

## Bolzano AIRPORT (LIPB/BZO)

# PILOT'S FAMILIARIZATION BRIEFING



Document Provided by the

Aerodrome Flight Operation  
Department

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# 1 FAMILIARIZATION BRIEFING

The familiarization Briefing has the main objective to support operators and pilots in preparing the flight operations to/from Bolzano. The briefing will provide general information concerning the main operational issues of Bolzano Aerodrome such as:

- Aerodrome general information;
- General operational requirements;
- Local Weather;
- Orography;
- Approach and departure procedures;
- Communication procedure;
- Emergency and contingency procedures.

The personal flight preparation of pilots intending to operate into Bolzano aerodrome shall include the information contained in this document, and shall be based on current official documents (i.e. AIP Italy, NOTAM, etc.).

**NOTE:** For IFR approach/departures to/from Bolzano aerodrome, the pilot/pilots is/are obliged to enter the Authorization Number in the box 18 of the Flight Plan and carry along a copy of the “**Authorization**” issued by the Aerodrome Operator, either in electronic or printed form, presentable at any time on demand to official representatives of responsible authorities.

CAT and NCC operator should enter in the FPL box 18 the Authorization number of the Company. There Pilots should carry along the **Authorization** record issued by the company. It's the Operators responsibility to train their crews according EU Reg. 965/12 so as to schedule only **authorized** and current crews for the intended operations to/from Bolzano.

**NOTE:** Pilots operating to/from Bolzano according IFR without the appropriate approval may be reported to the responsible department of the Italian Civil Aviation Authority ENAC.

## 1.1 BRIEFING RELEASE

Chap.	Par.	Poi.	Input date	Release data	Ed.	Rev.	Changes
1			15.02.2020	15.02.2020	1	0	First issue
	1.1		15.02.2020	15.02.2020	1	0	First issue
	1.2		15.02.2020	15.02.2020	1	0	First issue
	1.3		25.06.2021	15.07.2021	1	1	New abbreviations
2			15.02.2020	15.02.2020	1	0	First issue
	2.1		15.02.2020	15.02.2020	1	0	First issue
	2.2		15.02.2020	15.02.2020	1	0	First issue
	2.3		15.02.2020	15.02.2020	1	0	First issue
	2.4		15.02.2020	15.02.2020	1	0	First issue
	2.5		15.02.2020	15.02.2020	1	0	First issue
	2.6		15.02.2020	15.02.2020	1	0	First issue
	2.7		15.02.2020	15.02.2020	1	0	First issue
	2.8		25.06.2021	15.07.2021	1	1	Detailed specifications PAPI
	2.9		25.06.2021	15.07.2021	1	1	Obstacle lights nord of LIPB
	2.10		25.06.2021	15.07.2021	1	1	Update VFR Chart "Adige"
	2.11		25.06.2021	15.07.2021	1	1	Change Apron ID
	2.12		25.06.2021	15.07.2021	1	1	Update Ops req. table
	2.13		15.02.2020	15.02.2020	1	0	First issue
	2.14		25.06.2021	15.07.2021	1	1	New ICP Rwy 01 Cat A/B/C
	2.15		15.02.2020	15.02.2020	1	0	First issue
	2.16		25.06.2021	15.07.2021	1	1	Update AD Chart
	2.17		15.02.2020	15.02.2020	1	0	First issue
	2.18		15.02.2020	15.02.2020	1	0	First issue
	2.19		15.02.2020	15.02.2020	1	0	First issue
	2.20		25.06.2021	15.07.2021	1	1	Upd. wheater minima table
	2.21		15.02.2020	15.02.2020	1	0	First issue
	2.22		15.02.2020	15.02.2020	1	0	First issue
	2.23		15.02.2020	15.02.2020	1	0	First issue
3			15.02.2020	15.02.2020	1	0	First issue
	3.1		15.02.2020	15.02.2020	1	0	First issue
4			15.02.2020	15.02.2020	1	0	First issue
	4.1		15.02.2020	15.02.2020	1	0	First issue
	4.2		15.02.2020	15.02.2020	1	0	First issue
	4.3		15.02.2020	15.02.2020	1	0	First issue
	4.4		15.02.2020	15.02.2020	1	0	First issue
5			15.02.2020	15.02.2020	1	0	First issue
	5.1		15.02.2020	15.02.2020	1	0	First issue
		5.1.1	15.02.2020	15.02.2020	1	0	First issue
		5.1.2	15.02.2020	15.02.2020	1	0	First issue
		5.1.3	15.02.2020	15.02.2020	1	0	First issue
		5.1.4	15.02.2020	15.02.2020	1	0	First issue
		5.1.5	15.02.2020	15.02.2020	1	0	First issue
		5.1.6	15.02.2020	15.02.2020	1	0	First issue
		5.1.7	15.02.2020	15.02.2020	1	0	First issue



Chap.	Par.	Poi.	Input date	Release data	Ed.	Rev.	Changes
		5.1.8.	15.02.2020	15.02.2020	1	0	First issue
		5.1.9	15.02.2020	15.02.2020	1	0	First issue
		5.1.10	15.02.2020	15.02.2020	1	0	First issue
		5.1.11	15.02.2020	15.02.2020	1	0	First issue
		5.1.12	15.02.2020	15.02.2020	1	0	First issue
	5.2		15.02.2020	15.02.2020	1	0	First issue
		5.2.1	15.02.2020	15.02.2020	1	0	First issue
		5.2.2	15.02.2020	15.02.2020	1	0	First issue
		5.2.3	15.02.2020	15.02.2020	1	0	First issue
		5.2.4	15.02.2020	15.02.2020	1	0	First issue
		5.2.5	15.02.2020	15.02.2020	1	0	First issue
		5.2.6	15.02.2020	15.02.2020	1	0	First issue
		5.2.7	15.02.2020	15.02.2020	1	0	First issue
		5.2.8	15.02.2020	15.02.2020	1	0	First issue
		5.2.9	15.02.2020	15.02.2020	1	0	First issue
		5.2.10	15.02.2020	15.02.2020	1	0	First issue
		5.2.11	15.02.2020	15.02.2020	1	0	First issue
		5.2.12	15.02.2020	15.02.2020	1	0	First issue
	5.3		15.02.2020	15.02.2020	1	0	First issue
		5.3.1	15.02.2020	15.02.2020	1	0	First issue
		5.3.2	15.02.2020	15.02.2020	1	0	First issue
		5.3.3	15.02.2020	15.02.2020	1	0	First issue
		5.3.4	15.02.2020	15.02.2020	1	0	First issue
		5.3.5	15.02.2020	15.02.2020	1	0	First issue
		5.3.6	15.02.2020	15.02.2020	1	0	First issue
		5.3.7	15.02.2020	15.02.2020	1	0	First issue
		5.3.8	15.02.2020	15.02.2020	1	0	First issue
		5.3.9	15.02.2020	15.02.2020	1	0	First issue
		5.3.10	15.02.2020	15.02.2020	1	0	First issue
		5.3.11	15.02.2020	15.02.2020	1	0	First issue
6			25.06.2021	15.07.2021	1	1	Two different ICP
	6.1		25.06.2021	15.07.2021	1	1	Obst. Lights nord of LIPB
	6.2		25.06.2021	15.07.2021	1	1	New ICP RWY 01 Cat A/B/C
		6.2.1.1	15.02.2020	15.02.2020	1	0	First issue
		6.2.1.2	15.02.2020	15.02.2020	1	0	First issue
	6.3		15.02.2020	15.02.2020	1	0	First issue
7			15.02.2020	15.02.2020	1	0	First issue
	7.1		15.02.2020	15.02.2020	1	0	First issue
	7.2		15.02.2020	15.02.2020	1	0	First issue
		7.2.1.1	15.02.2020	15.02.2020	1	0	First issue
		7.2.1.2	15.02.2020	15.02.2020	1	0	First issue
8			15.02.2020	15.02.2020	1	0	First issue
9			15.02.2020	15.02.2020	1	0	First issue
	9.1		15.02.2020	15.02.2020	1	0	First issue
10			15.02.2020	15.02.2020	1	0	First issue

## 1.2 LEGAL DISCLAIMER

The aerodrome operator of Bolzano Aerodrome publishes this Briefing on the website <https://www.bolzanoairport.it/en/pilots-corner-en.htm>.

The information's and data herein are accepted by ENAC (Italian Civil Aviation Authority) and are therefore official publications like those published by ENAC and ENAV (Italian ANSP – Air Navigation Service Provider).

Bolzano aerodrome may modify the content of the <https://www.bolzanoairport.it/en/pilots-corner-en.htm> web site content at any time without prior information. Bolzano aerodrome is not liable towards web sites linking to [www.bolzanoairport.it](http://www.bolzanoairport.it). All information's published on [www.bolzanoairport.it](http://www.bolzanoairport.it) are property of ABD AIRPORT SPA. All rights are reserved.

### ATTENTION:

The use of this Familiarization Briefing does not substitute the priority given to the required knowledge of other official documentation for the intended flight such as NOTAMs and AIP Italia.

**ATTENTION: The operators/Commanders shall make use of procedures contained in this Pilot's Familiarization Briefing under their full and exclusive responsibility and shall keep the ASOM entirely indemnified and held harmless from any liabilities or negative consequences connected to accidental events that may occur with respect to the use or misuse of such procedures.**

**NOTE:** The familiarization briefing has been developed in order to assist operators and pilots in planning the operation under IFR according to the procedures intended to be used.

*A tailored Airport Briefing covering operational aspect for specific aircraft types and operations will be available on request ([info@bolzanoairport.it](mailto:info@bolzanoairport.it))*



## 1.3 ABBREVIATIONS

Abbreviation	Meaning
01 or 19 (RWY)	QFU (magnetic orientation of the runway)
AAL	Above Aerodrome Level
ABD AIRPORT SPA	Bolzano Aerodrome Operator
ACC	Airway Control Centre
AD	Aerodrome
AFIU (AFIS)	Aerodrome Flight Information Unit (AFI Service)
AFM	Airplane/Aircraft Flight Manual
AGM	Administrative Guide Material
AIP	Aeronautical Information Publication
AMSL	Above Mean Sea Level (altitude based on local QNH)
ANSP	Air Navigation Service Provider
AOC	Aircraft Operators Certificate (commercial operations)
APU	Auxiliary Power Unit
ARO	Aeronautical Reporting Office (Milano +39 02 70143209)
ATC	Air Traffic Control
ATS	Air Traffic Services
ATIS	Aerodrome Terminal Information Service
ATZ	Aerodrome Traffic Zone
AVBL O/R	Available on Request
AWO	All Weather Operations
CAT (ICAO) III, IV, V, VI	ICAO Fire Fighting and Rescue Category of Aerodrome
CAT (A/B/C)	Speed Category of Aircraft for Procedures
CAT (kind of operation)	Commercial Air Transport (operation within an AOC)
CBO	Central Briefing Office (Milano +39 02 70143209)
CEIL	Ceiling
CFIT	Controlled Flight into Terrain
CMV	Converted Meteorological Visibility
COM	Communication
COV	Coverage (of radio signal)
CWY	Clearway
DME (Navigational Aid)	Distance Measuring Equipment collocated to Nav Aids
DOC	Document
ENAC	Italian Civil Aviation Authority ( <i>Ente Nazionale per l'Aviazione Civile</i> )
ENAV	Italian Air Navigation Service Provider
FAF	Final Approach Fix
FIC	Flight Information Centre
FL	Flight Level
FMS / FMC	Flight Management System / Flight Management Computer
FORER	Name of Reporting Point
ft	Feet (e.g. altitude/elevation)
H24	24 Hours / All Day
HDG	Heading
HJ	Sunrise to Sunset
HOL	Holidays
HR	Hours
KIAS	Knots Indicated Air Speed
km	Kilometre
IAF	Initial Approach Fix

Abbreviation	Meaning
IBZ	Identification Radio Aid
ICAO	International Civil Aviation Organization
IAS	Indicated Air Speed
ICP	Initial Climb Procedure
IFR	Instrument Flight Rules
IGS	Instrumental Guidance System
IMC	Instrument Meteorological Conditions
ISA	International Standard Atmosphere
Kts	Knots (speed)
LOC IBZ (Navigational Aid)	Localizer IBZ
MAPt	Missed Approach Point
MDA	Minimum descending altitude
MSL	Mean Sea Level
MTOW (MTOM)	Maximum Take Off Mass (weight)
MLW (MLM)	Maximum Landing Mass (weight)
NCC (kind of operation)	non-commercial flights in complex motor-powered aircraft
NCO (kind of operation)	non-commercial flights in other than complex aircraft
NM	Nautical Miles
NOTAM	Notice to Airmen
OAT	Outside Air Temperature
OPS	Operation
OZE	See IBZ
PAPI	Precision Approach Path Indicator (Visual Glide path)
PDG	Procedure Design Gradient
PFB	Pilot's Familiarization Briefing
PIC	Pilot in Command
AFO	<i>Aerodrome Flight Operation Manager</i> of the airport operator
QNH	Local Air Pressure based on hectopascal
R or RDL	Radial (VOR)
RESA	Runway End Safety Area
RPM	Revolutions per Minute
RWY	Runway
SID	Standard Instrument Departure
SOP	Standard Operating Procedure
STAR	Standard Arriving Procedures
SWY	Stop Way
TGL	Temporary Guidance Leaflet
THR	Threshold
TL	Transition Level
TP	Turning Point
VAC	Visual Approach Chart
VGA	Velocity Go Around
VHF NAV	Very High Frequency Navigation
VIS	Visual
VMC	Visual Meteorological Conditions

Abbreviation	Meaning
VOR-a	VOR/DME procedure for aircraft cat. A, B, C, over VOR "OZE"
VOR OZE (Navigational Aid)	BOLZANO Very High Frequency Omni Directional Radio Range
VFR	Visual Flight Rules
e.g. 04:30 (03:30)	04:30 = Greenwich mean time; (03:30 = Central European Summer Time)

## 2 GENERAL INFORMATION

### 2.1 LOCATION OF BOLZANO AERODROME

Bolzano Aerodrome is located about 5 km south of the City of *Bolzano* at an elevation of 782 feet AMSL. The aerodrome is located in the bottom of the valley, surrounded by hills up to 2544 feet AMSL in the west, and mountainous terrain further to the west, in the east and in the north, with available valley exits in direction to northwest (*Merano*), in direction to northeast (*Valle Isarco / Brennero*) and to the south (*Trento/Verona*). For detailed elevations of the highest terrain, refer to the approach charts published and in use.

### 2.2 AERODROME OPERATOR & HANDLING SERVICE PROVIDER

The aerodrome is open to IFR and VFR flights, to private, commercial and to scheduled traffic. The Aerodrome Operator and Handling agent is:

- **ABD AIRPORT SPA**
  - Tel: +39 0471 255 255, fax +39 0471 255 222
  - E-mail: [info@bolzanoairport.it](mailto:info@bolzanoairport.it), [generalaviation@bolzanoairport.it](mailto:generalaviation@bolzanoairport.it)

### 2.3 ATS PROVIDER

Air Traffic Service Provider is:

- **ENAV S.p.A.:** Centro Aeroportuale Bolzano
  - Tel: + 39 0471 255 311; fax: +39 0471 255 302
  - E-mail: [NAAV\\_Bolzano@enav.it](mailto:NAAV_Bolzano@enav.it)
  - **AIP Italy** <https://www.enav.it/sites/private/en/ServiziOnline/AIP.html>  
(registration required; access free of charge)

### 2.4 AERODROME OPERATING HOURS

- **Aerodrome Administration** 04:30-22:00 (03:30-21:00)
- **Customs and immigration**
  - MON-FRI 06:30-19:00 (05:30-18:00)
  - SAT, SUN and HOL 05:00-20:00 (04:00-19:00) AVBL O/R contacting via e-mail [coordinator@bolzanoairport.it](mailto:coordinator@bolzanoairport.it) or by phone +39 047 1255 204
- **AIS Briefing Office** H24 ARO CBO MILANO
- **ARO** H24 ARO CBO MILANO
- **METEO Briefing Office** H24 ARO CBO MILANO
- **ATS** 04:30-22:30 (03:30-21:30)

- **Fueling**
  - JET A1 HR 05:00-22:00 (04:00-21:00) <https://www.bolzanoairport.it/en/fuel-en.htm>
  - AVGAS / MOGAS - NOT available
- **Handling** 04:30-22:00 (03:30-21:00)
- **Security** H24
- **De-icing and any other operational services** O/R (“on request”) see aerodrome operator “ABD Airport SPA” <https://www.bolzanoairport.it/en/handling-fee-s-and-services-en.htm>

## 2.5 AERODROME CATEGORY FOR RESCUE AND FIREFIGHTING

- **CAT 5 ICAO**
  - 1) CAT 6 ICAO available on request
  - 2) Firefighting service available HR 05:30-22:00 (04:30-21:00).

