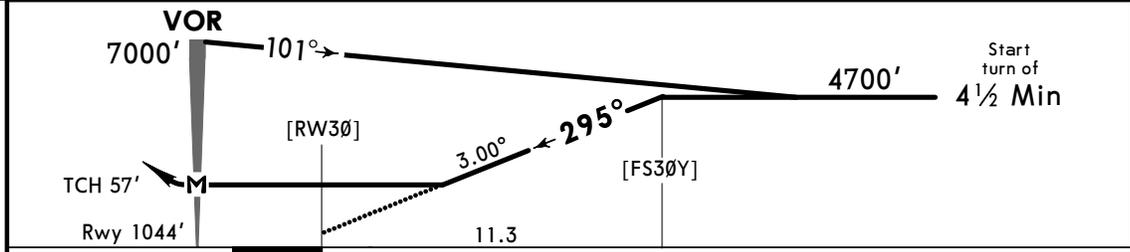
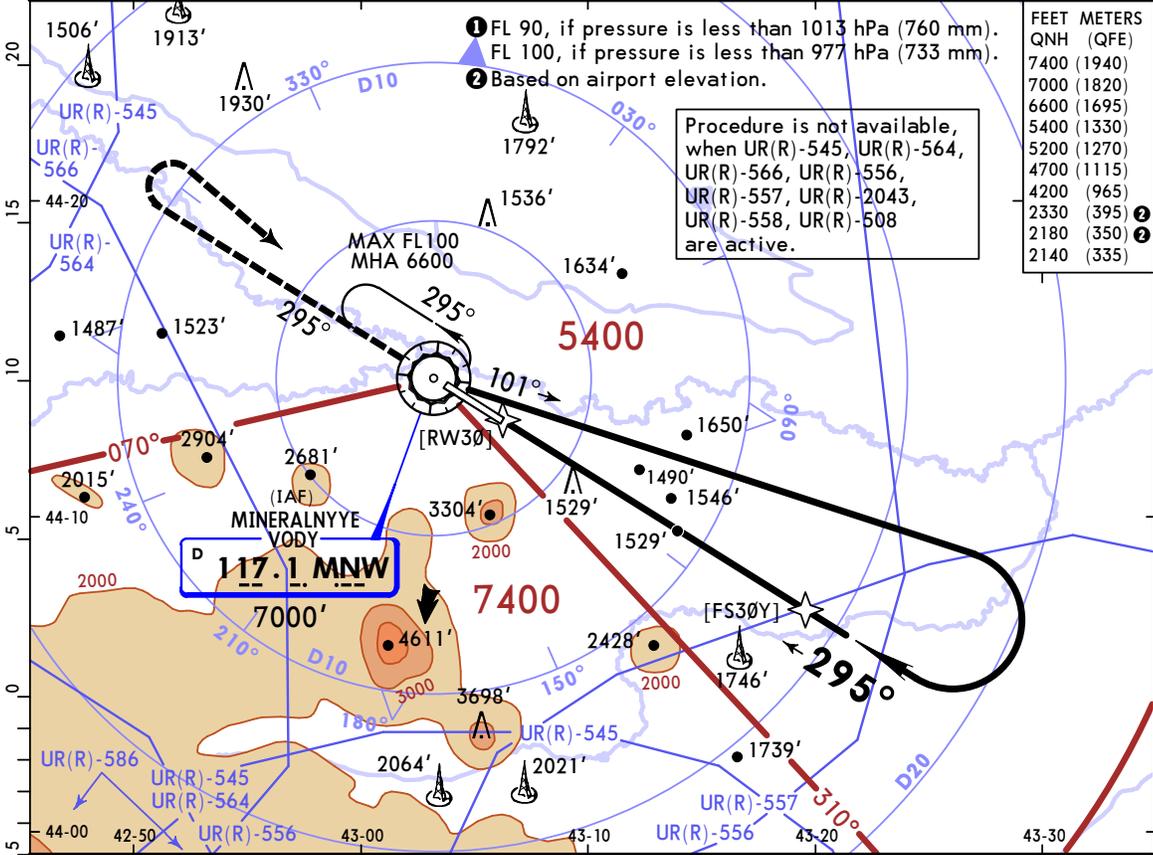


Gnd speed-Kts	120	140	160	180	
Descent Angle 3.00°	637	743	849	956	
MAP at VOR					

	STRAIGHT-IN LANDING		CIRCLE-TO-LAND
	with D5.7 CDFA	w/o D5.7 CDFA	
	1 DA/MDA(H) 1800' (756')	1 DA/MDA(H) 2040' (996')	Prohibited South of airport
	ALS out	ALS out	Max Kts MDA(H)
C	R2400m	R2400m	180 2180' (1133') V2400m
D			205 2330' (1283') V3600m

1 VNAV DA(H) in lieu of MDA(H) depends on operator policy.
 CHANGES: Procedure ident. MSA. Procedure. New AOM concept. © JEPPESEN, 2015, 2020. ALL RIGHTS RESERVED.

ATIS 125.25 (Russian 127.4)		MINERALNYYE VODY Approach 119.3	MINERALNYYE VODY Krug (TWR/R) 120.7	MINERALNYYE VODY Start (TWR) 128.0	Ground 121.9
VOR MNW 117.1	Final Apch Crs 295°	No FAF	DA/MDA(H) 2140' (1096')	Apt Elev 1047' Rwy 1044'	<p>MSA MNW VOR</p>
MISSED APCH: Climb STRAIGHT AHEAD to 4200' or above, then turn RIGHT to VOR climbing to 6600' or above. Turn before MAP prohibited.					
Alt Set: hPa (mm on req) Rwy Elev: 38 hPa Trans level: FL 80 1 Trans alt: 7000'					

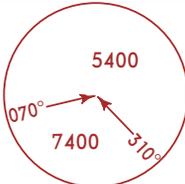


Gnd speed-Kts	120	140	160	180	HIALS PAPI 4200'
Descent Angle 3.00°	637	743	849	956	
MAP at VOR					

