

Implementing rules :

CAT.IDE.A.345 Communication, navigation and surveillance equipment for operations under IFR or under VFR over routes not navigated by reference to visual landmarks

(a) Aeroplanes operated under IFR or under VFR over routes that cannot be navigated by reference to visual landmarks shall be equipped with radio communication, navigation and surveillance equipment in accordance with the applicable airspace requirements.

[...]

(d) Aeroplanes shall have sufficient navigation equipment to ensure that, in the event of the failure of one item of equipment at any stage of the flight, the remaining equipment shall allow safe navigation in accordance with the flight plan.

(e) Aeroplanes operated on flights in which it is intended to land in IMC shall be equipped with suitable equipment capable of providing guidance to a point from which a visual landing can be performed for each aerodrome at which it is intended to land in IMC and for any designated alternate aerodrome.

[...]

Existing Acceptable Means of Compliance:

AMC2 CAT.IDE.A.345 Communication and navigation equipment for operations under IFR or under VFR over routes not navigated by reference to visual landmarks

ACCEPTABLE NUMBER AND TYPE OF COMMUNICATION AND NAVIGATION EQUIPMENT

[...]

(d) To perform IFR operations without an ADF system installed, the operator should consider the following guidelines on equipment carriage, operational procedures and training criteria.

(1) ADF equipment may only be removed from or not installed in an aeroplane intended to be used for IFR operations when it is not essential for navigation, and provided that alternative equipment giving equivalent or enhanced navigation capability is carried. This may be accomplished by the carriage of an additional VOR receiver or a GNSS receiver approved for IFR operations.

(2) For IFR operations without ADF, the operator should ensure that:

- (i) route segments that rely solely on ADF for navigation are not flown;
- (ii) ADF/NDB procedures are not flown;
- (iii) the minimum equipment list (MEL) has been amended to take account of the non-carriage of ADF;
- (iv) the operations manual does not refer to any procedures based on NDB signals for the aeroplanes concerned; and
- (v) flight planning and dispatch procedures are consistent with the above mentioned criteria.

(3) The removal of ADF should be taken into account by the operator in the initial and recurrent training of flight crew.

[...]

DGAC France Alternative Means of compliance :

[...]

(d) To perform IFR operations without an ADF system installed, the operator should consider the following guidelines on equipment carriage, operational procedures and training criteria.

(1) ADF equipment may only be removed from or not installed in an aeroplane intended to be used for IFR operations when it is not essential for navigation, and provided that alternative equipment giving equivalent or enhanced navigation capability is carried. This may be accomplished by the carriage of an additional VOR receiver or a **RNAV system** approved for IFR operations.

(2) For IFR operations without ADF, the operator should ensure that:

- (i) route segments that rely solely on ADF for navigation are not flown, **except if (d)(3) applies;**
- (ii) ADF/NDB procedures are not flown;
- (iii) the minimum equipment list (MEL) has been amended to take account of the non-carriage of ADF **and its substitution by a RNAV system, if applicable;**
- (iv) the operations manual does not refer to any procedures based on NDB signals for the aeroplanes concerned; and
- (v) flight planning and dispatch procedures are consistent with the above mentioned criteria.

(3) A RNAV system may be used to substitute for ADF receiver equipment, without monitoring of the raw data from conventional NDB navigation aids, if the following conditions apply:

- (i) RNAV substitution for ADF receiver may be used during all phases of flight except to provide lateral guidance in the final approach segment (FAS) of an instrument approach procedure (IAP) ;
- (ii) The RNAV system used as a substitution means for ADF receiver should meet:

- (A) the requirements of (E)TSO-C129/-C196/-C145/-C146 (or later equivalent standards);
and
- (B) the requirements of CAT.OP.MPA.126(a) for RNAV 1, RNP 1 or RNP APCH as regards its installation in the aircraft.

(iii) Additional procedures should be established in order to:

- (A) ensure that any procedure and waypoints used are retrieved from a navigation database which meets the requirements of CAT.IDE.A.355;
- (B) verify waypoint sequence, reasonableness of track angles, and distances of any overlay procedure used;
- (C) apply pre-flight procedures associated with the use of RNAV system; and
- (D) comply with any limitation on RNAV system used to substitute for ADF receiver equipment in the aircraft flight manual (AFM).

(iv) RNAV substitution for ADF receiver should not be applied on any procedure where RNAV substitution has been indicated as 'not authorized' by an AIP entry, a NOTice to AirMen (NOTAM) or any other aeronautical information means.

(4) The removal of ADF and the use of an RNAV system to substitute for ADF receivers, if applicable, should be taken into account by the operator in the initial and recurrent training of flight crew.

[...]