

**APPLICATION FOR ELECTRONIC FLIGHT BAG (EFB)**

**Note: Disclaimer: This document is meant as an aid for operators to demonstrate compliance with the applicable rules as part of the EFB Application process. If any differences or discrepancies exist between this document and the applicable EU regulations and EASA AMC/GM the latter prevail and must always be consulted.**

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| --- | --- |
| **1 ICETRA use only.** | |
| **CASE ref:** | **Application received date:** |

Specialized Operations Operators (SPO) with complex aircraft shall use reference to SPO.GEN.131 and this checklist as appropriate before conducting EFB operations no formal approval is required for operations solely under SPO.

Reference to EU Regulation No 965/2012 Annex V Part-SPA Subpart M, CAT.GEN.MPA.141, AMC 20-25A and AMC 25-11 as amended, Application and supporting documents should be submitted in electronic form as appropriate. Application may take up to 30 days to complete.

**Section I - Applicants Details**

|  |  |
| --- | --- |
| Operator Name/AOC No: |  |
| Applicants EFB Administrator: | Name:  TEL:       E-mail: |
| Applicants Airframe: |  |
| EFB/PED Request: | Initial:       Change/Upgrade: |

**Section II – Submission type**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **New EFB Application** |  |  | **Select accordingly:**  **Change**  **Change** | **Change**  **Change**  **Change** |  |
| **Modification to Current Assessment** |  |  |  |  |  |
|  |  |  |  |  | **Aircraft Type** |
|  |  |  |  |  | **Type B Software** |
|  |  |  |  |  | **Device Hardware** |
|  |  |  |  |  | **Viewable Stowage** |
|  |  |  |  |  | **EFB Administrator** |

**Secion III – Airframe details**

**Aircraft Details**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Aircraft Type | Aircraft Series | Registration Marks |
| 1 |  |  |  |
| 2 |  |  |  |
| 3 |  |  |  |

**Section IV – Hardware type / Operating System (mark as applicable)**

|  |  |  |  |
| --- | --- | --- | --- |
|  | | Manufacturer and model | Operating System |
| Installed EFB |  |  |  |
| Portable EFB without installed resources |  |  |  |
| Portable EFB with installed resources (see below) |  |  |  |
| List the installed resources components to be used with EFB |  |  | |

**NOTES**

An installed EFB is managed under the aircraft type design configuration. An EFB host platform installed in the aircraft and considered as an aircraft part, covered, thus, by the aircraft airworthiness approval.

Portable EFB’s are controlled PED’s. An expanded definition of a portable EFB is found in GM1 CAT.GEN.MPA.140.

Portable EFB’s with Installed Resources are subject to airworthiness approval. Installed Resources constitute those elements that are part of the certified aircraft configuration with the intended function to mount the EFB to the aircraft and/or connect other systems.

**Section V – Installed software (mark as applicable)**

|  |  |  |
| --- | --- | --- |
|  | | Application name |
| Type A |  |  |
| Type B |  |  |
| Miscellaneous |  |  |

**Section VI – EFB Administrator**

|  |  |
| --- | --- |
| Name of EFB Administrator |  |
| Contact details: | Direct Phone No. Mobile No.  Email address: |
|  |  |

**Secion VII – Operational Evaluation Test**

The operator is required to conduct an operational evaluation test only after the evaluation of the application and receipt of authorisation from ICETRA. The operator shall inform ICETRA of the intention to commence the operational evaluation test. It should be noted that sufficient time should be given to ICETRA to review the submitted Documentation.

The notification of the test should at least include:

* Starting date of the operational evaluation test;
* Duration;
* Aircraft Involved;

At the end of the operational evaluation test, the operator shall submit a report verifying that the elements covered in Appendix 1 have been satisfied.

***Applications replacing paper products with an initial retention of paper backup***

The paper backup shall initially be retained as a backup. The operational evaluation test should consist of an in-service proving period no longer than six months. Operators wishing to reduce this proving period shall justify this by submitting further information.

**SECTION VIII: Final Operational report**

At the end of the Operational Evaluation Test, the operator should produce and retain a final operational report, which summaries all the activities conducted and the means of compliance used, supporting the operational use of the EFB system. Once the final report and Documentation are approved by ICETRA the use of EFB will be implemented as part of the Operator Specifications.

