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|  | ΑΙΤΗΣΗ ΓΙΑ ΠΙΣΤΟΠΟΙΗΣΗ MNPSApplication Form for MNPS Approval(Airworthiness & Operational Approval Conformance Document) |
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| **REFERENCES** | ISSUE DATE | **TITLE** |
| Reg. (EU) No 965/2012 | 5 October 2012 | SPA.MNPS.100 MNPS operational approval |
| ICAO Doc 7030 | 2008 | Regional Supplementary Procedures |
| Doc. 9613-AN/937 First Edition |  | Manual on Required Navigation Performance (RNP) |
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| **1. Applicant / Operator** |
| **Name** |  |
| **Address** |  |
| **Tel** |  | **e-mail** |  |
| **Contact person** |  |
| **e-paravolo (*if applicable)*** |
| **2. Aircraft** |
| **Aircraft Type** |  |
| **Aircraft S/N** |  | **Aircraft Registration** |  |
| **Engine Type** |  | **Engine S/N 1:****Engine S/N 2:** | **Engine S/N 3:****Engine S/N 4:** |
|  |
| **3. Requested MNPS Area by the applicant:** |
| **Africa-Indian Ocean (AFI): Yes** *[ ]* **No** *[ ]* **Caribbean (CAR): Yes** *[ ]* **No** *[ ]* **European (EUR) Regional: Yes** *[ ]* **No** *[ ]* **Middle East/Asia (MID/ASIA: Yes** *[ ]* **No** *[ ]* **North America (NAM): Yes** *[ ]* **No** *[ ]* **North Atlantic (NAT): Yes** *[ ]* **No** *[ ]* **Pacific (PAC): Yes** *[ ]* **No** *[ ]* **South American (SAM): Yes** *[ ]* **No** *[ ]*  |
| **Part 1 Airworthiness** |
| **SPA.MNPS.105 MNPS operational approval**To obtain an MNPS operational approval from the competent authority, the operator shall provide evidence that: (a) the navigation equipment meets the required performance; |
| **4.Other approvals held by the applicant for the specific aircraft type:** |
| **RNAV 1; Yes** *[ ]*  |
| **RNP 4; Yes** *[ ]*  |
| **RNAV 10 (RNP10) Yes** *[ ]*  |
| **RNP 1/RNP 2 Yes** *[ ]*  |
| **RNP APCH — LNAV minima Yes** *[ ]*  |
| **RNP APCH — LNAV/VNAV minima Yes** *[ ]*  |
| **RNP APCH — LPV minima Yes** *[ ]*  |
| **RNP 2 oceanic Yes** *[ ]*  |
| **RVSM Yes** *[ ]*  |
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| **5. AFM or AFM Supplement** |
| **Aeroplane Flight Manual (or AFM Supplement) shows the following airworthiness approval for navigation system installed :** |
| 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** *[ ]*  |
| **RNP10 (RNAV 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** *[ ]*  | **MNPS**  | **Yes** *[ ]* **No** *[ ]*  |
|  | **Yes** *[ ]* **No** *[ ]*  | **RNP4** | **Yes** *[ ]* **No** *[ ]*  |
| Other | **Yes** *[ ]* **No** *[ ]*  (If Yes refer below) |
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| **6. LATERAL CERTIFICATION - Long Range** **Navigation System** |
| **Manufacturer** |  | **Model** |  |
| **Type** |  | **Software status** |  |
| **P/N** |  | **TSO** |  |
| Number of independent LRNS installed : **One** *[ ]* **Two** *[ ]* ***Three****[ ]*  |
| **Navigation Data Base Provider:**  |
| **7. Aircraft eligibility for MNPS shown in :** |
| AFM | *[ ]*  |  |
| Type design (TCDS) | *[ ]*  |  |
|  STC | *[ ]*  |  |
| Service Bulletin | *[ ]*  |  |
| Major Modification | *[ ]*  |  |
| Compliance statement from the Manufacturer  | *[ ]*  |  |
| Other | *[ ]*  |  |
|  |
| **8. LRNS configuration** |
| 1. Is aeroplane position automatically determined from VOR/DME sensors?
 | **Yes** *[ ]*  | **No** *[ ]*  |
| 1. Is aeroplane position automatically determined from DME/DME sensors?
 | **Yes** *[ ]*  | **No** *[ ]*  |
| 1. Is aeroplane position automatically determined from INS/IRS systems with automatic updating from suitable radio based navigation equipment?
 | **Yes** *[ ]*  | **No** *[ ]*  |
| 1. Is aeroplane position automatically determined from INS/IRS systems without automatic updating from suitable radio based navigation equipment?
