APPLICATION FOR PBN OPERATIONAL APPROVAL

Applicants are strongly advised to read Section II ‘Notes for Completion' before completing the form. Please complete the form in **BLOCK CAPITALS** using black or dark blue ink.

This form is designed to elicit all the required information from those operators requiring Performance Based Navigation (PBN) operational approvals. The completed form and supporting documentation should be submitted to the Flight Operations Section at the address listed in the 'Notes for Completion'.

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| **Section I** | **Page 1** | **Operator/ Airframe Details** | **Completion mandatory** |
| **Section II** | **Page 1 to 2** | **PBN Notes For Completion** |  |
| **Section III** | **Page 2** | **Signature Block** | **Completion mandatory** |
| **Section IV** | **Page 3 to 16** | **Operator's PBN Submissions Matrix** | **Completion mandatory** |

**SECTION I – OPERATOR/ AIRFRAME DETAILS**

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| 1. **Applicant Details – required for all Approval requests** | | |
| Please give the official name and business or trading name(s), address, mailing address, e-mail address and contact telephone/ fax numbers of the applicant.  ***Note:*** *For AOC holders - company name, AOC number and e-mail address will suffice.* | | |
| **Forename** | **Surname** | |
| **Name of Company** | **AOC no** | |
| **Address of Company** | | |
|  | | **Postcode** |
| **Mailing address (if different from company’s address)** | | |
|  | | **Postcode** |
| **Telephone** | **Fax** | |
| **Email** | **Mobile no** | |

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| 1. **Aircraft Details – required for all Approval requests**   Aeroplane type(s), series and registration mark(s). | | |
| **Aeroplane Type** | **Aeroplane Series** | **Registration** |
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**SECTION II – PBN NOTES FOR COMPLETION**

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| 1. **Applicability** |
| This form shall be used for applications for operational approval for the following PBN specifications:  RNP-AR APCH Generic SPA  RNP-AR APCH Specific SPA  RNP 0.3 |
| Additional guidance can be found in:  BAR 6 subpart SPA.PBN and associated AMC / GM  BAR 6 CAT.IDE.A.355 and associated AMC / GM  ICAO Doc 9613 Performance-Based Navigation (PBN) Manual  FAA Order 8400.12C |
| 1. **Operator's PBN Submissions Matrix** |
| Section IV of this application form is the Operator's PBN Submissions Matrix. All applicants should complete Column 3 Document / System Reference Document / System Reference Document / System Reference of this Document / System Reference in full. If more than one type of aircraft / fleet is included in a single application a completed matrix should be included for each aircraft / fleet.  **Failure to complete the PBN Submissions Matrix may result in a delay in processing your application.** |
| 1. **Documents to be included with the application** |
| Copies of all documents referred to in Column 3 of the Operator's PBN Submissions Matrix should be included when returning the completed application form to the Brunei DCA. Original documents should not be sent, photocopies are sufficient. Do not send complete manuals, only the relevant sections/pages will be required.  **Failure to include all relevant documentation may result in a delay in processing the application.** |

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| 1. **Submissions and Enquiries** | |
| Address for submissions:  ***Flight Operations Section***  ***Regulatory Division***  ***Department of Civil Aviation***  ***Ministry of Transport and Infocommunications***  ***Brunei International Airport***  ***Bandar Seri Begawan, BB2513***  ***Brunei Darussalam*** | Contact details for enquiries:  ***Flight Operations Section***  ***Regulatory Division***  ***Tel: +(673) 233 0142 ext. 1362/1350***  ***Fax: +(673) 234 5345***  ***Email:*** [***flightops.regulatory@dca.gov.bn***](mailto:flightops.regulatory@dca.gov.bn) |

**SECTION III – SIGNATURE BLOCK**

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| **Signature** | **Date** |
| **Name** | **Appointment** |
| Please note that a **minimum** of 60 working days will normally be required to check and confirm the information given above - if data is missing or omitted the process may take **considerably** longer. | |