**Section VII – Compliance Checklist must be completed by applicant.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Requirement** | **Regulatory Reference** | **Operator’s OM**  **Reference**   |  |  | | --- | --- | |  |  | |
| Has an EMI assessment of the EFB been undertaken, and using the appropriate method? | AMC1 CAT.GEN.MPA.140 |  |
| Is the EFB hardware Installed or Portable?   |  | | --- | |  | | AMC1 CAT.GEN.MPA.141(a) |  |
| Is the EFB able to be easily removed from its mount or stowage? | " |  |
| Are any EFB ‘anti-theft’ devices removed before flight? | " |  |
| Does the EFB have a suitable Mount or Viewable Stowage? If not have procedures been developed to ensure that it is stowed during critical phases of flight? | " |  |
| Does the placement of the EFB device impair the crew’s external view or access to instruments? Would it impede emergency egress? | " |  |
| Is the display within 90 degrees of the crew member’s line of sight, and would glare or reflection interfere with the pilot? | " |  |
| If aircraft power is used, are the characteristics compatible with the EFB? | " |  |
| Does the EFB have data connectivity to the aircraft; if so, how is transfer of data controlled? | " |  |
| Are all connecting cables/power adaptors approved by the EFB manufacturer and placed so as not to cause obstruction? | " |  |
| Does the EFB battery, and any additional battery power sources, meet the requirements of AMC1 CAT.GEN.MPA.140 paragraph (f)? | " |  |
| If a viewable stowage is used has its location been documented as part of the EFB policy? | " |  |
| Does the viewable stowage and associated mechanisms impede the flight crew members in the performance of any task? | " |  |
| Is the viewable stowage easily locked in position? | " |  |
| Does the viewable stowage’s range of movement accommodate the expected range of anthropometric constraints? | " |  |
| Will the viewable stowage be able to withstand all foreseeable conditions such as turbulence or hard landings? | " |  |
| With the viewable stowage fitted is there any interference with aircraft controls or equipment? | " |  |
| Can the EFB device be switched off when held by the viewable stowage? | " |  |
| Can the viewable stowage be removed from the aircraft without the use of tools? | AMC1 CAT.GEN.MPA.141(a) |  |
| Viewable Stowage; has this  GM1 CAT.GEN.MPA.141(a) been cosidered? | " |  |
| Have all applications to be used on the EFB been classified (Type A or Type B) and detailed in the Policy and Procedures Manual and listed in the OM Part A Section 8.9? | AMC1, AMC2, AMC3 CAT.GEN.MPA.141(b) |  |
| Has a risk assessment been undertaken, and submitted, incorporating all the elements required by AMC1 SPA.EFB.100(b)(1)? | SPA.EFB.100 (b)(1) |  |
| Have the Human Machine Interfaces (HMI) of the EFB device and its applications been assessed against human factors principles as detailed in AMC1 SPA.EFB.100 (b)(2)? | SPA.EFB.100 (b)(2) |  |
| Does the placement of the EFB create unacceptable workload for the pilot or require undue ‘head-down’ movements during critical stages of flight? | AMC1 SPA.EFB.100 (b) |  |
| Has the degradation of the display due to ageing/abrasion been considered? | " |  |
| Can the screen brightness be adjusted through a range to suit all ambient conditions? | " |  |
| Are all required EFB buttons suitably back-lit? | " |  |
| Are all controls properly labelled? | " |  |
| Has the EFB undergone environmental testing, especially for rapid decompression in accordance with EUROCAE ED-14D/RTCA DO-160D guidelines? | " |  |
| Does the EFB Policy and Procedures Manual contain a process to determine which modifications to the EFB system require Authority approval? | AMC2 SPA.EFB.100 (b) |  |
| Have the details of the Operational Evaluation Test been confirmed and a plan submitted to the Authority? | AMC3 SPA.EFB.100 (b) |  |
| Will paper-backups be used during the Evaluation Test? If not have arrangements for a LOFT, and possible flight, observations been arranged? | " |  |
| Final Operational Report should take notice of GM1 SPA.EFB.100(b) | " |  |
| Has an EFB Administrator been appointed, and where are his/her terms of reference defined? | AMC1 SPA.EFB.100 (b)(3) |  |
| Has an EFB Policy and Procedures Manual been produced? Is this a stand-alone document or incorporated into other sections of the Ops Manual? | AMC2 SPA.EFB.100(b)(3) |  |
| Does the EFB Policy and Procedures Manual follow the format shown in GM1 SPA.EFB.100(b)(3)? If not, how will the operator demonstrate that all required sections have been adequately addressed? | " |  |
| If the EFB duplicates information provided by aircraft avionics, is clear guidance as to which has primacy stated? | AMC3 SPA.EFB.100 (b)(3) |  |
| Has a procedure been developed to ensure that crew verify that the configuration of the EFB and its databases are up to date? | AMC3 SPA.EFB.100 (b)(3) |  |
| Have procedures been developed to ensure that crew workload is not adversely affected by use of the EFB, and list any times when the EFB should not be used? | " |  |
| Have procedures been included to ensure the serviceability of the EFB before flight? | " |  |
| Does the Operations Manual, or MEL, provide dispatch guidance for unserviceable elements of the EFB? | " |  |