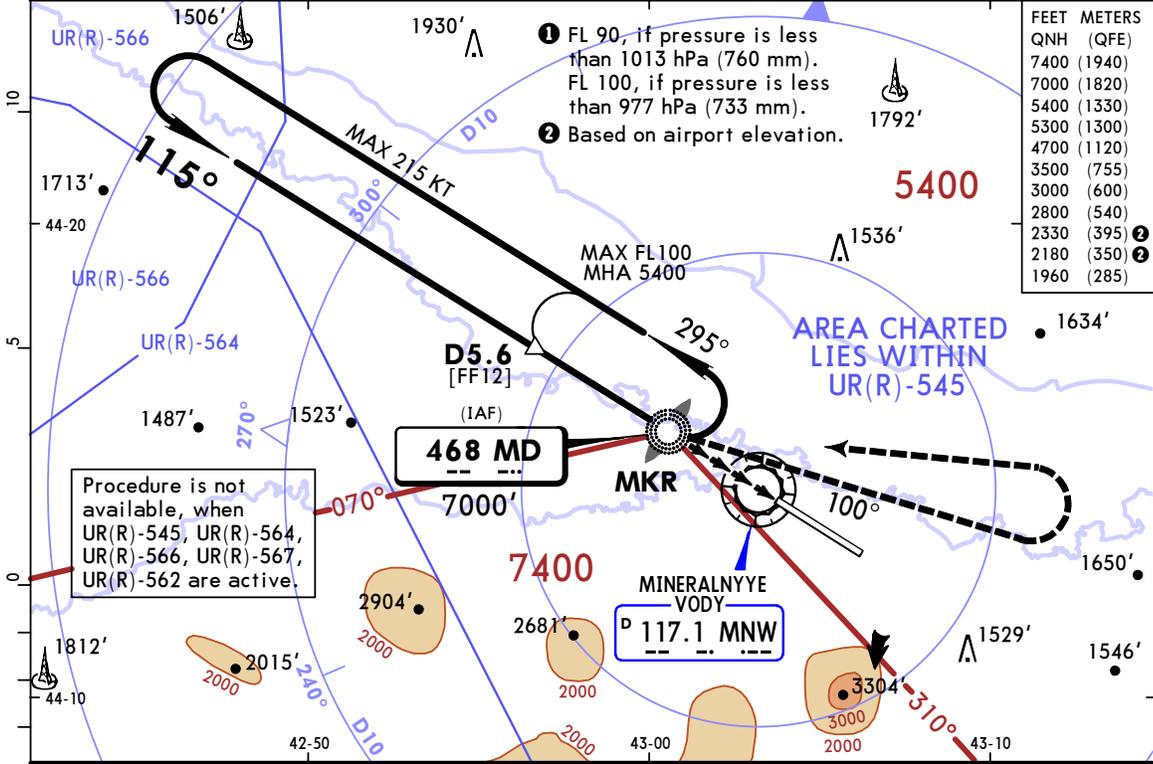
PANS OPS	Std	STRAIGHT-IN LANDING	CIRCLE-TO-LAND
		CDFA	Prohibited South of airport
		1 DA/MDA(H) 2140' (1096')	Max Kts MDA(H)
		ALS out	180 2180' (1133') V2400m
		R2400m	205 2330' (1283') V3600m

1 VNAV DA(H) in lieu of MDA(H) depends on operator policy.
 CHANGES: New procedure. © JEPPESEN, 2020. ALL RIGHTS RESERVED.

BRIEFING STRIP™	ATIS 125.25 (Russian 127.4)	MINERALNYYE VODY Approach 119.3	MINERALNYYE VODY Krug (TWR/R) 120.7	MINERALNYYE VODY Start (TWR) 128.0	Ground 121.9
	NDB MD 468	Final Apch Crs 115°	D5.6 MANDATORY 3000' (1963')	DA/MDA(H) 1960' (923')	Apt Elev 1047' Rwy 1037'
	MISSED APCH: Climb on 100° from NDB to 3500' or above, turn LEFT to NDB/MKR climbing to 5300' or above. Turn before MAP prohibited.				
	Alt Set: hPa (mm on req) Rwy Elev: 37 hPa Trans level: FL 80 1 Trans alt: 7000' Radar control and DME required.				

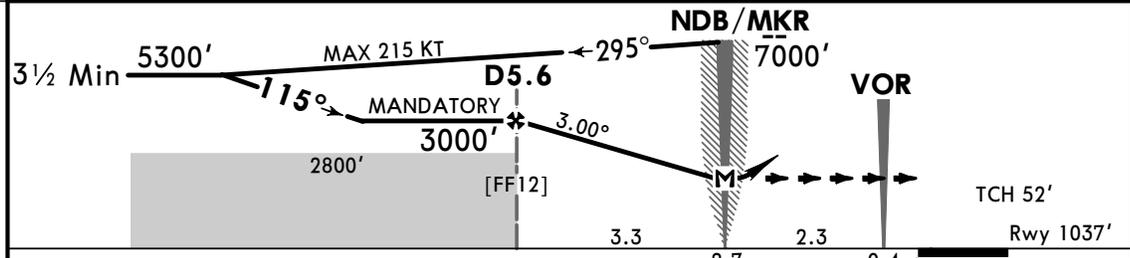


MSA
MD NDB/MKR



FEET	METERS
QNH (QFE)	
7400	(1940)
7000	(1820)
5400	(1330)
5300	(1300)
4700	(1120)
3500	(755)
3000	(600)
2800	(540)
2330	(395) 2
2180	(350) 2
1960	(285)

MNW DME	5.6	4.9	3.8	2.7
ALTITUDE	3000'	2780'	2430'	2090'