**SECTION IV – APPLICANT’S PBN SUBMISSIONS MATRIX**

| **BAR 6 Regulation** | **AMC / GM** | **Document / System Reference** | **Remarks** | **🗸** |
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| **GENERAL** | | | | |
| **SPA.PBN.100 PBN operations**  Aircraft shall only be operated in designated airspace, on routes or in accordance with procedures where performance-based navigation (PBN) specifications are established.  **SPA.PBN.105 PBN operational approval**  To obtain a PBN operational approval from the competent authority, the operator shall provide evidence that:   1. the relevant airworthiness approval of the RNAV system has been obtained; 2. a training programme for the flight crew members involved in these operations has been established; 3. operating procedures have been established specifying: 4. the equipment to be carried, including its operating limitations and appropriate entries in the minimum equipment list (MEL); 5. flight crew composition and experience requirements; 6. normal procedures; 7. contingency procedures; 8. monitoring and incident reporting; 9. electronic navigation data management. E.g., EASA Part DAT | **GM1 SPA.PBN.100 PBN operations**  **ICAO Doc 9613 Performance-Based Navigation (PBN) Manual**  **JAA TGL-10** |  |  |  |
| **RNAV 5 (B-RNAV)** | | | | |
|  |  |  | No specific approval required |  |
|  | 4 Airworthiness Approval |  |  |  |
|  | 5 Operational Criteria for use of GPS stand-alone equipment: |  |  |  |
|  | 5.1 General criteria |  |  |  |
|  | 5.2 Normal procedures  Pre-flight planning - RAIM check  Check of database validity  Selection of conventional navaids for cross-check and reversion |  |  |  |
|  | Annex 1 RAIM |  |  |  |
|  | 5.3 Abnormal procedures  Loss of RAIM detection  Degraded ANP |  |  |  |
| **RNAV 1 (P-RNAV)** | | | | |
|  | **EASA (JAA TGL-10)** |  |  |  |
|  | 8 Airworthiness compliance |  |  |  |
|  | 9.2 AFM and / or POH:  Limitations  Normal procedures  Abnormal procedures  Emergency procedures  Performance |  |  |  |
|  | 10 Operational criteria |  |  |  |
|  | 10.1 General  10.1.1 Operational evaluation |  |  |  |
|  | 10.2 Normal procedures |  |  |  |
|  | 10.2.1 Pre-flight planning  Availability of infrastructure, on-board equipment and database  Availability of dual systems where AIP requires  Availability of RAIM for stand-alone GPS system |  |  |  |
|  | 10.2.2 Departure  System initialisation cross-checks  Prohibition of manual waypoint creation  Pre-departure system and initialisation check  Runway position update  Flight progress monitoring  Requirement for initial conventional navigation if runway position update not achieved |  |  |  |
|  | 10.2.3 Arrival  System initialisation cross-checks  Prohibition of manual waypoint creation  Preparation for reversion to conventional navigation  Flight progress monitoring  Instructions for route modification  Compliance with altitude and speed constraints |  |  |  |
|  | 10.3 Contingency procedures  Response to cautions and warnings  Notification of malfunctions to ATC  Communications failure  Reversion to alternative means of navigation |  |  |  |
|  | 10.4 Incident reporting  Aircraft system malfunctions  Navigation errors caused by ground navigational facilities |  |  |  |
|  | 10.5 Flight crew training  RNAV theory  Limitations  Normal procedures  R/T phaseology  Contingency procedures  Implications of non-RNAV related system failures |  |  |  |
|  | 10.6 Database integrity  EASA Part DAT or FAA type 2 LOA  Response to database discrepancies |  |  |  |
|  | 10.7 Flight operations documentation  POH / POM / FCOM  Checklists  MEL |  |  |  |
|  | *RESERVED*  ***Requirements under development*** |  | RNAV 4 meets NAT MNPS requirements. |  |
