|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|

|  |  |  |
| --- | --- | --- |
| REFERENCES | ISSUE DATE | TITLE |
| ED 2006/12/R  | 22/12/06 | Acceptable means of compliance |
| AMC 20-12 | 22/12/06 | Recognition of FAA 8400.12a by EASA |
| ICAO Doc 9613 | 2008 | PBN Manual |
| FAA 8400.12A | 2/9/98 | REQUIRED NAVIGATION PERFORMANCE 10 (RNP-10) OPERATIONAL APPROVAL |

 |



## ΑΙΤΗΣΗ ΓΙΑ ΠΙΣΤΟΠΟΙΗΣΗ RNP-10

Application Form for RNP-10Approval

(Airworthiness & Operational Approval Conformance Document)

|  |
| --- |
| **1. Applicant / Operator** |
| **Name** |  |
| **Address** |  |
| **Tel** |  | **Fax** |  |
| **Contact person** |  |
|  |
| **2. Aircraft** |
| **Aircraft Type** |  |
| **Aircraft S/N** |  | **Aircraft Registration** |  |
|  |
| 1. **Long Range** **Navigation system**
 |
| **Make** |  | **Model** |  |
| **Type** |  | **Software status** |  |
| **P/N** |  | **TSO** |  |
| *Refer to*  |
| **4. Aircraft Eligibility Group** |
| **Group 1: Yes** *[ ]*  **No** *[ ]* *Group 1 aircraft are those that have obtained formal certification and approval of RNP capable systems integrated in the aircraft.* |
| **Group 2a: Yes** *[ ]*  **No** *[ ]* *Group 2a are those equipped with Inertial Systems These aircraft are considered to meet all of the RNP-10 requirements for up to 6.2 hours of flight time if the inertial systems have been shown to meet the intent of CFR Part 121, Appendix G1, or equivalent criteria* |
| **Group 2b: Yes** *[ ]*  **No** *[ ]* *Aircraft where GPS provides the only means of long range navigation* |
| **Group 2c: Yes** *[ ]*  **No** *[ ]* *Group 2c are those equipped with*  *Multisensor Systems Integrating GPS with Inertial Data.Multisensor systems integrating GPS with RAIM, FDE or an equivalent integrity method that are approved in accordance with FAA AC 20-130A are considered to meet RNP-10 requirements without time limitations* |
| **Group 3: Yes** *[ ]*  **No** *[ ]* *Group 3 represents older out-of-production aircraft that contain widely varying navigation capability.* |
| **5. LRNS configuration** |
| 1. Is aeroplane position automatically determined from INS?
 | **Yes** *[ ]*  | **No** *[ ]*  |
| 1. Is aeroplane position automatically determined from IRS?
 | **Yes** *[ ]*  | **No** *[ ]*  |
| 1. Define number of INS/FMS installed
 |  **( )** |
| 1. Is aeroplane position automatically determined from INS/IRS systems with automatic updating from suitable radio based navigation equipment?
 | **Yes** *[ ]*  | **No** *[ ]*  |
| 1. Define radio updating (VOR/DME/GPS/etc)
 | **Yes** *[ ]*  | **No** *[ ]*  |
| 1. Is aeroplane position automatically determined from INS/IRS systems without automatic updating from suitable radio based navigation equipment?
 | **Yes** *[ ]*  | **No** *[ ]*  |
| 1. Is aeroplane position automatically determined from independent (stand-alone) GPS systems?
 | **Yes** *[ ]*  | **No** *[ ]*  |
| 1. Is aeroplane position automatically determined from FMS / Multi-sensor navigation systems integrating GPS?
 | **Yes** *[ ]*  | **No** *[ ]*  |
| 1. Is a single navigation systems installed?
 | **Yes** *[ ]*  | **No** *[ ]*  |
| 1. Are dual navigation systems installed?
 | **Yes** *[ ]*  | **No** *[ ]*  |
| 1. Are dual independent long-range navigation systems installed?
 | **Yes** *[ ]*  | **No** *[ ]*  |
| 1. Are triple independent long-range navigation systems installed?
 | **Yes** *[ ]*  | **No** *[ ]*  |
| *Refer to*  |
| **6. Procedure for position updating** |
| 1. Included in operator training program?
 | **Yes** *[ ]*  | **No** *[ ]*  |