**NOTE:** For details refer to AIP ITALIA AD LIPB 1-1 etc., respectively to actual NOTAMs in force.

## 2.6 AERODROME PICTURES



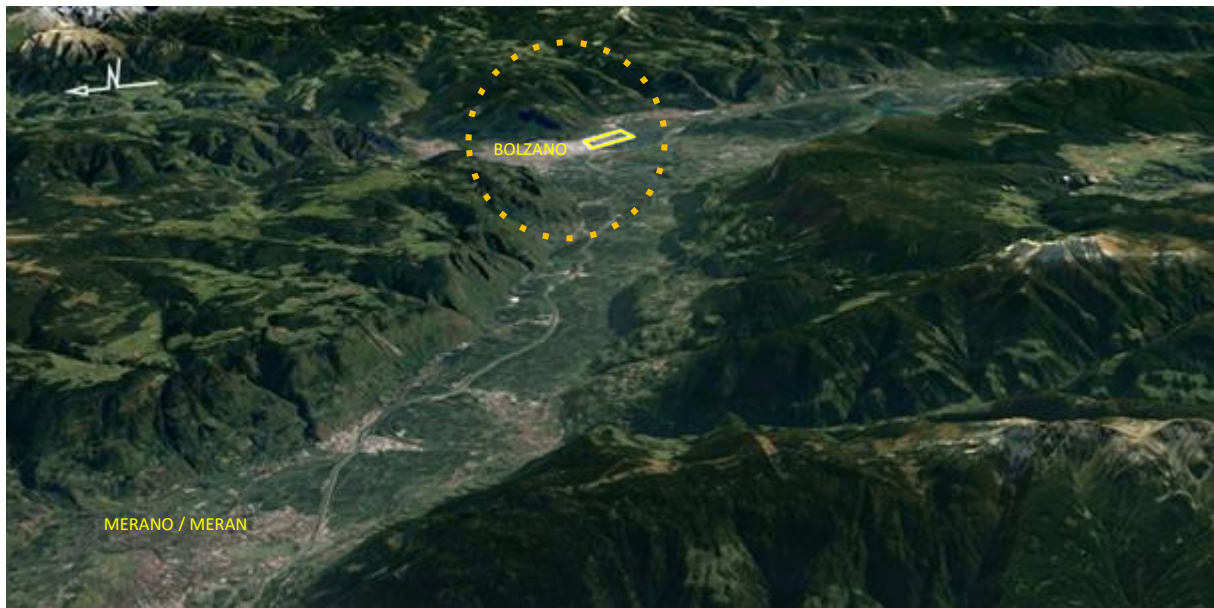
Figure 1: view form north of Bolzano City to the south





*Figure 2: view from south of the aerodrome to the north*





*Figure 4: view from overhead the aerodrome*



## 2.7 RUNWAY PHYSICAL CHARACTERISTICS

**Note:** Check the latest AIP edition (online free of charge available) and NOTAMs.

<b>12 RUNWAY PHYSICAL CHARACTERISTICS</b>					
<b>RWY Designation</b>	<b>QFU</b>	<b>Dimension of RWY (M)</b>	<b>Strength and surface of RWY</b>	<b>THR coordinates --- RWY END Coordinates --- THR Geoid Undulation</b>	<b>THR ELEV, MAX TDZ ELEV of precision APCH RWY</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
<b>01</b>	009°	1293 x 32	PCN 84/F/A/X/T ASPH	46°27'15.77"N 011°19'29.51"E ----- 46°27'57.00"N 011°19'40.29"E ----- 161.5 FT	772.1 FT / NIL
<b>19</b>	189°	1293 x 32	PCN 84/F/A/X/T ASPH	46°27'54.97"N 011°19'39.76"E ----- 46°27'15.77"N 011°19'29.51"E ----- 161.8 FT	788.6 FT / NIL
<b>01GLD</b>	009°	652 x 20	NIL Grass	46°27'17.89"N 011°19'36.50"E ----- NIL ----- NIL	771.8 FT / NIL
<b>19GLD</b>	189°	652 x 20	NIL Grass	46°27'31.81"N 011°19'40.10"E ----- NIL ----- NIL	776.4 FT / NIL

*EXCERPT FROM THE "AIP Italia" (Italian text omitted)*

<b>RWY Designation</b>	<b>RWY-SWY Slope</b>	<b>SWY dimension (M)</b>	<b>CWY dimension (M)</b>	<b>STRIP dimension (M)</b>	<b>RESA dimension (M)</b>
<b>1</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>
<b>01</b>	Longitudinal / Trasversal: see AOC in force	NIL	150 x 150	1413 x 140	90 x 90
<b>19</b>	Longitudinal / Trasversal: see AOC in force	NIL	155 x 150	1413 x 140	95 x 90
<b>01GLD</b>	NIL	NIL	NIL	712 x 60	NIL
<b>19GLD</b>	NIL	NIL	75 x 60	712 x 60	NIL

RWY Designation	OFZ Obstacle free zone	Remarks
<b>1</b>	<b>12</b>	<b>13</b>
<b>01</b>	NIL	NIL
<b>19</b>	NIL	1) DTHR 63 m
<b>01GLD</b>	NIL	1) The grass RWY is marked by white flat rectangular markers, RWY end is marked by white-yellow flat rectangular markers
<b>19GLD</b>	NIL	1) DTHR: 251 m 2) Displaced THR is marked by white-red rectangular markers 3) The grass RWY is marked by white flat rectangular markers, RWY end is marked by white-red rectangular markers

EXCERPT FROM THE "AIP Italia" (Italian text omitted)

### 13 DECLARED DISTANCES

RWY designator	TORA (M)	TODA (M)	ASDA (M)	LDA (M)
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>01</b>	1293	1443	1293	1293
START POINT 01 PROP	1413	1563	1413	-
START POINT 01 JET	1388	1538	1388	-
<b>19</b>	1293	1448	1293	1230
START POINT 19 PROP	1413	1568	1413	-
START POINT 19 JET	1383	1538	1383	-
<b>01GLD</b>	652	652	652	652
<b>19GLD</b>	652	727	652	401

#### REMARK

**START POINT 01/19 PROP/JET: on pilot's request it is allowed for TKOF the use of pavement, included RESA | Runway grooved**

EXCERPT FROM THE "AIP Italia" (Italian text omitted)

## 2.8 AERODROME LIGHTING FACILITIES

### 14 APPROACH AND RUNWAY LIGHTING

RWY ID	APPROACH			THR	VASIS	PAP	MEHT (M)	TDZ
	Type	Length (M)	Intensity	Colour				Length (M)
<b>1</b>	<b>2.1</b>	<b>2.2</b>	<b>2.3</b>	<b>3</b>	<b>4.1</b>	<b>4.2</b>	<b>4.3</b>	<b>5</b>
<b>01</b>	LEAD-IN	4500	LIH	THR G	NIL	4.48° both sides	9.4	NIL
<b>19</b>	NIL	NIL	NIL	THR G	NIL	4.48° left side	12.4	NIL
<b>01GLD</b>	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL
<b>19GLD</b>	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL

EXCERPT FROM THE "AIP Italia" (Italian text omitted)

RWY ID	RCL				RWY EDGE			
	Length (M)	Spacing (M)	Colour	Int Intensity	Length (M)	Spacing (M)	Colour	Intensity
<b>1</b>	<b>6.1</b>	<b>6.2</b>	<b>6.3</b>	<b>6.4</b>	<b>7.1</b>	<b>7.2</b>	<b>7.3</b>	<b>7.4</b>
<b>01</b>	NIL	NIL	NIL	NIL	89 728 448	56 56 56	R W Y	LIH LIH LIH
<b>19</b>	NIL	NIL	NIL	NIL	112 784 392	56 56 56	R W Y	LIH LIH LIH
<b>01GLD</b>	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL
<b>19GLD</b>	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL

EXCERPT FROM THE "AIP Italia" (Italian text omitted)

RWY ID	RWY END	SWY		RTIL	CGL
	Colour	Length (M)	Colour		
<b>1</b>	<b>8</b>	<b>9.1</b>	<b>9.2</b>	<b>10</b>	<b>11</b>
<b>01</b>	R	NIL	NIL	NIL	NIL
<b>19</b>	R	NIL	NIL	NIL	NIL
<b>01GLD</b>	NIL	NIL	NIL	NIL	NIL
<b>19GLD</b>	NIL	NIL	NIL	NIL	NIL

EXCERPT FROM THE "AIP Italia" (Italian text omitted)

▪ **PAPI 01:**

Two sets operative as follows:

- PAPI OPS instrument: RWY code NR 2;
- The PAPI is set at 4,48° and has a vertical differential setting angle of 30°
- Right COV reduced to 5°;
- Left COV reduced to 8°;
- Right wing normally operative;
- Left wing will be switched on only in case of failure of the right wing.

▪ **PAPI 19:**

Two sets both on the left side of the runway operative as follows:

- PAPI OPS non instrument: RWY code NR 2;
- The PAPI is set at 4,48° and has a vertical differential setting angle of 20°
- PAPI OPS affected by OBST beyond 4.9 km from the RWY THR;
- PAPI usable only by day and only within 4.9 km from the RWY THR;
- One set normally operative, the second one will be switched on only in case of failure of the first.

## 15 OTHER LIGHTING, SECONDARY POWER SUPPLY

1	<b>ABN/IBN location, characteristics and hours of operation</b> ABN Coordinates: NIL Characteristics: NIL Hours: NIL
2	<b>LDI location and lights</b> <b>Anemometer location and lights</b> LDI: NIL  Anemometers: 1) 270 m after THR RWY 01, 210 m right side RCL 2) 275 m after THR RWY 01, 240 m right side RCL 3) 110 m after THR RWY 19, 70 m right side RCL
3	<b>TWY edge and centre line lighting</b> See AD chart in force
4	<b>Secondary power supply/Switch over time</b> GEIA / 10 seconds
5	<b>Remarks</b> NIL

*EXCERPT FROM THE "AIP Italia" (Italian text omitted)*

## 2.9 AERODROME SURROUNDINGS – OBSTACLE LIGHTS

The Obstacles surrounding the aerodrome, where penetrating the protection surfaces, are marked as prescribed and illuminated for night operations. In particular, the powerline west of the aerodrome and a significant obstacle northeast of the aerodrome are illuminated during night. For detailed study check the individual charts as well as the screenshots visualizing the lighting systems.

In addition to the obstacle marking and lighting within the obstacle protection surfaces, due to the mountainous terrain, the aerodrome operator in accordance with ENAC provided the installations of obstacle lights on the orographic reliefs north of the airport.

Overall, the following obstacle lights were installed:

- 4 obstacle lights (flashing red lights) on the "Montalto" mountain, three of which are at half mountain elevation and one at the top;
- 1 back-up obstacle light in addition to the night lighting (fixed white) of the mountain "Monte Tondo" cross.

As mentioned before the obstacle lights are located outside the obstacle protection surfaces of the airport and are useful for identifying the position of the orographic reliefs during night time take-off for runway 01.

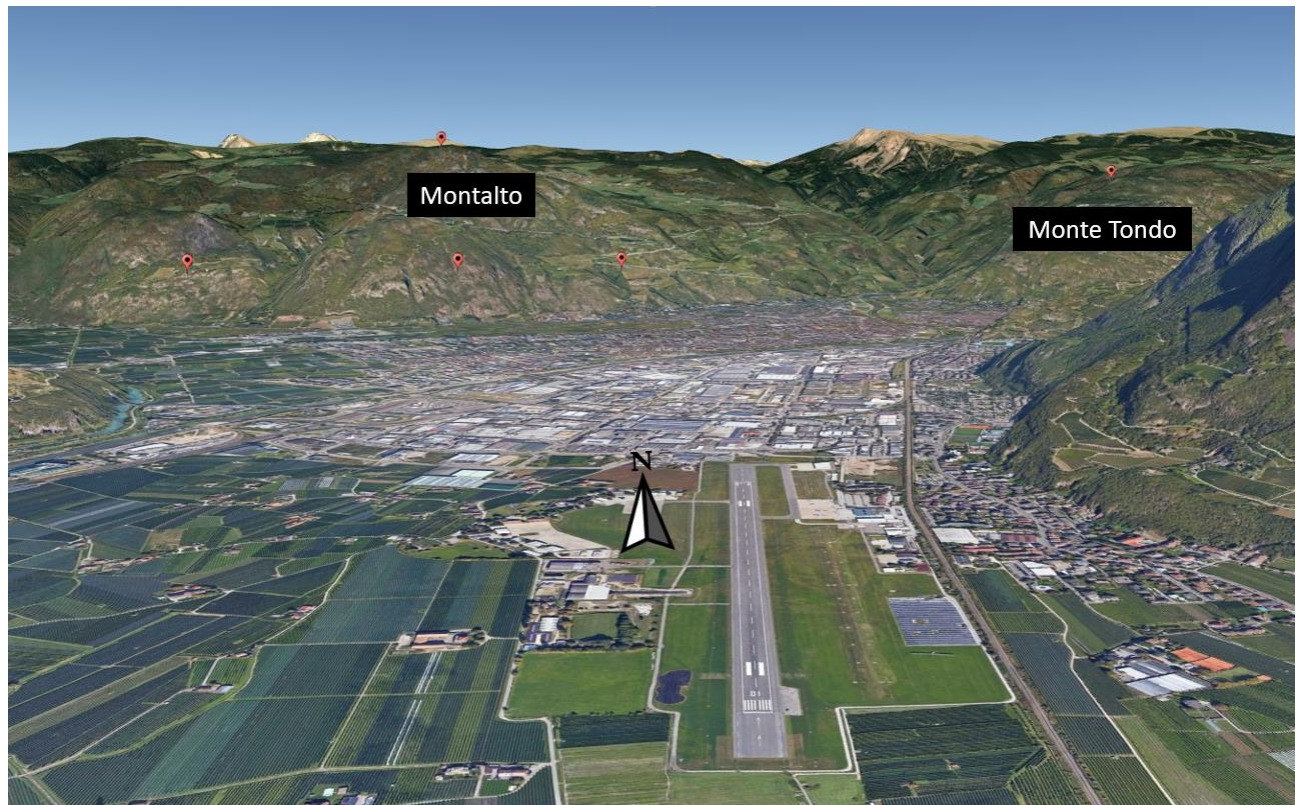


Figure 5: location of the obstacle lights outside the obstacle limitation surfaces (red circle with black dot)

## 2.10 AIR TRAFFIC SERVICES & AIRSPACE

### 17 ATS AIRSPACE

Designation and lateral limits	Vertical limits	Airspace classification	ATS unit call sign Language	Transition altitude	Remarks
1	2	3	4	5	6
Bolzano ATZ line joining following points: [OMITTED]	6500 FT AMSL	G	Bolzano Aerodrome INFO EN / IT	10000 FT	1) WI Milano FIR 2) Radio mandatory zone. See ENR 2.2 (RMZ)

EXCERPT FROM THE "AIP Italia" (Italian text omitted)



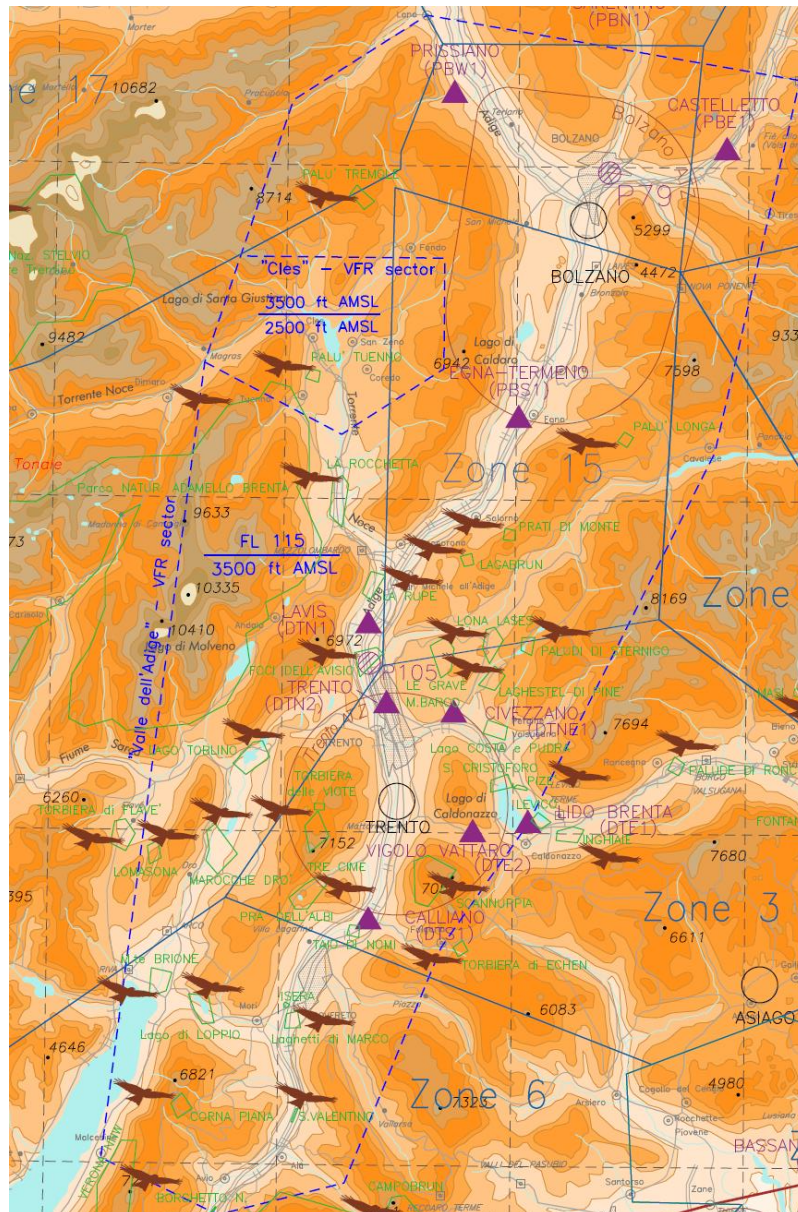


Figure 6: ATZ BOLZANO and "Valle dell'Adige" VFR sector – EXCERPT AIP ENR 6.3-5 (A4/2021)

Valle dell'Adige VFR sector (Zone 15) includes the path of the flight instrument procedures with the own protection areas between 3500 ft AMSL and FL 115 identifying the area within a VFR flight could interfere with an IFR flight to/from Bolzano/Trento.

A VFR flight could operate within "Valle dell'Adige" VFR sector avoiding the path of the published IFR approach and initial climb procedures, missed approach included.

## 18 ATS COMMUNICATION FACILITIES

Service	Call sign	Frequency MHZ	Operational hours	Remarks
1	2	3	4	5
Emergency	NIL	121.500 MHZ	0530-2200 (0430-2100)	NIL
AFIU	Bolzano Aerodrome INFO	120.600 MHZ	0530-2200 (0430-2100)	NIL

## 19 RADIO NAVIGATION AND LANDING AIDS

Type of aid CAT of ILS (VAR ILS/VOR)	ID	FREQ	Operational hours	Antenna site coordinates (WGS84)	Elevation of DME antenna	Designated operational coverage Limitations	Remarks
1	2	3	4	5	6	7	8
RWY 01 LOC (2° E-2010.0)	IBZ	109.10 MHZ	H24	46°27'20.5"N 011°19'41.5"E	NIL	limitations at 30 NM MRA 12000 FT	1) COV: Within 10 NM horizontal COV reduced to ± 10°, beyond 10 NM within 30 NM horizontal COV reduced to ±5°
DME-P	IBZ	CH 28X	H24	46°27'20.6"N 011°19'41.1"E	245 M AMSL	30 NM/25000 FT limitations at 30 NM MRA 12000 FT	1) COV: Within 30 NM horizontal COV reduced ± 5° from LOC associated course 2) Final approach mode not usable. For more information see GEN 3.4, item 3.1
VOR/DME (2° E-2010.0)	OZE	117.05 MHZ CH 117Y	VOR H24 DME H24	VOR 46°24'18.7"N 011°17'32.3"E  DME 46°24'18.9"N 011°17'32.9"E	651 M AMSL	40 NM/25000 FT	1) MAINT: VOR: first WED of the month: 1000- 1100 (0900-1000) 2) COV: reduced to 25 NM 3) Sector 210°/320°: COV reduced to FL 250 4) Sector 320°/210°: COV reduced to FL 190

EXCERPT FROM THE "AIP Italia" (Italian text omitted)

## 2.11 LOCAL TRAFFIC RULES & NOISE ABATEMENT

### LOCAL TRAFFIC REGULATIONS / RESTRICTIONS

#### 1) Simultaneous use of Main-RWY and Grass-RWY not allowed

#### 2) Apron

- Apron 200 (Stand 201-208): the main apron is reserved to aircraft with MTOW more than 5000 kg.
- Minimum handling is mandatory.



- Whenever Marshaller signs are received, the ground markings are no more valid. In this case the responsibility about separation is with the Marshaller.

### 3) Local flight restrictions

- IFR operations can be performed by authorized operators/pilots (as applicable) only. Details about authorization requirements are included in this briefing and of course in the AIP.
- Local glider activity.

### 4) Provisions for general aviation aircraft

- For further information, it is suggested to visit the section “General Aviation” of the aerodrome operator website: <https://www.bolzanoairport.it/en/airport-technical-data-en.htm>.

## NOISE ABATEMENT PROCEDURES

### 1) Ground restrictions

- **APU** Limited use suggested between 22:00-06:00 (21:00-05:00).
- **Engine run-ups** (maintenance purposes): prior coordination with the Aerodrome Operator (ABD AIRPORT SPA: +39 0471 255 204).

## 2.12 FLIGHT PROCEDURES – IFR – Aircraft and Pilot Authorization

### PROCEDURES FOR IFR FLIGHTS – General Information

IFR operations are limited to one aircraft at a time to/from *Bolzano* and to/from *Trento/Mattarello* for any instrument arrival and/or departure. Other aircraft shall wait on the ground or hold over the designated holding path until the preceding aircraft has completed the instrument procedure.