| Have maintenance procedures for the EFB been developed? | " |  |
| Is there a programme to replace EFB batteries? | " |  |
| How are EFB failures reported and how are crew notified of any unserviceability? | " |  |
| How does the operator ensure the security of the EFB and its data? (Guidance given in GM3 SPA.EFB.100(b)(3) ) | " |  |
| If electronic signatures are to be used, what procedures has the operator put in place? | " |  |
| Has initial training on the EFB and its applications been conducted in accordance with the AMC and GM2 SPA.EFB.100(b)(3)? | AMC4 SPA.EFB.100(b)(3) |  |
| If SOPs are dependent on the use of EFB, do all training devices used allow the use of the EFB? | " |  |
| If performance or mass and balance (M&B) applications are used, what is the source material for the information used by the software? | AMC5 SPA.EFB.100(b)(3) |  |
| How is the integrity of the database files protected from unintentional modifications? | " |  |
| Does each software version have a unique version number? | " |  |
| Does the EFB record each performance and M&B calculation for a minimum of 3 month? | " |  |
| Have performance and M&B data figures been compared to AFM data across a range of conditions? (See paragraph (b) for criteria) | " |  |
| Do procedures specify that calculations must be performed independently by both pilots with a formal cross check, including aircraft output if appropriate, and include a gross error check? | " |  |
| How does the performance application allow the display of both dispatch (regulatory, factored) and other results (e.g. in-flight or unfactored) for landing calculations? | " |  |
| Have specific procedures been developed in the event of a single EFB failure? | " |  |
| How have the additional training requirements of paragraph (d) been addressed? | " |  |
| How does the M&B application meet the requirement to show a diagram displaying mass and c-of-g positions? | " |  |
| How have the Human-factors considerations of paragraph (f) been addressed? | " |  |
| How does the presentation of user entries differ from that of default values or entries from aircraft systems/other components of the EFB? | " |  |
| What indication is shown when an unachievable operation is calculated (e.g. insufficient runway length)? | " |  |
| Are all data input fields automatically cleared when the EFB shuts down or enters sleep mode, or when modifications are made? | " |  |
| If an Airport Moving Map Display (AMMD) is used, does the position source meet the requirements of ETSO-C165a? | AMC6 SPA.EFB.100(b)(3) |  |
| How has it been demonstrated that the EFB platform meets the software requirements of the AMMD? | " |  |
| Have specific AMMD crew procedures and training been developed highlighting that it is only an aid to positional awareness and not to be used as the basis for ground manoeuvring? | " |  |
| If a commercial off-the-shelf (COTS) position source has been used, how have the requirements of AMC 7 been met?  (Further guidance given in GM5 SPA.EFB.100(b)(3) ) | AMC7 SPA.EFB.100(b)(3) |  |
| Do navigational chart applications display all necessary information in an appropriate form? | AMC8 SPA.EFB.100(b)(3) |  |
| If In-Flight Weather (IFW) applications are used, do procedures dictate the primacy of documented weather data and that they are not to be used for tactical decisions or to replace certified weather radar? | AMC9 SPA.EFB.100(b)(3) |  |
| Does the IFW display distinguish between observed and forecast weather? | " |  |
| Is the validity time of the data displayed? | " |  |
| Does the IFW display have an appropriate legend? | " |  |
| Does the IFW display indicate partial or total loss of data? | " |  |
| What additional training and SOPs have been developed specific to the use of IFW? | " |  |
| If own-ship position is to be displayed, does the aircraft also have a certified navigational moving map display? (Mandatory except on VFR flights) | AMC10 SPA.EFB.100(b)(3) |  |
| Does the position source for own-ship display meet the requirements of AMC7 SPA.EFB.100(b)(3)? | " |  |
| Is the own-ship position removed when position data is lost? | " |  |
| Are the flight crew able to unambiguously differentiate the EFB function from avionics functions available in the cockpit, and in particular with the navigation display. | " |  |
| If the own-ship position is displayed on terminal charts (SID, STAR or approach plates) is the label ‘AIRCRAFT POSITION NOT TO BE USED FOR NAVIGATION’ displayed? | " |  |
| Is the EFB own-ship symbol different from that used in the aircraft’s primary navigation display. | " |  |
| How do crew disable the own-ship position indication? | " |  |
| Does EFB training emphasise that EFB own-ship position should not be used as a primary source of navigation? | " |  |
| Do procedures specify the intended use of the own-ship position? | " |  |
| Do procedures include EFB into the regular scan of flight deck systems indications, in particular, systematic cross-check with avionics before being used, whatever the position source? | " |  |
| Does the OM Part A Section 8.9 include the details of the EFB procedures/hardware/software? | AMC3 ORO.MLR.100 |  |