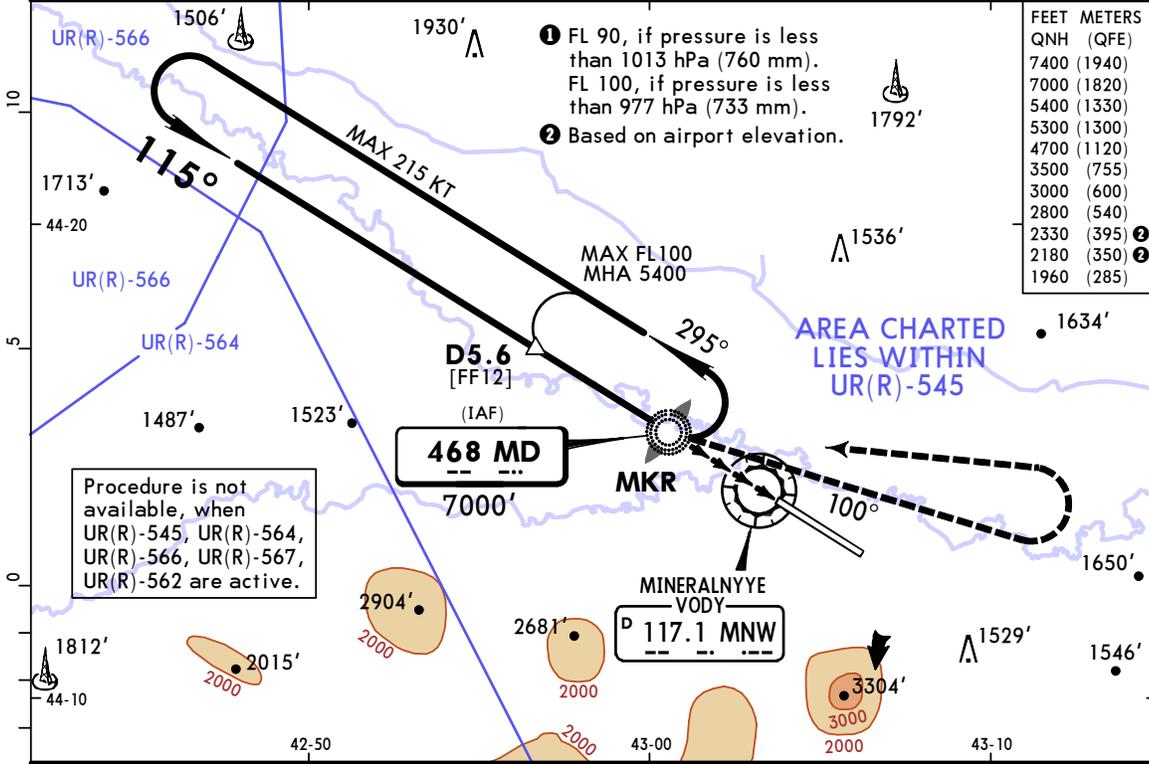
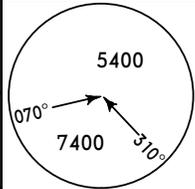


Gnd speed-Kts	120	140	160	180	HIALS-II PAPI 3500' 100° on MD 468
Descent Angle 3.00°	637	743	849	956	
MAP at NDB/MKR					

PANS OPS	Std	STRAIGHT-IN LANDING	CIRCLE-TO-LAND
		CDFA 1 DA/MDA(H) 1960' (923') ALS out	Prohibited South of airport Max Kts MDA(H) 180 2180' (1133') V 2400m 205 2330' (1283') V 3600m
		R2400m	

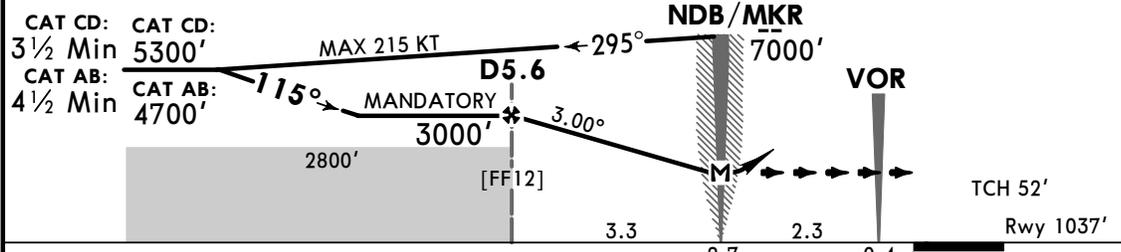
1 VNAV DA(H) in lieu of MDA(H) depends on operator policy.
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BRIEFING STRIP	ATIS 125.25 (Russian 127.4)	MINERALNYYE VODY Approach 119.3	MINERALNYYE VODY Krug (TWR/R) 120.7	MINERALNYYE VODY Start (TWR) 128.0	Ground 121.9
	NDB MD 468	Final Apch Crs 115°	D5.6 MANDATORY 3000' (1963')	DA/MDA(H) 1960' (923')	Apt Elev 1047' Rwy 1037'
	MISSED APCH: Climb on 100° from NDB to 3500' or above, turn LEFT to NDB/MKR climbing to 5300' or above. Turn before MAP prohibited.				
	Alt Set: hPa (mm on req) Rwy Elev: 37 hPa Trans level: FL 80 Trans alt: 7000'				
Radar control and DME required.					MSA MD NDB/MKR



FEET	METERS
QNH (QFE)	
7400 (1940)	
7000 (1820)	
5400 (1330)	
5300 (1300)	
4700 (1120)	
3500 (755)	
3000 (600)	
2800 (540)	
2330 (395)	
2180 (350)	
1960 (285)	

MNW DME	5.6	4.9	3.8	2.7
ALTITUDE	3000'	2780'	2430'	2090'



Gnd speed-Kts	70	90	100	120	140	160	HIALS-II PAPI	3500' on 100° from MD 468
Descent Angle 3.00°	372	478	531	637	743	849		
MAP at NDB/MKR								

PANS OPS	Std STRAIGHT-IN LANDING		CIRCLE-TO-LAND	
	CDFA		Prohibited South of airport	
	DA/MDA(H) 1960' (923')			
	ALS out		Max Kts	MDA(H)
	A	R1500m	100	1960' (913') V1500m
B		135	1960' (913') V1600m	
C	R2400m	180	2180' (1133') V2400m	
D		205	2330' (1283') V3600m	

