

(9) specific regional operating procedures.

#### **SPA.RVSM.110 RVSM equipment requirements**

Aircraft used for operations in RVSM airspace shall be equipped with:

- (a) two independent altitude measurement systems;
- (b) an altitude alerting system;
- (c) an automatic altitude control system;
- (d) a secondary surveillance radar (SSR) transponder with altitude reporting system that can be connected to the altitude measurement system in use for altitude control.

#### **SPA.RVSM.115 RVSM height-keeping errors**

- (a) The operator shall report recorded or communicated occurrences of height-keeping errors caused by malfunction of aircraft equipment or of operational nature, equal to or greater than:
  - (1) a total vertical error (TVE) of  $\pm 90$  m ( $\pm 300$  ft);
  - (2) an altimetry system error (ASE) of  $\pm 75$  m ( $\pm 245$  ft); and
  - (3) an assigned altitude deviation (AAD) of  $\pm 90$  m ( $\pm 300$  ft).
- (b) Reports of such occurrences shall be sent to the competent authority within 72 hours. Reports shall include an initial analysis of causal factors and measures taken to prevent repeat occurrences.
- (c) When height-keeping errors are recorded or received, the operator shall take immediate action to rectify the conditions that caused the errors and provide follow-up reports, if requested by the competent authority.

### SUBPART E

#### **LOW VISIBILITY OPERATIONS (LVO)**

##### **SPA.LVO.100 Low visibility operations**

The operator shall only conduct the following low visibility operations (LVO) when approved by the competent authority:

- (a) low visibility take-off (LVTO) operation;
- (b) lower than standard category I (LTS CAT I) operation;
- (c) standard category II (CAT II) operation;
- (d) other than standard category II (OTS CAT II) operation;
- (e) standard category III (CAT III) operation;
- (f) approach operation utilising enhanced vision systems (EVS) for which an operational credit is applied to reduce the runway visual range (RVR) minima by no more than one third of the published RVR.

##### **SPA.LVO.105 LVO approval**

To obtain an LVO approval from the competent authority, the operator shall demonstrate compliance with the requirements of this Subpart.

##### **SPA.LVO.110 General operating requirements**

- (a) The operator shall only conduct LTS CAT I operations if:
  - (1) each aircraft concerned is certified for operations to conduct CAT II operations; and
  - (2) the approach is flown:
    - (i) auto-coupled to an auto-land that needs to be approved for CAT IIIA operations; or
    - (ii) using an approved head-up display landing system (HUDLS) to at least 150 ft above the threshold.
- (b) The operator shall only conduct CAT II, OTS CAT II or CAT III operations if:
  - (1) each aircraft concerned is certified for operations with a decision height (DH) below 200 ft, or no DH, and equipped in accordance with the applicable airworthiness requirements;
  - (2) a system for recording approach and/or automatic landing success and failure is established and maintained to monitor the overall safety of the operation;

- (3) the DH is determined by means of a radio altimeter;
  - (4) the flight crew consists of at least two pilots;
  - (5) all height call-outs below 200 ft above the aerodrome threshold elevation are determined by a radio altimeter.
- (c) The operator shall only conduct approach operations utilising an EVS if:
- (1) the EVS is certified for the purpose of this Subpart and combines infra-red sensor image and flight information on the HUD;
  - (2) for operations with an RVR below 550 m, the flight crew consists of at least two pilots;
  - (3) for CAT I operations, natural visual reference to runway cues is attained at least at 100 ft above the aerodrome threshold elevation;
  - (4) for approach procedure with vertical guidance (APV) and non-precision approach (NPA) operations flown with CDFA technique, natural visual reference to runway cues is attained at least at 200 ft above the aerodrome threshold elevation and the following requirements are complied with:
    - (i) the approach is flown using an approved vertical flight path guidance mode;
    - (ii) the approach segment from final approach fix (FAF) to runway threshold is straight and the difference between the final approach course and the runway centreline is not greater than 2°;
    - (iii) the final approach path is published and not greater than 3,7°;
    - (iv) the maximum cross-wind components established during certification of the EVS are not exceeded.

#### **SPA.LVO.115 Aerodrome related requirements**

- (a) The operator shall not use an aerodrome for LVOs below a visibility of 800 m unless:
- (1) the aerodrome has been approved for such operations by the State of the aerodrome; and
  - (2) low visibility procedures (LVP) have been established.
- (b) If the operator selects an aerodrome where the term LVP is not used, the operator shall ensure that there are equivalent procedures that adhere to the requirements of LVP at the aerodrome. This situation shall be clearly noted in the operations manual or procedures manual including guidance to the flight crew on how to determine that the equivalent LVP are in effect.

