



TERMS OF REFERENCE

- Task Nr:** RMT.0256 and RMT.0257 (MDM.062(a) & (b))
- Issue:** 1
- Date:** 17 July 2012
- Regulatory references:** Listed in Appendix 2
- Reference documents:** Listed in Appendix 3
- List of appendices:** Appendix 1 'Glossary'
Appendix 2 'List of regulatory references'
Appendix 3 'List of reference documents'
Appendix 4 'Background information'
Appendix 5 'Cross-references between EU-OPS and proposed EASA Regulation on Air Operations'
Appendix 6 'Items to be considered by Agency when deciding to introduce, maintain or remove SPA for certain PBN operations'

<p>1. Subject: Revision of operational approval criteria for performance-based navigation</p>
<p>2. Problem / Statement of issue and justification; reason for regulatory evolution (regulatory tasks):</p> <p>Area Navigation (RNAV) was developed in the 1960s in the USA to give to aviators more flexibility in deciding their horizontal path (i.e. they are no longer obliged to overfly ground beacons). The first 16 of such routes were published in 1969.</p> <p>Minimum navigation performance specification (MNPS) was the first (i.e. 1977) example of coupling the concept of RNAV with a performance-based navigation (PBN) specification in order to achieve more airspace capacity. The USA FAA, aware that this 'new' type of operations presented safety challenges, published Advisory Circular 91-49 clarifying that operators desiring to use MNPS had to 'show compliance' with applicable specifications to obtain a specific approval. The concept of specifying 'performance' and not a number of 'avionic boxes' for navigation was also new.</p> <p>Along the decades the number and type of navigation operations proliferated, leading to a relatively long list of operations which require specific approval (SPA).</p> <p>JAR-OPS 1 envisaged a number of SPA, but still listed a specific number of navigation 'avionic boxes' to be carried on board. The same approach was continued in Regulation (EEC) No 3922/91, Annex III, as amended by Regulation (EC) No 859/2008 ('EU-OPS'¹). Such rules, applicable today, only affect Commercial Air Transport (CAT) by aeroplanes.</p>

¹ Regulatory reference [1] in Appendix 2.

More background information is presented in Appendix 5.

Proposed Regulation on Air Operations² (on which more background information is provided in Appendix 4) introduces, among others, few noticeable modifications:

- Contrary to EU-OPS rule 1.865 currently in force, proposed rules CAT.IDE.A.345³ and CAT.IDE.H.345⁴ in Agency's Opinion 04/2011 solve the issue of mandating carriage of specific navigation equipment, by removing the list from legally binding rules; similar rules are proposed for special operations (SPO) and non-commercial operators (NCC, NCO);
- Removes the obligation to obtain a SPA for RNAV 5 (B-RNAV); and
- Extends the obligation for SPA, beyond CAT operations by aeroplanes, to all commercial and non-commercial operations.

A summary comparison between 'EU-OPS' and the proposed Regulation on Air Operations is provided in Appendix 5.

The Agency is aware that the number of PBN applications is increasing, while requesting and obtaining a SPA constitutes an additional administrative task, especially for non-commercial operators. This rulemaking task is hence necessary in order to review the necessity for SPA for all existing PBN applications and, where appropriate, to amend the requirement. The safety-related items listed in Appendix 6 are to be used by the Agency, in the context of present task, as an initial guide to determine the necessity for SPA.

3. Objectives:

- a) Develop rules on pilot training and checking requirements, which are an essential pre-requisite to remove the requirement for SPA for some PBN operations;
- b) Reassess the need for an operational approval for each PBN operation for CAT, SPO, NCC and NCO operators using as a starting point the tentative list of items in Appendix 6;

4. Specific tasks and interface issues (Deliverables):

4.1 Task RMT.0256 will deliver:

- a) Opinion to amend proposed Regulation on Air Operations, Part-SPA, Subpart SPA.PBN and, in particular, to remove the obligation for SPA when all the items in Appendix 6 are verified;
- b) Opinion aiming at introducing specific pilot checking requirements for some PBN operations in Annex I (Part-FCL) to Commission Regulation (EU) No 1178/2011 laying down technical requirements and administrative procedures related to civil aviation aircrew pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council.

4.2 Task RMT.0257 will deliver:

- a) Decision amending AMC and GM to Annex I (Part-FCL) to Commission Regulation

² Regulatory reference [2] in Appendix 2.