1 VNAV DA(H) in lieu of MDA(H) depends on operator policy.

URMM/MRV

MINERALNYYE VODY

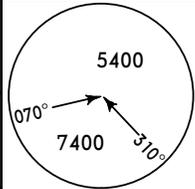
27 NOV 20

(16-2) Eff 3 Dec

JEPPESEN MINERALNYYE VODY, RUSSIA

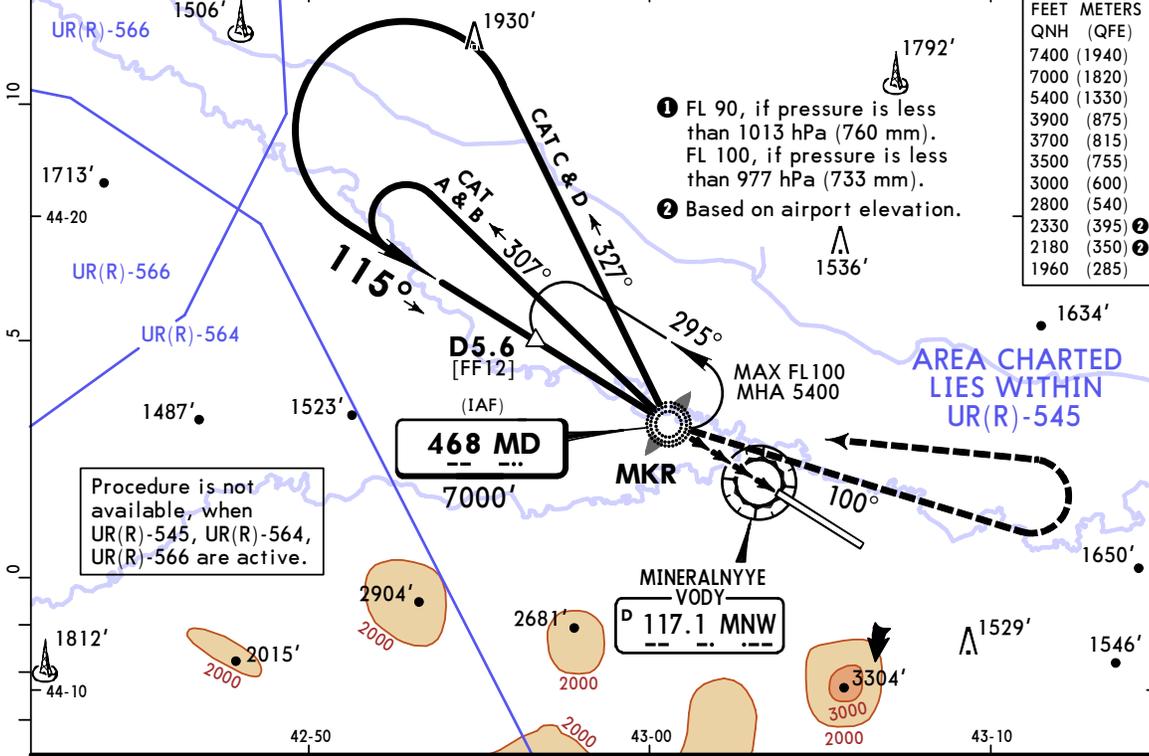
NDB Y Rwy 12

BRIEFING STRIP	ATIS 125.25 (Russian 127.4)	MINERALNYYE VODY Approach 119.3	MINERALNYYE VODY Krug (TWR/R) 120.7	MINERALNYYE VODY Start (TWR) 128.0	Ground 121.9
	NDB MD 468	Final Apch Crs 115°	D5.6 MANDATORY 3000' (1963')	DA/MDA(H) 1960' (923')	Apt Elev 1047' Rwy 1037'
	MISSED APCH: Turn onto 100° from NDB climbing to 3500' or above, turn LEFT to NDB/MKR climbing to 5400' or above. Turn before MAP prohibited.				
	Alt Set: hPa (mm on req) Rwy Elev: 37 hPa Trans level: FL 80 Trans alt: 7000' Radar control and DME required.				



MSA
MD NDB/MKR

FEET	METERS
QNH (QFE)	
7400 (1940)	
7000 (1820)	
5400 (1330)	
3900 (875)	
3700 (815)	
3500 (755)	
3000 (600)	
2800 (540)	
2330 (395)	
2180 (350)	
1960 (285)	

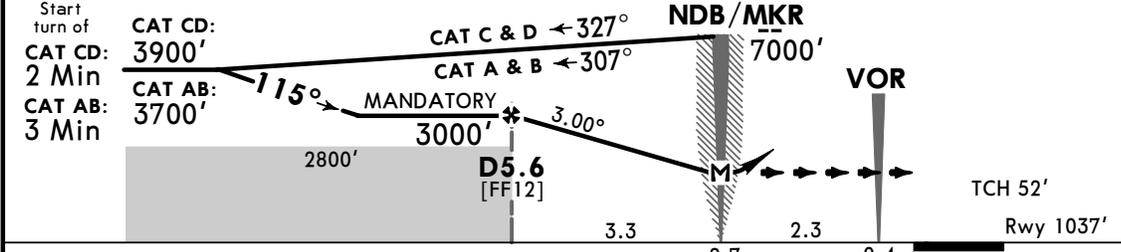


Procedure is not available, when UR(R)-545, UR(R)-564, UR(R)-566 are active.

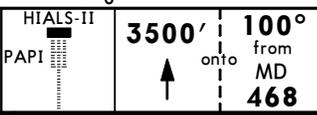
- 1 FL 90, if pressure is less than 1013 hPa (760 mm). FL 100, if pressure is less than 977 hPa (733 mm).
- 2 Based on airport elevation.

AREA CHARTED LIES WITHIN UR(R)-545

MNW DME	5.6	4.9	3.8	2.7
ALTITUDE	3000'	2780'	2430'	2090'



Gnd speed-Kts	70	90	100	120	140	160
Descent Angle 3.00°	372	478	531	637	743	849



PANS OPS	Std STRAIGHT-IN LANDING		CIRCLE-TO-LAND	
	CDFA 1 DA/MDA(H) 1960' (923')		Prohibited South of airport	
A	R1500m		Max Kts	MDA(H)
B	R2400m		100	1960' (913') V1500m
C			135	1960' (913') V1600m
D			180	2180' (1133') V2400m
			205	2330' (1283') V3600m

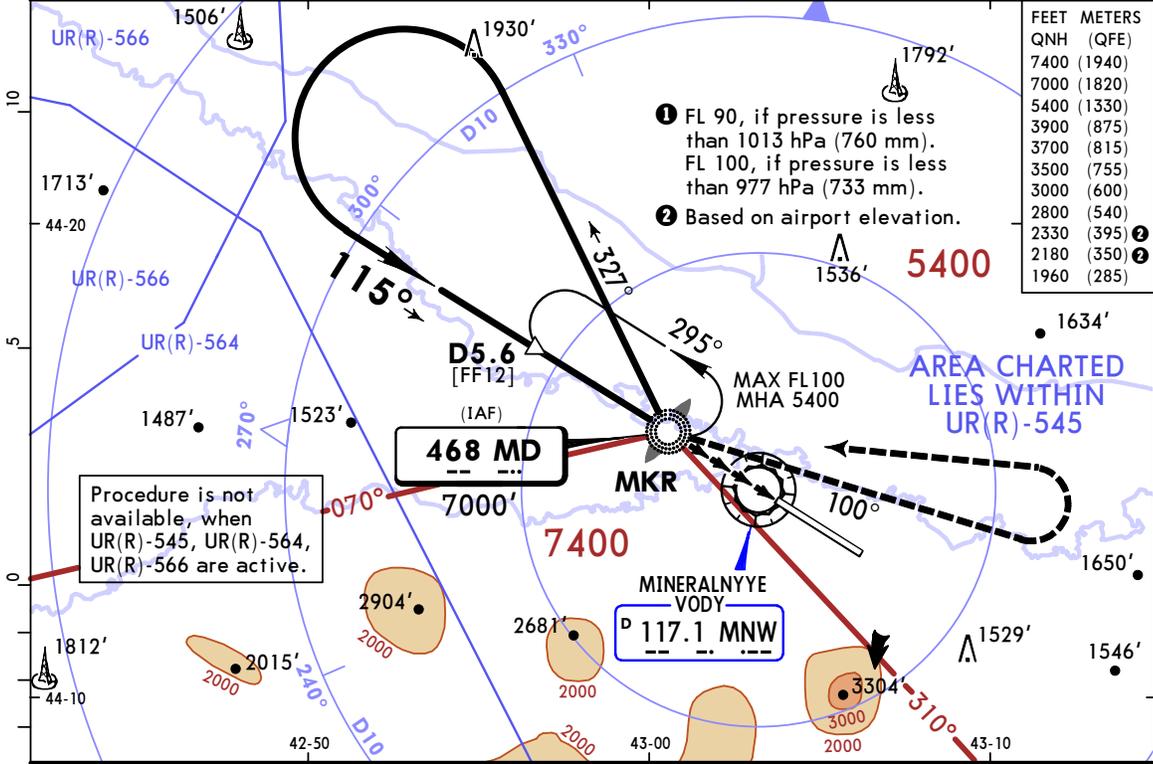
1 VNAV DA(H) in lieu of MDA(H) depends on operator policy.