During night time, instrument arrival and departure procedures may be performed only by CAT operators authorized by Italian CAA (ENAC) and by Operators conducting Italian State flights as outlined in AIP.

NCC & NCO Operators may perform operations during night time with prior authorization by Italian CAA (ENAC), when using multi engine aircraft only. Landing during night is limited to RWY 01.

**Note:** Application and authorization on behalf of the Italian CAA via the aerodrome operator ABD  
E-mail: [info@bolzanoairport.it](mailto:info@bolzanoairport.it), [generalaviation@bolzanoairport.it](mailto:generalaviation@bolzanoairport.it)

Besides the details for requirements in the prescription of the individual procedure, the following table includes a simplified summary of the requirements for aircraft and Commander.

ARRIVAL PROCEDURES - Requirements for Aircraft and Commander				
Operation	RWY	Day/Night	CAT	NCC+NCO
VFR	RWY 01/19	Day	-	
		Night	not allowed	
VOR + DME Cloud break	RWY01/ Visual RWY19 on prescribed track	Day	-	
		Night	not allowed	
LOC+DME IGS cloud break	RWY 01	Day	Approval required	
		Night	Approval required	Approval required + Multiengine a/c only
	RWY 19 Right hand traffic circuit	Day	Approval required	
		Night	not allowed	
RNP APCH IGS cloud break	RWY 01	Day	Approval required	
		Night	Approval required	Approval required + Multiengine a/c only
	RWY 19 Right hand traffic circuit	Day	not allowed	
		Night	not allowed	

DEPARTURE PROCEDURES - Requirements for Aircraft and Commander				
Operation	RWY	Day/Night	CAT	NCC+NCO
ICP (Visual)	RWY01/19	Day	-	
		Night	Approval required	
ICP aircraft cat A/B/C	RWY 01	Day	Approval required	
		Night	Approval required	
	RWY 19	Day	Not available	
		Night	Not available	

## 2.13 APPROACH PROCEDURES

### Arrivals

- 1) **Entry procedures:** See published STAR

### 2.13.1 VOR-a CAT A/B/C

- 2) **Holding/approach/missed approach procedures “VOR-a CAT A/B/C”** including visual part

The VOR procedure and the connected visual procedures described in “VAC Bolzano RWY 01”, “VAC Bolzano RWY 19” and “Balked Landing Procedure RWY 01” may be performed

- only by CAT operators,
- only during daylight,
- without any specific authorization;
- the aerodrome has to be classified as “cat. C” according AMC1 ORO.FC105(b)(2);(c).

Operations according to what is described below:

- a) **CAT A/B/C aircraft:**

- Landing for RWY 01 after completing the VOR-a procedure described in chart “VAC Bolzano RWY 01”.
- Landing for RWY 19 after completing the circling maneuvers. The chart “VAC Bolzano RWY 19” is published in order to provide information for planning the visual maneuvers for landing RWY 19.
- Visibility and ceiling limitations are published on charts (AD 2 LIPB 5-7 and 5-9).

- b) **Visual final segment** from MAPt to the field is allowed only under the following conditions:

- **During daylight:**
  - visibility not less than 5 km (the inflight visibility declared by the pilot in approach for landing or the VIS reported by AFIU).
  - ceiling not below the applicable MDA and in no case below 2700 ft AAL (3500 ft MSL)
  - in any case the field shall be in sight at 2 NM IBZ DME.
- **During night-time:**
  - At the time being the VOR-a CAT A/B/C is **not allowed** during darkness.

- c) **Visual final segment instructions for RWY 01 after VOR-a approach**

- **During daylight only (no night operations as prescribed above)**
  - At MAPt, with the visual cues in sight for the continuation of the approach, continue visually maintaining own terrain clearance or follow the visual tracks as proposed and charted in the VAC Bolzano RWY 01. PAPI, RWY lead-in flash light indications and RWY lights may serve as an added aid.

- d) **Visual final segment instructions for RWY 19 after VOR-a approach:**

- **During daylight only (no night operations as prescribed above)**

- At MAPt, with the visual cues in sight for the continuation of the approach, continue visually maintaining own terrain clearance or follow the visual tracks as charted or proposed in the VAC Bolzano RWY 19. Obstacle markings on the right downwind, Threshold identification light, PAPI and RWY light indications may serve as an added aid.
  - **Note: CAT C aircraft** are considered to complete the procedures according VFR as prescribed on the charts.
- e) The descent gradients (4,48°) on visual approach path to final and RWY01 and RWY19 are considered to be not yet steep according regulations but are considered higher than on standard IFR runways. The required gradient for missed approach (for lower MDA) respectively for a balked landing exceeds the recommended values (2,5% for missed approaches) as standard according PANS-OPS DOC 8168 and may require better climb performance. In addition to the above, due to orography surrounding the procedure, **a strict adherence to published requirements for the missed approach, respectively strict adherence to the proposed balked landing or a specific design for the balked landing is required for safety.**
- f) Due to orography, **the efficiency of the individual navigational aids (VOR/DME OZE, or LOC/DME IBZ is considered essential, unless the RNP procedures are used..** In this regard, the conventional navigational equipment (VOR/DME and LOC/DME) are dual, with the back-up equipment in warm stand-by. Bolzano AFIU can monitor the efficiency of all the equipment. **The failure of the operative equipment or of the auxiliary one (both IBZ LOC/DME), as well as lights failure, will be promptly notified to the pilot,** to whom remains the responsibility to decide the execution of the missed approach.
- g) The procedure can be performed only if all the following radio and visual aids are operative: OZE VOR and DME, PAPI and RWY lights.

**It's the Operator's (for NCO the pilots) responsibility to provide contingency procedures for sudden failures of any of the above aids.**

Following indicative guidelines should be considered:

- OZE VOR or OZE DME failure during missed approach:
  - timing to define MAPt and TP (7 DME) is not allowed.
  - FIX positioning should be provided by FMS equipment.
  - DME IBZ may serve as conventional backup for defining the turning point.
  - The LOC OBZ may serve as backup for guidance during the missed approach south of the aerodrome.

### 2.13.2 LOC+DME Instrument Guided Cloud Break Procedure RWY01

#### 1) **Holding/approach/missed approach procedures "LOC+DME Instrument Guided Cloud Break Procedure RWY 01 CAT A/B/C"** aircraft, including visual part

The LOC+DME IGS RWY 01 procedure and the connected visual procedures described in "VAC Bolzano RWY 01", "VAC Bolzano RWY 19" and "Balked Landing Procedure RWY 01" may be performed

- during day and night, but **only by NCC & NCO**

- during night only with multiengine aircraft
- Crews specifically authorized by the AFO of the airport operator

Operations according to what is described below:

- a) **CAT A/B/C aircraft:** landing for RWY 01 after completing the procedure described in chart “VAC Bolzano RWY 01”. Landing for RWY 19 after completing the circling manoeuvres. The chart “VAC Bolzano RWY 19” is published in order to provide information for planning the visual manoeuvres for landing RWY 19. Visibility and ceiling limitations are published on charts (AD 2 LIPB 5-7 and 5-9).
- b) Visual final segment from MAPt to the field is allowed only under the following conditions:
  - **During daylight:**
    - visibility not less than **5 km** (the inflight visibility declared by the pilot in approach for landing or the VIS reported by AFIU).
    - ceiling not below the applicable MDA and in no case below 2700 ft AAL (3500 ft MSL)
    - in any case the field shall be in sight at 2 NM IBZ DME.
  - **During night-time:**
    - visibility not less than **8 km** (the inflight visibility declared by the pilot in approach for landing or the VIS reported by AFIU).
    - ceiling not below the applicable MDA and in no case below 2700 ft AAL (3500 ft MSL)
- c) **Visual final segment instructions for RWY 01** after LOC+DME approach
  - **During daylight**
    - At MAPt, with the visual cues in sight for the continuation of the approach, continue visually maintaining own terrain clearance or follow the visual tracks as charted or described in the VAC Bolzano RWY 01. PAPI, RWY lead-in flash light indications and RWY lights may serve as an added aid.

**Note:** PAPI is set at 4,48°. At the applicable MDA and on the desired descent path the aircraft will be within the PAPI limits, showing 3 white and 1 red PAPI light.
- d) Visual final segment instructions for RWY 19 after LOC+DME approach:
  - **During daylight only** (no night operations as prescribed above)
    - At MAPt, with the visual cues in sight for the continuation of the approach, continue visually maintaining own terrain clearance or follow the visual tracks as charted or described in the VAC Bolzano RWY 19. Obstacle markings on the right downwind, abeam threshold identification light, PAPI and RWY light indications may serve as an added aid.
- e) The descent gradients (4,48°) on visual approach path to final RWY 01 and RWY 19 are considered to be not yet steep according regulations but are considered higher than on standard IFR runways. The required gradient for missed approach (for lower MDA) respectively for a bailed landing exceeds the recommended values (2,5% for missed approaches) as standard according PANS-OPS DOC 8168 and may require better climb

performance. In addition to the above, due to orography surrounding the procedure, **a strict adherence to published requirements for the missed approach, respectively strict adherence to the proposed balked landing or a specific design for the balked landing is required for safety.**

- f) Due to orography, **the efficiency of the individual navigational aids (VOR / DME OZE, and/or LOC / DME IBZ is considered essential, unless the RNP procedures are used.** In this regard, the conventional navigational equipment (VOR/DME and LOC/DME) are dual, with the back-up equipment in warm stand-by. Bolzano AFU can monitor the efficiency of all the equipment. **The failure of the operative equipment or of the auxiliary one (both IBZ LOC/DME), as well as lights failure, will be promptly notified to the pilot,** to whom remains the responsibility to decide the performance of the missed approach.
- g) The procedure can be performed only if all the following radio and visual aids are operative: OZE VOR and DME, PAPI and RWY lights.

**It's the Operator's (for NCO the pilots) responsibility to provide contingency procedures for sudden failures of any of the above aids.**

Following indicative guidelines should be considered:

- OZE VOR or OZE DME failure during missed approach:
  - o timing to define MAPt and TP is not allowed.
  - o FIX positioning should be provided by FMS equipment.
  - o DME IBZ may serve as conventional backup for defining the turning point.
  - o The LOC IBZ may serve as backup for guidance during the missed approach south of the aerodrome.

### 2.13.3 RNP APCH Instrument Guided Cloud Break Procedure RWY01

#### 1. **Holding/approach/missed approach procedures "RNP Instrument Guided Cloud Break Procedure RWY 01 CAT A/B/C" aircraft,** including visual part

The above RNP APCH procedure and the connected visual procedures described in "VAC Bolzano RWY 01", "VAC Bolzano RWY 19" and "Balked Landing Procedure RWY 01" may be performed

- during day and night, but only by Operators approved by the AFO of the airport operator;
- during night only with multiengine aircraft.

Pilots are responsible to assure that RAIM prediction check has to be satisfactory as per the own company or operator procedure. Operations according to what is described below:

- a) **CAT A/B/C aircraft:**
- Landing for RWY 01 after completing the procedure described in chart "VAC Bolzano RWY 01".
  - Landing for RWY 19 after completing the right traffic circuit. The chart "VAC Bolzano RWY 19" is published in order to provide information for planning the visual manoeuvres for landing RWY 19.

- Visibility and ceiling limitations are published on charts (AD 2 LIPB 5-7 and 5-9).
- b) Visual final segment from MAPt to the field is allowed only under the following conditions:
- **During daylight:**
    - visibility not less than 5 km (the inflight visibility declared by the pilot in approach for landing or the VIS reported by AFIU).
    - ceiling not below the applicable MDA and in no case below 2700 ft AAL (3500 ft MSL)
    - in any case the field shall be in sight at 2 NM IBZ DME.
  - **During night-time:**
    - visibility not less than 8 km (the inflight visibility declared by the pilot in approach for landing or the VIS reported by AFIU).
    - ceiling not below the applicable MDA and in no case below 2700 ft AAL (3500 ft MSL)
- c) Visual final segment instructions for RWY 01 after RNP APCH approach
- **During daylight**
    - At MAPt, with the visual cues in sight for the continuation of the approach, continue visually maintaining own terrain clearance or follow the visual tracks as charted or described in the VAC Bolzano RWY 01. PAPI, RWY lead-in flash light indications and RWY lights may serve as an added aid.

**Note: PAPI** is set at 4,48°. At the applicable MDA and on the desired descent path the aircraft will be at the nominal PAPI path of 4,48°, showing 2 white and 2 red PAPI light.
- d) Visual final segment instructions for RWY 19 after RNP APCH approach:
- **During daylight only (no night operations as prescribed above)**
  - At MAPt, with the visual cues in sight for the continuation of the approach, continue visually maintaining own terrain clearance on the right traffic circuit or follow the visual tracks as charted or described in the VAC Bolzano RWY 19. Obstacle markings on the right downwind, abeam threshold identification light, PAPI and RWY light indications may serve as an added aid.
- e) The descent gradients (PAPI 4,48°) on visual approach path to final RWY01 and RWY19 are considered to be not yet steep according regulations but are considered higher than on standard IFR runways. The required gradient for missed approach (for lower MDA) respectively for a balked landing exceeds the recommended values (2,5% for missed approaches) as standard according PANS-OPS DOC 8168 and may require better climb performance. In addition to the above, due to orography surrounding the procedure, **a strict adherence to published requirements for the missed approach, respectively strict adherence to the proposed balked landing or a specific design for the balked landing is required for safety.**



- f) Due to orography, **the efficiency of the FMC fulfills the requirements for the kind of approach as prescribed and charted. Furthermore, the efficiency of part of the individual navigational aids (VOR / DME OZE, and/or LOC / DME IBZ) is considered essential, as the mentioned navigational aids may serve as backup during RNP operations in case of missed approach guidance due to negative RNAV capability.** In this regard, the conventional navigational equipment (VOR/DME and LOC/DME) are dual, with the back-up equipment in warm stand-by. Bolzano AFU can monitor the efficiency of all the equipment. **The failure of the operative equipment or of the auxiliary one (both IBZ LOC/DME), as well as lights failure, will be promptly notified to the pilot,** to whom remains the responsibility to decide the performance of the missed approach.
- g) The procedure can be performed only if all the following visual aids are operative: PAPI, flashing lead-in and RWY lights.

**It's the Operator's (for NCO the pilots) responsibility to provide contingency procedures for sudden failures of the equipment.**

Following indicative guidelines should be considered:

- FMC failure during approach and missed approach:
  - o timing to define MAPt and TP is not allowed.
  - o DME IBZ or OZE may serve as conventional backup for defining the turning point.
  - o The LOC IBZ or VOR OZE may serve as backup for guidance during the missed approach south of the aerodrome.

## 2.14 Departure Procedures

### 2.14.1 ICP (VISUAL) RWY01/19 (AIP AD 2 LIPB 6-5,6-7)

#### ▪ Day time operations

Published departure procedures can be performed during day time by all operators without any authorization, provided the operational and pilot requirements as outlined in the AIP and hereinafter are fulfilled.

#### ▪ Night time operations

Published departure procedures can be performed during night time

- only by Operators authorized by the AFO of the aerodrome operator

**Note:** It is the responsibility of the operator (or commander) to establish contingency procedures respectively the visual part of the initial departure.

**Note:** Refer to weather minima during day and night operations from LIPB.

### 2.14.2 ICP RWY01 Cat A/B/C (AIP AD 2 LIPB 6-1,6-3)

The Initial Climb Procedure aircraft CAT A/B/C may be performed during day and night for departures on RWY 01, but only by operators approved by the AFO of the Aerodrome Operator.

Due to significant obstacles affecting the initial climb procedure, required climb gradient exceeds PANS-OPS DOC 8168 recommended values requiring aircraft with particular performances.

Published ICP and PANS-OPS climb gradient are:

- Due to minimum obstacle clearance the minimum climb gradient is **10,7%** (or 650 ft/NM);
- After passing 4000 feet the PDG is reduced to 6% (365 ft/NM) until reaching FL120.

Due to the orography surrounding the initial climb procedure envelope, pilots are required to strictly adhere to the published prescriptions and to aircraft performances.

## 2.15 FLIGHT PROCEDURES – VFR

### 1. GENERAL

Traffic Circuit:

- a) RWY 01: left turn at 2500 ft QNH
- b) RWY 19: right turn at 2000 ft QNH

### 2. PROCEDURES FOR VFR FLIGHTS

- General information
  - 1) **VFR for CAT** operations are allowed only with visibility not less than 5 km.
  - 2) Due to the limitations in establishing radio contact with the competent ATS Unit, resulting from the particular orographic characteristics of geographical area between *Bolzano* and *Trento*, in order to facilitate VFR traffic operations, a VFR sector, named “*Valle dell’Adige*”, is defined with characteristics promulgated in AIP Italy, ENR 2.1.1 and shown in ENR 6.3.5. The “*Valle dell’Adige* VFR sector” includes the path of the instrument flight procedures with the own protection areas between 3500 ft AMSL and FL 115 identifying the area within which a VFR flight could interfere with an IFR flight to/from *Bolzano / Trento*.
  - 3) A VFR flight could operate within “*Valle dell’Adige*” VFR sector avoiding the path of the published IFR approach and missed approach as well as the initial climb procedures. Before entering into or to operate in the “*Valle dell’Adige*” VFR sector, VFR flights shall establish radio contact with *Padova* FIC/ACC or *Bolzano* AFIU or *Trento* AFIU in order to obtain information about IFR traffic performing instrument procedures.