³ Communication and navigation equipment for operations under IFR or under VFR over routes not navigated by reference to visual landmarks, in Annex IV (Part CAT), Subpart Instrument, Data and Equipment (IDE), Section 1 (Aeroplanes).

⁴ Communication and navigation equipment for operations under IFR or under VFR over routes not navigated by reference to visual landmarks, in Annex IV (Part CAT), Subpart Instrument, Data and Equipment (IDE), Section 2 (Helicopters).

(EU) No 1178/2011 in order to introduce specific pilot training elements for some PBN operations;

- b) Decision amending AMC and GM to Part ORO.FC to the proposed Regulation on Air Operations in order to address proper requirements to air operators for training of respective crews, in relation to PBN and as a complement to c) above;
- c) Decision establishing AMC and GM to the proposed Regulation on Air Operations as necessary in relation to a) in 4.1 above and transposing the operational criteria from AMC 20-4, AMC 20-5, AMC 20-12, AMC 20-26, AMC 20-27 and AMC 20-28 into Part-SPA;
- d) Decision to remove operational criteria from AMC 20-4, AMC 20-5, AMC 20-12, AMC 20-26, AMC 20-27 and AMC 20-28⁵.

4.3 The following topics are out of scope of present ToR:

- a) Any provision on mandatory carriage and mandatory implementation of a given PBN application in any portion of EU airspace, since this is within the scope of the PBN mandate issued by the EC to EUROCONTROL in the frame of the 'Single European Sky' (SES);
- b) Any possible additional technical navigation specification for PBN (e.g. Advanced RNP 1);
- c) Transposition of JAA TGL 10, since this is encompassed by the CS-ACNS under development, in the context of rulemaking task RMT.0099.

5. Working Methods (in addition to the applicable Agency procedures):

Group. The Group may establish subgroups (e.g. OPS and FCL) as required.

6. Time scale, milestones:

- NPA in 2013/Q3 including 'light' RIA⁶;
- CRD/Opinion in 2015/Q1;
- Decision(s) in 2016/Q1.

⁵ The latter under development: CRD published in December 2011; Decision expected by mid-2012.
⁶ As stated in paragraph 6 of the preliminary RIA on the subject, published to members of AGNA and SSCC on 1 August 2011.

Appendix 1

Glossary

A	Aeroplane
ACNS	Airborne segment of the COM, NAV and SUR systems
AGNA	Advisory Group of National Authorities
AIP	Aeronautical Information Publication
AIS	Aeronautical Information Service (comprises AIP and NOTAM)
AMC	Acceptable Means of Compliance
ANS	Air Navigation Services; they inter alia comprise provision of digital data for navigation purposes, AIS, ATS and Navigation Services (i.e. radio signals in space for navigation purposes)
ANSP	Air Navigation Service Provider (e.g. ATSP and NSP belong to this wide family)
AOC	Air Operator Certificate
APCH	Approach
APV	Approach Procedures with Vertical Guidance. This term is used for RNP APCH operations that include vertical guidance, they are flown to LNAV/VNAV or LPV minima.
APV Baro	RNP APCH down to LNAV/VNAV minima
APV SBAS	RNP APCH down to LPV minima
ARO	Rules for competent Authorities in the domain of operations
ATM	Air Traffic Management. It comprises an airborne part (e.g. anti-collision) and a ground part. The latter comprises Airspace (controlled and non-controlled) Management, Flow Management and ATS. It cannot be confused with Air Traffic Control which is only one part of ATS.
ATS	Air Traffic Services: Air Traffic Control, Alert services and Flight Information Services
ATSP	Air Traffic Service Provider
B-RNAV	Basic Area Navigation
Baro-VNAV	Barometric Vertical Navigation. A function of an RNAV system to present computed vertical guidance to the flight crew referenced to a specified vertical path based on barometric altitude information.
CAT	Commercial Air Transport
CDFA	Technique for flying the final approach segment of a Non-Precision Approach as a continuous descent. The technique is consistent with stabilized approach procedures and has no level-off