CHANGES: New procedure.

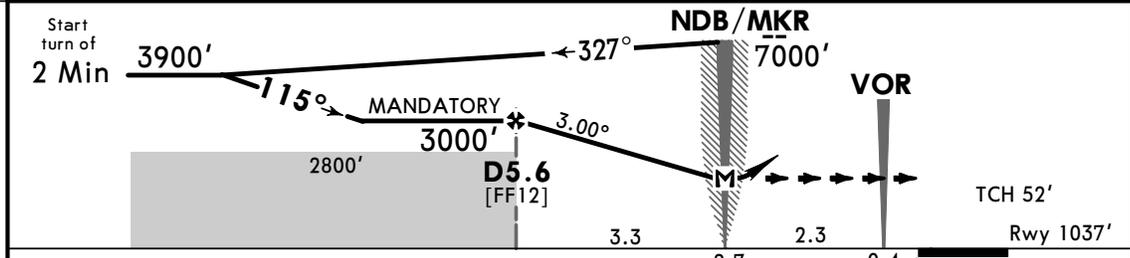
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URMM/MRV **A** **JEPPESEN** MINERALNYYE VODY, RUSSIA
 MINERALNYYE VODY 27 NOV 20 **16-2** Eff 3 Dec NDB Y Rwy 12

ATIS 125.25 (Russian 127.4)		MINERALNYYE VODY Approach 119.3	MINERALNYYE VODY Krug (TWR/R) 120.7	MINERALNYYE VODY Start (TWR) 128.0	Ground 121.9
NDB MD 468	Final Apch Crs 115°	D5.6 MANDATORY 3000' (1963')	DA/MDA(H) 1960' (923')	Apt Elev 1047' Rwy 1037'	<p>MSA MD NDB/MKR</p>
MISSED APCH: Turn onto 100° from NDB climbing to 3500' or above, turn LEFT to NDB/MKR climbing to 5400' or above. Turn before MAP prohibited.					
Alt Set: hPa (mm on req) Rwy Elev: 37 hPa Trans level: FL 80 1 Trans alt: 7000' Radar control and DME required.					



MNW DME	5.6	4.9	3.8	2.7
ALTITUDE	3000'	2780'	2430'	2090'



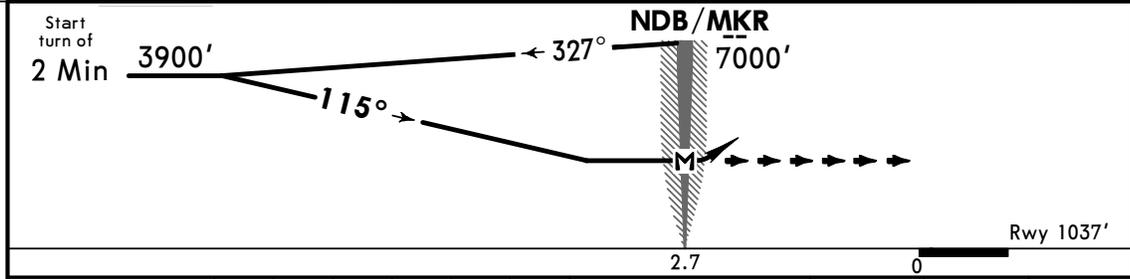
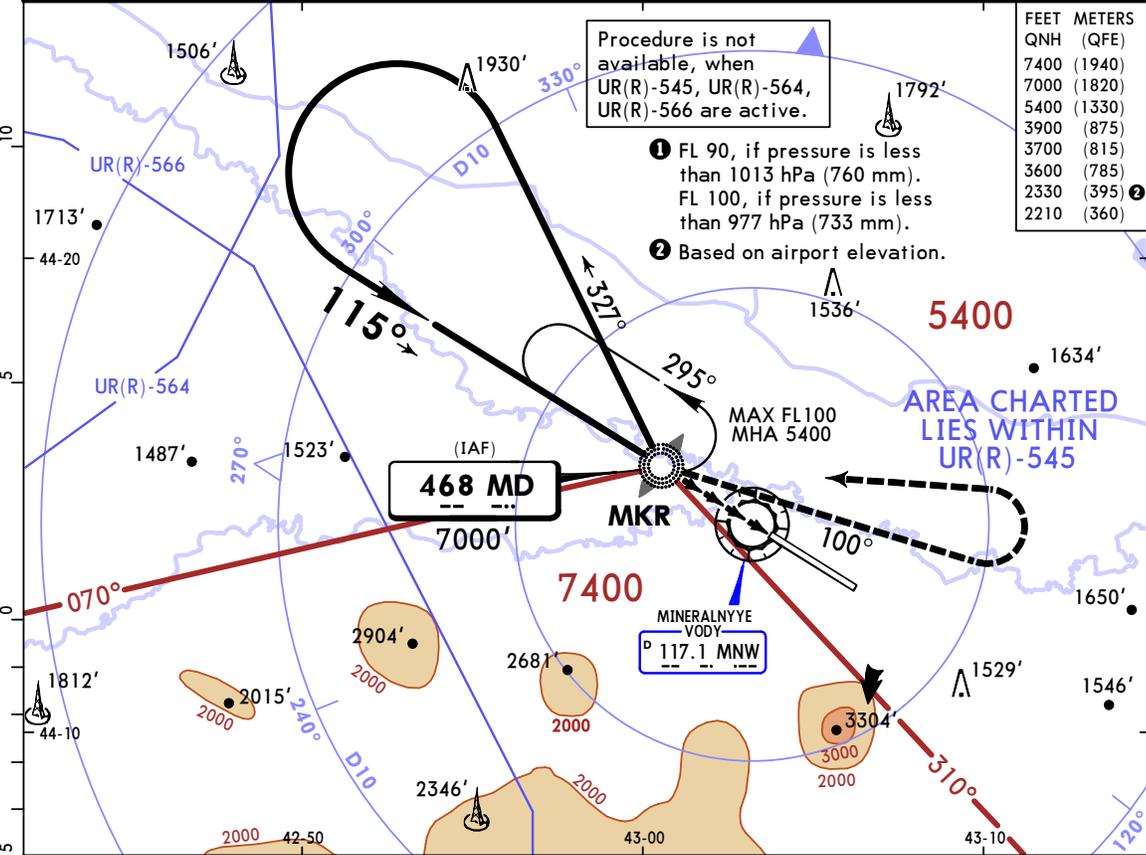
Gnd speed-Kts	120	140	160	180	HIALS-II PAPI	3500' onto 100° from MD 468
Descent Angle 3.00°	637	743	849	956		
MAP at NDB/MKR						