### 3. Circuit activity

Glider traffic circuit for both QFU: limited to the East side of runways at 1800 ft QNH

### 4. VFR/N

Night VFR is not allowed

## 2.16AERODROME CHART

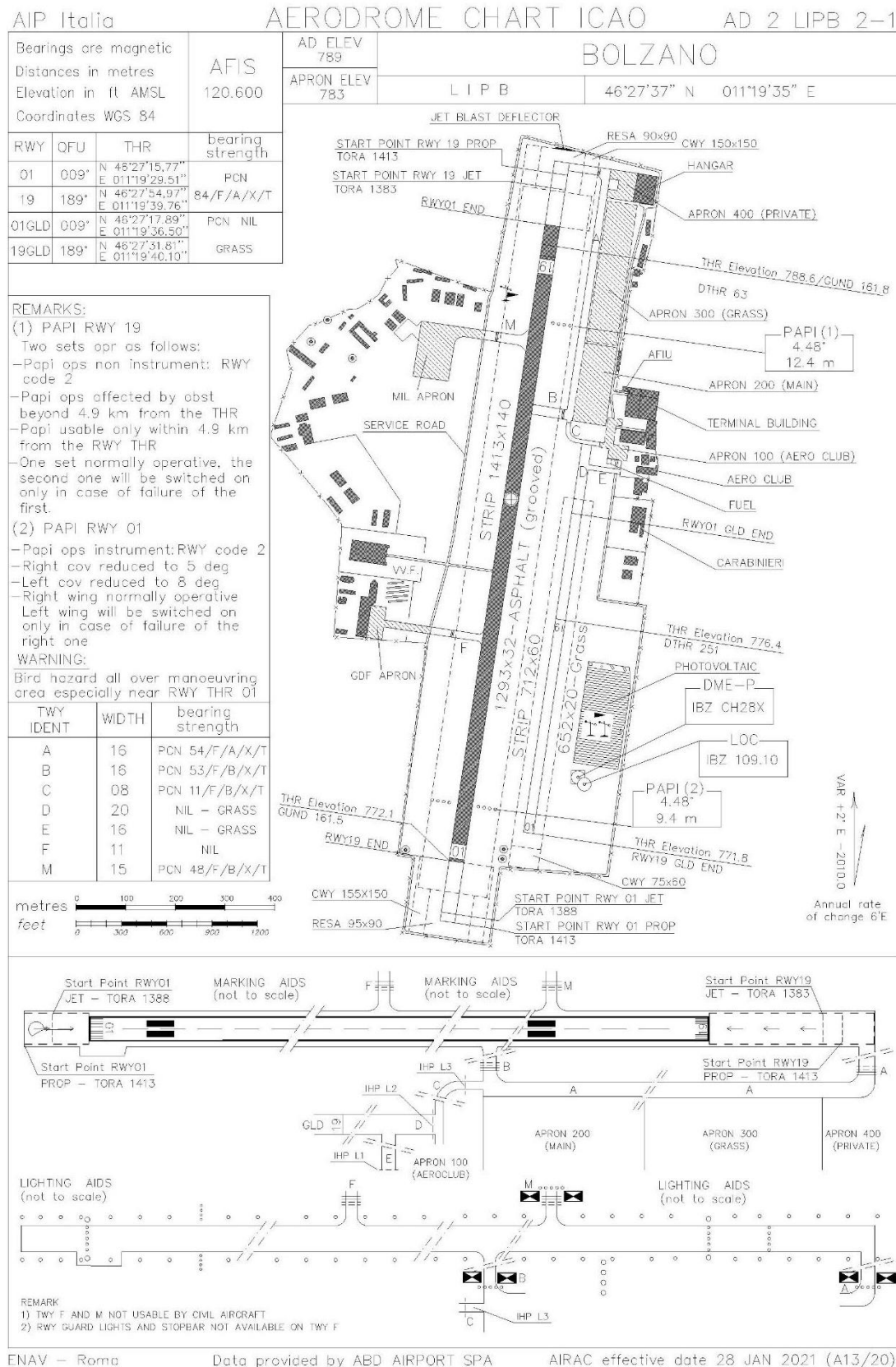


Figure 7: EXCERPT FROM THE "AIP Italia"

## 2.17 AIRSPACE AND AIR TRAFFIC SERVICES

The Aerodrome and the Procedures are located within Airspace class “G”, the final and visual (VFR) part of the approach, the initial part of the missed approach as well as the initial part of the departure procedures are within the ATZ, which is larger than ICAO standard. The service provided in airspace Class “G” is Flight Information Service. A specific clearance, even for IMC operation, is not required, respectively not intended in all circumstances by the responsible ANSP. In case of departure from LIPB, IFR start-up clearance is being required as per the normal regulations and IFR clearance will be provided via landline by Padova ACC throughout the designated Bolzano’s AFIU operator. Within the ATZ, all flights have to report and there are special regulations in force for VFR flights in case that the ATZ is intended to be crossed by such flights. During Departure the frequency Change from LIPB AFIU to LIPP ACC should take place immediately when so advised by LIPB AFIU and not later than passing 7000 ft MSL. For details, refer to the extract of the AIP and the published chart in AIP Italia.

*In case of arrival, Padua ACC* will normally clear all flights to FORER or OZE, from there the Instrument Approach may be commenced without specific clearance. Inform *Padua* when commencing the procedure and when switching your COM to *Bolzano* AFIU. For traffic information and due to the limitations in establishing radio contact with the competent ATS Unit, resulting from the particular orographic characteristics of geographical area, the frequency Change should take place immediately after LIPP ACC informs the flight to contact LIPB AFIU but in no case later than passing 7000 ft MSL

Transition level is normally FL120.

All the time when in VMC, a continuous look out is mandatory during the whole procedure, as the crew is responsible for spacing to other aircraft.

*Padua ACC / Bolzano AFIU* will provide traffic information about all known traffic, especially within the ATZ and  $\pm 2$  NM left/right of the approach path, where all VFR flights have to report according AIP Italy.

**Remember:** the crew remains responsible for the spacing to other aircraft (see and avoid concept).

VFR traffic in the vicinity of the aerodrome and the procedures may be expected especially in good weather conditions, as the valley is one of the major North-South axis for VFR transit through the Alps.

IFR Take off and departures are under the responsibility of the Commander concerning separation to other traffic.

Simultaneous use of bituminous RWY and grass RWY are not allowed and will be avoided by advises issued by AFIU Bolzano.

When using full RWY dimensions in Take Off (*s. chapter 2.7 - red box*), AFIU Bolzano should be informed via Radio.

The responsible ATS unit is Bolzano AFIU: Call sign “Bolzano Aerodrome INFO” – Frequency 120,600 MHz – for details refer to the relevant AIP entry.

## 2.18 LOCAL TRAFFIC RESTRICTIONS

Due to the surrounding terrain around the aerodrome and in order to avoid interference between IFR flights as well as between IFR and VFR flights, only one aircraft is allowed to operate according IFR to/from Bolzano or Trento-Mattarello at the same time.

VFR traffic will not be allowed within the IFR Corridor as mentioned above at the time of IFR approaches or departures. For details, refer to the relevant information in the AIP or in NOTAMs.

**NOTE:** The information above does not substitute the knowledge of the official documentation according AIP and NOTAMs concerning ATS Services and ATS Airspace.

## **2.19 PROCEDURES FOR VFR FLIGHTS**

It is not intended to cover also the VFR procedures within this aerodrome briefing in detail. However, some details may be found in the content before. However – when intending to operate according VFR to/from Bolzano aerodrome, refer to the official documentation for VFR Flights to/from Bolzano according AIP ITALIA (Text and Charts) and possible NOTAMs.

**NOTE:** CAT operations under VFR are allowed only with visibility not less than 5 km.

## **2.20 WEATHER and WEATHER MINIMA**

In designing the instrument descend and missed approach procedures the lateral limits of the associated areas have been enlarged and the vertical clearance increased as recommended by ICAO.

Maxima on omnidirectional wind according ICAO PANS OPS 8168 have been applied when computing the outer boundaries of the turning areas to provide sufficient terrain clearance.

**Caution:** Possible turbulence during frontal systems from the north or northwest of Europe and possible tailwinds in missed approach and departure along the valley to the south, but sufficient VMC conditions in the valley and the vicinity of Bolzano may be expected during such situations.

During deep pressure systems located in the south of the Alps, remarkable tailwind during the approach from south may be expected.

**Caution:** When the actual outside air temperature differs from ISA by more than minus 10°C, substantial difference between true altitude and indicated altitude shall be corrected accordingly.

Haze over the city of Bolzano may result into a reduced reported visibility, but the flight and slant visibility may still be sufficient to continue the approach. The approach may not be continued unless the reported or by the pilot declared visibility is at or above the minimum according RM or the required visual cues are already in sight.

**Caution:** During weather Systems from the south low clouds and wind from the south may be present at the same time. During such condition's tailwind shall be expected on final RWY 01, which may be required for landing due to visibility and clouds. Be aware about the required landing distance during such conditions.

During the late spring, summer and early autumn thunderstorms may be expected in the valley and along the mountains. Be prepared for possible required deviations and possible holdings until such weather has moved out of the required flight path. During the central part of the day (around noon), high OATs may be expected. Be aware about the required landing a take-off distance during such conditions.

The responsible Weather Office is the METEO Briefing Office Milano, which is open 24H. Details may be found in the relevant page of the AIP.

Details about the weather minima are prescribed in the text to each individual approach or departure procedure. The table below is a simplified summary of the applicable minima.

ARRIVAL PROCEDURES – Weather minima				
Operation	RWY	Day/Night	CAT	NCC+NCO
VFR	RWY 01/19	Day	VIS ≥ 5 km VMC acc. to airspace	VMC acc. to airspace
		Night	Not allowed	
VOR+DME IGS cloud break	RWY 01/19	Day	VIS ≥ 5 km Ceiling at MDA	VIS ≥ 5 km Ceiling at MDA
		Night	Not allowed	
LOC+DME IGS cloud break	RWY 01	Day	VIS ≥ 5 km Ceiling at MDA but at least 2700 AAL	
		Night	VIS ≥ 8 km Ceiling at MDA but at least 2700 AAL	
	RWY 19 Right hand traffic circuit	Day	VIS ≥ 5 km Ceiling at MDA for 2,5% but at least 2700 AAL	
		Night	Not allowed	
RNP APCH IGS cloud break	RWY 01	Day	VIS ≥ 5 km Ceiling at MDA but at least 2700 AAL	
		Night	VIS ≥ 8 km Ceiling at MDA but at least 2700 AAL	
	RWY 19 Right hand traffic circuit	Day	VIS ≥ 5 km Ceiling at MDA for 2,5% but at least 2700 AAL	
		Night	Not allowed	

DEPARTURE PROCEDURES – Weather minima				
Operation	RWY	Day/Night	CAT	NCC+NCO
ICP (Visual)	RWY01/19	Day	Vis ≥ 5 km Ceiling ≥ 2700 ft AAL	
		Night	Vis ≥ 5 km Ceiling ≥ 2700 ft AAL	
ICP aircraft Cat A/B/C	RWY 01	Day	Vis ≥ 600 m	
		Night	Vis ≥ 600 m	
	RWY 19	Day	Not available	
		Night	Not available	

**NOTE:** authorized IFR operations by night are allowed to CAT operators; other than CAT operations are furthermore limited to multiengine aircrafts.



### 3 OPERATIONAL INFORMATION, REQUIREMENTS, NOTES

**NOTE:** PAPI RWY 19 is set to 4,48°, which is considered not yet steep according EU Regulation 965/2012, CAT.POL.A.245. However, pilots and operators shall be aware about this final approach path and shall check the AFM accordingly for possible restrictions.

**NOTE:** Along the LOC+DME Instrument Guided Cloud Break Procedure to RWY 01 the procedure requires a steeper descend gradient of about 530 ft/nm (8,75% or 5° which requires 1060 ft/min at a GS of 120 kt). Therefore, the aircraft shall be at the appropriate configuration prior reaching the FAF. Operators and pilots shall have an approved steep approach supplement or standard operating procedures (SOPs) in place, which cover this part of the procedure in detail. When crossing the applicable MDA(s) at the desired DME / Check-altitude, the PAPI will appear with 3 lights white and 1 light red, which is within the operational limits of the PAPI and is considered suitable for the final visual approach.

#### 3.1 PILOTS, OPERATORS and AIRCRAFT

Pilots, operators and aircraft shall meet specific requirements as outlined herein and respectively in the AIP and NOTAMs.

The instrument procedures differ partly from standard ICAO procedures.

In designing the instrument descend and missed approach procedures the lateral limits of the associated areas have been enlarged and the vertical clearance increased as recommended by ICAO.

Due to mountainous terrain in the vicinity of the aerodrome and the requirement for visual manoeuvring, all Pilots intending to operate to/from Bolzano shall be briefed or self-briefed on the details of the relevant procedures as well as with all other applicable documentation and shall be well familiar with the procedures intended for use. Depending on which procedure is used and whenever operating during night time, an approval from the AFO of the airport operator is required. Besides the detailed familiarization briefing for the individual aircraft type and kind of operation (CAT/NCC/NCO) it may be necessary to perform simulator or on-site training. The aerodrome operator will handle applications and approvals on behalf of the Italian CAA as far as practicable. The Operator/Pilot shall document the training for Bolzano Operations in the OM Part C and/or in OM Part D and shall convey that together with the application to the aerodrome Management of ABD, e-mail: [generalaviation@bolzanoairport.it](mailto:generalaviation@bolzanoairport.it) and [info@bolzanoairport.it](mailto:info@bolzanoairport.it)

To obtain the Bolzano IFR Aerodrome Authorization the following requirements must be fulfilled:

- The pilot (PIC) must hold a valid Pilot Qualification for the intended type of operation.
- The aircraft must meet the performance requirements according to the Aircraft Certification.
- In case of CAT (Commercial Air Transport) or NCC (Non-Commercial Air Operations with Complex Motor-Powered Aircraft) according to Reg. (EU) 965/2012 operations, the operator must develop a training program, including contingency procedures [see “Operator Requirements (CAT & NCC)”] which has to be provided to the AFO of the airport operator.



## 4 PILOT AUTHORIZATION and RENEWAL

### 4.1 PILOT AUTHORIZATION

To operate under IFR to/from Bolzano each Pilot has to be authorized as far as applicable by the AFO of the airport operator accordingly to the Italian CAA. The authorization will be issued by the AFO of the aerodrome operator on behalf of the Italian Civil Aviation Authority.

The authorization expires after 12 months.

Normal and contingency procedures (if required) for all Operators shall be developed and, where applicable, incorporated into the Operator's O.M. The Cockpit crew has to be briefed accordingly.

### 4.2 Authorization level required for PIC / Commander (CAT, NCC)

Commander of CAT or NCC Operations with Jet aircraft with MTOM > 5,7 ton must fulfil the requirements according to the content of the OM concerning the part for the Bolzano Operations.

All PIC/Commander should have on the same type of aircraft:

For the first application

- 100 hours and 10 routes sector in the last 120 consecutive days, or
- 150 hours and 20 routes sector (without time limit)

PIC/Commander holding an approval for Bolzano IFR operations issued before the 01.01.2020 may proceed their authorized operation but are obliged to report to the aerodrome operator in the person of the AFO there status in order to be entered in the register of the authorized pilots. In any case the permit will expire after 12 months after the reporting date and will be renewed like new authorized pilots.

### 4.3 Authorization level required for PIC / Commander (NCO)

For the operation at Bolzano, specific Standard Operating Procedure (SOP) to operate at Bolzano aerodrome shall be developed and available to the pilot(s).

Briefing (or self-briefing) and training is mandatory as required for the individual procedure intended to be used. The responsibility for the content of the training rests with the operator respectively the Pilot.

Contingency procedures (if applicable) for the specific aircraft shall be developed and available.

**NOTE:** Normal and contingency procedures shall be available to the Pilot(s)

### 4.4 Authorization level required for Co-Pilots / First Officers

Co-pilots / First Officers of CAT or NCC Operations must fulfil the requirements according to the content of the OM concerning the part for the Bolzano Operations.

## *4.5 Renewal of authorization*

The Authorization expires 12 months after the day of issue.

For the renewal of the authorization following minimum activity is required:

during the last 12 months (according the prescription reported within ORO.FC.105(c) and related AMC)

- 1 take-off,
- 1 approach and
- 1 landing

## 5 INSTRUMENT APPROACH PROCEDURES – DESCRIPTION

Normal and contingency procedures (if required) for all Operators shall be developed and, where applicable, incorporated into the Operator's O.M. The Cockpit crew has to be briefed accordingly.

### 5.1 LOC/DME RWY 01 (CLOUD BREAK) – General Information

A LOC, offset from the RWY and located northeast of THR 01, is provided for the instrument flight segment of the descend procedure. A collocated DME provides distance information for regulating the descent and defining the MAPt.

During the visual segment (depending on the MDA between 6,1 and 4,0 nm) for straight in landing RWY 01, the LOC and DME provide additional guidance for more convenient line up and descend on the final visual approach.

During the visual segment (right traffic circuit) to RWY 19 a VOR with collocated DME - located some 3,2 NM south of the aerodrome - provides additional guidance for regulating the visual right-hand circuit to RWY 19.

The same VOR DME provides also track guidance and distance information during the discontinued descend profile (missed approach) in case of failure to establish effective visual reference to terrain at the decision point.

#### 5.1.1 LOC DME RWY 01 Cloud Break – Initial Approach

IAF for the procedure is D22 IBZ (D19 OZE).

If necessary, enter the holding pattern and descend to FL120 or TL if higher.

Set both VHF NAV to LOC DME IBZ, preselect, and identify VOR DME on both VHF NAV.

Provided all NAV aids are working properly, establish on LOC IBZ 017°, checking D27 and maintaining FL120 (or TL if higher).

#### 5.1.2 Intermediate Approach

Continue on LOC IBZ 017°. Set Altimeters to local QNH,

Check altitude 12000 ft MSL at D22 IBZ

and descend to 7200 ft MSL at D 12,0 IBZ (=FAF)

Descend is based on 480 ft/nm (little less than 1500 ft/min at 180 kt GS)

Before reaching D12 IBZ at 7200 ft MSL or above achieve the required configuration (speed, flaps, gear if required) for the steeper part of descend to the applicable MDA after D12 IBZ to D6,1 IBZ (or D4 – depending on MDA).

When passing D12 IBZ at 7200 ft MSL (or above), continue descend on LOC IBZ with about 530 ft/nm (= 1060 ft/min at 120 kt GS or 1418 ft/min at 160 kt GS).

### 5.1.3 Final Part to MDA

When passing D12 IBZ at 7200 ft MSL (or above), continue descend on LOC IBZ 017° with about 530 ft/nm (= 1060 ft/min at 120 kt GS or 1418 ft/min at 160 kt GS) to the applicable MDA

- 4070 ft MSL at D6,1 IBZ – with missed approach climb gradient of 2,5%, or
- 2960 ft MSL at D4,0 IBZ – with missed approach climb gradient of 6,0% (lowest MDA)

#### Checking altitude:

5900 ft MSL at D9,7 IBZ

4500 ft MSL at D7,1 IBZ

MDA 4070 ft MSL at D6,1 IBZ with missed app climb gradient 2,5%, or

MDA 2960ft MSL at D4,0 IBZ with missed approach climb gradient 6,0% (lowest MDA)

For applicable MDA vs. missed app climb gradient and allowed landing mass refer to approach gross climb gradient for the appropriate flap setting. The mass shall not exceed the landing mass versus LDA.

**NOTE:** This procedure requires a steeper descend of 530 ft/nm (= 5° or 1060 ft/min at GS of 120 kts). It is required that the operator/pilot verifies the capability of the aircraft and the approval of the Commander for this approach prior planning the use of this procedure. Therefore, the aircraft shall be at the appropriate configuration prior reaching the FAF.

**ATTENTION:** The PAPI (for the visual part) is set at 4,48° that is considered not yet steep according EASA/ICAO operational regulations. However, the PAPI shows 3 white and 1 red light when the visual part is continued on the same vertical profile and may be considered as suitable for the visual part after of the LOC+DME IG cloud break procedure.

### 5.1.4 Missed Approach

Final decision point to commence the visual segment of the procedure is D4,0 IBZ (MAPt for lowest MDA of 2960 ft MSL)

If no effective visual reference at the applicable MDA, climb initially on LOC IBZ.

Observe minimum Climb gradient for applicable MDA. If no effective visual reference at MAPt, or whenever a go around is initiated between D22 IBZ and MAPt, climb at VGA+10 on LOC IBZ. At D2 IBZ turn left and intercept R 004° OZE. At D7 OZE (D4 IBZ) turn left at VGA+10 (max 150 KIAS) / Bank 25° direct to OZE VOR. Cross OZE VOR at 6.700 ft and continue climb on R 195° OZE to FL 120 or TL if higher.

Acceleration not before missed approach turn is completed.