CFIT	Controlled flight into terrain
CNS	Communication, Navigation and Surveillance
CRD	Comment Response Document
CS	Certification Specification
DGAC	Direction Générale de l'Aviation Civile (French competent Authority)
EASA	European Aviation Safety Agency
EC	European Commission
ED	Executive Director
EGNOS	European Geostationary Navigation Overlay Service. This is the European Satellite Based Augmentation System (SBAS)
ESSP	European Satellite Services Provider is the EGNOS operator and Navigation Service Provider certified according to the SES regulation as an ANSP
EU	European Union
FAA	Federal Aviation Administration
FCL	Flight Crew Licensing
GA	General Aviation
GM	Guidance Material
GNSS	Global navigation satellite system
GPS	Global positioning system
H	Helicopter
ICAO	International Civil Aviation Organisation
IDE	Instruments, Data and Equipment
IFR	Instrument Flight Rules
IRI	Instrument Rating Instructor
ILS	Instrument Landing System
ILS CAT	ILS Category
JAR	Joint Aviation Regulation
LNAV	Instrument approach providing guidance only for Lateral Navigation, and to be flown not below a line of minima on the chart for RNP Approaches without vertical guidance
LNAV/VNAV	Instrument approach to be flown not below a line of minima, applicable to aircraft equipped with a Baro-VNAV (i.e. Vertical Navigation) system approved according to AMC 20-27 or equivalent (for example FAA AC 20-129)
LP	Localizer Performance: Instrument approach providing guidance

only for lateral navigation, and to be flown not below a line of minima by SBAS-capable aircraft where, due to obstacles or else, an approach with vertical guidance (down to LPV) is not possible.

LPV	Instrument approach with vertical guidance, to be flown not below to a line of minima by aircraft equipped with approved SBAS capability
LVO	Low Visibility Operations (e.g. ILS CAT III)
LVP	Low Visibility Procedures (at aerodromes; e.g. for taxiing)
MDM	Multi-Disciplinary Rulemaking Task
MEL	Minimum Equipment List (responsibility of aircraft operator)
MMEL	Master Minimum Equipment List (responsibility of TC holder)
MNPS	Minimum navigation performance specification
MNPSA	Minimum navigation performance specification Area (oceanic)
NAV	Navigation
NCC	Non-commercial operations by complex motor-powered aircraft
NCO	Non-commercial ops by other-than-complex motor-powered aircraft
NOTAM	Notice to Airmen
NPA	Notice of Proposed Amendment
NSP	ANS Provider of radio navigation signals
OPS	Aircraft operations
ORO	Rules for organisations involved in aircraft operations
OSD	Operational Suitability Data
PBN	Performance-Based Navigation
P-RNAV	Precision area navigation (almost equivalent to RNAV 1)
RIA	Regulatory Impact Assessment
RNAV	Area navigation
RMT	Rulemaking Task
RNP	Required navigation performance
RNP APCH	Includes four approach types (LNAV; LP; LNAV/VNAV and LPV). Procedures are published on a chart with the title RNAV(GNSS).
RNP AR APCH	RNP APCH for which authorization is required
RVSM	Reduced Vertical Separation Minima
SBAS	Satellite-based augmentation system
SES	Single European Sky (set of four Regulations - 549, 550, 551, 552 – adopted by the EU legislator in 2004, related amendments, implementing rules and initiatives)

SPA	Specific Approval
SPO	Special Operations
TC	Type Certificate
TGL	Temporary Guidance Leaflet
VNAV	Vertical navigation

Appendix 2

List of regulatory references

1. Commission Regulation (EC) No 859/2008 of 20 August 2008 amending Council Regulation (EEC) No 3922/91 as regards common technical requirements and administrative procedures applicable to commercial transportation by aeroplane and in particular rules: OPS 1.243, OPS 1.865(d), OPS 1.873 and par. 8.3.2(c) of Appendix to OPS 1.1045 ('EU-OPS')
2. EASA Opinion 04/2011⁷ proposing implementing rules on Air Operations and in particular draft Articles 6.3.(a)(i) and 11.1, as well as rules: ARO.OPS.200, ORO.GEN.205, CAT.IDE.A.345 (d) and (e), CAT.IDE.A.355, CAT.IDE.H.345 (c) and (d), SPA.PBN.100, SPA.PBN.105
3. CRD to NPA 2009/02 containing draft AMC-GM to EASA-OPS and in particular: AMC2-CAT.IDE.A.345, AMC2-CAT.IDE.H.345, AMC1-CAT.IDE.A.355, AMC2-CAT.IDE.H.345 and GM.1-SPA.PBN.100
4. Annex I (Part-FCL) to Commission Regulation (EU) No 1178/2011 of 3 November 2011 laying down technical requirements and administrative procedures related to civil aviation aircrew pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council
5. AMC-GM to Part-FCL (ED Decision 2011/016/R)
6. AMC 20-04: Airworthiness approval and operational criteria for the use of navigation systems in European airspace designated for Basic-RNAV
7. AMC 20-05: Airworthiness approval and operational criteria for the use of the NAVSTAR GPS
8. AMC 20-12: Recognition of FAA Order 8400.12a for RNP 10 Operations
9. AMC 20-26: Airworthiness Approval and Operational Criteria for RNP - Authorisation Required (RNP AR) Operations
10. AMC 20-27: Airworthiness approval and operational criteria for RNP APCH Operations
11. Draft AMC 20-28: Airworthiness Approval and Operational Criteria for RNAV GNSS approach operation to LPV minima using SBAS, proposed by NPA 2009-04 of 23 June 2009
12. Commission Regulation (EU) No 73/2010 of 26 January 2010 laying down requirements on the quality of aeronautical data and aeronautical information for the single European sky
13. Commission Implementing Regulation (EU) No 1035/2011 of 17 October 2011 laying down common requirements for the provision of air navigation services and amending Regulations (EC) No 482/2008 and (EU) No 691/2010 (and repealing former "common requirements" contained in Regulation 2096/2005)
14. Commission Implementing Regulation (EU) No 1034/2011 of 17 October 2011 on safety oversight in air traffic management and air navigation services and amending Regulation (EU) No 691/2010 (and repealing Regulation 1315/2007)
15. Opinion 07/2011⁸ on Operational Suitability Data (OSD)

