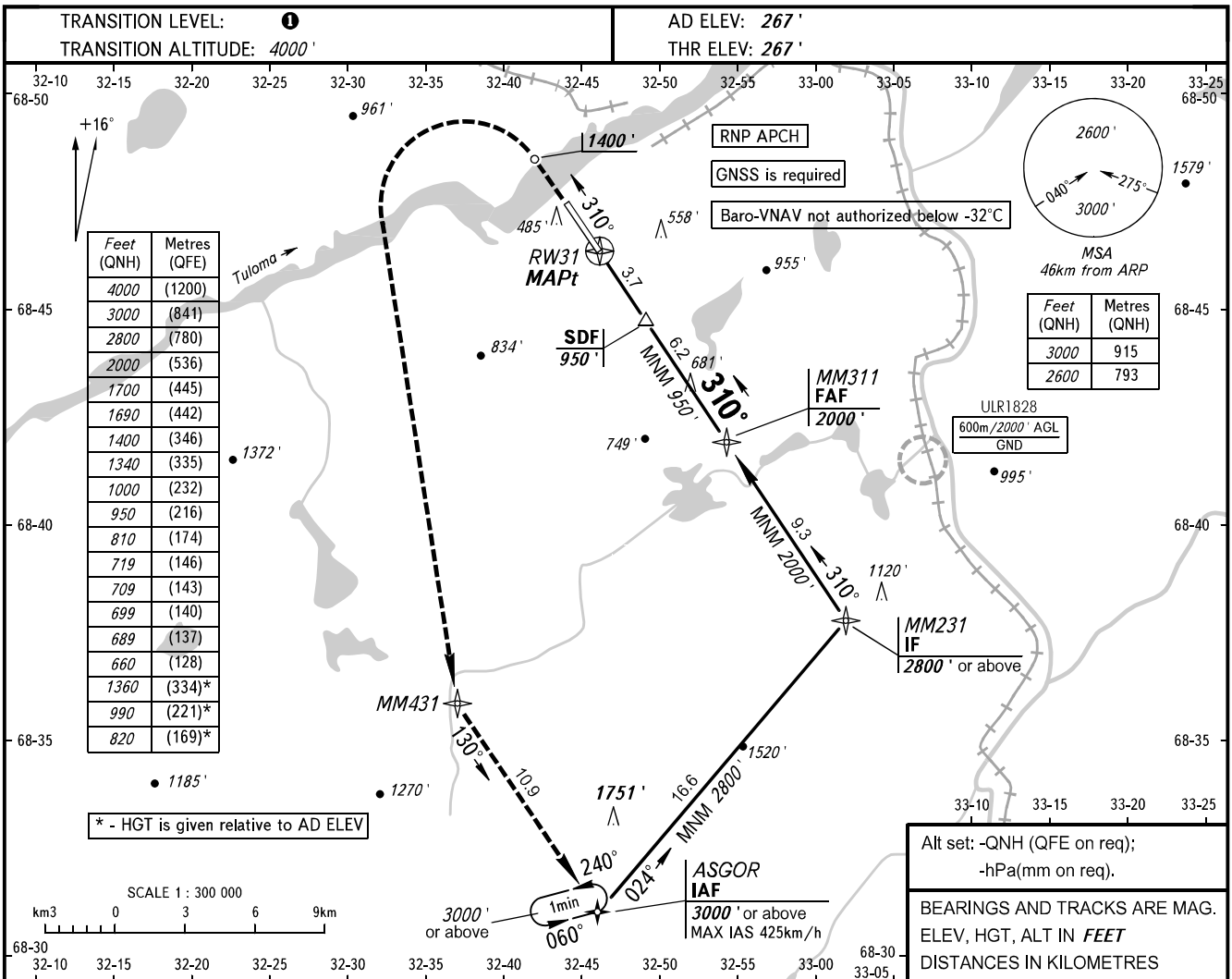


**INSTRUMENT
APPROACH
CHART - ICAO**

**MURMANSK
MURMANSK
RNAV Y RWY 31**

TOWER **120.300**

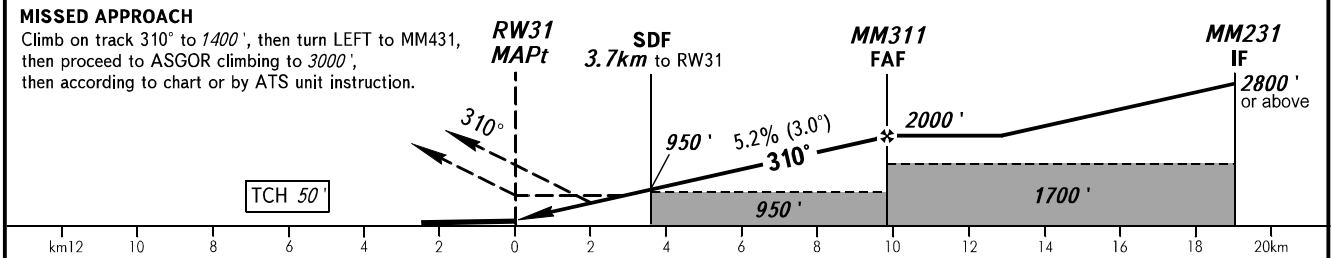


| Feet (QNH) | Metres (QFE) |
|------------|--------------|
| 4000 | (1200) |
| 3000 | (841) |
| 2800 | (780) |
| 2000 | (536) |
| 1700 | (445) |
| 1690 | (442) |
| 1400 | (346) |
| 1340 | (335) |
| 1000 | (232) |
| 950 | (216) |
| 810 | (174) |
| 719 | (146) |
| 709 | (143) |
| 699 | (140) |
| 689 | (137) |
| 660 | (128) |
| 1360 | (334)* |
| 990 | (221)* |
| 820 | (169)* |

* - HGT is given relative to AD ELEV

All set: -QNH (QFE on req);
-hPa(mm on req).
BEARINGS AND TRACKS ARE MAG. ELEV, HGT, ALT IN FEET
DISTANCES IN KILOMETRES

| | | | | |
|---------------|------|-------|-------|-------|
| DIST to RWY31 | 2.0 | 4.0 | 6.0 | 8.0 |
| ALTITUDE | 660' | 1000' | 1340' | 1690' |



| OCA(H) | | A | B | C | D |
|-------------|-----------|-------------|-------------|---------------|---------------|
| Straight-in | LNAV | 810' (550') | 810' (550') | 810' (550') | 810' (550') |
| | LNAV/VNAV | 689' (423') | 699' (433') | 709' (442') | 719' (452') |
| Approach | | | | | |
| | | | | | |
| Circling | | 820' (550') | 990' (730') | 1360' (1100') | 1360' (1100') |

1 TRANSITION LEVEL:
- FL050 when QNH is 1013 hPa (760mm mercury column) or above;
- FL060 when QNH is 977 hPa (733mm mercury column) or above, but less than 1013 hPa (760mm mercury column);
- FL070 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 | 360 |
| RATE OF DESCENT | m/s | 2.2 | 2.6 | 3.0 | 3.5 | 3.9 | 4.3 | 4.8 | 5.2 | 5.6 |
| | ft/min | 427 | 512 | 597 | 682 | 768 | 853 | 938 | 1024 | 1109 |

CHANGE: New chart