 | **Yes** *[ ]*  | **No** *[ ]*  |
| In case (d) is applicable refer to time limitation regarding RNP10 accuaracy: | **In hrs:………….** |
| 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. Indication of Estimate Time of Arrival (ETA) provided?
 | **Yes** *[ ]*  | **No** *[ ]*  |
| 1. Aircraft Master Clock could be reset and adjusted only in pre-flight?
 | **Yes** *[ ]*  | **No** *[ ]*  |
|  |
| **9.Accuracy provided** |
| **The LRNS provides accuracy of less than …………………….**  (miles) |
| (The NAT MNPS *defines* a requirement for the standard deviation of lateral track errors to be less than 6.3 nm. This effectively equates to an RNP value of 12.6 nm) |
| *Refer to*  |
| **10. 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** *[ ]*  |
| **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. MNPS 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 MNPS Airspace 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:*** |
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| **12. Communication/Surveillance equipments** |
| Extended overwater operations shall not be performed unless at least dual long-range communication (LRCS) equipment (HF Voice / Data Link, SATCOM, SELCAL etc.) is installed and operational. |
|  | **Yes**  | **No**  | ***No inst.*** | ***Model*** | ***Type*** | ***TSO*** |
|  LRCS (HF) installed | *[ ]*  | *[ ]*  | *( )* |  |  |  |
| VHF installed? | *[ ]*  | *[ ]*  | *( )* |  |  |  |
| SELCAL | *[ ]*  | *[ ]*  | *( )* |  |  |  |
| *SATCOM*  | *[ ]*  | *[ ]*  | *( )* |  |  |  |
| *CPDLC* | *[ ]*  | *[ ]*  | *( )*  |  |  |  |
| *Other*  | *[ ]*  | *[ ]*  | *( )* |  |  |  |
| *RCP in compliance with RCP240*  | *[ ]*  | *[ ]*  |  |  |  |  |
|  |
| **Aircraft Transponder** |
| **Aircraft is equipped with : Yes □ No □****Mode S (ELS): Yes □ No □****Mode S (EHS): Yes □ No □****ADS-B (in): Yes □ No □****ADS-B (in/out) : Yes □ No □****Surveillance RSP is compliant with RSP 180): Yes □ No □** |
| **14. ACAS II system installed** |
| **Manufacturer** |  | **Model** |  |
| **Type** |  | **P/N** |  |
| **TSO** |  |  |  |
| ***Operator response:*** |
| *Refer to*  |
| **15. ELT installed** |
| **Manufacturer** |  | **P/N** |  |
| **Type** |  | **TSO** |  |
| **No installed** |  | ***One*** *[ ]* ***Two****[ ]*  |
| ***Operator response:*** |
| *Refer to*  |
| **16. MEL** |
| The applicant has revise relevant parts of the MEL to reflect system requirements appropriate for MNPS operations |
| **MEL covers MNPS requirements?** | **Yes** *[ ]*  | **No** *[ ]*  |
| (appropriate sections of MEL should be submitted) |
| ***Operator response:*** |
| *Refer to*  |
| **Part 2 Operations****SPA.MNPS.100 MNPS operations**Aircraft shall only be operated in designated minimum navigation performance specifications (MNPS) airspace in accordance with regional supplementary procedures, where minimum navigation performance specifications are established, if the operator has been granted an approval by the competent authority to conduct such operations.**GM1 SPA.MNPS.100 MNPS operations**MNPS and the procedures governing their application are published in the Regional Supplementary Procedures, ICAO Doc 7030, as well as in national AIPs. |
| **17. Regional Supplementary Procedures, ICAO Doc 7030,** |
| Applicant has to submit the latest Regional Supplementary Procedures, ICAO Doc 7030 for the requested MNPS area of operation**Yes □ No □** |
| **18. Operations Manual** |
| Does the Operation Manual mention the MNPS in the introduction paragraph of the Operations Manual Part A ? **Yes □ No □** |
| Does the Operation Manual describes the required qualification/competence for flight crew members? **Yes □ No □** |
| Note*: Checking of practical MNPS-application during OPC shall be performed by a TRE*  *Checking of practical MNPS-operation during initial and/or regular Line Checks*  *shall be conducted by a Training Captain (TC) or TRE.* |
| **19.Flight Planning** |
| 1. Instruction must be provided to flight crew to review and verify the aircraft technical status reflected in the Techlog to verify aircraft dispatch status

**Yes □ No □** |
| 1. Description of flight charts used

**Yes □ No □** |
| **20. Flight deck preparation** |
| Procedures for alignment of the inertial navigation systems must be described in detail, including Position Initialization Procedures and the use of a Satellite Navigation Availability Program.**Yes □ No □**  |
| Procedure to check of the functionality and accuracy of 2 Long Range Navigation Systems (2 LRNS)**Yes □ No □** |