End of checklist

**Section VIII - Additional documentation to ICETRA demonstrating the the necessary assessments have been conducted as part of the approval process. Please add the supporting documentation in order to process of this applicaiton**

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| --- | --- | --- |
| **AMC1 CAT.GEN.MPA.140 (d)** | | |
|  | Provided to ICETRA | Demonstrate that the radio frequency (RF) emissions (intentional or  non intentional) are tolerated by aircraft systems |
|  | Not applicable |
| **AMC1 CAT.GEN.MPA.141(a)(a)** | | |
|  | Provided to ICETRA | Hardware not accessible in the flight crew compartment by the flight  crew members or not removable by the flight crew members should be installed as ‘certified equipment’ covered by a type certificate (TC) |
|  | Not applicable |
| **AMC1 CAT.GEN.MPA.141(a)(b)** | | |
| **☐** | Provided to ICETRA | The location of the display unit and the other EFB system elements  should be assessed for their possible impact on egress requirements. |
| **☐** | Not applicable |
| **AMC1CAT.GEN.MPA.141(a)(7)** | | |
| **☐** | Provided to ICETRA | Securing means based on vacuums (e.g. suction cups) should be demonstrated that they will still perform their intended function at operating cabin altitudes or in the event of a rapid decompression and if the EFB moves or is separated from its stowage, or if the viewable stowage is unsecured from the aircraft (as a result of turbulence, manoeuvring, or other action), it will not jam flight controls, damage flight deck equipment, or injure flight crew members. |
| **☐** | Not applicable |
| **AMC1CAT.GEN.MPA.141(a)(g)** | | |
| **☐** | Provided to ICETRA | Batteries : Refer to paragraph (f) of AMC1 CAT.GEN.MPA.140. |
| **☐** | Not applicable |
| **SPA.EFB.100 (b)(1)** | | |
| **☐** | Provided to ICETRA | Risk assessment related to the use of the EFB device that hosts the type B application and to the EFB type B application and its associated function(s) |
| **☐** | Not applicable |
| **SPA.EFB.100(b)(2)** | | |
| **☐** | Provided to ICETRA | HMI assessment of the EFB device and the EFB type B applications |
| **☐** | Not applicable |
| **SPA.EFB.100(b)(3)** | | |
| **☐** | Provided to ICETRA | EFB administration system and training requirements for the administration which shall include the operating the EFB; the management of changes to the EFB; the management of EFB data; EFB maintenance; and EFB security; |
| **☐** | Not applicable |
| **SPA.EFB.100(b)(4)** | | |
| **☐** | Provided to ICETRA | Suitability of the Hardware for use of type B applications |
| **☐** | Not applicable |
| **AMC1 SPA.EFB.100(b)(d)** | | |
| **☐** | Provided to ICETRA | Environmental testing, in particular testing for rapid decompression that the EFB can operate reliably up to the maximum operating altitude of the aircraft. |
| **☐** | Not applicable |
| **AMC3 SPA.EFB.100(b)(a)** | | |
| **☐** | Provided to ICETRA | Evaluation Plan for a minimum period of 6 months containing all elements as described in AMC.SPA.EFB.100(b)(a)(1.......7) |
| **☐** | Not applicable |
| **AMC1 SPA.EFB.100(b)(a)** | | |
| **☐** | Provided to ICETRA | Risk assessment for all type B EFB applications and for the related EFB hardware |
| **☐** | Not applicable |
| **AMC1 SPA.EFB.100(b)(2)** | | |
| **☐** | Provided to ICETRA | Assessment of the human–machine interface (HMI), the installation, and aspects governing crew resource management (CRM) when using the EFB system for each kind of device and application installed on the EFB |
| **☐** | Not applicable |

**Section IX Icetra confirmation of compliance (should be completed within 30 days if all requirments are fulfilled.**

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| Flight operations Inspector comments/notes |

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| --- | --- | --- |
| Approved / Not Approved.  YES  NO | Date approved by ICETRA | **Signature of Flight Operations Inspector** |