



Direction des Opérations

Service
de l'Information
Aéronautique

D S N A

8, AVENUE ROLAND GARROS - BP 40 245
F-33698 MERIGNAC CEDEX

<http://www.sia.aviation-civile.gouv.fr>

SALES DEPARTMENT

☎ : 33 (0)5 57 92 56 68
Fax : 33 (0)5 57 92 56 69
✉ : sia-commercial@aviation-civile.gouv.fr

TECHNICAL SERVICE

☎ : 33 (0)5 57 92 57 57
Fax : 33 (0)5 57 92 57 77
✉ : etp.sia@regis-dgac.net
SFA : LFFAYNYX

**AIC
A 09/07
FRANCE**

PUB : MAR 29

SUBJECT: ADF receiver carriage in French airspace

I INTRODUCTION

The scope of this AIC is to inform all aircraft operators, flying in French airspace in IFR, about routes and/or procedures (departure, arrival, holding and approaches) which must be flown with an ADF receiver or procedures which can be flown with an equivalent navigation system.

It should be highlighted that IFR aircraft without ADF receiver are not authorized to fly certain IFR procedures in France as indicated in this AIC. Due to the number of approaches still based on NDB in France, the operation of such aircraft is therefore greatly impacted.

Effectively, there are many approaches which are still based on NDB, either as a mean to navigate towards this aid, either as a final approach aid or as an aid for the missed approach. These approach procedures have not been designed and validated for being flown by navigation system other than the one for which it has been promulgated (procedure not published as overlay procedure).

It is recalled that the "French arrêté dated 21 June 2001 concerning communication, navigation, surveillance and collision-avoidance equipment installed in aircraft operating within mainland France Flight" specifies for departure, arrival, holding and instrument approaches that "all aircraft must be equipped with adequate airborne equipment able to use information provided by the ground navaid on which the procedure is based".

II Procedures based on NDB (Non Directional Beacon) and the airborne equipment

It exists in France many procedures based on NDB like non precision approaches, holding, missed approach (e.g on ILS or RNAV(GNSS) approaches). Enroute NDB, not numerous in France, will be decommissioned. For certain AFIS airfield the NDB approach remains the only approach procedure.

In accordance with the "French arrêté dated 21 June 2001" and also with the ground navaid infrastructure existing in France which is partially based on NDB:

*All IFR aircraft conducting approaches procedure based on NDB must be equipped with an operative ADF receiver as indicated in paragraph IV here below.

* For Enroute, for departure and for arrival procedures , the aircraft can be equipped without ADF receiver if it complies with conditions of paragraph III here below.

This leads, in many cases, to be unable to operate an IFR aircraft without ADF receiver onboard.

Nevertheless, it should be recalled that RNAV(GNSS) approaches are under deployment. Implementation of such approach procedure will continue and even will be accelerated in the following years, this will lead to an important change with regards to conventional approaches leading in particular to a decrease of NDB approach number.

Paragraphs III et IV indicate to airspace users, per phase of flight, operations that must be conducted with an ADF receiver and others that can be conducted with an equivalent mean. It should be noted that operator must respect all limitations specified in the concerned Aircraft Flight Manual, this AIC content cannot cancel or modify these limitations.

III PROCEDURES WHICH CAN BE CONDUCTED WITH AN EQUIVALENT MEAN TO THE ADF RECEIVER**III-1 Enroute navigation**

Enroute navigation is authorised without ADF receiver in the French airspace provided the aircraft is equipped with an approved BRNAV navigation system having GNSS positioning.

Limitations associated to the use of the BRNAV system on RNAV routes are also applicable for its use on routes based on NDB (e.g. RAIM prediction).

III-2 Navigation in Terminal area

Navigation in Terminal area on arrival procedures (STAR), on departure (SID) or for interception of precision approaches (e.g. ILS transition) is authorised without ADF receiver in the French airspace provided the aircraft is equipped with an RNAV system having GNSS positioning and being approved on SID and STAR.

It is recalled that all RNAV system approved on SID/STAR must:

- Have, in their own navigation data base, the whole content of the procedure to be flown.
- Enable a direct selection of this procedure by its name without having to select manually each waypoint (WPT).
- Enable navigation with an accuracy of 1 Nm (95%). For system having a lateral deviation indicator like CDI the full scale deflection must be set to 1 Nm.

If GNSS is the only sensor for the navigation system, a RAIM function prediction (or equivalent) must be made by the operator on the route to be flown with the alarm limit criteria set to 1 Nm.

In addition the operator must verify the integrity of the data base containing the procedure (e.g. data base holding a LOA, manual verification of the procedure before the flight,...).

Note: A navigation system approved for PRNAV and with GNSS positioning complies with criteria provided in this section.

IV PROCEDURES WHICH MUST BE CONDUCTED WITH AN ADF RECEIVER**IV-1 NDB non precision approach**

In France, this type of approach is not published as an “overlay” approach procedure. For that reason it is forbidden to conduct such approach without ADF receiver onboard.

IV-2 Precision or non-precision approaches with missed approach based on NDB

The missed approach segment based on NDB is fully part of the approach, it is forbidden to conduct such approach without ADF receiver onboard.

Note: For aircraft having an RNAV system with RNP capability, a case by case authorisation can be considered in this specific case.