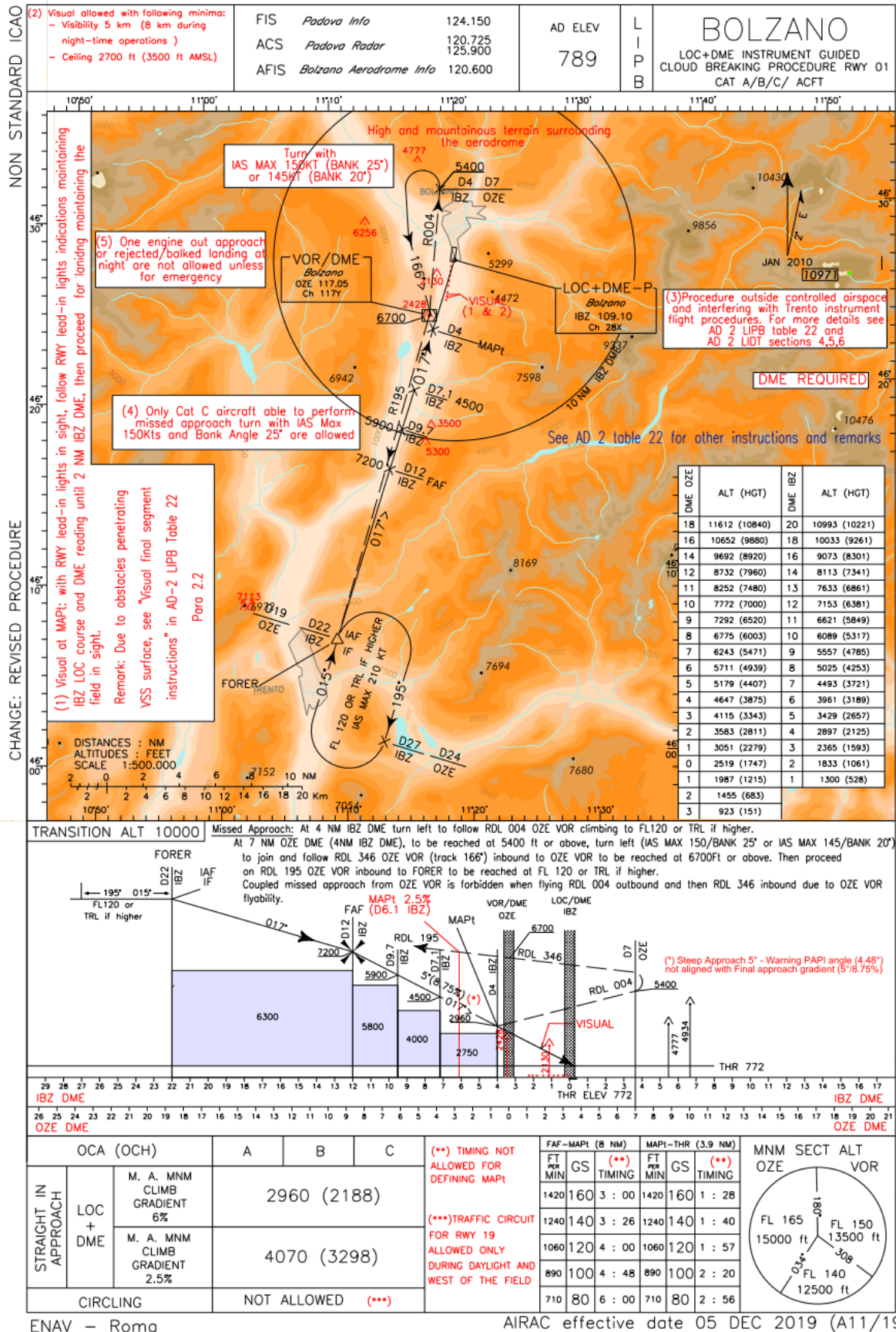


Figure 8: EXCERPT FROM THE “AIP Italia”





Figure 9: Lead-In sequenced flashing lights – day



Figure 10: Lead-In flashing lights – night

### 5.1.5 Visual Part after LOC+DME Instrument Guided Cloud Break Procedure

**NOTE:** Be aware of hills and antenna pylon up to 2.544ft MSL west of LOC in case of a straight in to RWY 01 as well as along the track of the right traffic circuit area. For the visual part of the procedure the PAPI is set at 4,48° (476 ft/nm). With 3 PAPI lights white and 1 PAPI light red, the path is coinciding with the MDA check altitudes of the LOC+DME procedure and the following visual descent to land on RWY 01.

### 5.1.6 Straight-In Visual RWY 01

The final of the instrument part ends at MDA 4070 ft MSL at D6,1 IBZ, respectively at the MAPt and the lowest MDA of 2960 ft MSL at D4,0 IBZ.

Continue visually on the LOC with the PAPI (with 2 white and 2 red lights 475 ft/nm = 950 ft/min at 120 kt GS, with 3 white lights and 1 red light 530 ft/nm = 1060 ft/min at 120 kt GS) to D2 IBZ. Follow PAPI or lead in lights. For crosscheck observe altitude 1770 ft MSL at D2 IBZ on PAPI but in no case more than 1900 ft MSL on 3 white and 1 red PAPI light. If unable, initiate a go around / balked landing.

**Visual part – straight in RWY 01 or right-hand traffic circuit after LOC + DME approach**

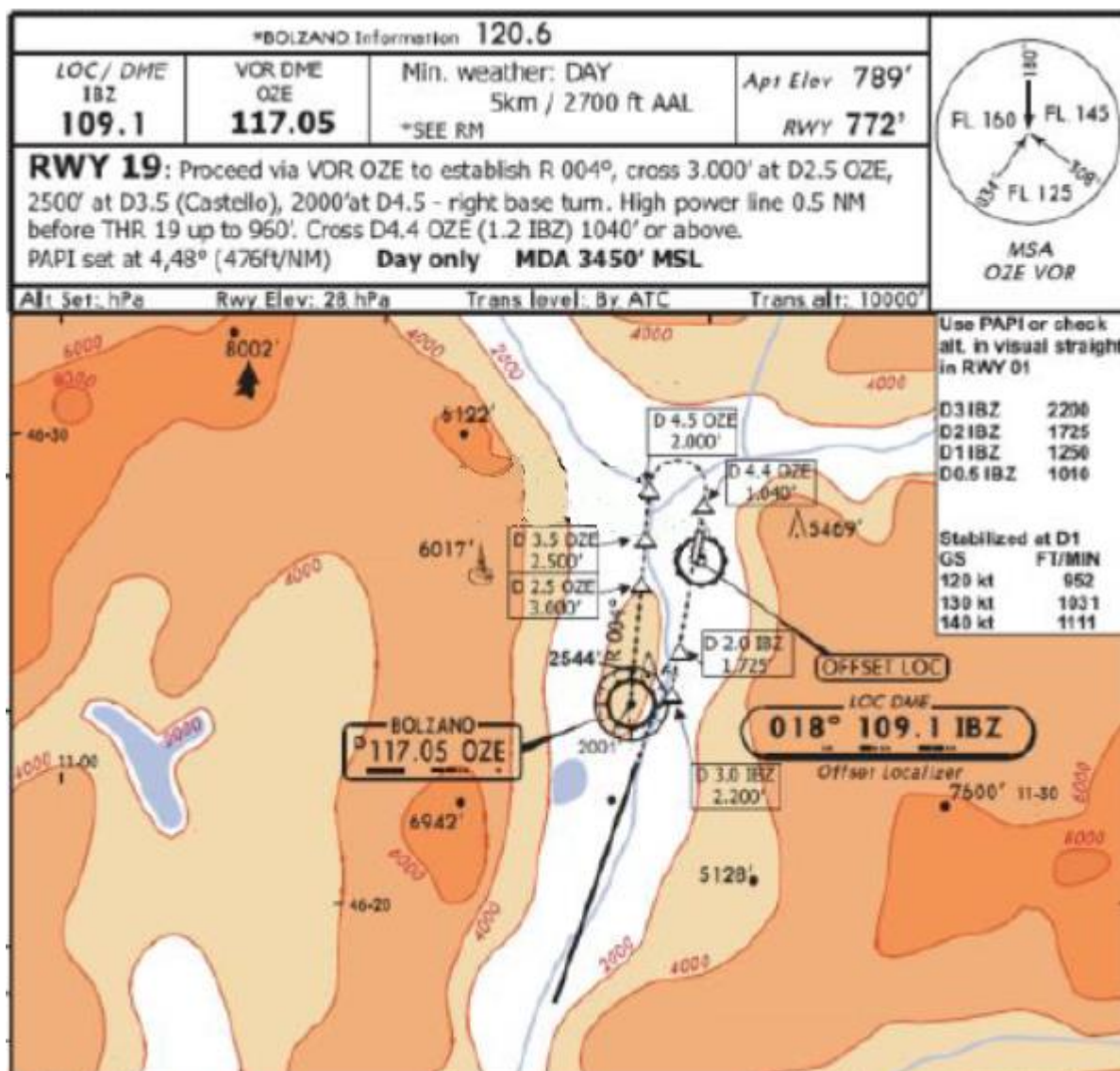


Figure 11: Visual part – straight in RWY 01 or right-hand traffic circuit after LOC + DME approach

### 5.1.7 Right Hand Circuit RWY 19 (Day only)

During the final part of the approach stop descend at 3450 ft MSL and continue descend visually via VOR OZE, thereafter R004° and descent on the right traffic circuit so as to cross D2,5 north OZE at 2950



ft MSL, D3,5 OZE at 2475 ft MSL. At D4,5 OZE at 2000 ft MSL turn right (max speed 135 KIAS / 25° bank) to join final RWY 19 along PAPI which is set at 4,48°.



*Figure 12: Lead-In sequenced flashing lights – day*



*Figure 13: Lead-In sequenced flashing lights – night*

### 5.1.8 Proposed Balked Landing Procedure - RWY 01

Climb with max gradient on RWY HDG to D 1,6 north of IBZ (D 4,8 north OZE). Climbing left turn on to MT 230°. Continue climb on 170° (R 350) to OZE. If sufficient visual conditions exist, continue visually to RWY 01, or climb on R195 OZE according missed approach procedure to FORER F120 or as required.

**NOTE:** A more detailed balked landing procedure may be required depending on aircraft performance.

### 5.1.9 Proposed Balked Landing Procedure - RWY 19

Climb with max gradient on RWY HDG. At 3500 ft or above and in case that sufficient visual conditions exist, continue visually to RWY 19 or climb on R195 OZE according missed approach procedure to FORER F120 or as required.

**NOTE:** A more detailed balked landing procedure may be required depending on aircraft performance.

### 5.1.10 WEATHER MINIMA

- **Straight in landing RWY 01**

Day	Flight VIS/CEIL	5 km / at MDA but at least 2700 ft AAL
Night	Flight VIS/CEIL	8 km / at MDA but at least 2700 ft AAL

- **Visual Part – right Circuit RWY 19**

Day	Flight VIS 5 km / Ceiling 2700 ft AAL
Night	N/A

Approaches to RWY 19 during night are not allowed.

## 5.2 RNP APCH Procedure RWY 01 – General Information

This Procedure is an Instrument Guided Cloud Break Procedure, which does not make use from conventional navigational AIDs (e.g. VOR or LLZ) for the approach itself. Therefore, it may be vital to be fully aware about the functions and the meaning of the procedure and to have full positional awareness about the whereabouts in the procedure at all times. The LOC IBZ and/or the VOR OZE with the collocated DMEs may be of help with regard to the awareness of the position within the procedure. For details refer to the prescriptions of the LOC+DME and/or the VOR +DME in this document respectively in the AIP.

During the visual segment (depending on the MDA between 6 and 4 nm) for straight in landing RWY 01, additional visual guidance is available by the lead in flash lights (4500 m long) and the PAPI set on the nominal approach path of 4,48°.

During the visual segment (right traffic circuit) to RWY 19 the track on the right hand downwind RWY 19 may follow visually – maintaining own terrain clearance from the waypoint PB819 on Track 004° to short before waypoint PB821 for the visual right-hand circuit to RWY 19.

Track guidance and distance information during the discontinued descend profile (missed approach) in case of failure to establish effective visual reference to terrain at the decision point is again provided by the stored RNP procedure with the associated waypoints as charted.

In case of failure of FMC or reduced capability (ANP below RNP), the missed approach path should be the missed approach of the LOC+DME 01 or as reported on the company's OM.

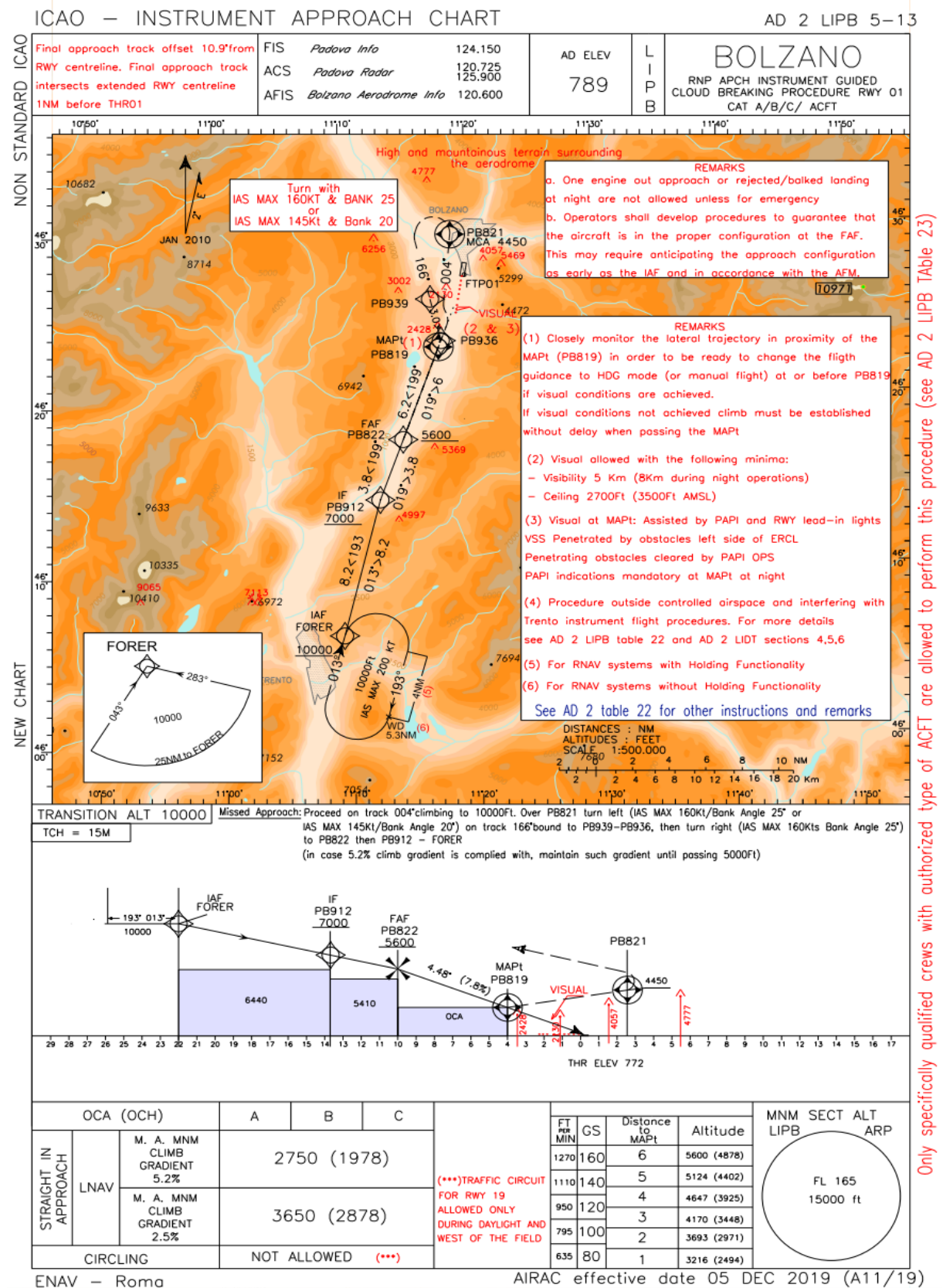


Figure 14: EXCERPT FROM THE "AIP Italia"



### 5.2.1 RNP APCH RWY 01 Cloud Break – Initial Approach

IAF for the procedure is FORER.

If necessary, enter the holding pattern and descend to 10.000 ft MSL on LIPB QNH.

Select the approach accordingly and maintain holding speed of 200 KIAS or less.

Provided the approach is set properly, descend on Track 013° to waypoint PB912, checking altitude 7000 ft MSL. After PB912 – 7000 ft MSL continue descent on 019° towards PB822 (FAF) at 5600 ft MSL.

### 5.2.2 Intermediate Approach

After PB912 – 7000 ft MSL continue descent on 019° towards PB822 (FAF), checking altitude 5600 ft MSL.

The descent during the initial and intermediate approach is based on 367 ft/nm (3,45° respectively less than 1200 ft/min at 180 kt GS)

Before reaching PB822 (10 nm final) it may be required to achieve the appropriate configuration (speed, flaps, gear if required) for the final part of descent to the applicable MDA (3650 ft MSL with 2,5% missed approach climb gradient, respectively 2750 ft MSL with 5,2% missed approach climb gradient), which is set at 4,48° and not yet steep according regulations.

### 5.2.3 Final Part to MDA

When passing FAF PB822 at 5600 ft MSL, continue descent on 019° towards the MAPt PB819, checking MDA 3650 ft MSL for 2,5% missed approach climb gradient at around 2 nm before MAPt. In case of an available missed approach climb gradient of 5,2% or more continue descent to MDA 2750 ft MSL at the MAPt PB819 (about 4 nm from RWY THR 01). The descent profile requires 4,48° (equal to 476 ft/nm (= 952 ft/min at 120 kt GS) and is designed at the nominal path of the PAPI (2white/2red).

### 5.2.4 Missed Approach

Final decision point to commence the visual segment of the procedure is waypoint PB819 (MAPt for lowest MDA of 2750 ft MSL, and 4 nm from THR RWY01)

If no effective visual reference at the applicable MDA, go around has to be performed. Observe minimum Climb gradient for applicable MDA. If no effective visual reference at MAPt, or whenever a go around is initiated between FORER and MAPt PB819, climb at VGA+10 on the prescribed track via the published waypoints. At MAPt PB819 turn left and follow 004° to missed approach turning point PB821 at 4450 ft or above. At PB821 turn left at VGA+10 (max 160 KIAS/25° bank or max 145 KIAS/20° bank on to 166° towards PB939 and further to PB936. Clean up / acceleration not before completion of missed approach turn. Continue climb after PB936 on 199° via PB822 to PB912 and thereafter on 193° to FORER, 10000 ft MSL (or above if cleared so) and enter the holding.

In case that 5,2% missed approach-based MDA is applied, this climb gradient shall be available until passing 5000 ft MSL.

### 5.2.5 Visual Part after RNP APCH Instrument Guided Cloud Break Procedure

**NOTE:** Be aware of hills and antenna pylon up to 2.544ft MSL west of the path in case of a straight in to RWY 01 as well as along the track of the right traffic circuit area.

For the visual part of the procedure the PAPI is set at 4,48° (476 ft/nm). With 2 PAPI lights white and 2 PAPI lights red, the path is coinciding with the MDAs check altitudes of the procedure and the following visual descent to land on RWY 01.

### 5.2.6 Straight-In Visual RWY 01

The final of the instrument part ends at MDA 3650 ft MSL at D6 nm from RWY01, respectively at the MAPt and the lowest MDA of 2750 ft MSL at 4 nm from RWY01.

Continue descent visually with the profile above towards the lead in lights, which are 10,8° to the right of the final approach track of the instrument part of the procedure. With the PAPI (with 2 white and 2 red lights 475 ft/nm = 950 ft/min at 120 kt GS continue visually for landing RWY01. For crosscheck observe altitude 1770 ft MSL at 2 nm from RWY01.D2. In case of an unstable approach at 2 nm from RWY01, initiate a go around / bailed landing.

