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**
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| 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**
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| This form shall be used for applications for operational approval for the following PBN specifications:RNP-AR APCH Generic SPARNP-AR APCH Specific SPARNP 0.3 |
| Additional guidance can be found in:BAR 6 subpart SPA.PBN and associated AMC / GMBAR 6 CAT.IDE.A.355 and associated AMC / GMICAO Doc 9613 Performance-Based Navigation (PBN) ManualFAA Order 8400.12C |
| 1. **Operator's PBN Submissions Matrix**
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| 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**
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| 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**
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| 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*** |

**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 operatorshall 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 proceduresPre-flight planning - RAIM checkCheck of database validitySelection of conventional navaids for cross-check and reversion |   |   |  |
|  | Annex 1 RAIM |   |   |  |
|  | 5.3 Abnormal proceduresLoss of RAIM detectionDegraded ANP |   |   |  |
| **RNAV 1 (P-RNAV)** |
|  | **EASA (JAA TGL-10)** |   |   |  |
|  | 8 Airworthiness compliance |   |   |  |
|  | 9.2 AFM and / or POH:LimitationsNormal proceduresAbnormal proceduresEmergency proceduresPerformance |   |   |  |
|  | 10 Operational criteria |   |   |  |
|  | 10.1 General10.1.1 Operational evaluation |   |   |  |
|  | 10.2 Normal procedures |   |   |  |
|  | 10.2.1 Pre-flight planningAvailability of infrastructure, on-board equipment and databaseAvailability of dual systems where AIP requiresAvailability of RAIM for stand-alone GPS system |   |   |  |
|  | 10.2.2 DepartureSystem initialisation cross-checksProhibition of manual waypoint creationPre-departure system and initialisation checkRunway position updateFlight progress monitoringRequirement for initial conventional navigation if runway position update not achieved |   |   |  |
|  | 10.2.3 ArrivalSystem initialisation cross-checksProhibition of manual waypoint creationPreparation for reversion to conventional navigationFlight progress monitoringInstructions for route modificationCompliance with altitude and speed constraints |   |   |  |
|  | 10.3 Contingency proceduresResponse to cautions and warningsNotification of malfunctions to ATCCommunications failureReversion to alternative means of navigation |   |   |  |
|  | 10.4 Incident reportingAircraft system malfunctionsNavigation errors caused by ground navigational facilities |   |   |  |
|  | 10.5 Flight crew trainingRNAV theoryLimitationsNormal proceduresR/T phaseologyContingency proceduresImplications of non-RNAV related system failures |   |   |  |
|  | 10.6 Database integrityEASA Part DAT or FAA type 2 LOAResponse to database discrepancies |   |   |  |
|  | 10.7 Flight operations documentationPOH / POM / FCOMChecklistsMEL |   |   |  |
|  | *RESERVED****Requirements under development*** |   | RNAV 4 meets NAT MNPS requirements. |  |
| **RNP APCH (LNAV & LNAV/VNAV)** |
|  | **EASA AMC 20-27** |   |   |  |
|  | 8 Airworthiness compliance |   |   |  |
|  | 9 AFM / POHStatement of equipment standard and suitability for RNAV operationsIntroduction to RNAV (GNSS) concept with RNP APCH terminologyLimitationsNormal proceduresAbnormal procedures |   |   |  |
|  | 10 RNP APCH operational criteria |   |   |  |
|  | 10.1 Flight operations documentationOM Part B (AOM / FCOM)OM Part D (Training manual)MEL |   |   |  |
|  | Appendix 4 Operational procedures |   |   |  |
|  | 1 Normal procedures |   |   |  |
|  | 1.1 Pre-flight planningFiling of flight planValidity of databaseValid approach chart and minimaApproach permitted and selectable from databaseSystem initialisation cross-checksContingency approaches:Non-RNP APCH procedure at alternate aerodrome (destination alternate required), orNon-RNP APCH procedure at destination aerodrome (destination alternate not required)Check of availability of aircraft systems, aerodrome proceduresCheck of means to fly missedCheck of means to fly missed approach procedureCheck of RAIM availabilityCheck of MEL |   |   |  |
