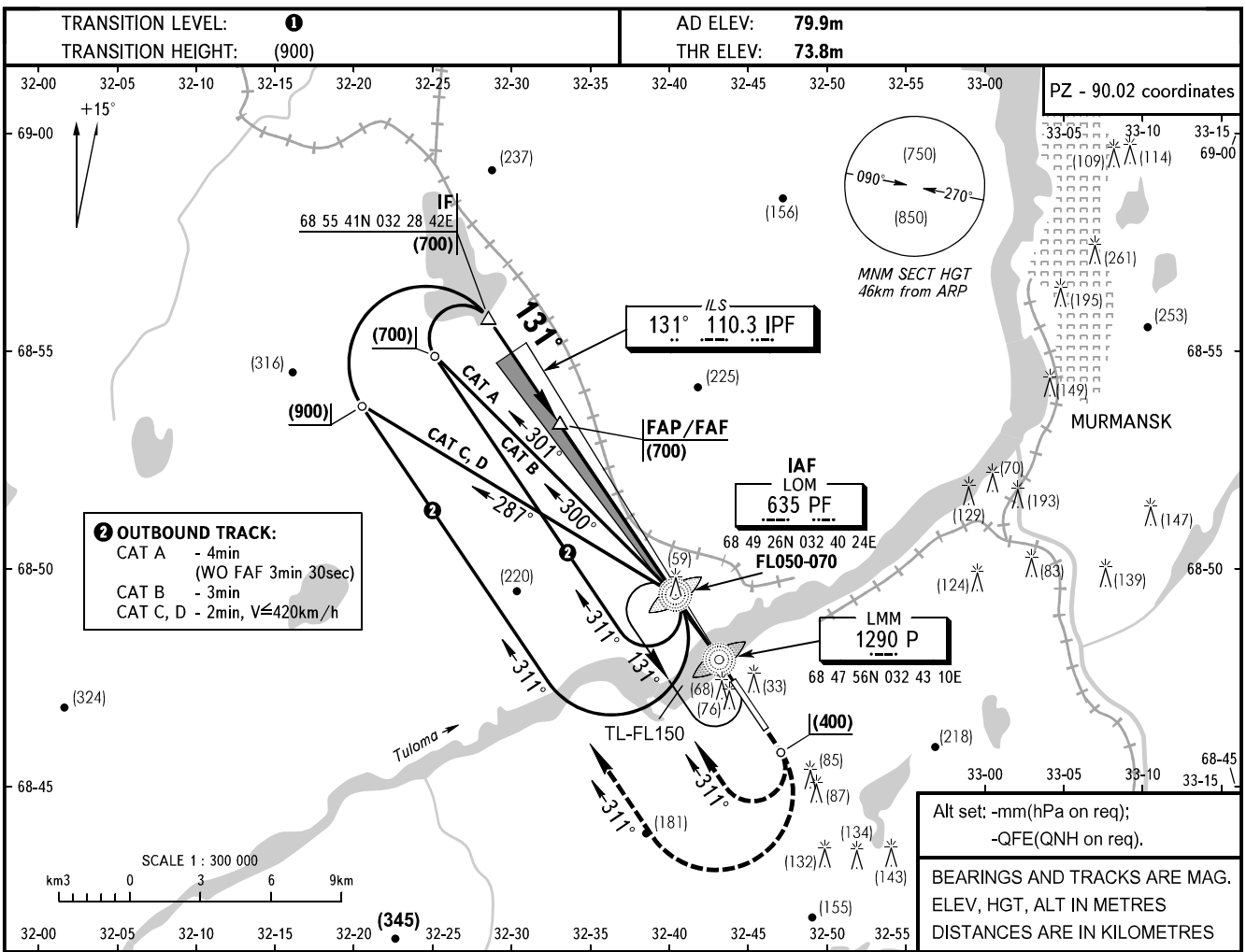


**INSTRUMENT
APPROACH
CHART - ICAO**

TOWER **120.3**

MURMANSK, RUSSIA
MURMANSK
ILS, 2 NDB RWY 13

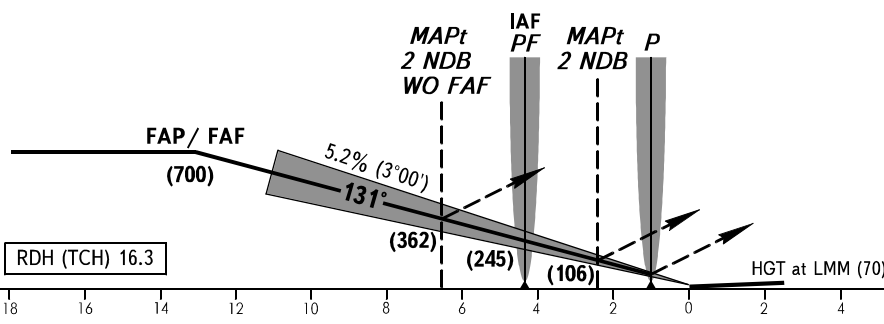


2 OUTBOUND TRACK:
CAT A - 4min
(WO FAF 3min 30sec)
CAT B - 3min
CAT C, D - 2min, V≤420km/h

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

THR DISTANCE	10	9	8	7	6	5	4	3	2	1
ALTITUDE	610	560	505	455	405	350	300	250	195	145
HEIGHT	(535)	(485)	(430)	(380)	(330)	(275)	(225)	(175)	(120)	(70)

MISSED APPROACH
Climb on track 131° to (400), then turn RIGHT onto track 311° climbing to (700) CAT A, B, (900) CAT C, D then according to chart.



OCA/H		A	B	C	D
Straight-in	ILS	134(60)	138(64)	140(66)	143(69)
	2 NDB	180(106)	180(106)	180(106)	180(106)
Approach	2 NDB WO FAF	436(362)	436(362)	436(362)	436(362)

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-MAPt 2 NDB 1960m	min:sec	0.47	0.39	0.34	0.29	0.26	0.23	0.21	0.20	0.18	0.17	0.16
RATE OF DESCENT	m/s	2.2	2.6	3.0	3.5	3.9	4.4	4.8	5.2	5.6	6.1	6.5

CHANGE: HLDG