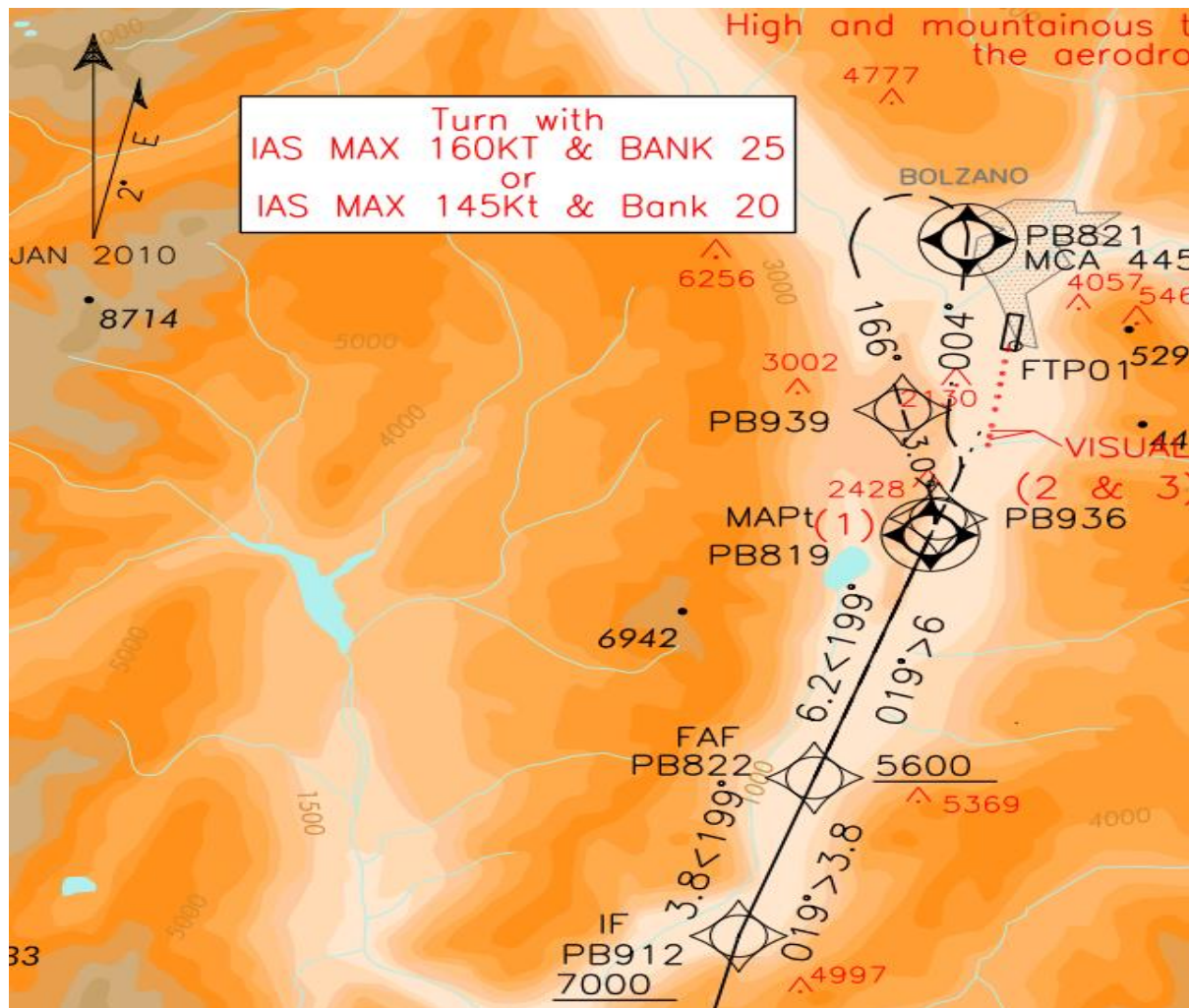


Figure 15: EXCERPT FROM THE "AIP Italia"



### 5.2.7 Right Hand Circuit RWY 19 (Day only)

During the final part of the approach stop descend at 3450 ft MSL (or 3650 ft with a missed approach climb gradient of 2,5%) and continue descend visually via the MAPt PB819, thereafter R004° towards PB821 and descent on the right traffic circuit so as to cross 2,5 nm north of the MAPt PB819 at 2950 ft MSL, 3,5 nm north of the MAPt PB819 at 2475 ft MSL.

At 4,5 nm after the MAPt PB819 at 2000 ft MSL turn right (e.g. speed 135 KIAS / 25° bank) to join final RWY 19 along PAPI which is set at 4,48°.

### 5.2.8 Proposed Balked Landing Procedure - RWY 01

Climb with max gradient on RWY HDG. When passing 1300 ft MSL (climb gradient 4,8%) turn left towards missed approach turning point PB821. At PB821 climbing left turn (max 150 KIAS / 25° bank) towards PB939 and further to PB936. After PB936 – if sufficient visual conditions exist – continue visually to RWY 01 – if conditions are not sufficient for landing, from PB936 continue climb on missed approach track 199° to PB822 and further to PB912. Thereafter on 193° to FORER, 10000 ft MSL and enter the holding.

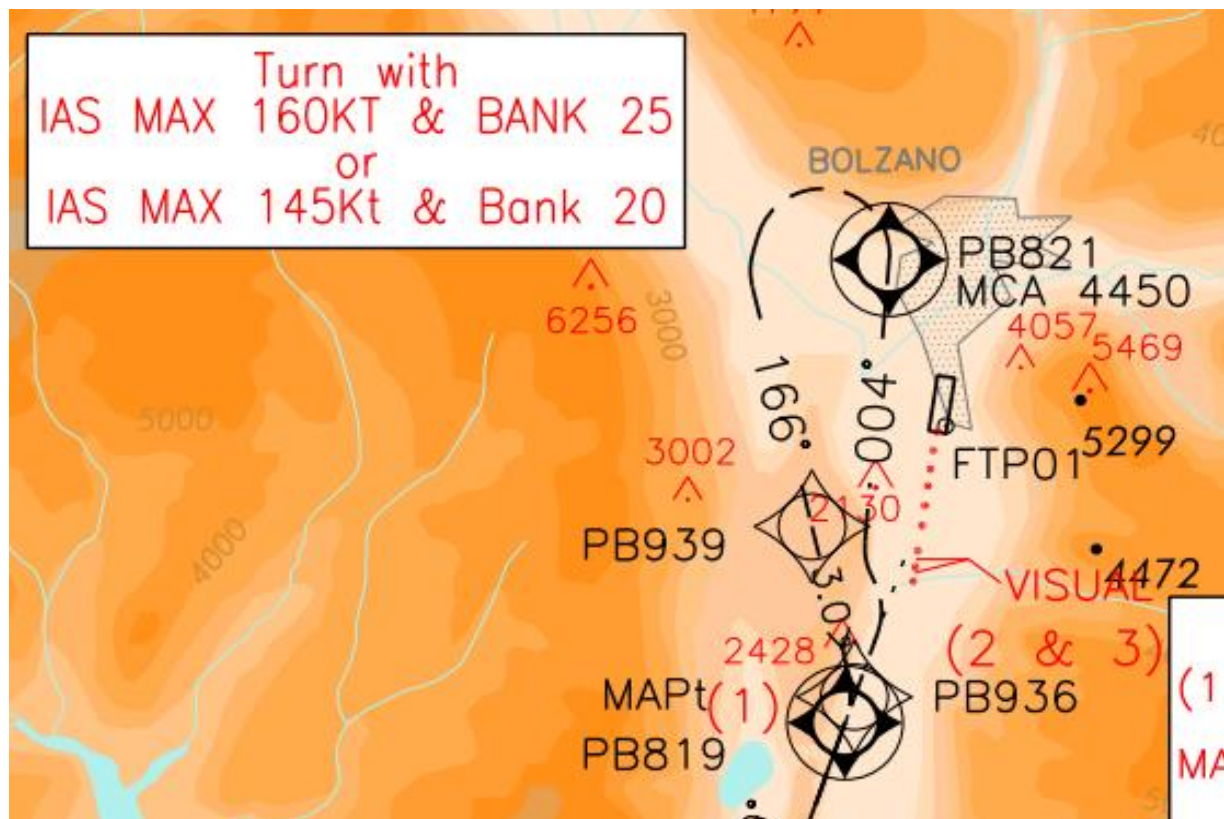


Figure 16: EXCERPT FROM THE "AIP Italia"

### 5.2.9 Proposed Balked Landing Procedure - RWY 19

Climb with max gradient on RWY HDG. At 3000 ft or above and in case that sufficient visual conditions exist, continue visually to RWY 19. If weather conditions are not sufficient maintain RWY HDG. At 2700 ft turn right and join the missed approach procedure via PB822, PB912 to FORER 10.000 ft MSL and hold.

### 5.2.10 WEATHER MINIMA

#### 5.2.10.1 Straight in landing RWY 01

Day Flight VIS/CEIL 5 km / at MDA but at least 2700 ft AAL

Night Flight VIS/CEIL 8 km / at MDA but at least 2700 ft AAL

#### 5.2.10.2 Visual Part – right Circuit RWY 19

Day Flight VIS 5 km / Ceiling 2700 ft AAL

Night N/A Approaches to RWY 19 during night are not allowed.

### 5.3 VOR-A (VOR/DME) Approach Procedure followed by Visual (or VFR) approach

Required NAV aids: VOR and DME (OZE)

#### 5.3.1 VOR-A (VOR/DME) – Initial Approach

The procedure starts either in the holding over “FORER” at F120 or in the holding over OZE at F130, or (for both cases) higher if required due to TL or turbulence.

Set both VHF NAV to VOR DME OZE

.

IAF for the procedure is FORER (D19 OZE).

Either descend from OZE at F130 as charted to 10.000 ft MSL at D 20 OZE or descend in the holding pattern FORER initially to 12.000 ft MSL and thereafter as charted to 10.000 ft MSL at D20 OZE.

Provided all essential equipment is working properly, establish on R 195° (015°) inbound OZE and descend to 9100 ft MSL at D 16 OZE.

#### 5.3.2 Intermediate Approach

Continue descend on 015° (R 195) OZE,  
Checking altitude 7200 ft MSL at D10 OZE  
and descend to 6100 ft MSL at D 6,5 OZE.

Descend is based on 3,0° or 320 ft/nm (960 ft/min at 180 kt GS).

When reaching D6,5 OZE at 6100 ft MSL or above achieve the appropriate configuration (speed, RMP, flaps, gear) for the final part of the instrument part between D5 and the MDA, respectively the

following visual part / or VFR approach to either RWY where the PAPI is set at 4,48° (475 ft/nm) on both sides.

### 5.3.3 Final Approach to MDA

Continue on 015° to OZE (R195). When passing the FAF D5 OZE descend to the applicable MDA with respect to the aircraft speed category (5050 ft MSL CAT C, 4920 ft MSL for CAT B)

It is essential to be as close as possible at the correct altitude at the corresponding DME. Therefore, perform crosschecks at each DME check altitude and initiate corrective action when required. If no effective visual reference at the applicable MDA climb on 015° (R195 to, R015 from OZE).

### 5.3.4 Missed Approach

Final decision point to commence the visual segment of the procedure is reaching the lowest MDA (e.g. 5050 ft MSL at D1,8 OZE for CAT C), up to which point the descend gradient is still ICAO standard of 3° (320 ft/nm). The minimum missed approach climb gradient is ICAO standard with 2,5%.

If no effective visual reference at the MDA, or whenever a go around is initiated between D19 and MAPt, climb at VGA+10 on 015° to/from OZE. At D7 OZE turn left VGA+10 (max 160 KIAS) / Bank 25° direct to OZE VOR MT 170° OZE. After OZE continue climb to F120 or TL if higher along R195 OZE to FORER and hold. Acceleration not before missed approach turn is completed.





### 5.3.5 Proposed Visual (or VFR) Part of the Procedure

During the visual part of the procedure be aware of hills and antenna pylon up to 2.544 ft MSL west of the path along the traffic circuit area.

The visual part / VFR part and final approach of the procedure requires a descend of up to 4,48° (476 ft/nm) on the final approach and is therefore to be considered as not steep. The PAPI is set accordingly. However, a straight in approach RWY 01 is not possible when reaching the MDA at the desired DME, but a VFR approach along the valley may be performed when VMC can be reached well before the MAPt further south of the VOR.

### 5.3.6 Proposed Straight in (Visual or VFR) Approach RWY 01

Whenever reaching sufficient visual conditions at or before D10 OZE it will be feasible to continue visually (or VFR – as required) straight in RWY 01. Descend visually along the valley until reaching 2330 ft MSL abeam the VOR to follow the PAPI set at 4,48° thereafter.

If unable to continue for a straight, descend to 5050 ft MSL (or 4920 ft MSL for CAT B) at OZE. At OZE turn left max IAS 145 KIAS / 25° bank in direction “*Kalterer See*” – D2,5 OZE at R205 descending to 3500 ft MSL. At D 2,5 / R 205 OZE turn left max 145 KIAS / 25° bank and join final RWY 01 checking altitude 3100 ft MSL at D1,8 OZE and 2330 ft MSL abeam the VOR. Thereafter continue along the PAPI to RWY 01.

### 5.3.7 Proposed Right Hand Traffic Circuit (Visual or VFR) RWY 19

Use standard chart or the tailored company procedures as prescribed below:

When reaching sufficient visual conditions at or before the nominal MDA (5050 ft MSL for CAT C or 4920 ft MSL for CAT B) at D1,8 south OZE or before, continue descend visually / or VFR. Cross OZE at 4150 ft MSL or above, cross D2,5 north OZE at 2950 ft MSL, D3,5 OZE at 2475 ft MSL; At D4,5 OZE at 2000 ft MSL turn right to join final RWY 19 along PAPI which is set at 4,48°.

### 5.3.8 Weather Minima for Visual Part / VFR to RWY 01 and RWY 19

Day	Flight VIS / CEIL	5 km / 4200 ft AAL CAT
Night	Flight VIS / CEIL	N/A



LIPB/BZO  
BOLZANO

1 NOV 12 

VISUAL or VFR PART  
after VOR A

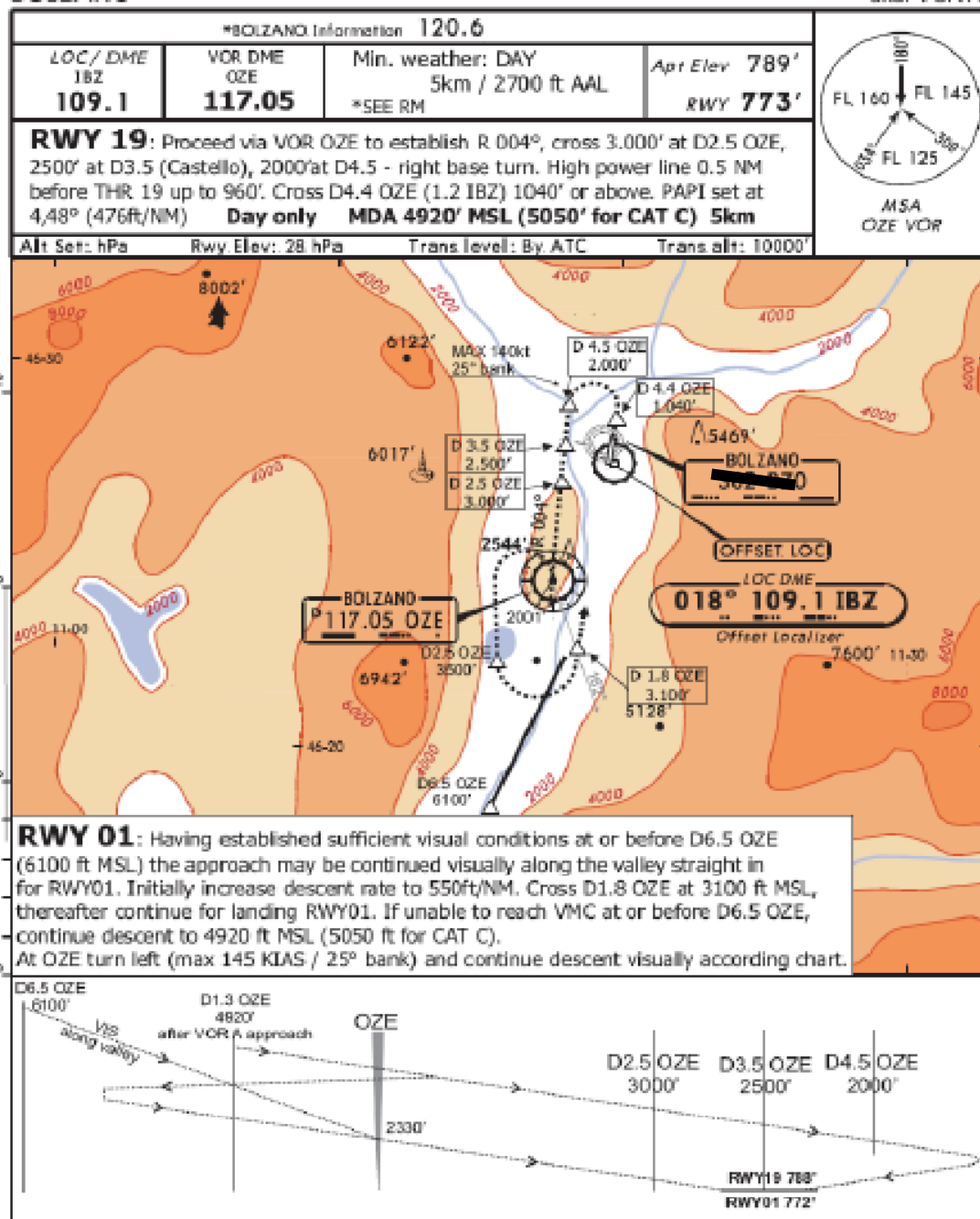


Figure 18: Visual (or VFR) Approach – proposal for flight path guidance (NDB withdrawn)

### 5.3.9 Proposal for Balked Landing

Besides the CHART for INFORMATION and PLANNING as published in the AIP and shown hereinafter, below are samples how the balked landing may be designed:

### 5.3.10 Sample for proposed Balked Landing RWY 01

Climb with max gradient on RWY HDG to D 1,5 north of IBZ (D 4,8 north OZE). Climbing left turn on to MT 230° at V2+10 (max 150 KIAS) / 25° bank. Continue climb on 170° (R 350) to OZE. If sufficient visual conditions exist, continue visually to RWY 01 or climb on R195 OZE according missed approach procedure to FORER F120 or as required. (NDB withdrawn)

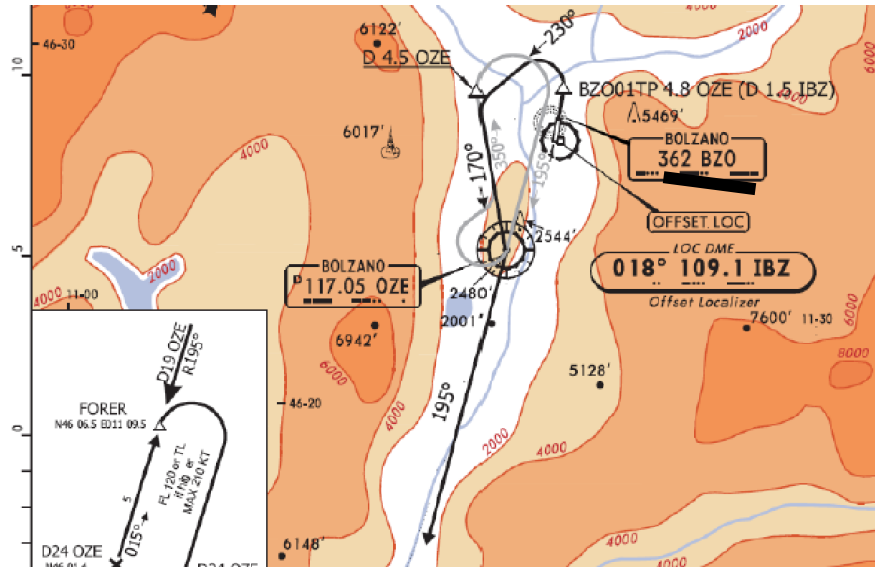


Figure 19: proposed balked landing RWY 01

**NOTE:** A tailored balked landing procedure like above may be requested from the aerodrome operator. A sample is published in the AIP Italia as shown on the next pages.