#### **SPA.LVO.120 Flight crew training and qualifications**

The operator shall ensure that, prior to conducting an LVO:

- (a) each flight crew member:
- (1) complies with the training and checking requirements prescribed in the operations manual, including flight simulation training device (FSTD) training, in operating to the limiting values of RVR/VIS (visibility) and DH specific to the operation and the aircraft type;
  - (2) is qualified in accordance with the standards prescribed in the operations manual;
- (b) the training and checking is conducted in accordance with a detailed syllabus.

#### **SPA.LVO.125 Operating procedures**

- (a) The operator shall establish procedures and instructions to be used for LVOs. These procedures and instructions shall be included in the operations manual or procedures manual and contain the duties of flight crew members during taxiing, take-off, approach, flare, landing, rollout and missed approach operations, as appropriate.
- (b) Prior to commencing an LVO, the pilot-in-command/commander shall be satisfied that:
- (1) the status of the visual and non-visual facilities is sufficient;
  - (2) appropriate LVPs are in force according to information received from air traffic services (ATS);
  - (3) flight crew members are properly qualified.

#### **SPA.LVO.130 Minimum equipment**

- (a) The operator shall include the minimum equipment that has to be serviceable at the commencement of an LVO in accordance with the aircraft flight manual (AFM) or other approved document in the operations manual or procedures manual, as applicable.

- (b) The pilot-in-command/commander shall be satisfied that the status of the aircraft and of the relevant airborne systems is appropriate for the specific operation to be conducted.

## SUBPART F

**EXTENDED RANGE OPERATIONS WITH TWO-ENGINED AEROPLANES (ETOPS)****SPA.ETOPS.100 ETOPS**

In commercial air transport operations, two-engined aeroplanes shall only be operated beyond the threshold distance determined in accordance with CAT.OP.MPA.140 if the operator has been granted an ETOPS operational approval by the competent authority.

**SPA.ETOPS.105 ETOPS operational approval**

To obtain an ETOPS operational approval from the competent authority, the operator shall provide evidence that:

- (a) the aeroplane/engine combination holds an ETOPS type design and reliability approval for the intended operation;
- (b) a training programme for the flight crew members and all other operations personnel involved in these operations has been established and the flight crew members and all other operations personnel involved are suitably qualified to conduct the intended operation;
- (c) the operator's organisation and experience are appropriate to support the intended operation;
- (d) operating procedures have been established.

**SPA.ETOPS.110 ETOPS en-route alternate aerodrome**

- (a) An ETOPS en-route alternate aerodrome shall be considered adequate, if, at the expected time of use, the aerodrome is available and equipped with necessary ancillary services such as air traffic services (ATS), sufficient lighting, communications, weather reporting, navigation aids and emergency services and has at least one instrument approach procedure available.
- (b) Prior to conducting an ETOPS flight, the operator shall ensure that an ETOPS en-route alternate aerodrome is available, within either the operator's approved diversion time, or a diversion time based on the MEL generated serviceability status of the aeroplane, whichever is shorter.
- (c) The operator shall specify any required ETOPS en-route alternate aerodrome(s) in the operational flight plan and ATS flight plan.

**SPA.ETOPS.115 ETOPS en-route alternate aerodrome planning minima**

- (a) The operator shall only select an aerodrome as an ETOPS en-route alternate aerodrome when the appropriate weather reports or forecasts, or any combination thereof, indicate that, between the anticipated time of landing until one hour after the latest possible time of landing, conditions will exist at or above the planning minima calculated by adding the additional limits of Table 1.
- (b) The operator shall include in the operations manual the method for determining the operating minima at the planned ETOPS en-route alternate aerodrome.

Table 1

**Planning minima for the ETOPS en-route alternate aerodrome**

Type of approach	Planning minima
Precision approach	DA/H + 200 ft RVR/VIS + 800 m (*)
Non-precision approach or Circling approach	MDA/H + 400 ft (*) RVR/VIS + 1 500 m

(\*) VIS: visibility; MDA/H: minimum descent altitude/height.

## SUBPART G

**TRANSPORT OF DANGEROUS GOODS****SPA.DG.100 Transport of dangerous goods**

Except as provided for in Annex IV (Part-CAT), the operator shall only transport dangerous goods by air if the operator has been approved by the competent authority.