| 1. Crews are knowledge of the updating procedure?
 | **Yes** *[ ]*  | **No** *[ ]*  |
|  |
| **7.Aircraft Position relative to desired track –Auto pilot** |
| Each LRNS must be capable of providing to the flight crew a continuous indication of the aircraft position relative to desired track. | **Yes** *[ ]*  | **No** *[ ]*  |
| It is highly desirable that the navigation system employed for the provision of steering guidance is capable of being coupled to the autopilot**.** | **Yes** *[ ]*  | **No** *[ ]*  |
|  |
| **8. Approval of the installation** |
| Type design | *[ ]*  | *Refer to*  |
| FAA STC | *[ ]*  |  |
| Service Bulletin | *[ ]*  |  |
| Major Modification | *[ ]*  |  |
| EASA approved STC | *[ ]*  |  |
| JAA STC | *[ ]*  |  |
| Other | *[ ]*  |  |
|  |
| **9. AFM or AFM Supplement** |
| **Aeroplane Flight Manual (or AFM Supplement) shows following airworthiness approval for navigation system installation:** |
| FAA AC 20-130A | **Yes** *[ ]* **No** *[ ]*  | FAA TSO-C146 | **Yes** *[ ]* **No** *[ ]*  |
| FAA AC 20-138 | **Yes** *[ ]* **No** *[ ]*  | FAA TSO-C129a | **Yes** *[ ]* **No** *[ ]*  |
| FAA AC 25-4 | **Yes** *[ ]* **No** *[ ]*  | JAA JTSO-2C115 | **Yes** *[ ]* **No** *[ ]*  |
| FAA AC 90-45A | **Yes** *[ ]* **No** *[ ]*  | JAA JTSO-2C129a | **Yes** *[ ]* **No** *[ ]*  |
| FAA AC 25-15 | **Yes** *[ ]* **No** *[ ]*  | JAA GEN TGL No. 10 | **Yes** *[ ]* **No** *[ ]*  |
| RNP-10 | **Yes** *[ ]* **No** *[ ]*  | JAA AMJ 20X2 | **Yes** *[ ]* **No** *[ ]*  |
| FAA Notice 8110.60 | **Yes** *[ ]* **No** *[ ]*  | FAA AC 90-94 | **Yes** *[ ]* **No** *[ ]*  |
| FAA TSO-C115 | **Yes** *[ ]* **No** *[ ]*  | FAA Order 8400.12A | **Yes** *[ ]* **No** *[ ]*  |
| FAA TSO-C145 | **Yes** *[ ]* **No** *[ ]*  |  |  |
|  |  |  |  |
| Other | **Yes** *[ ]* **No** *[ ]*  (If Yes please refer below) |
|  |  |  |  |  |
| *Refer to*  |
| **10. LRNS based only in INS/IRS** |
| (Unless otherwise specified in the AFM (Supplement) ,INS/IRS system are limited to a maximum XX -hour time limit for operation in designated RNP-10 routes) |
| Limitation applicable? | **Yes** *[ ]*  | **No** *[ ]*  |
| If "yes" state limit in hours (in miles): | Not applicable |
|  |
| **11. LRNS based only in GPS** |
| 1. If operations are based on stand-alone GPS navigation equipment, availability of GPS integrity should be confirmed and obtained from a Receiver Autonomous Integrity Monitoring (RAIM) prediction program that is provided in the GPS unit in the aeroplane, a prediction program run outside the aeroplane, or an alternate method considered acceptable to the HCAA.
 |
| * RAIM prediction program provided in the aeroplane?
 | **Yes** *[ ]*  | **No** *[ ]*  |
| * RAIM prediction program run outside the aeroplane
 | **Yes** *[ ]*  | **No** *[ ]*  |
| 1. If operations are based on stand-alone GPS navigation equipment, availability of GPS integrity should be confirmed and obtained from an approved dispatch fault detection and exclusion (FDE) availability prediction program.
 |
| * Satellite Fault Detection an Exclusion (FDE) capability?
 | **Yes** *[ ]*  | **No** *[ ]*  |
| 1. RNP-10 operations with stand-alone GPS navigation equipment approved i.a.w. TSO-C129, but do not provide pseudorange step detection and health word checking functions, are limited to flights where maximum RAIM outages do not exceed 5 minutes.
 |
| * Limitation applicable?
 | **Yes** *[ ]*  | **No** *[ ]*  |
| 1. If GPS serves as only one of the two required LRNSs, then it must be approved in accordance with FAA TSO-C129 as Class A1, A2, B1, B2, C1 or C2, or with equivalent national or JAA documentation.