### 5.3.11 Sample for proposed generic Balked Landing RWY 19

Climb with max gradient on RWY HDG. At D6 IBZ turn right at V2+10 kt (max 150 KIAS) / 25° bank and in case that sufficient visual conditions exist, continue visually to RWY 19 or climb on R015 OZE according missed approach procedure to FORER F120 or as required. (NDB withdrawn)

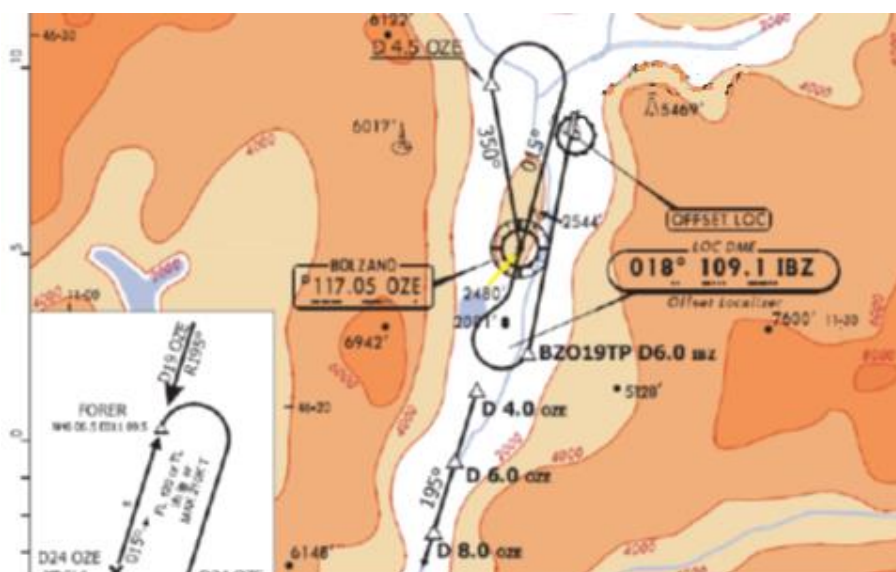


Figure 20: proposed balked landing RWY 19

AIP – Italia THIS CHART IS PROVIDED AS INFORMATION FOR PLANNING. SEE AD 2 LIPB 1-1 AD 2 LIPB 5-11

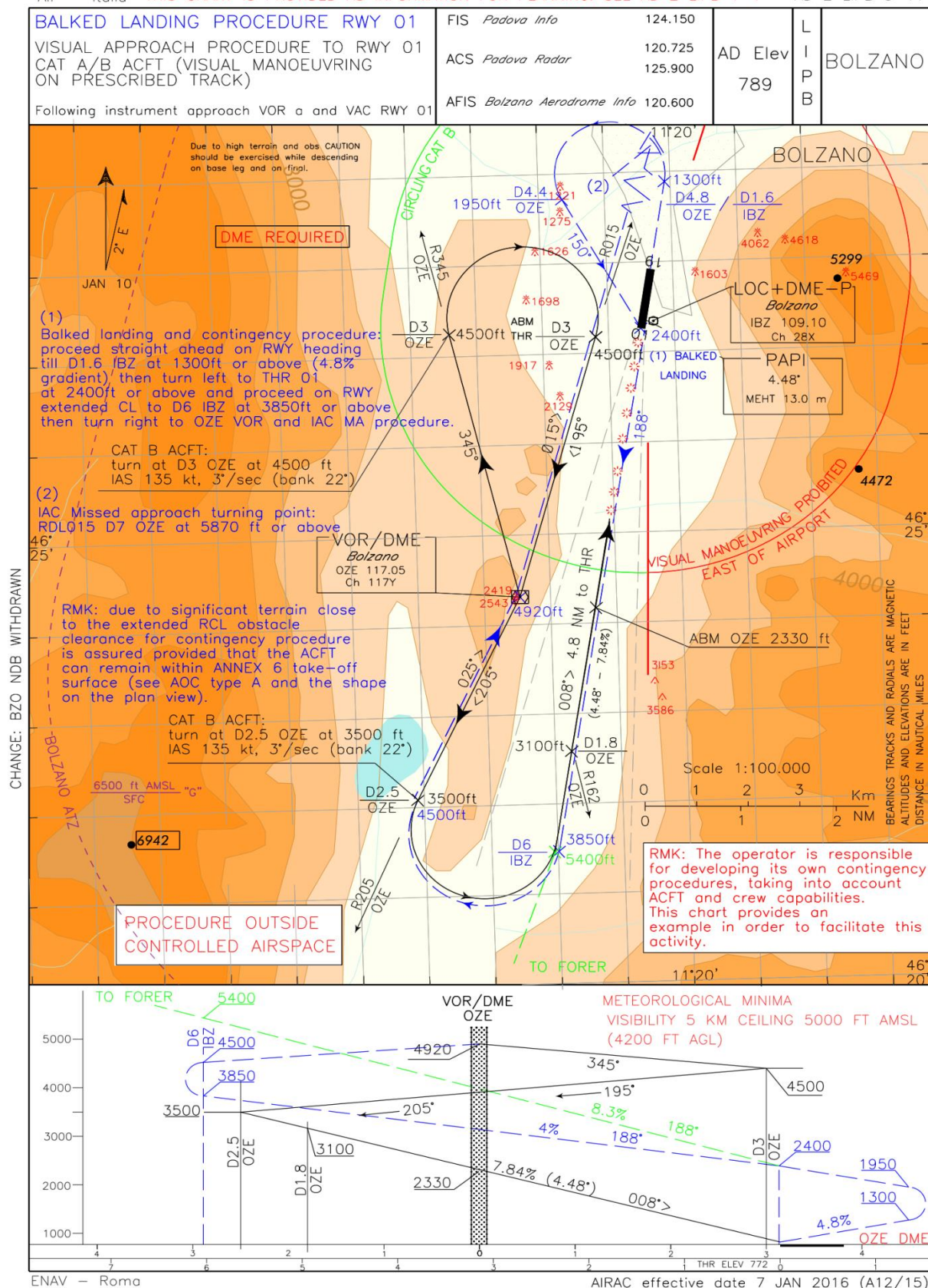


Figure 21: EXCERPT FROM THE "AIP Italia"

## 6 DEPARTURE PROCEDURES

This paragraph is intended to help pilots to realize the surrounding terrain during the IFR departure in an utmost way. For specific IFR departure procedures refer to the AIP Italy.

Two different ICPs are published:

- ICP RWY 01/19 (visual) and;
- ICP RWY 01 Cat. A/B/C (instrumental).

### 6.1 ICP RWY 01/19

Due to obstacles in the vicinity of the aerodrome, take-offs must be performed under **Visual Conditions only** until reaching a specified altitude and/or navigational position (e.g. OZE VOR). Thereafter proceed according to the assigned SID. Obstacle separation and terrain clearance is pilot's responsibility during the initial visual climb out phase.

**The operators/Commanders shall make use of departure procedures contained in this Pilot's Familiarization Briefing under their full and exclusive responsibility and shall keep the ASOM entirely indemnified and held harmless from any liabilities or negative consequences connected to accidental events that may occur with respect to the use or misuse of such departure procedures.**

**NOTE:** A departure alternate may be required in case of specific weather conditions and/or due to landing performance.

**NOTE:** One engine out procedures and contingency procedures due to any reason are the responsibility of the operator/Commander and shall be part of the detailed briefing.

**NOTE:** Please consider that no start up clearance will be issued by the AFIU.

The AFIU delivers the enroute clearance just before the aircraft is ready to taxi.

#### 6.1.1 WEATHER MINIMA for Take Off ICP RWY 19 + RWY 01

Day	Flight VIS/CEIL	5 km / 2700 ft AAL
Night	Flight VIS/CEIL	8 km / 2700 ft AAL only RWY 19

Published departure procedures can be performed during night time:

- only by CAT operators
- only by Operators authorized by the AFO of the airport

**Note:** It is the responsibility of the operator (or commander) to establish contingency procedures respectively the visual part of the initial departure.



AIP - Italia

AD 2 LIPB 6-5

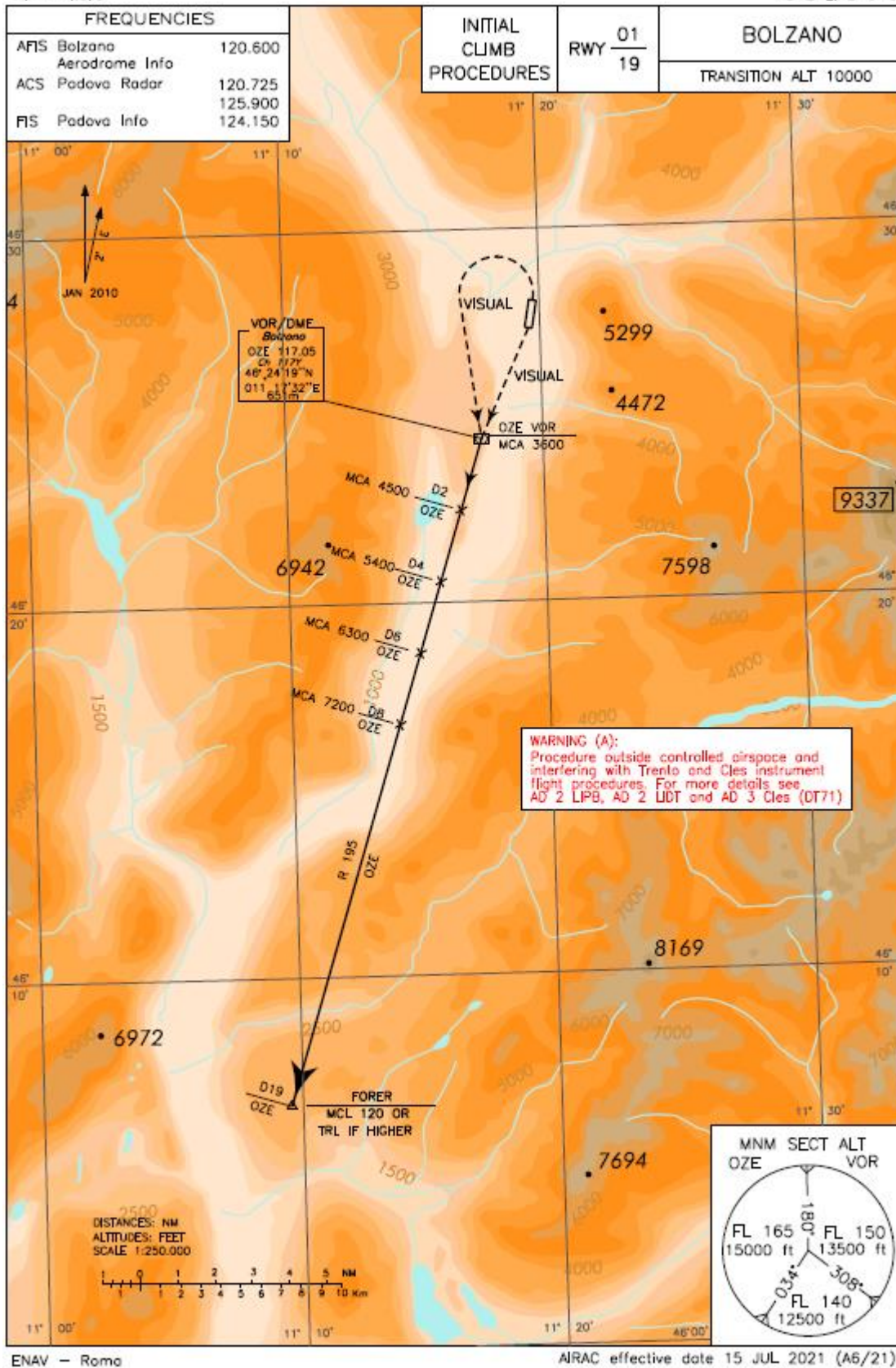


Figure 22: EXCERPT FROM THE "AIP Italia"



## 6.1.2 Sample for proposed all engine initial departure RWY01 (same as Balked Landing)

Climb with max gradient on RWY HDG to D 1,5 north of IBZ (D 4,8 north OZE). Climbing left turn on to MT 230° at V2+10 (max 150 KIAS) / 25° bank. Continue climb on 170° (R 350) to OZE. Continue climb on R195 OZE according missed approach procedure to FORER F120 or as required. Clean up not before safe above the obstacle profile.

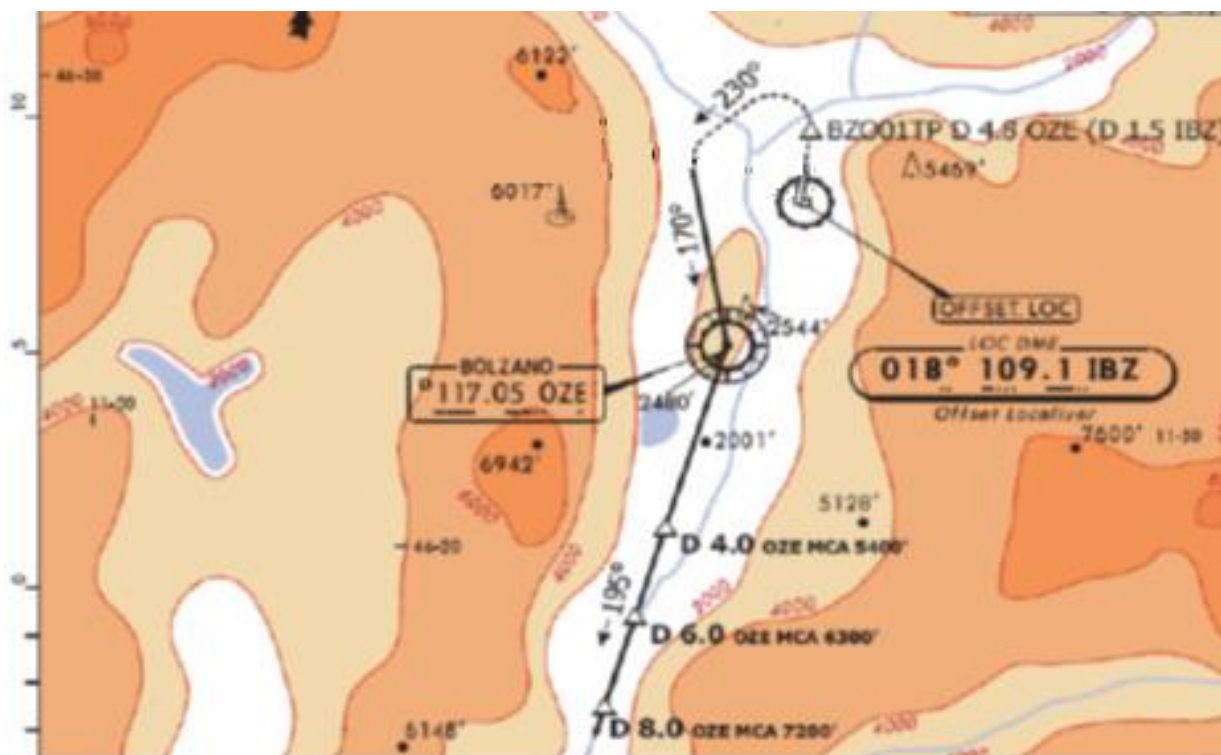


Figure 23: proposed all engine initial departure RWY 01

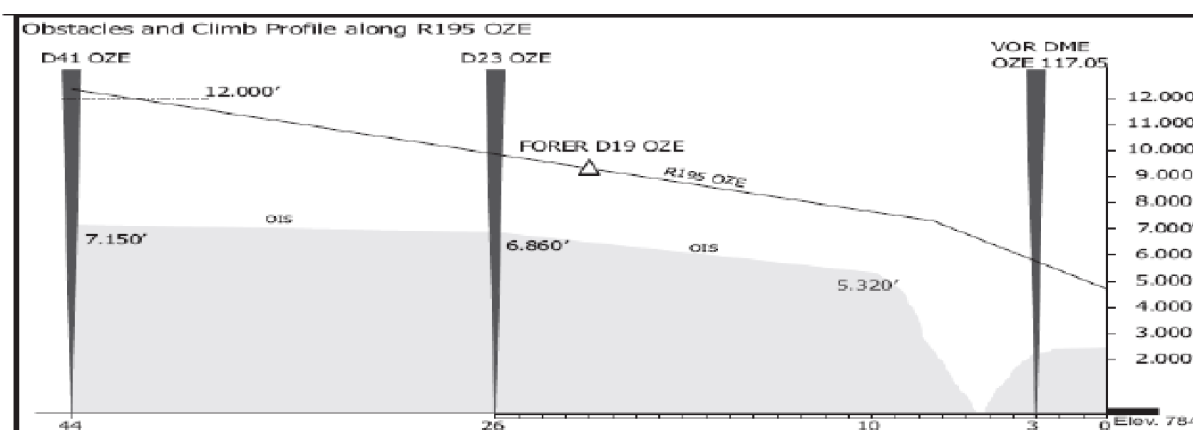


Figure 24: Obstacle profile along R195 OZE

### 6.1.3 Sample for proposed all engine initial departure RWY 19

Climb with max gradient on RWY HDG. When passing 3000 ft MSL but not later than at D6 IBZ turn right at V2+10 kt (max 150 KIAS) and continue climb along R195 to FORER. Clean up not before safe above obstacle profile