| **RNP APCH (LNAV & LNAV/VNAV)** | | | | |
|  | **EASA AMC 20-27** |  |  |  |
|  | 8 Airworthiness compliance |  |  |  |
|  | 9 AFM / POH  Statement of equipment standard and suitability for RNAV operations  Introduction to RNAV (GNSS) concept with RNP APCH terminology  Limitations  Normal procedures  Abnormal procedures |  |  |  |
|  | 10 RNP APCH operational criteria |  |  |  |
|  | 10.1 Flight operations documentation  OM Part B (AOM / FCOM)  OM Part D (Training manual)  MEL |  |  |  |
|  | Appendix 4 Operational procedures |  |  |  |
|  | 1 Normal procedures |  |  |  |
|  | 1.1 Pre-flight planning  Filing of flight plan  Validity of database  Valid approach chart and minima  Approach permitted and selectable from database  System initialisation cross-checks  Contingency approaches:  Non-RNP APCH procedure at alternate aerodrome (destination alternate required), or  Non-RNP APCH procedure at destination aerodrome (destination alternate not required)  Check of availability of aircraft systems, aerodrome procedures  Check of means to fly missed  Check of means to fly missed approach procedure  Check of RAIM availability  Check of MEL |  |  |  |
|  | 1.2 Prior to commencing the procedure  Cross check of loaded procedure against chart  GNSS sensor in use for position computation  Input and cross-check of QNH (ABAS if required)  Check of RAIM availability or RNP alerts  Cold temperature corrections  Compliance with minimum temperature restrictions (unless system has temperature compensation)  Implications of route modifications  Prohibition of flight path revisions between FAF and MAPt |  |  |  |
|  | 1.3 During the procedure  Intercept final approach no later than FAF or FAF -2NM for LPV.  Check approach mode annunciated / activated  Altimeter cross-check at or before FAF  Cross-check VNAV path vs. barometric altimeters  Cross check VS vs descent angle  Select appropriate displays  Triggers for discontinuation of approach  Use of RNAV system for missed  Lateral and vertical deviation limitations and monitoring  Procedures for single system failure (dual systems required) |  |  |  |
|  | 2 Abnormal procedures  System failures and RAIM  Notification of ATC  Communication failure |  |  |  |
|  | 10.2 Flight crew training  Appendix 5 Theoretical training  Normal operations  Abnormal operations  Altimeter setting  Cold temperature  Recurrent training  OPC |  |  |  |
|  | 10.3 Aerodrome competence and operator verification  Aerodrome categorisation and crew authorisation (where applicable - see 10.3 note)  Operational evaluation (see Appendix 2)  10.4 Navigation database management |  |  |  |
|  | 10.4.1 Part-CAT operator |  | See AMC1 CAT.IDE.A.355 Electronic navigation data management  GM1 CAT.IDE.A.355 Electronic navigation data management |  |
|  | 10.4.2 Non Part-CAT operator  EASA / FAA / TC LoA (and equivalence) |  |  |  |
|  | 10.4.2.1 Non-approved suppliers  See Appendix 3 for acceptable methodology |  |  |  |
|  | 10.4.2.3 Quality monitoring |  |  |  |
|  | 10.4.2.4 Data distribution |  |  |  |
|  | 10.5 Reportable events |  | Integrate with Part-CAT requirements, where applicable |  |
| **RNP APCH (LPV)** | | | | |
|  | **EASA AMC 20-28** |  |  |  |
|  | 8 Airworthiness compliance |  |  |  |
|  | 9 AFM / POH  Statement of equipment standard and suitability for LPV operations  Introduction to LPV concept  Limitations  Normal procedures  Abnormal procedures |  |  |  |
|  | 10 LPV operational criteria |  |  |  |
|  | 10.1 Flight operations documentation  OM Part B (AOM / FCOM)  See Appendix 3  Checklists  (MEL) |  |  |  |
|  | 10.2 Flight Crew training  Including qualification criteria  See Appendix 4 |  |  |  |
|  | 10.3 Aerodrome competence and operator verification  See Appendix 2 |  |  |  |