| Procedure for way point loading (Co-ordination of two persons)**Yes □ No □** |
|  Procedure for checking the Flight Plan Data in the FMS**Yes □ No □** |
| Procedure for checking the Long Range Communication Equipment (HF-Systems/SAT Comm)**Yes □ No □** |
| UTC-Check and synchronisation of the aircraft`s Masterclock in order to provide accurate time reference to the system for the calculation of accurate time-estimates at specific waypoints**Yes □ No □** |
| **21. In Flight Procedures before entering MNPS-Airspace** |
| Ground Nav-Aids should be used to verify performance of the LRNS to identify possible Map-shiftsA compass heading cross-check should be made an recorded to determine the most accurate heading source**Yes □ No □** |
| Oceanic Clearance: Two flight crew members shall listen to and record any clearance obtained from ATC in order to verify correct reception**Yes □ No □** |
| Verification of received ATC-clearance shall be crosschecked from the recorded data to the Flight plan as inserted in the FMS**Yes □ No □** |
| Crossing of way-points within MNPS airspace**Yes □ No □** |
| Distance and track to the next waypoint shall be verified. When crossing the waypoint, it shall be verified that the new TO-Waypoint becomes active and the aircraft in turning in the correct direction. **Yes □ No □** |
| **22. Post flight procedures** |
| Any malfunction affecting the MNPS-capability of the airplane shall be recorded in detail in the Tech-log-System |
|  For example a) Position-Drift of each IRS. b) Residual Ground Speed of each IRSc) Loss of RAIM **Yes □ No □** |
|  |
| **23. Reporting**  |
|  The following must be reported  |
|  Total Track Error of 25 NM or more • Deviation from assigned altitude of ± 300 ft • The loss of MNPS / RVSM-capability • The application of any contingency procedure **Yes □ No □** |
| The report has to be filed within 72 hours after the occurrence, containing an initial analysis of causal factors and measurement taken to prevent repeat occurrence.**Yes □ No □** |
| **24.Training (the following Items at least shall be covered):** |
| The NAT-Track-Documents shall be described, in order to explain the procedures applicable within the Organized-Track-System (OTS). |
| Basic-Concept for Normal Procedures in MNPS-Airspace |
| The minimum equipment requirements for MNPS- operations (MEL) |
| Flight-Planning  |
| Pre-Flight Procedures |
| Procedures established and described in the event that a Single-LRNS condition occurs before Take-off |
| Methods described covering the handling of a Single-LRNS condition before the OCA Boundary is reached |
| In-Flight Procedures prior to entry into MNPS- Airspace and within MNPS-Airspace |
| ATC phraseology applicable for MNPS-operations |
| Procedures to be followed and applied by the flight crew such as : Deviation implied by Aircraft Performance problems due to: a) Engine failure b) Pressurization-System failurec) Weather conditions |
| Methods describing the detection of failures in Navigation Systems relevant for MNPS- operations  |
| Methods describing the evaluation of a faulty Navigation-Systems and actions defined if the faulty Navigation-System cannot be determined by the crew |
| Post-Flight Procedures |
| Entries in Technical Log Systems |
| Theoretical knowledge will be checked by means of a written test or by any other suitable method where the quality of the transferred knowledge can be traced and recorded.  |
| Ground Training shall cover theoretical and practical parts of the subject . |
| Practical Training and Pilot Assessment shall be performed in an FSTD and/or aeroplane. |
| Is a sector included in the line flying under supervision module, where MNPS-Operation can be applied.  |
| Syllabus of the Training must be contained in the operators OM-D |
| **For all the above subjects Yes □ No □** |
|  |
| **25. Supporting documents to be submitted** |
| **For all of the above Paragraphs 3-24 supporting documentation should be submitted with the current application.** |
| **Applicant statement** |
| **I hereby declare that all documentation and information submitted have been verified and found in compliance with Regulation (EC) No 965/2012 , its Implementing Rules and all other applicable requirements/procedures.**  |
| **Continuing Airworthiness Manager****(name)** |  | **(Signature)** |
| **Flight Operation Manager****(name)** |  | **(Signature)** |
| **Date** |

|  |  |  |
| --- | --- | --- |
| **Training Manager****(name)** |  | **(Signature)** |
| **Date** |