 |
|  | **Yes** *[ ]*  | **No** *[ ]*  |
| **Note :** In these cases, operators conducting GPS primary means navigation in RNP-10 routes must utilise a Fault Detection and Exclusion (FDE) Availability Prediction Programme for the installed GPS equipment; one that is capable of predicting, prior to departure for flight on a specified route, the following:* the maximum outage duration of the loss of fault exclusion;
* the loss of fault detection; and
* the loss of navigation function.
 |
| ***Operator response:*** |
|  |
| **12. MEL** |
| The applicant should provide a configuration list of equipment to be used for RNP-10 operations. The MEL (MMEL) should be reviewed to ensure its compatibility with RNP-10 operations. Specific attention should be directed to the need for three inertial navigation units for dispatch if RNP-10 approval is based on a triple-mix solution. |
| **MEL covers RNP-10 requirements?** | **Yes** *[ ]*  | **No** *[ ]*  |
| (appropriate sections should be submitted) |
| ***Operator response:*** |
| *Refer to*  |
| **13. MAINTENANCE PROGRAM** |
| Aircraft should have an established maintenance program for the individual navigation systems. For others installing navigation systems, the operator will submit those changes appropriate to their existing maintenance manual for review and acceptability. |
| **Are there any additional maintenance requirements added to the maintenance program?** | **Yes** *[ ]*  | **No** *[ ]*  |
| **Maintenance Program reference** |  |
|  |
| 14. Operational Procedures and Training (refer to appendix 1) |
| Applicant should demonstrate to the responsible authority that the training items related to RNP-10 operations are incorporated into flight crew training.Training for other personnel should be included where appropriate (e.g., dispatchers and maintenance personnel). | **Yes** *[ ]*  | **No** *[ ]*  |
| Operating manuals and checklists should be revised to include information and guidance appropriate to RNP-10 operations. The manuals should include operating instructions for the navigation equipment, and RNP-10 operational procedures (see Appendix 4 of the Order). | **Yes** *[ ]*  | **No** *[ ]*  |
| Operating procedures will need to take account of the RNP-10 time limit declared for the inertial system, if applicable, considering also the effect of weather conditions that could affect flight duration in RNP-10 airspace. | **Yes** *[ ]*  | **No** *[ ]*  |
| Awareness of the necessity for follow up action after navigation error reports and the potential for removal of RNP-10 operating authority. | **Yes** *[ ]*  | **No** *[ ]*  |
| *Refer to*  |
| ***15.Reporting*** |
| Significant incidents associated with the operation of the aircraft that affect or could affectthe safety of RNP-10 operations (i.e. navigation error) will need to be reported inaccordance with applicable operational rules. **Yes** *[ ]* **No** *[ ]*  |
| *Refer to* |
| **16. Supporting documents to be submitted** |
| **For all of the above Paragraphs 3-15 supporting documentation should be submitted with the current application.** |
| **16. Applicant Compliance statement** |
| **I hereby declare that all documentation and information submitted have been verified and found in compliance with Regulation (EC) No 216/2008, its Implementing Rules and all other applicable requirements/procedures.**  |
| **Continuing Airworthiness Manager****(name)** |  | **(Signature)** |
| **Flight Operation Manager****(name)** |  | **(Signature)** |
| **Date** |