FUNCHAL (FNC/LPMA)

Elevation 191ft

CATEGORY C

AV brief – available

GENERAL

- Airfield is situated on a plateau engineered out of the side of a hill.
- Single runway 05/23. Parts of the rnway are built on manmade culverts over the roads below. The first 1000m of Rwy 23 is effectively a bridge structure.
- Island of Porto Santo, 30nm to the NE, provides a good diversion.

Rwy 23

Threat Based Briefing Topics

CFIT

- The ground rises rapidly inland to the W and NW reaching over 2500ft asl within 3nm and over 6000ft asl within 9nm. The Jepp MRC and approach charts depict the terrain well.
- The landscape creates turbulence and WINDSHEAR, with a mountainous area on one side and the edge of the plateau on the other.
- ETPs require a turn at the departure end of the runway (DER) which must be adhered to to assure terrain clearance.
- ***TOGA must be used for take-off***

Runway Excursion

- Due to the nature of the topography any crosswind can vary markedly along the length of the runway
- THR insert and Rwy slope can cause strange visual aspect

Runway Incursion

- Backtrack is required for both Rwy

Loss of Control

- Steep rising ground, wind variation and turbulence create operating limitations not common at other airfields. These wind limitations must be respected.
- All take-offs and landings require VMC
- At night the hills (Picco do Faccho – lighted) on the right of Rwy 23 may be confused with mist
- Wind reports are transmitted for a point 1nm on final Rwy 05 “Rosario”, the tower itself, and for the touchdown area. Comparison assists in anticipating the level of turbulence on finals. A wind difference of more than 5kt between Rosario and the MID anemometer can indicate TURB on final.
- Wind direction indicators on the S side of the Rwy are useful in showing the varying wind conditions.
- Up/down draughts/variable crosswinds can cause control issues in close proximity to the runway. Be go around minded.
- **Review Jepp 10-1P2 and 10-1P3 for all Turbulence considerations**
- With westerly winds, tail WINDSHEAR may be expected.

Crew Qualifications

Note: Captains Only Takeoff and Landing

ARRIVAL

Diversion Airports

PORTO SANTO	PXO/LPPS	31 nm/044°T	CAT A
TENERIFE SUR	TFS/GCTS	280 nm/178°T	CAT B
GRAN CANARIA	LPA/GCLP	296 nm/166°T	CAT B
LANZAROTE	ACE/GCRR	279 nm/144°T	CAT B
FUERTEVENTURA	FUE/GCFV	297 nm/149°T	CAT B
TENERIFE NORTE	TFN/GCXO	255 nm/175°T	CAT B

Diversion Strategy

Funchal's relatively remote location and challenging weather conditions mean that diversion planning can be tactically challenging.

Severe windshear can be experienced even in light winds, but the risk of diversion is higher in winter (Nov-Mar). Non-precision approaches only are available with high MDA and Rwy 05 is circling only. BAVirtual not approved for RNP AR approaches.

- Porto Santo (PXO) is the fuel alternate and is located on another island 45 miles from Madeira.
    - There are limited aircraft stands, handling facilities and hotel availability at PXO. Aircraft steps are in particular short supply during diversions.
    - LIS is the designated commercial alternate but is 90 mins to the north of FNC, with FAO also available. Additional alternates TFS, LPA, FUE and ACE only to be used if PXO, LIS and FAO are unavailable, and then as fuel and go.

- If the cloud base/visibility is forecast to be out of limits for a prolonged period then it is recommended to delay or cancel the flight. However, as the wind is extremely variable there is a chance of landing even if the wind is out of limits on the TAF and therefore cancellation for TAF wind is unlikely.

- If the forecast FNC weather conditions are marginal prior to departure, or degrade whilst enroute, an assessment should be made as to whether to continue to FNC or divert to LIS.
    - If weather allows a good chance of landing at FNC, continue and attempt an approach, if possible.
    - If the approach is unsuccessful then either divert to LIS, or if loitering may result in a successful approach then consider burning any extra fuel loading and LIS fuel, diverting to PXO if subsequently unable to land FNC.
    - In the event of a diversion to PXO, a decision will need to be taken in conjunction with Ops as to whether continue to FNC, operate to LIS or return to base.

- If the FNC weather is below limits and forecast to remain so divert to LIS
    - A decision will then need to be taken as to whether to continue to FNC, nightstop at LIS or return to base.

Approach

- The main difficulties are crosswinds, turbulence and WINDSHEAR.

- The approach charts contain the differing wind limitations and these are to be treated as maximum limits. The restraining walls bordering the runway have been identified as created vortices.

- Strict adherence to published crosswind limits is essential.

- PAPIs set at 3° for both runways. Maintain the correct approach path and aim to touch down without delay.

- When landing Rwy 05 crews shall use the "recommended" circling altitude on the VOR/DME 05 (Visual) IAC rather than the minimum published circling altitude. This recommended

circling altitude (949ft aal), though below the normal ops manual minimum of 1000ft aal, is specifically approved as the aircraft is more than 1000ft above the terrain under the circling approach.

- Use all available aids, including the points GELO (2nm to run to threshold on a curved approach track and identified by the large white banana packing sheds) and ROSARIO (ROSRO in the FMS) in order to facilitate line up and a stable vertical profile.

  Note: The curved approach light poles between GELO and ROSARIO should be to the left of the aircraft approaching Rwy 05. Do not fly W of these approach lights on final due to high ground.

GROUND

- Limited apron parking space
- Follow me vehicle used for parking
- Fuelling with passengers on board requires authorisation from 131.850 or 131.875

DEPARTURE

- Review Jepp 10-1P2, 10-1P3 for all turbulence considerations and 10-1P4 and 10-1P5 for Departure procedures
- Respect the takeoff wind limitations on 10-1P2
- ETPs are in CARD for both runways and require a turn at the DER. This will need to be accomplished in HDG as the EOSID is not coded in the 744 navigation database.

WEATHER

- The airfield is in the lee of high ground and with the prevailing W'ly winds gives the hazards of crosswinds, downdraughts and turbulence on finals
- Most of the annual rainfall occurs from October to March, averaging 3" per month.

OPERATIONAL INFORMATION

Handling Agent	Portway
Handling Agent VHF	131.875
Potable Water	Uplift permitted

IF ONLY Electrical Power is required	Use ground power for 45 mins ONLY – then use APU
If BOTH electrical power and air conditioning is required:	Use APU for air conditioning (ACU equipment not available)