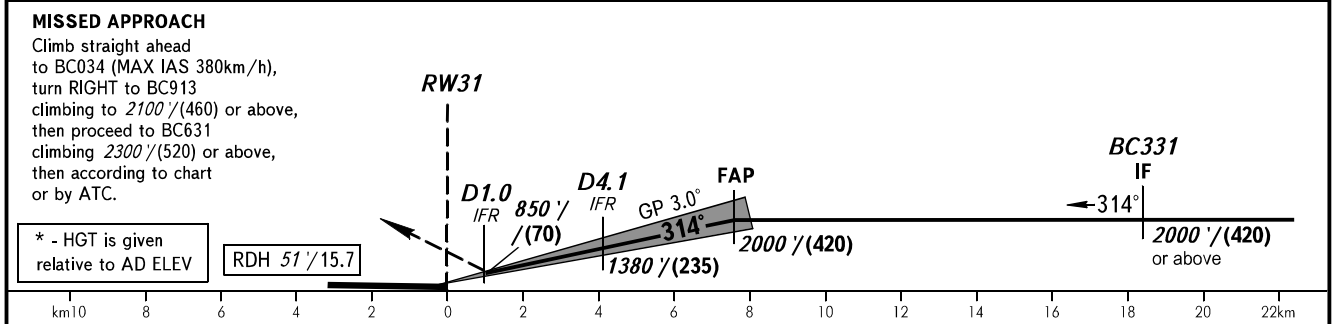
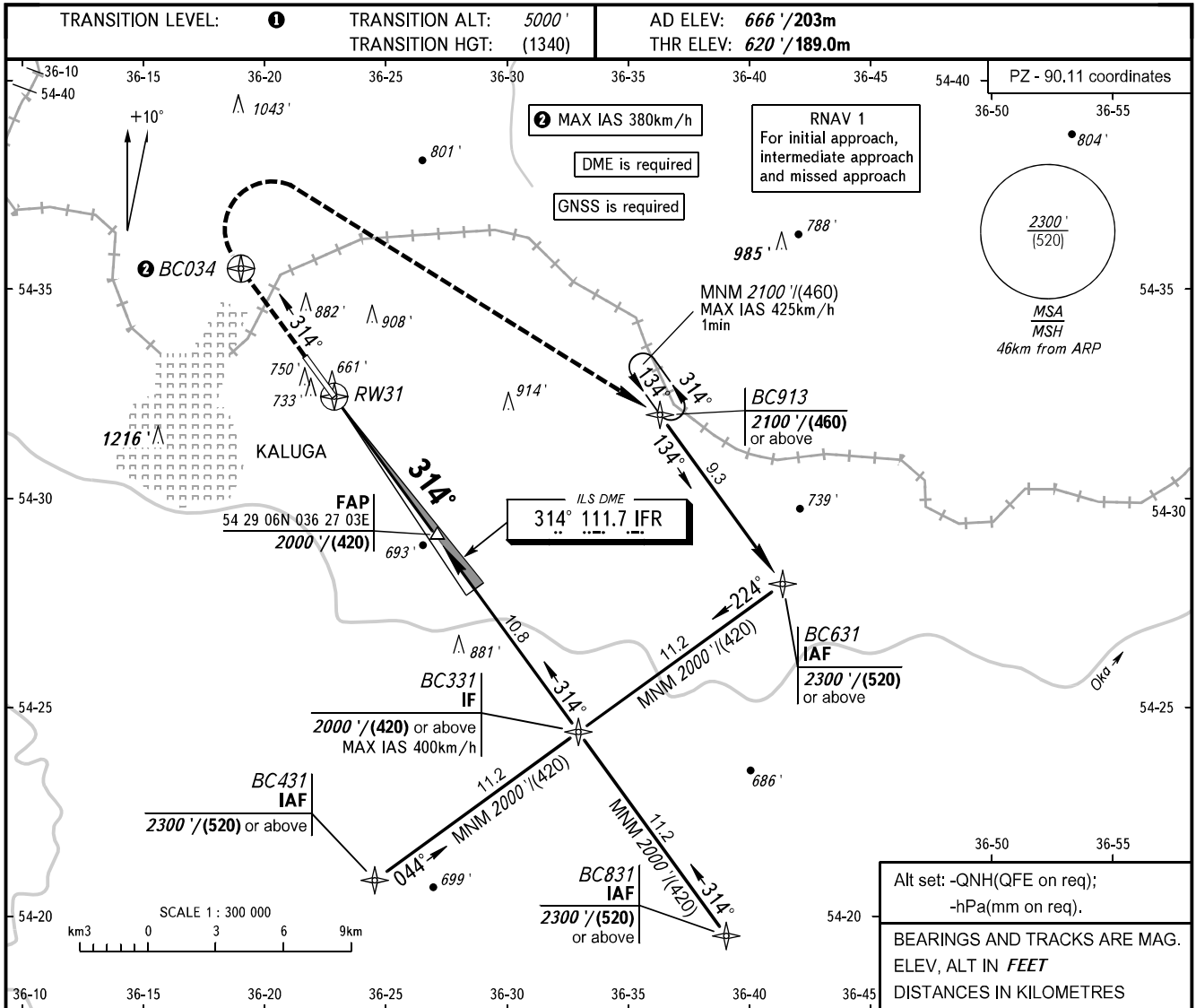


**INSTRUMENT  
APPROACH  
CHART - ICAO**

KALUGA TOWER 120.300

**KALUGA, RUSSIA  
GRABTSEVO  
ILS Z CAT I RWY 31**



OCA(H)		A	B	C	D						
Straight-in Approach	CAT I	761' (141') / 773' (153') / 783' (163') / 797' (177') / (45)	773' (153') / (50)	783' (163') / (50)	797' (177') / (55)						
Circling		1180' (520') / 1210' (550') / (160)*	1210' (550') / (170)*	1310' (650') / (200)*	1360' (700') / (220)*						
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

**1** TRANSITION LEVEL:  
- FL060 when QNH is 1013 hPa (760mm mercury column) or above;  
- FL070 when QNH is 977 hPa (733mm mercury column) or above, but less than 1013 hPa (760mm mercury column);  
- FL080 when QNH is less than 977 hPa (733mm mercury column).

**WARNING:**  
1. Visual manoeuvring WEST of AD is PROHIBITED.  
2. Zero range of DME IFR is indicated at RWY 31 THR.

CHANGE: HGT