C	Std	STRAIGHT-IN LANDING	CIRCLE-TO-LAND
		CDFA	Prohibited South of airport
D		DA/MDA(H) 1960' (923')	Max Kts MDA(H)
		ALS out	180 2180' (1133') V2400m
		R2400m	205 2330' (1283') V3600m

1 VNAV DA(H) in lieu of MDA(H) depends on operator policy.
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URMM/MRV **MINERALNYYE VODY** 15 OCT 21 **(16-3)** **JEPPESEN MINERALNYYE VODY, RUSSIA**
MINERALNYYE VODY **NDB B Rwy 12**

BRIEFING STRIP™	ATIS 125.25 (Russian 127.4)	MINERALNYYE VODY Approach 119.3	MINERALNYYE VODY Krug (TWR/R) 120.7	MINERALNYYE VODY Start (TWR) 128.0	Ground 121.9
	NDB MD 468	Final Apch Crs 115°	No FAF	MDA(H) Refer to Minimums	Apt Elev 1047' Rwy 1037'
MISSED APCH: Turn onto 100° from NDB climbing to 3600' or above, turn LEFT to NDB/MKR climbing to 5400' or above. Turn before MAP prohibited.					
Alt Set: hPa (mm on req) Rwy Elev: 37 hPa Trans level: FL 80 1 Trans alt: 7000'					



MAP at NDB/MKR	HTALS-II	3600' onto	100° from MD
	PAPI	↑	MD 468

Std		CIRCLE-TO-LAND	
Prohibited South of airport			
	Max Kts	MDA(H)	
C	180	2210' (1163')	V2400m
D	205	2330' (1283')	V3600m

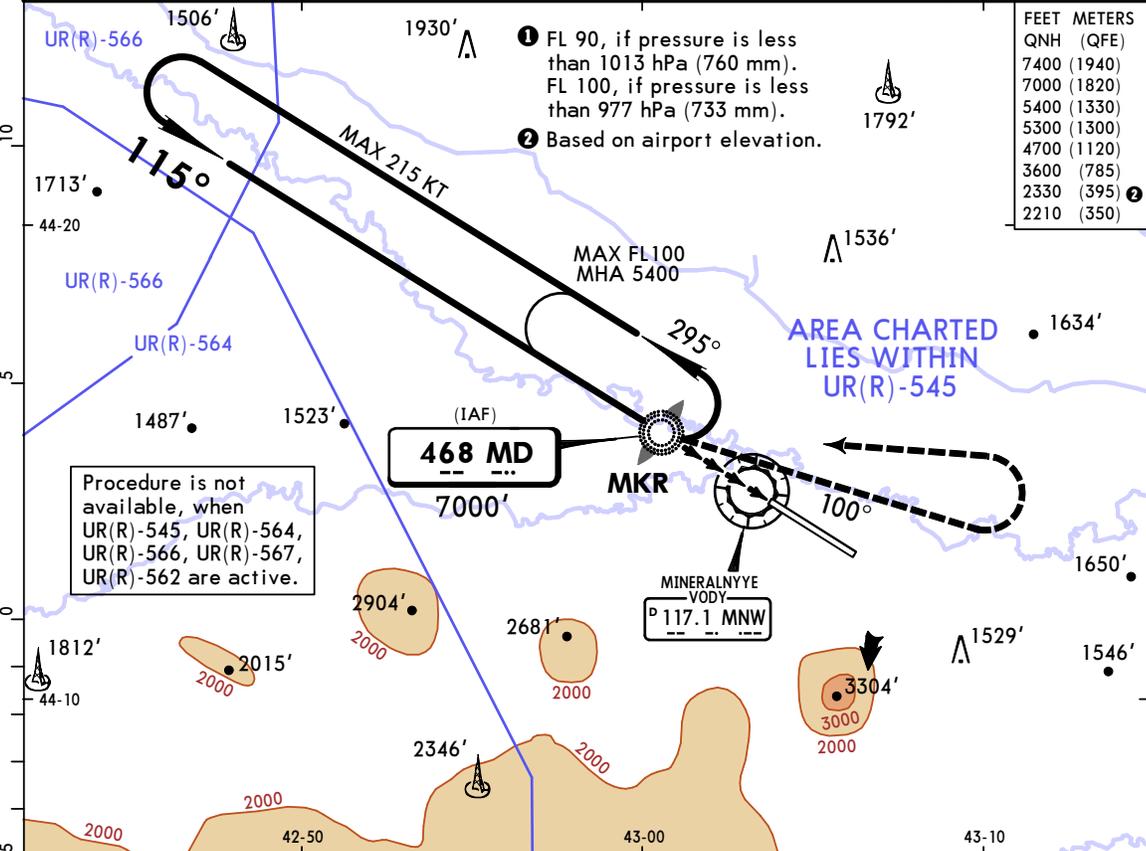
PANS OPS

URMM/MRV
MINERALNYYE VODY

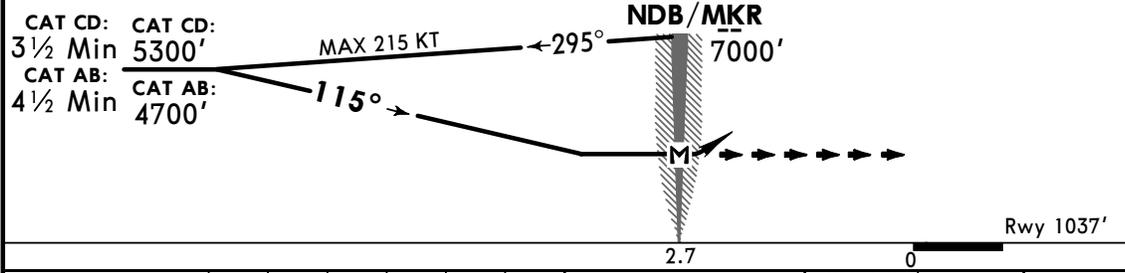
JEPPESEN MINERALNYYE VODY, RUSSIA
NDB A Rwy 12