|  | 1.2 Prior to commencing the procedureCross check of loaded procedure against chartGNSS sensor in use for position computationInput and cross-check of QNH (ABAS if required)Check of RAIM availability or RNP alertsCold temperature correctionsCompliance with minimum temperature restrictions (unless system has temperature compensation)Implications of route modificationsProhibition of flight path revisions between FAF and MAPt |   |   |  |
|  | 1.3 During the procedureIntercept final approach no later than FAF or FAF -2NM for LPV.Check approach mode annunciated / activatedAltimeter cross-check at or before FAFCross-check VNAV path vs. barometric altimetersCross check VS vs descent angleSelect appropriate displaysTriggers for discontinuation of approachUse of RNAV system for missedLateral and vertical deviation limitations and monitoringProcedures for single system failure (dual systems required) |   |   |  |
|  | 2 Abnormal proceduresSystem failures and RAIMNotification of ATCCommunication failure |   |   |  |
|  | 10.2 Flight crew trainingAppendix 5 Theoretical trainingNormal operationsAbnormal operationsAltimeter settingCold temperatureRecurrent trainingOPC |   |   |  |
|  | 10.3 Aerodrome competence and operator verificationAerodrome 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 managementGM1 CAT.IDE.A.355 Electronic navigation data management |  |
|  | 10.4.2 Non Part-CAT operatorEASA / FAA / TC LoA (and equivalence) |   |   |  |
|  | 10.4.2.1 Non-approved suppliersSee 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 / POHStatement of equipment standard and suitability for LPV operationsIntroduction to LPV conceptLimitationsNormal proceduresAbnormal procedures |   |   |  |
|  | 10 LPV operational criteria |   |   |  |
|  | 10.1 Flight operations documentationOM Part B (AOM / FCOM)See Appendix 3Checklists(MEL) |   |   |  |
|  | 10.2 Flight Crew trainingIncluding qualification criteriaSee Appendix 4 |   |   |  |
|  | 10.3 Aerodrome competence and operator verificationSee Appendix 2 |   |   |  |
|  | 10.4 Navigation database management |   |   |  |
|  | 10.4.1 Part-CAT operator |   | See AMC1 CAT.IDE.A.355 Electronic navigation data managementGM1 CAT.IDE.A.355 Electronic navigation data management |  |
|  | 10.4.2 Non Part-CAT operatorEASA / 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 planningValidity of databaseValid approach chart and minimaApproach permitted and selectable from databaseSystem initialisation cross-checksContingency approaches:Non-RNP APCH procedure at alternate aerodrome (destination alternate required), orNon-RNP APCH procedure at destination aerodrome (destination alternate not required)Check of availability of aircraft systems, aerodrome proceduresCheck of means to fly missed approach procedureCheck of MEL |   |   |  |
|  | 1.2 Prior to commencing the procedureCross check of loaded procedure against chartImplications of route modificationsSystem allows intercept of FAT before FAPProhibition of flight path revisions between FAF and MAPt |   |   |  |
|  | 1.3 During the procedureIntercept final approach no later than FAFCheck LPV or equivalent mode annunciated / activated before FAPLateral (⅓ scale) and vertical (½ scale) deviation monitoringTriggers for discontinuation of approachReversion to LNAV minima if above 1,000' AGLUse of RNAV system for missed approach |   |   |  |
|  | 2 Abnormal proceduresSystem failures Loss of integrity annunciationWarning flag on lateral / vertical displaysSystem downgrade including to LNAVNotification of ATCCommunication failure |   |   |  |
|  | Appendix 4 Flight Crew training syllabus1 RNAV approach concept containing LPV minima2 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 operations3 aircraft eligibility groups:4.3.1 Group 1Certified RNP systems integrated with aircraft4.3.2 Group 2Aircraft eligibility through prior navigation system certificationInertial systems (6.2 hours limit)GPS-only long range navigation (dual system required with RAIM & FDE)Integrated GPS / inertial systems4.3.3 Group 3Aircraft eligibility through data collection (older aircraft) |   |   |  |
|  | 4.4 Operational approval and proceduresEligibilityAircraft equipment and MELOperational procedures and training Flight crew, maintenance and dispatcher trainingOperations manuals and checklistsMELInclusion 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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