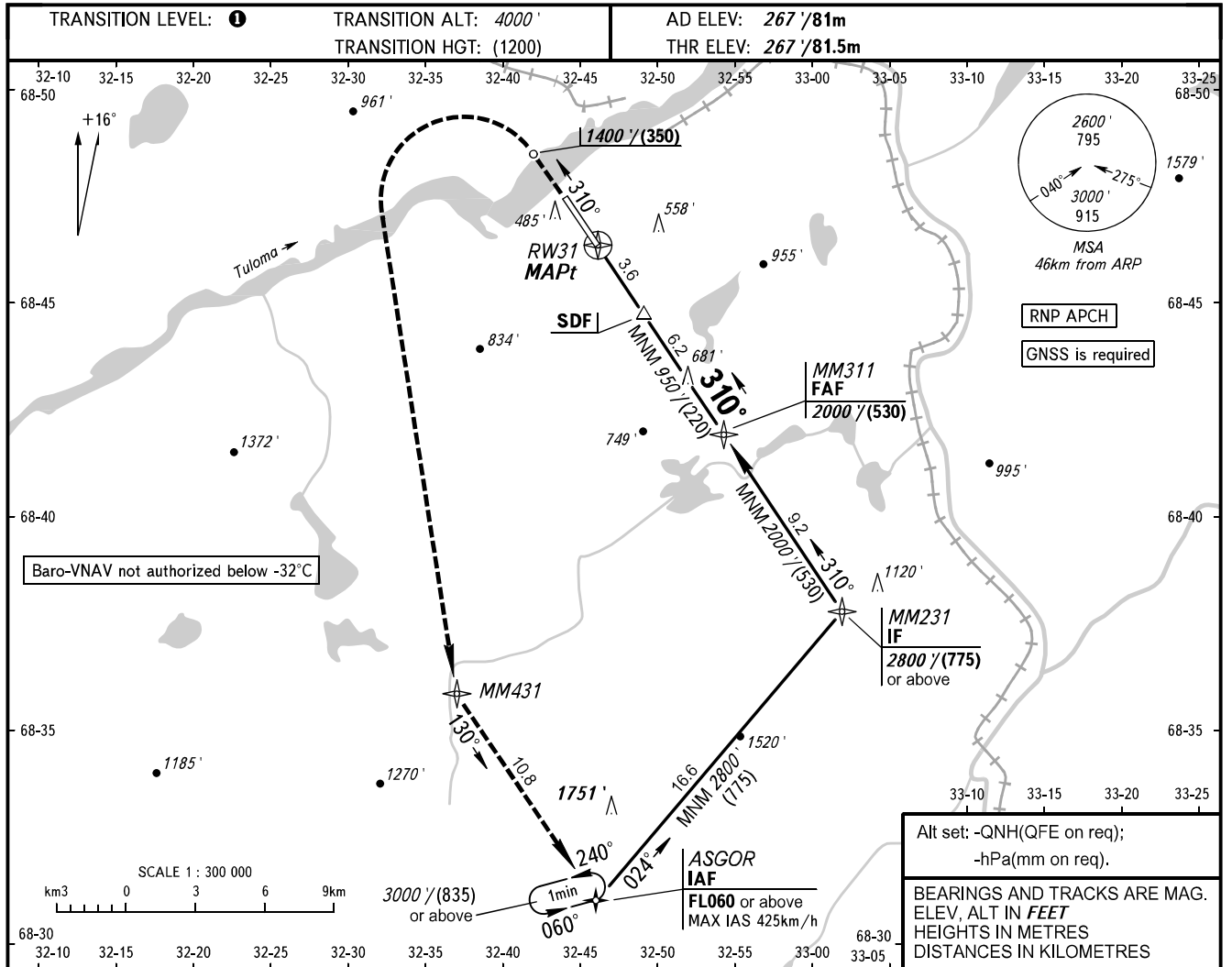


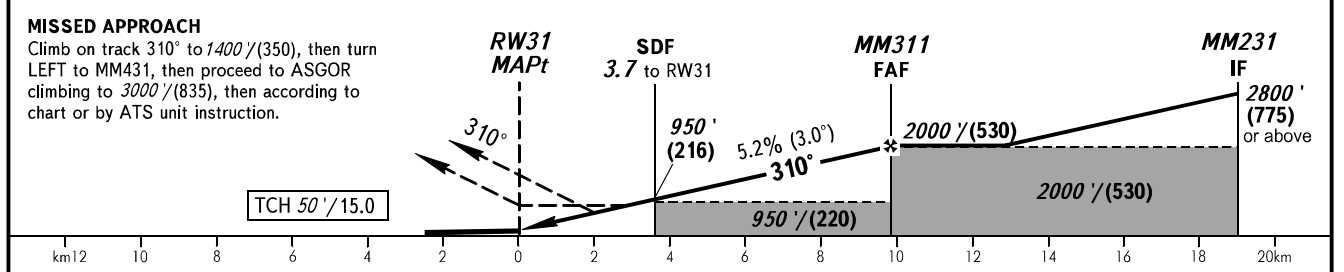
**INSTRUMENT
APPROACH
CHART - ICAO**

**MURMANSK, RUSSIA
MURMANSK
RNAV Z 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	① TRANSITION LEVEL:						
Straight-in	LNAV	810' (550') (174)	810' (550') (174)	810' (550') (174)	810' (550') (174)	- FLO50 when QNH is 1013 hPa (760mm mercury column) or above;						
	LNAV/VNAV	689' (423') (137)	699' (433') (140)	709' (442') (143)	719' (452') (146)	- FLO60 when QNH is 977 hPa (733mm mercury column) or above, but less than 1013 hPa (760mm mercury column);						
Approach						- FLO70 when QNH is less than 977 hPa (733mm mercury column).						
						WARNING Visual manoeuvring to the north-east of the AD is prohibited.						
Circling		820' (550') (170)	990' (730') (225)	1360' (1100') (335)	1360' (1100') (335)							
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