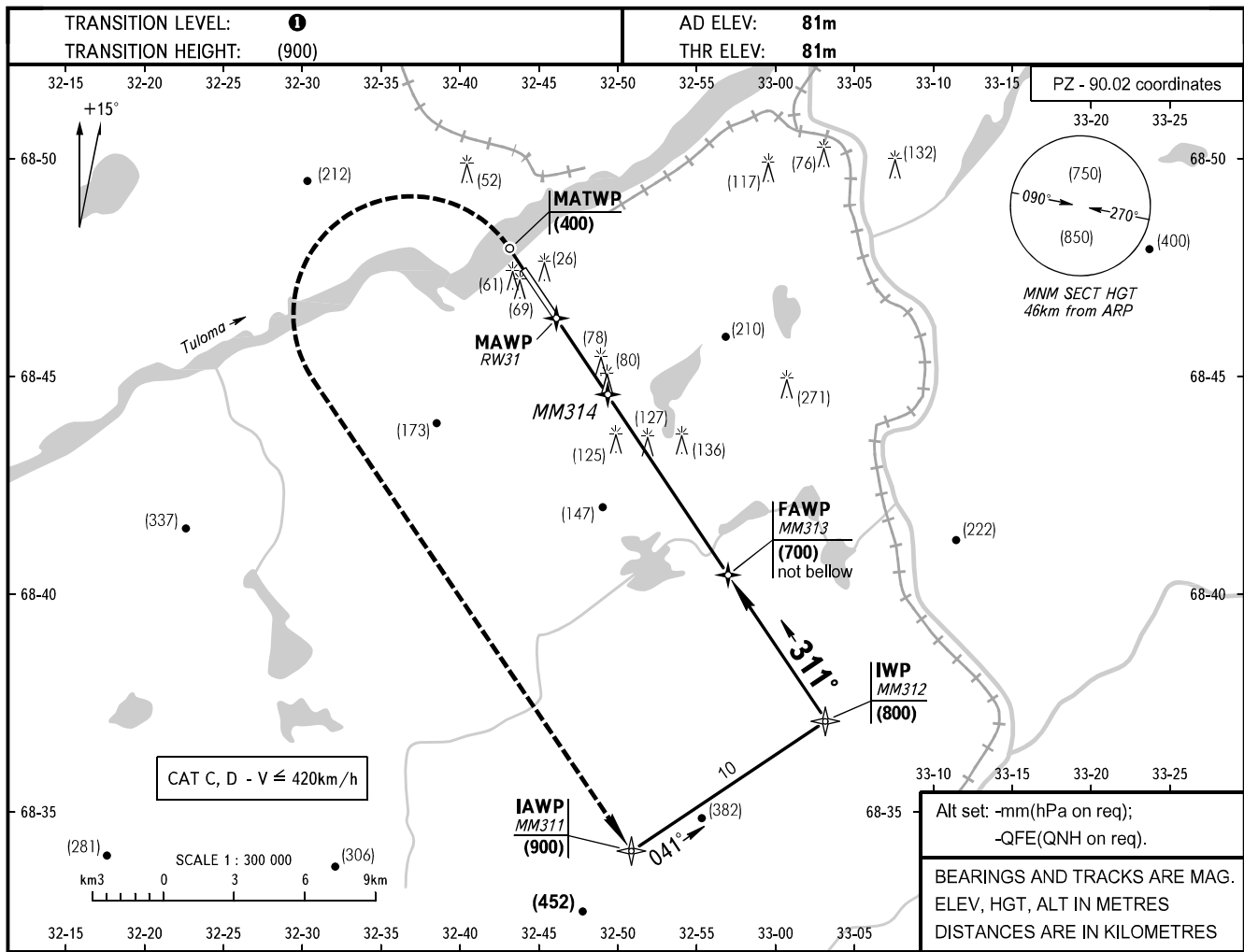


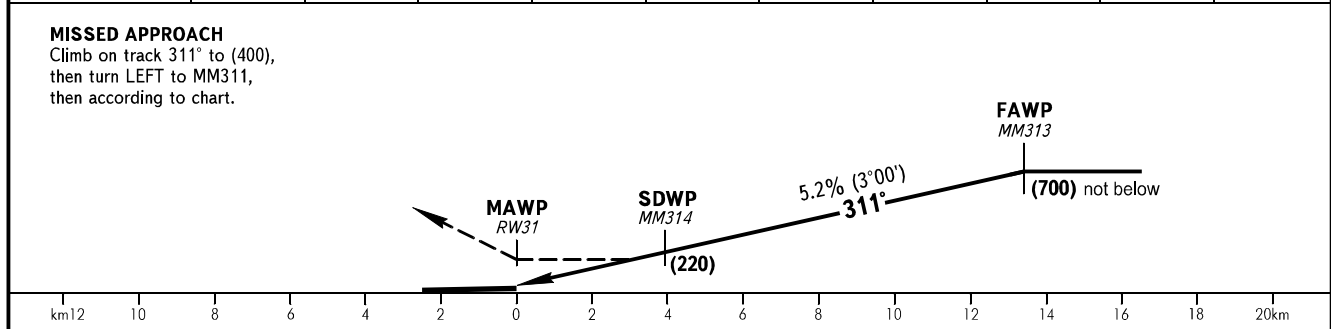
**INSTRUMENT  
APPROACH  
CHART - ICAO**

TOWER **120,300**

**MURMANSK, RUSSIA**  
MURMANSK  
GNSS RWY 31



THR DISTANCE	1	2	3	4	5	6	7	8	9	10
ALTITUDE	150	200	255	305	360	410	460	515	565	620
HEIGHT	(70)	(120)	(175)	(225)	(275)	(330)	(380)	(430)	(485)	(535)



OCA/H		A	B	C	D
Straight-in	GNSS	241(160)	241(160)	241(160)	241(160)
	Approach				

**1** TRANSITION LEVEL:  
 - FL050 when atmospheric pressure is 753mm mercury column or above;  
 - FL060 when atmospheric pressure is 753-726mm mercury column;  
 - FL070 when atmospheric pressure is 726mm mercury column or less.

GROUND SPEED	km/h	150	180	210	240	270	300	330	360	390	420	450
LOM-THR 3940m	min:sec	1.35	1.19	1.08	1.00	0.53	0.47	0.44	0.39	0.36	0.34	0.32
RATE OF DESCENT	m/s	2.2	2.6	3.0	3.5	3.9	4.3	4.8	5.2	5.6	6.1	6.5

CHANGE: AD ELEV, THR ELEV