⁷ <http://www.easa.europa.eu/agency-measures/docs/opinions/2011/04/Opinion%2004-2011.pdf>.

⁸ <http://www.easa.europa.eu/agency-measures/docs/opinions/2011/07/Opinion%2007-2011%20-%20OSD.pdf>.

Appendix 3

List of reference documents

- a) Point 12 of ICAO Assembly Resolution A33-16: Global Aviation Safety Plan (GASP)
- b) ICAO Assembly Resolution A37-11: Performance Based Navigation (PBN) global goals
- c) ICAO Manual on Performance Based Navigation (PBN), Doc 9613
- d) EASA Rulemaking Task RMT.0099 (Miscellaneous improvement to AMC 20) which aims at CS-Airborne CNS encompassing airworthiness requirements for Precision RNAV/RNP 1 (including transposition of JAA TGL 10)
- e) EASA CRD to NPA 2009-04: Airworthiness approval and operational criteria for RNAV GNSS approach operations to LPV minima using SBAS (i.e. AMC 20-28)
- f) FAA AC 90-96A change 1: Approval of U.S. Operators and Aircraft To Operate Under Instrument Flight Rules (IFR) In European Airspace Designated For Basic Area Navigation (B-RNAV)/RNAV 5 and Precision Area Navigation (P-RNAV)
- g) FAA AC 90-100A: U.S. Terminal and En Route Area Navigation (RNAV) Operations
- h) FAA AC 90-101A: Approval Guidance for RNP Procedures with AR
- i) FAA AC 90-105: Approval Guidance for RNP Operations and Barometric Vertical Navigation in the U.S. National Airspace System
- j) FAA AC 90-107: Guidance for Localizer Performance with Vertical Guidance and Localizer Performance without Vertical Guidance Approach Operations in the U.S. National Airspace System
- k) FAA Order 8400.12B: Required Navigation Performance 10 (RNP 10) Operational Authorization
- l) FAA Order 8400.33: Procedures for obtaining authorization for RNP-4 oceanic and remote area operations

Appendix 4

Background information

In its NPA on the future Regulation on Air Operations published in 2009, Agency proposed SPA (i.e. specific approvals) not only for MNPS, RNAV, RVSM and other operations, but also specifically for PBN, in line with the general principle of EU-OPS 1.243 and including for B-RNAV.

While former JAR OPS 1 and EU-OPS apply only to CAT aeroplane operators, the now imminent EASA Part-SPA will apply to the totality of aircraft operators (including private operators of other-than-complex motor-powered aircraft). The number of potentially affected operators could therefore increase.

The EASA NPA on the topic of specific approvals for PBN operations was in general accepted by the majority of EASA Member States and stakeholders. However, some GA representatives raised the following concerns as a reaction to the subsequent CRD:

- the perceived huge economic and administrative burden on general aviation stemming from Annex V (Part-SPA) of the proposed Regulation on Air Operations; and
- the maturity already reached by PBN and in particular by GNSS for approach operations not more complex than ILS CAT I (for the latter no SPA is required).

Some stakeholders, in particular non-commercial operators involved in operations with other-than-complex motor-powered aircraft, requested that the requirement for a specific PBN approval should not apply to them.