27 NOV 20 (16-4) Eff 3 Dec

BRIEFING STRIP	ATIS 125.25 (Russian 127.4)	MINERALNYYE VODY Approach 119.3	MINERALNYYE VODY Krug (TWR/R) 120.7	MINERALNYYE VODY Start (TWR) 128.0	Ground 121.9
	NDB MD 468	Final Apch Crs 115°	No FAF	MDA(H) Refer to Minimums	Apt Elev 1047' Rwy 1037'
MISSED APCH: Climb on 100° from NDB to 3600' or above, turn LEFT to NDB/MKR climbing to 5300' or above. Turn before MAP prohibited.					
Alt Set: hPa (mm on req) Rwy Elev: 37 hPa Trans level: FL 80 ① Trans alt: 7000'					



FEET	METERS
QNH (QFE)	
7400	(1940)
7000	(1820)
5400	(1330)
5300	(1300)
4700	(1120)
3600	(785)
2330	(395)
2210	(350)

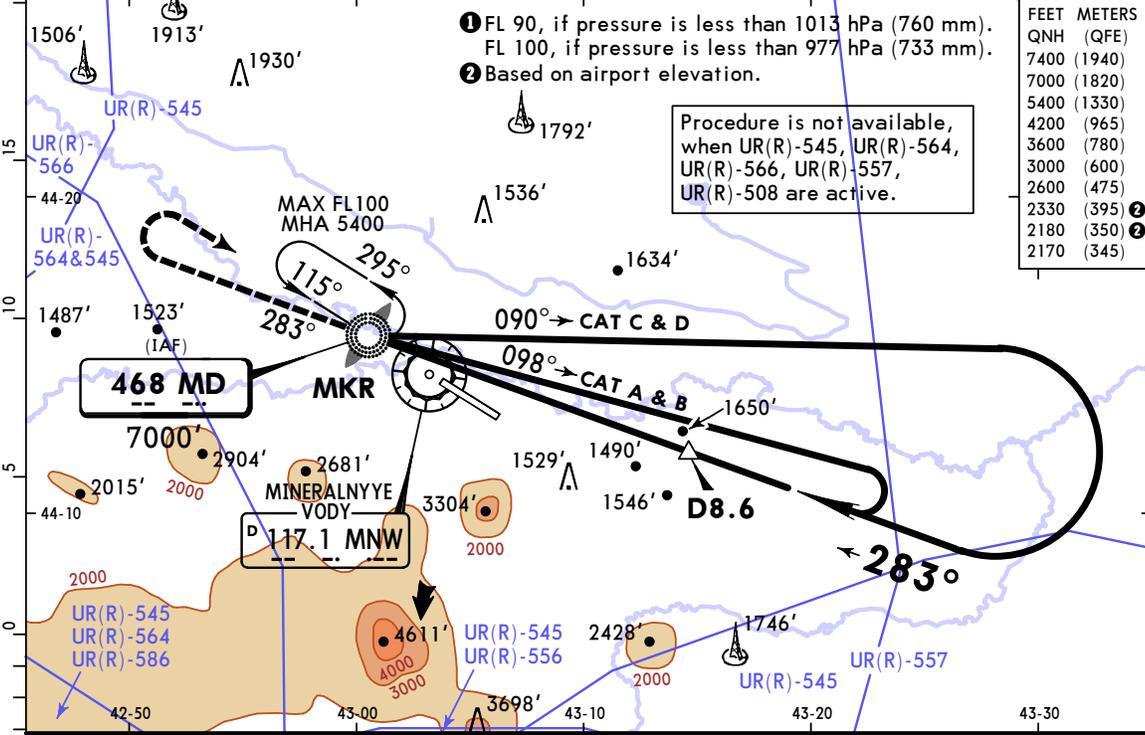
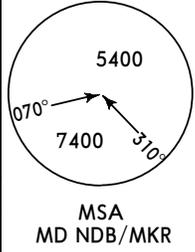


CAT CD: 3 1/2 Min	CAT CD: 5300'	MAX 215 KT	← 295°	NDB/MKR	7000'
CAT AB: 4 1/2 Min	CAT AB: 4700'	115°	→	M	

Std CIRCLE-TO-LAND
Prohibited South of airport

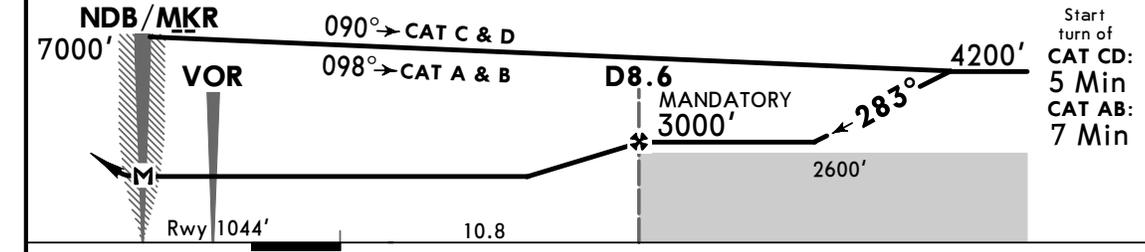
	Max Kts	MDA(H)	
A	100	2210' (1163')	V1500m
B	135	2210' (1163')	V1600m
C	180	2210' (1163')	V2400m
D	205	2330' (1283')	V3600m

BRIEFING STRIP™	ATIS 125.25 (Russian 127.4)	MINERALNYYE VODY Approach 119.3	MINERALNYYE VODY Krug (TWR/R) 120.7	MINERALNYYE VODY Start (TWR) 128.0	Ground 121.9
	NDB MD 468	Final Apch Crs 283°	D8.6 MANDATORY 3000' (1956')	MDA(H) Refer to Minimums	Apt Elev 1047' Rwy 1044'
	<p>MISSED APCH: Climb STRAIGHT AHEAD to 3600' or above, turn RIGHT to NDB/MKR climbing to 5400' or above. Turn before MAP prohibited.</p> <p>Alt Set: hPa (mm on req) Rwy Elev: 38 hPa Trans level: FL 80 ① Trans alt: 7000'</p> <p>1. Radar control and DME required. 2. Final approach track offset 12° from Rwy centerline.</p>				



