

**QUESTIONNAIRE FOR AIRCRAFT OPERATORS/
 OWNERS ON PBN CAPABILITIES**

Introduction

The need to gain this information is vitally important in the implementation of Performance Based Navigation (PBN) within South African airspace in support of Global and Regional initiatives under the guidance of and in accordance with the South African PBN road map. Therefore we would appreciate it if you could take the time to complete the following questionnaire. These kinds of operations have the capability to be very beneficial to the overall efficiency and economics of the operation of your aircraft and they allow for better utilization of the on board equipment. Application of PBN procedures will also benefit the environment. A good understanding of the country's fleet of aircraft and its equipment will enable airspace planners to design airspace more efficiently and make provision for older aircraft that will not necessarily have the equipment installed meeting PBN requirements.

If you have any doubt when completing the questionnaire please contact the aircraft manufacturer or feel free to contact Senior Airworthiness Inspector: Terence Harris on 083 461 6057 or 011 545 1304. The following link to the PBN manual has also been added to aid in the completion of this questionnaire: http://www.ecacnav.com/downloads/9613_final_draft.pdf . This manual is extremely informative and will assist you in having a better understanding of the PBN concept. It is possible that future CAA guidance material and regulation will stem from this manual.

Abbreviations

ABAS	Aircraft Based Augmentation System
AC	Advisory Circular
Baro VNAV	Barometric Vertical Navigation
DME	Distance Measuring Equipment
FAA	Federal Aviation Administration
GNSS	Global Navigation Satellite System
GPS	Global Positioning System
ICAO	International Civil Aviation Organization
IRU	Inertial Reference Unit
OEM	Original Equipment Manufacturer
PBN	Performance Based Navigation
P-RNAV	Precision Area Navigation
RNAV	Area Navigation
RNP	Required Navigation Performance
RNP APCH	Navigation Performance Approach
RNP AR APCH	Required Navigation Performance Authorization Required Approach
SBAS	Satellite Based Augmentation System
STC	Supplemental Type Certificate
TGL	Technical Guidance Leaflet
TSO	Technical Standard Order
VOR	Very High Frequency Omni-directional Radio Range

If you select "YES" in any of the fields, please list the make, model and total number of aircraft in the spaces provided that are certified for the various PBN(Performance Based Navigation) operations as specified in the Aircraft Flight Manual, Aircraft Flight Manual Supplement or other acceptable OEM or STC holder documentation. Some aircraft systems utilize specific sensors or a combination of sensors to meet the accuracy requirements of a specific Navigation Specification. These sensors include GPS(GNSS), IRU, DME/DME, DME/DME/IRU and DME/VOR therefore we request that you mark the applicable sensor or sensor combination that your aircraft systems employ to meet each Nav Spec. If insufficient space is available in the various fields for the number of aircraft that you operate, please record additional information

in the notes section at the end of this questionnaire. Please complete the fields below even if you have already received approval from the SACAA to conduct such operations.

1. Note: RNAV 10 is Designated and Authorised as RNP 10.

2. Note: B-RNAV/RNP 5 is now termed RNAV 5 according to the ICAO PBN manual (Doc 9613).

3. Note: Aircraft AFM, AFM supplements or other OEM or STC holder documentation that indicates that the RNAV system meets the airworthiness criteria of TGL-10 or FAA AC 90-100 is considered to be acceptable for RNAV 1 and RNAV 2. P-RNAV certified systems are also considered acceptable for RNAV 1 and RNAV 2 specifications.

4. Note: RNP 4, Basic-RNP 1, RNP APCH and RNP AR APCH require GPS (GNSS) as the primary sensor to meet the specification.

Name of Operator												:
Primary Base of Operation (Airport ICAO designator):												
Destinations (Airport ICAO designators)												
RNAV 10						Yes		No		Unsure		
Aircraft Make				Aircraft Model:								
Utilizing GPS(GNSS)				IRU as the permitted sensor								
Total RNAV 10 certified Aircraft:												
RNAV 5						Yes		No		Unsure		
Aircraft Make				Aircraft Model								
GPS(GNSS)		IRU		DME/DME		DME/DME/IRU		DME/VOR				
Total RNAV 5 certified Aircraft												
RNAV 2						Yes		No		Unsure		
Aircraft Make				Aircraft Model								
GPS(GNSS)				DME/DME				DME/DME/IRU				
Total RNAV 2 certified Aircraft												
RNAV 1						Yes		No		Unsure		
Aircraft Make				Aircraft Model								
GPS(GNS)		IRU		DME/DME		DME/DME/IRU		DME/VOR				
Total RNAV 1 certified Aircraft												
RNP 4						Yes		No		Unsure		
Aircraft Make				Aircraft Model								
Total RNP 4 certified Aircraft												
Basic-RNP 1						Yes		No		Unsure		
Aircraft Make				Aircraft Model								
Total Basic-RNP 1 certified Aircraft												
RNP APCH (Includes existing RNAV(GNSS) Approach Procedures designed with a straight segment)						Yes		No		Unsure		
Aircraft Make				Aircraft Model								
Total Baro VNAV certified Aircraft excluding VNAV guidance that is advisory only												
Total RNP APCH certified Aircraft												
RNP AR APCH						Yes		No		Unsure		
Aircraft Make				Aircraft Model								
Total Baro VNAV certified Aircraft excluding VNAV guidance that is advisory only												
Total RNP AR APCH certified Aircraft												
Number of Aircraft equipped with ABAS (GPS certified to TSO C-129a)												
Number of Aircraft equipped with SBAS (GPS certified to TSO C-145 or C-146)												