These comments were not accepted in the interest of safety (ref. par. 279 in CRD). However, in said CRD the Agency clarified that no SPA was required for Basic RNAV (alias RNAV 5).

The same approach was maintained in EASA Opinion 04/2011 submitted to the European Commission on 1 June 2011. Therein⁹ it is proposed that Member States may elect not to apply Part-SPA to CAT helicopter operations, as well as to non-commercial operations until 8 April 2014.

After the transition period, and based on Opinion 04/2011 mentioned above in relation to Part-SPA — Subpart SPA.PBN, the specific approval process should be the same for commercial and non-commercial operators, since the safety requirements apply to all air operators. This is summarised in Table 1 below:

Type of operations	EASA AMC 20	Operational approval			
		CAT	SPO	NCC	NCO
RNAV 10	AMC 20-12	Yes	Yes	Yes	yes
RNAV 5 (B-RNAV)	AMC 20-4	No	No	No	No
RNAV 2	to be developed	Yes	Yes	Yes	Yes
RNAV 1 (~P-RNAV)	future AMC 20-16	Yes	Yes	Yes	Yes
RNP 4	to be developed	Yes	Yes	Yes	Yes
BASIC-RNP 1	future AMC 20-XX	Yes	Yes	Yes	Yes
RNP APCH (LNAV)	AMC 20-27	Yes	Yes	Yes	Yes
RNP APCH (LNAV/VNAV)	AMC 20-27	Yes	Yes	Yes	Yes
RNP APCH (LPV)	AMC 20-28 (CRD published in Dec. 2011)	Yes	Yes	Yes	Yes
RNP AR APCH	AMC 20-26	Yes	Yes	Yes	Yes

Table 1: Required SPA for PBN in EASA Opinion 04/2011

⁹ Article 11.2 of the proposed 'cover' Regulation for EASA-OPS, attached to Opinion 04/2011.

Representatives of non-commercial operators, however, claimed that the Agency would be much stricter than the FAA. They also stated that the proposed EASA rules were much stricter than those presently in force in several EASA Member States.

Therefore, in spring 2011 the Agency distributed a questionnaire to the members of its Advisory Group of National Authorities (AGNA). Question V therein asked whether respective national law encompasses a specific operational approval for certain PBN operations. 20 States replied. A summary of such replies is presented in Table 2 below:

PBN Operations	Specific operational approval required by national law			PBN included in the curriculum for pilot training	PBN included and checked in the instrument rating
	CAT	NCC	NCO		
	Number of States (out of 20 respondents)				
RNAV 10	16	5	5	14	8
RNAV 5 (B-RNAV)	15	6	5	15	8
RNAV 2	5	2	2	5	3
RNAV 1 (P-RNAV)	16	4	4	15	8
RNP 4	9	2	2	6	3
Basic-RNP 1	7	3	3	4	3
RNP APCH (LNAV)	11	3	3	11	8
RNP APCH (LNAV/VNAV)	11	3	3	10	8
RNP APCH (LPV)	9	2	3	8	6
RNP AR APCH	7	2	2	6	6

Table 2: Currently required SPA for PBN based on national law

From Table 2 above one could observe that:

- for RNAV 10, the SPA requirement is mainly driven by FAA requirements to enter the oceanic MNPSA;
- for CAT, the present requirement for SPA is mainly driven by the rule EU-OPS 1.243 (i.e. legal provision) and not necessarily by safety assessment at national level;
- only less than one third of the respondents requires SPA for NCC or NCO in relation to PBN operations en route and in terminal areas;
- even in the presence of EU-OPS 1.243, which however leaves some flexibility, only about 50 % of the respondents require SPA for RNP APCH by CAT operators;
- only very few States require SPA for RNP APCH by non-commercial operators;
- a significant number of States has already introduced specific requirements for pilot training before adoption of Part-FCL.

In addition to the publication of the EASA Opinion 04/2011, three important events (further contributing to the maturity of the PBN) occurred since 2010:

- the French DGAC, based on the 'common requirements' for the provision of Air Navigation Services (ANS), issued in July 2010 the certificate to the EGNOS ESSP as NSP (i.e. provider of radio navigation signals)¹⁰;
- the ESSP signed the declaration of verification of the EGNOS system, allowing the latter to be used for 'safety of life' services, which include PBN instrument approach and landing procedures;
- the 37th Session of the ICAO General Assembly adopted, via Resolution A37-11, a challenging implementation plan for PBN, including instrument approaches supported by GNSS at any runway instrument end.

