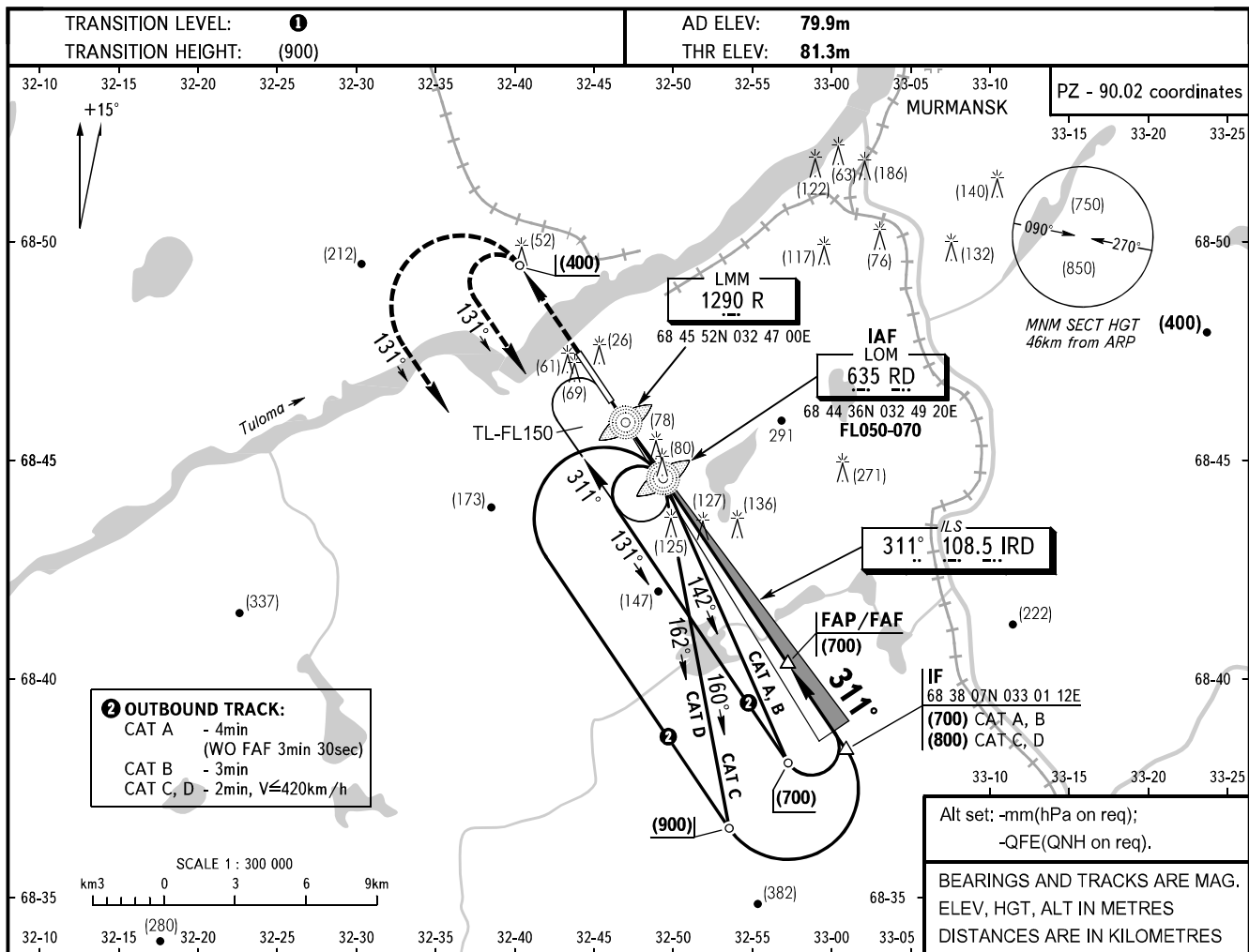


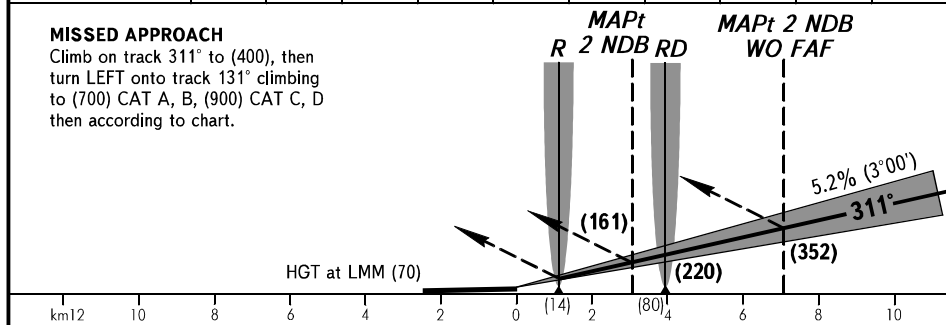
**INSTRUMENT
APPROACH
CHART - ICAO**

TOWER **120.3**

MURMANSK, RUSSIA
MURMANSK
ILS, 2 NDB RWY 31



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



OCA/H		A	B	C	D
Straight-in	ILS	137(56)	140(59)	143(62)	146(65)
	2 NDB	242(161)	242(161)	242(161)	242(161)
Approach	2 NDB WO FAF	433(352)	433(352)	433(352)	433(352)

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	3.1	3.5	4.0	4.4	4.8	5.3	5.6	6.1	6.6