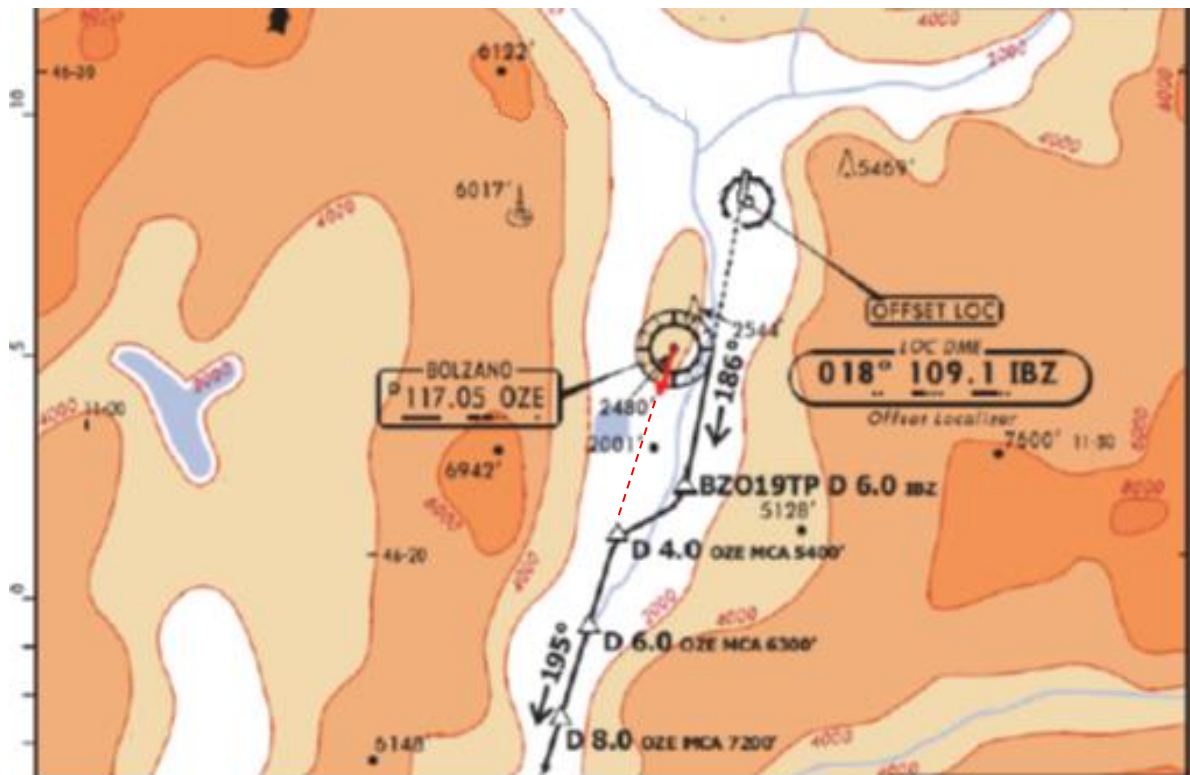
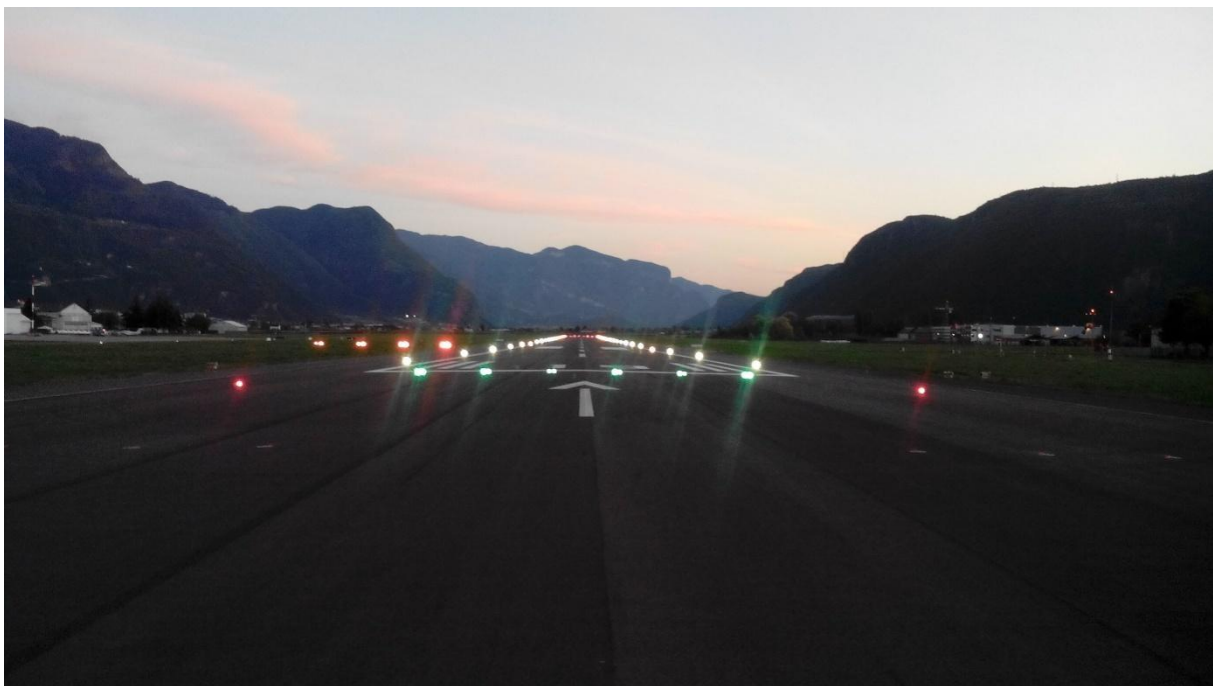


Figure 25: proposed all engine initial departure RWY 19



*Figure 26: departure images for **RWY 19** THR day*



*Figure 27: departure images for **RWY 19** THR twilight*





*Figure 28: departure images for **RWY 01** THR day*



*Figure 29: departure images for **RWY 01** THR twilight*

Due to the mountainous terrain, the aerodrome operator installed obstacle lights (red flashing lights only during night) on the orographic reliefs north of the airport outside the obstacle limitation surfaces for RWY01 take-off.

## 6.2 ICP RWY 01 Aircraft category A/B/C

It is very important to evaluate the performance of the aircraft before using the instrument take-off procedure.

After take-off it's required to continue runway heading until reaching 1250 feet and only then turn left with a bank angle of 25° or 3°/s if this last value is less. During this initial climb procedure, the IAS should not exceed 160 Kts. After the turn bound to OZE VOR and finally turn right to join RDL 195 OZE VOR to FORER with an IAS of max 200 Kts.

The PDG is 10,7% (equivalent to 650 ft/NM) until reaching 4000 ft and afterwards 6% (equivalent to 365 ft/NM until reaching FL120.

**NOTE:** The procedure design gradient (PDG) for the first part of the initial climb procedure don't consider the existence of close-in obstacles. For this reason, it's essential to evaluate the performance of the aircraft with the position and height of the published obstacles (see obstacle chart Type A and B and published NOTAM's).

**NOTE:** Due to close-in obstacles it's not allowed to turn left until passing the DER.

**NOTE:** One engine out procedures and contingency procedures due to any reason are the responsibility of the operator/Commander and shall be part of the detailed briefing.

**NOTE:** Please consider that the start up clearance will be issued by Padova ACC via Bolzano AFIU.

### 6.2.1 WEATHER MINIMA for Take Off ICP RWY 01 Cat A/B/C

Day	Flight VIS	600 m
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Night	Flight VIS	600 m
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Published departure procedures can be performed

- only by Operators authorized by the AFO of the airport

**Note:** It is the responsibility of the operator (or commander) to establish contingency procedures



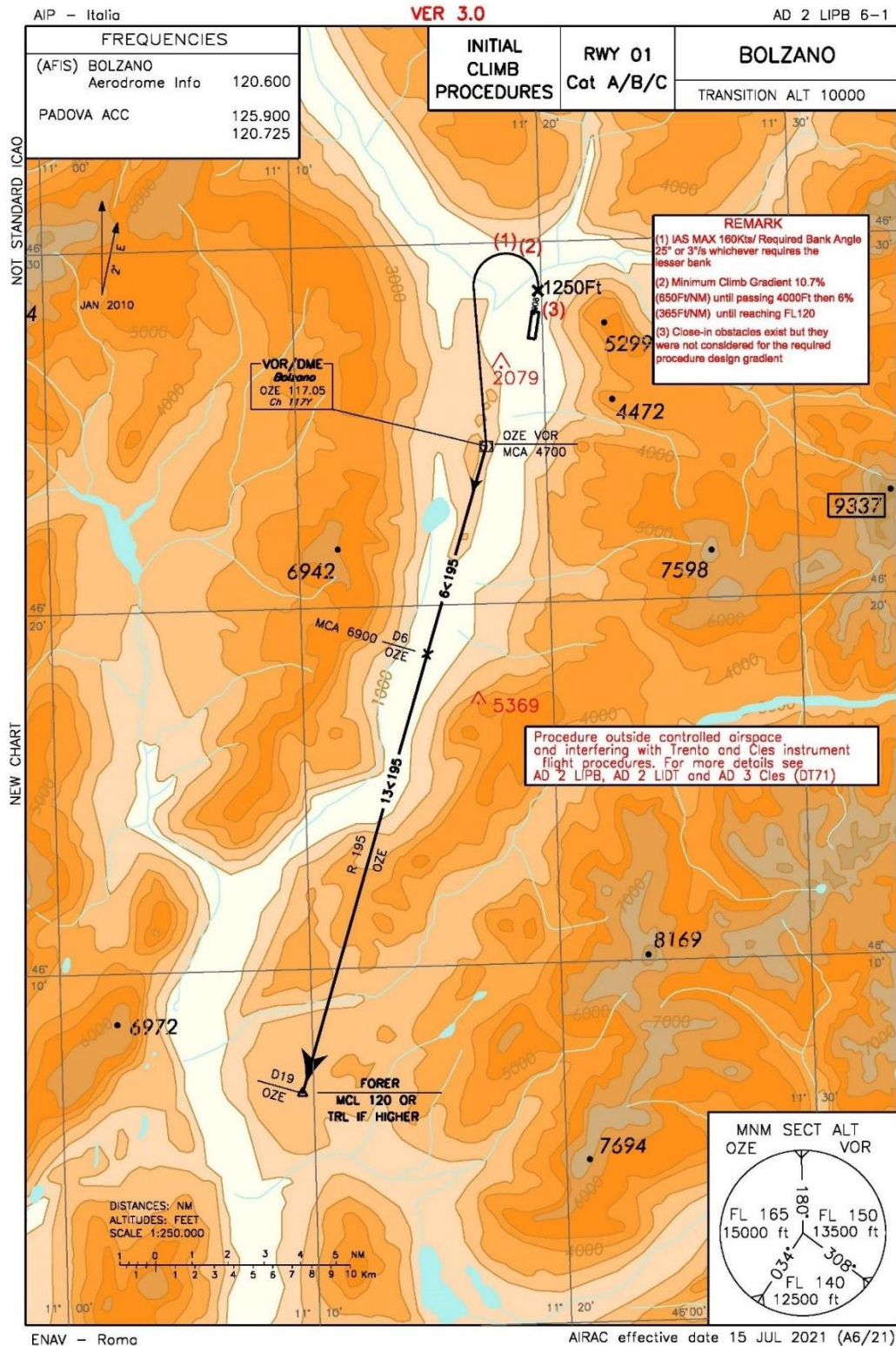


Figure 30: EXCERPT FROM THE "AIP Italia"

## 6.3 COMMUNICATION

The ATS Communication Facilities available are shown on the appropriate approach / departure charts and in the AIP text.

## 7 EMERGENCY AND CONTINGENCY PROCEDURES

### 7.1 EMERGENCY PROCEDURES

Bolzano aerodrome is surrounded by high terrain and associated obstacles could generate a risk of Controlled Flight into Terrain (CFIT). Pilots shall study carefully the aircraft Emergency Procedures (operation and aircraft specific) as well as Company or general contingency procedures, and shall be aware of possible weather phenomena and orographic situation around the aerodrome.

### 7.2 CONTINGENCY PROCEDURES

As per previous paragraph, the pilot/operator shall consider the necessity to establish contingency procedures for take-off and missed approach / bailed landing depending on the aircraft performance. Respectively, for CAT Ops it's the responsibility of the operator and for NCC / NCO Ops it's the responsibility of the Pilot to have this procedure available (if required).

**REMARK:** Proposals for contingency procedures are available on request (see sample below)

#### 7.2.1 Sample for proposed take off contingency RWY01 (same as Bailed Landing)

Climb with max gradient on RWY HDG to D 1,5 north of IBZ (D 4,8 north OZE). Climbing left turn on to MT 230° at V2+10 (max 150 KIAS) / 25° bank. Continue climb on 170° (R 350) to OZE. If sufficient visual conditions exist, continue visually to RWY 01 or climb on R195 OZE according missed approach procedure to FORER F120 or as required.

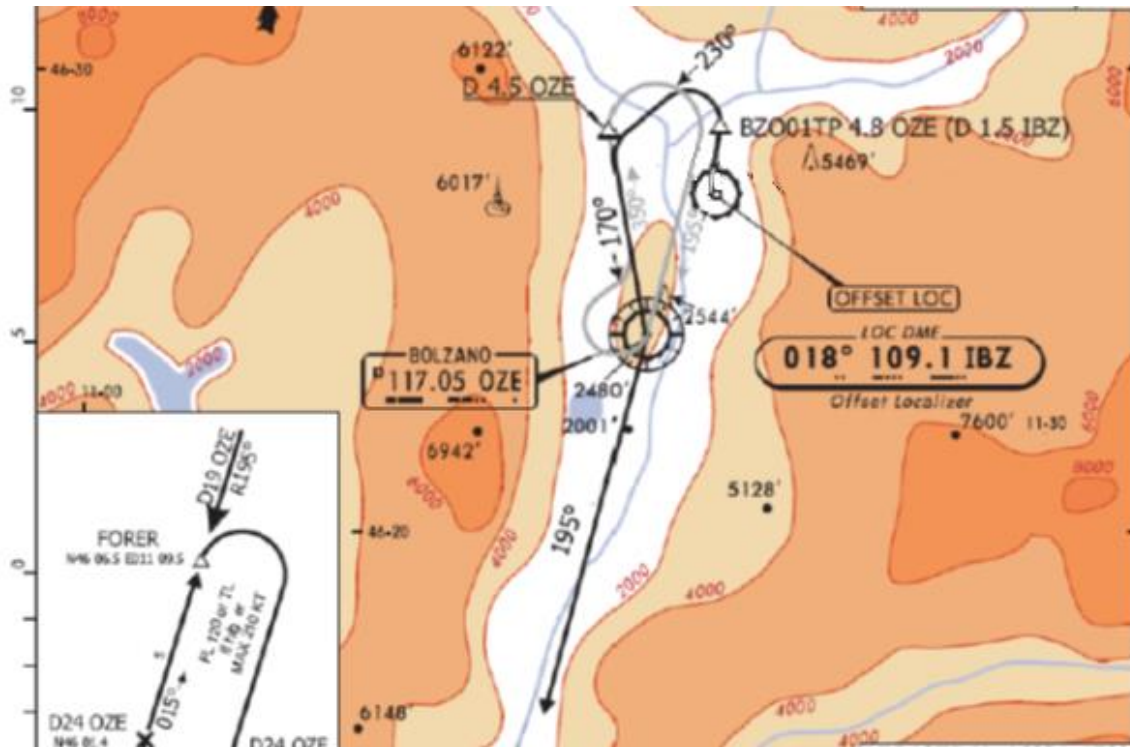


Figure 31: Sample for proposed take off contingency RWY01

## 7.2.2 Sample for proposed take off contingency RWY 19 (same as Balked Landing)

Climb with max gradient on RWY HDG. At D6 IBZ turn right at V2+10 kt (max 150 KIAS) / 25° bank and in case that sufficient visual conditions exist, continue visually to RWY 19 or climb on R015 OZE according missed approach procedure to FORER F120 or as required.

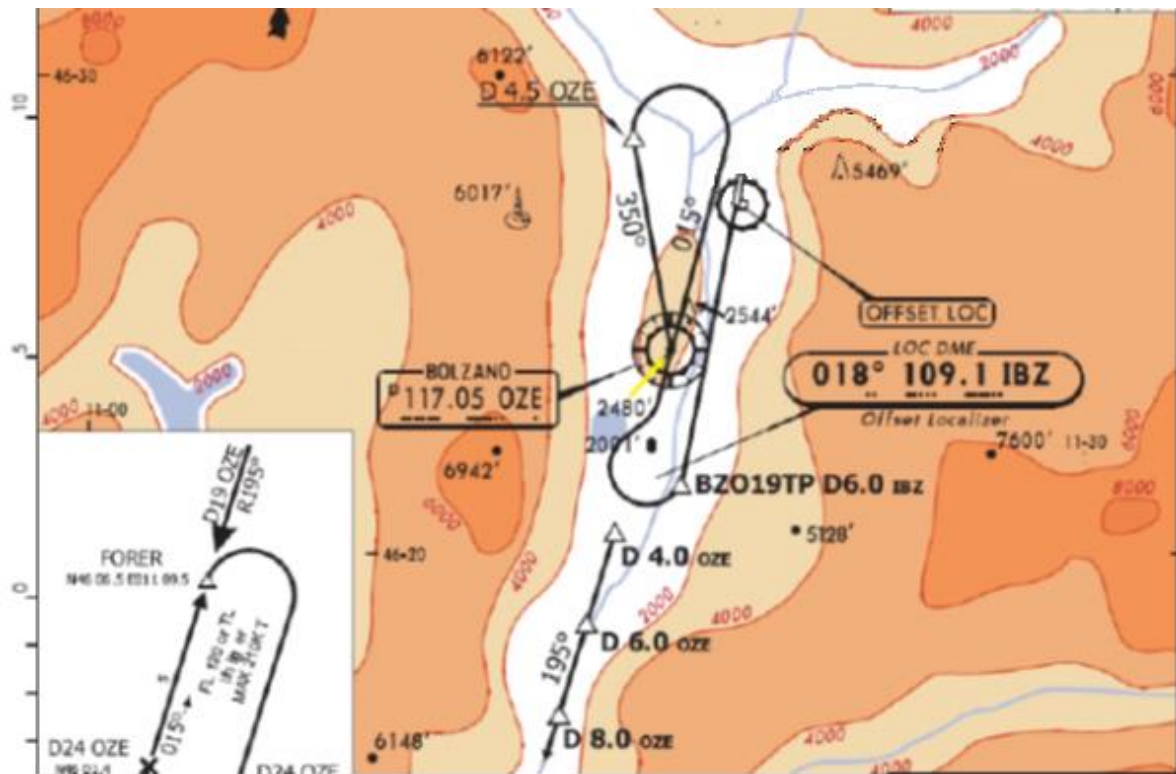


Figure 32: Sample for proposed take off contingency RWY9

## 8 OPERATOR REQUIREMENTS (CAT & NCC & NCO)

For details see Para 4 “operational requirements/notes” and Para 5 “type of Authorization”. Summarized, Pilots/operators intending to operate IFR into *Bolzano* aerodrome shall observe following requirements:

- Each Pilot shall be familiar with the local circumstances
- With all details required for the intended flight
- Have a familiarization and/or flight training program (as required for the individual procedure, as well as for day and/or night) for pilot(s) Authorization, including contingency procedures (as far as applicable); a sample of a Training Program is available on the aerodrome operators web site on request.
- For the Authorization the briefing system provided by the aerodrome operator may be used as a guideline and sample.
- Based on declaration of the required flight experience the aerodrome operator will issue an “Approval” on behalf of the Italian CAA (ENAC) The Pilots should carry along the approval.



## 9 TRAINING PROGRAM

The operator/pilot to operate at Bolzano shall have a briefing and/or flight training program (as necessary for the individual procedure as well as for day and/or night), including contingency procedures.

The responsibility for the content of the training rests with the operator respectively the Pilot.

### *9.1 FTD (or FFS) OR “ON-SITE FLIGHT TRAINING”*

Any flight training should be done in an adequate Flight Training Device or FFS.

As an alternative or in case there is no adequate FTD available, the flight training may be replaced by on site flight training.

**For safety reasons, the FIRST approach in Bolzano airport MUST be perform during the day only, in order to acquire the necessary conscious awareness of the surrounding area. The second approach and so on, can be performed during the day or night.**

## 10 FINAL NOTE:

For any question, assistance or suggestion please contact the AFO of the aerodrome operator  
[afo@bolzanoairport.it](mailto:afo@bolzanoairport.it)



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