The aim of this last ICAO Resolution is not only to enhance efficiency and regularity of flight, but also safety, since the Controlled Flight Into Terrain (CFIT) is still a relatively frequent accident category for general aviation.

The basic legal tools to oversee the safety of all actors involved in PBN are now available since end of 2011¹¹. The approach of requiring specific operational approvals for PBN operations and in particular the situation of general aviation could therefore be progressively reviewed (excluding RNP AR APCH for which SPA is assumed to continue to exist).

The major remaining gap is possibly the lack of common (at EU level) requirements for pilot training and periodic checking. The latter are in fact not exhaustive in relation to PBN in the first edition of part FCL.

¹⁰ So giving certainty for the responsibility of said NSP as distinct from the responsibilities of the air operators and of the Air Traffic Service Providers (ATSP) when using the EGNOS signal in space.

¹¹ Applicability of Article 8b of Regulation (EC) No 216/2008 due to entry into force of the related implementing rules for ATM/ANS.

Appendix 5

Cross-references between 'EU-OPS' and proposed EASA Regulation on Air Operations

EU OPS	EASA OPS	
	IR	AMC-GM
No common EU rule	ARO.OPS.200 Specific approval procedure	N.A.
No common EU rule	ORO.GEN.205 Contracted activities	N.A.
OPS 1.243 Operation in areas with specified navigation performance requirements	SPA.PBN.100 PBN operations SPA.PBN.105 PBN operational approval	GM1-SPA.PBN.100
OPS 1.450 Low visibility operations – Training and qualifications	SPA.LVO.120 Flight crew training and qualifications	N.A.
Appendix 1 to OPS 1.450 Low visibility operations – Training and qualifications	Not applicable at the level of I.R., since the content has been transposed at the level of AMC to provide operators with some flexibility.	AMC1-SPA.LVO.120 and GM1-SPA.LVO.120 Flight crew training and qualifications Flight crew training and qualifications
OPS 1.865 Communication and navigation equipment for operations under IFR, or under VFR over routes not navigated by reference to visual landmarks	CAT.IDE.A.345 and CAT.IDE.H.345 Communication and navigation equipment for operations under IFR or under VFR over routes not navigated by reference to visual landmarks	AMC2-CAT.IDE.A.345 and AMC2-CAT.IDE.H.345 Communication and navigation equipment for operations under IFR, or under VFR over routes not navigated by reference to visual landmarks
OPS 1.870 Additional navigation equipment for operations in MNPS airspace	SPA.MNPS.105 MNPS	AMC2-CAT.IDE.A.345 and AMC2-CAT.IDE.H.345
OPS 1.872 Equipment for operation in defined airspace with reduced vertical separation minima (RVSM)	SPA.RVSM.110 RVSM equipment requirements	AMC1-SPA.RVSM.110
OPS 1.873 Electronic navigation data management	CAT.IDE.A.355 Electronic navigation data management	AMC1-CAT.IDE.A.355 Electronic navigation data management
Appendix 1 to OPS 1.1045 Operations Manual Contents	ORO.MLR.101 Operations manual	

Appendix 6

Tentative list of items to be considered by the Drafting Group to advise Agency for deciding to introduce, maintain or remove SPA for certain PBN operations

1. legal tools available to the authorities competent for safety, in order oversee all the actors in the 'total aviation system';
2. the aircraft, including its navigation avionics, has an airworthiness approval covering the type of envisaged IFR operations;
3. the complexity of said IFR operations does not present particular challenges for pilots and operators;
4. the concept and systems upon which the IFR operation will be carried out are mature enough (= not 'new'; standards and requirements validated and proved by experience);
5. the risk associated with normal, abnormal and emergency operations (including to third parties in the air or on the ground) is tolerable;
6. accuracy, integrity, availability and continuity of radio-navigation signals is ensured, under responsibility of a Navigation Service Provider (NSP);
7. appropriate standards for quality and management by procedure designers are established;
8. accuracy and integrity of NAV database is ensured;
9. appropriate training and checking standards for pilots exist and are implemented;
10. requirements on experience and currency of pilots;
11. availability of operator training programmes;
12. availability of operating procedures and check lists;
13. provision of information (e.g. MMEL and training requirements) from holders of Type Certificates (TC) to air operators, throughout the life cycle of the aircraft is ensured (e.g. through Operational Suitability Data); and
14. AIS information (including NOTAM) is provided by an AIS Provider.