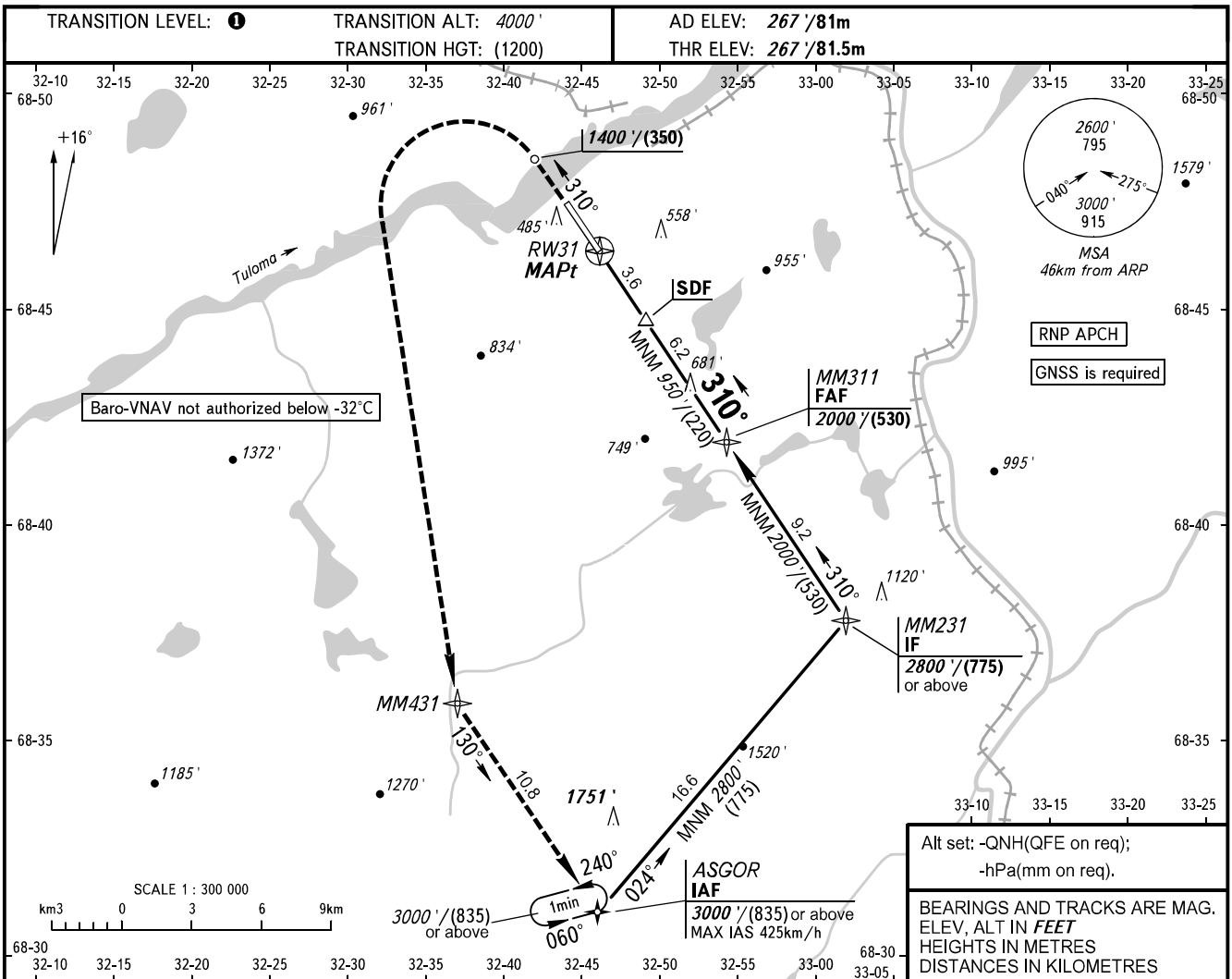


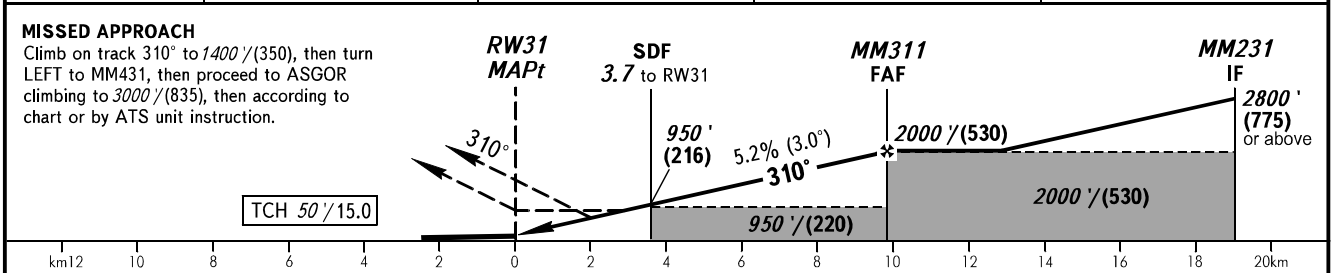
**INSTRUMENT
APPROACH
CHART - ICAO**

**MURMANSK, RUSSIA
MURMANSK
RNAV Y RWY 31**

TOWER	120.300
RADAR	120.700



DIST to RW31	2.0	4.0	6.0	8.0
ALTITUDE/HEIGHT	660' (128)	1000' (232)	1340' (335)	1690' (442)



OCA(H)		A	B	C	D
Straight-in	LNAV	810' (550') (174)	810' (550') (174)	810' (550') (174)	810' (550') (174)
	LNAV/VNAV	689' (423') (137)	699' (433') (140)	709' (442') (143)	719' (452') (146)
Approach					
Circling		820' (550') (170)	990' (730') (225)	1360' (1100') (335)	1360' (1100') (335)

TRANSITION LEVEL:
 - FLO50 when QNH is 1013 hPa (760mm mercury column) or above;
 - FLO60 when QNH is 977 hPa (733mm mercury column) or above, but less than 1013 hPa (760mm mercury column);
 - FLO70 when QNH is less than 977 hPa (733mm mercury column).

WARNING
 Visual manoeuvring to the north-east of the AD is prohibited.

GROUND SPEED	km/h	150	180	210	240	270	300	330	360	390
RATE OF DESCENT	m/s	2.2	2.6	3.0	3.5	3.9	4.3	4.8	5.2	5.6
RATE OF DESCENT	ft/min	427	512	597	682	768	853	938	1024	1109