|  | 10.4 Navigation database management |  |  |  |
|  | 10.4.1 Part-CAT operator |  | See AMC1 CAT.IDE.A.355 Electronic navigation data management  GM1 CAT.IDE.A.355 Electronic navigation data management |  |
|  | 10.4.2 Non Part-CAT operator  EASA / FAA / TC LoA (and equivalence) |  |  |  |
|  | 10.4.3 Reportable events |  | Integrate with Part-CAT requirements, where applicable |  |
|  | Appendix 3 LPV Approach Operational procedures |  |  |  |
|  | 1 Normal procedures |  |  |  |
|  | 1.1 Pre-flight planning  Validity of database  Valid approach chart and minima  Approach permitted and selectable from database  System initialisation cross-checks  Contingency approaches:  Non-RNP APCH procedure at alternate aerodrome (destination alternate required), or  Non-RNP APCH procedure at destination aerodrome (destination alternate not required)  Check of availability of aircraft systems, aerodrome procedures  Check of means to fly missed approach procedure  Check of MEL |  |  |  |
|  | 1.2 Prior to commencing the procedure  Cross check of loaded procedure against chart  Implications of route modifications  System allows intercept of FAT before FAP  Prohibition of flight path revisions between FAF and MAPt |  |  |  |
|  | 1.3 During the procedure  Intercept final approach no later than FAF  Check LPV or equivalent mode annunciated / activated before FAP  Lateral (⅓ scale) and vertical (½ scale) deviation monitoring  Triggers for discontinuation of approach  Reversion to LNAV minima if above 1,000' AGL  Use of RNAV system for missed approach |  |  |  |
|  | 2 Abnormal procedures  System failures  Loss of integrity annunciation  Warning flag on lateral / vertical displays  System downgrade including to LNAV  Notification of ATC  Communication failure |  |  |  |
|  | Appendix 4 Flight Crew training syllabus  1 RNAV approach concept containing LPV minima  2 RNAV approach operation containing LPV minima |  |  |  |
| **RNAV 10** | | | | |
|  |  | **AFM / STC** | RNP 10 does not require performance monitoring and alerting onboard the aircraft.  RNP 10 is being retained as the designation (as opposed to the correct RNAV 10)because it is in common use worldwide. |  |
|  | 4.1 Airworthiness approval |  |  |
|  | 4.2 Required equipment and performance |  |  |
|  | 4.3 Eligibility for RNP-10 operations  3 aircraft eligibility groups:  4.3.1 Group 1  Certified RNP systems integrated with aircraft  4.3.2 Group 2  Aircraft eligibility through prior navigation system certification  Inertial systems (6.2 hours limit)  GPS-only long range navigation (dual system required with RAIM & FDE)  Integrated GPS / inertial systems  4.3.3 Group 3  Aircraft eligibility through data collection (older aircraft) |  |  |  |
|  | 4.4 Operational approval and procedures  Eligibility  Aircraft equipment and MEL  Operational procedures and training  Flight crew, maintenance and dispatcher training  Operations manuals and checklists  MEL  Inclusion of RNP-10 time limit and position updating (where applicable) |  | AMC refers to FAA Order 8400.12A "Required Navigation Performance 10 (RNP-10) Operational Approval", issued 9th February 1998.  Superseded by 8400.12C, issued 09 November 2011.  Operational and training procedures are broadly equivalent to AMC-20 requirements for B-RNAV and P-RNAV. Refer to FAA Order 8400.12A for details. |  |
|  | 4.5 Position updating (where applicable) |  |  |  |
|  | 4.6 Incident reporting |  |  |  |
| **RNP AR (APCH)** | | | | |
|  | **EASA AMC 20-26** |  |  |  |
|  | *RESERVED*  *Brunei DCA does not currently approve RNP AR APCH* |  |  |  |

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| **Any Further Comments to Support the Application** |
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