FEET	METERS
QNH (QFE)	
7400 (1940)	
7000 (1820)	
5400 (1330)	
4200 (965)	
3600 (780)	
3000 (600)	
2600 (475)	
2330 (395)	
2180 (350)	
2170 (345)	

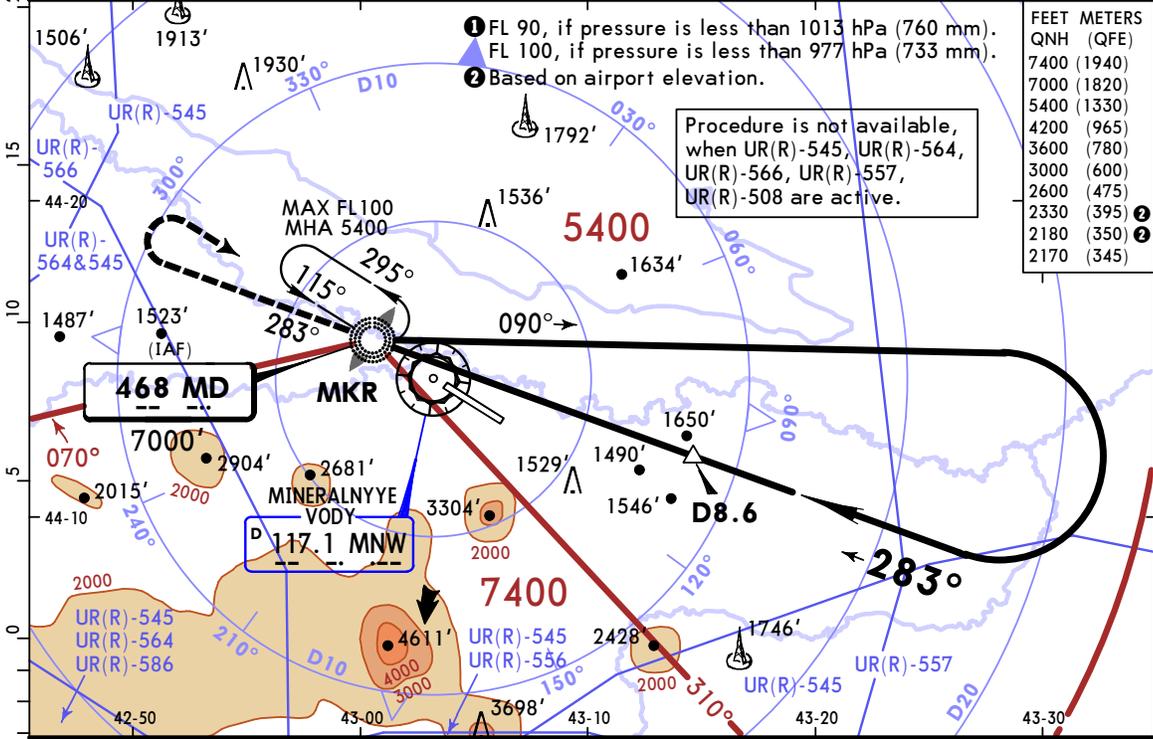
MNW DME	6.5	7.6	8.6
ALTITUDE	2330'	2670'	3000'



Gnd speed-Kts	70	90	100	120	140	160	HIALS-II PAPI 3600'
Descent Angle 3.00°	372	478	531	637	743	849	

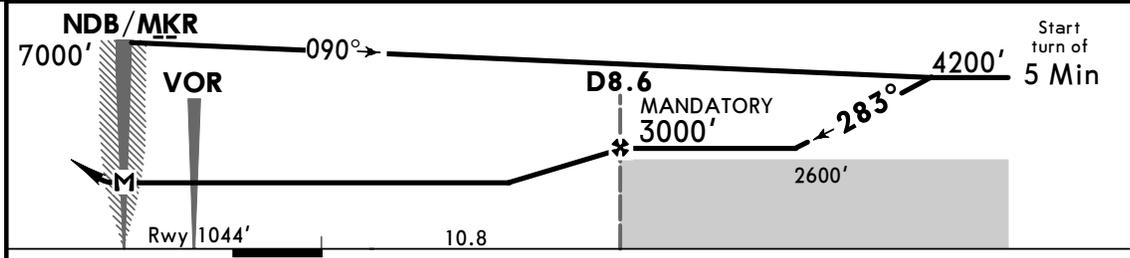
MAP at NDB/MKR		Std		CIRCLE-TO-LAND		Prohibited South of airport	
	Max Kts	MDA(H)					
A	100	2170' (1123')		V1500m			
B	135	2170' (1123')		V1600m			
C	180	2180' (1133')		V2400m			
D	205	2330' (1283')		V3600m			

ATIS 125.25 (Russian 127.4)		MINERALNYYE VODY Approach 119.3	MINERALNYYE VODY Krug (TWR/R) 120.7	MINERALNYYE VODY Start (TWR) 128.0	Ground 121.9
NDB MD 468	Final Apch Crs 283°	D8.6 MANDATORY 3000' (1956')	MDA(H) Refer to Minimums	Apt Elev 1047' Rwy 1044'	
MISSED APCH: Climb STRAIGHT AHEAD to 3600' or above, turn RIGHT to NDB/MKR climbing to 5400' or above. Turn before MAP prohibited.					
Alt Set: hPa (mm on req) Rwy Elev: 38 hPa Trans level: FL 80 1 Trans alt: 7000' 1. Radar control and DME required. 2. Final approach track offset 12° from Rwy centerline.					



FEET METERS
QNH (QFE)
7400 (1940)
7000 (1820)
5400 (1330)
4200 (965)
3600 (780)
3000 (600)
2600 (475)
2330 (395)
2180 (350)
2170 (345)

MNW DME	6.5	7.6	8.6
ALTITUDE	2330'	2670'	3000'



Gnd speed-Kts	120	140	160	180	HIALS-II PAPI 3600'
Descent Angle 3.00°	637	743	849	956	
MAP at NDB/MKR					

Std CIRCLE-TO-LAND
 Prohibited South of airport

	Max Kts	MDA(H)	
C	180	2180' (1133')	V2400m
D	205	2330' (1283')	V3600m