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EASA - Certification Directorate

Subject: **Airbus – eQRH version 1.0 (Stand-alone)**

Date: 17.05.2017

To whomever it may concern,

Airbus has applied to EASA in October 2015 for an operational evaluation of the eQRH software application for Windows and iOS (iPad).

eQRH is a single software application for the Windows and iPad devices, enabling the display of and interaction with the operator's QRH manual.

EASA evaluation was based on compliance data provided by Airbus, limited functional tests on sample EFB host platforms and flight simulators trials. The requirements contained in Commission Regulation (EU) N° 965/2012 of 5 October 2012 (Air Operations Rules) have been considered together with AMC 20-25 (Airworthiness and Operational considerations for Electronic Flight Bags).

The main objective of the evaluation was to assess compliance with the applicable guidance, evaluate the associated compliance dossier proposed by Airbus and agree on recommendations to the operators in terms of EFB training, procedures, and administration.

eQRH is an application enabling new way of interactions with aircraft procedures and checklists, including for abnormal and emergency cases. Electronic Checklists are not listed in AMC 20-25 Appendix A and Appendix B, and therefore not allowable by default on EFBs. In accordance with AMC 20-25 Appendix C, a particular attention was therefore dedicated to the risk assessment of the eQRH, with a focus on the failure conditions leading to erroneous display of procedures content, and the mitigations thereof.

Two important measures have been taken into account in the risk assessment to substantiate that the erroneous display will be correctly mitigated:

- Airbus has included several verification steps in the process of QRH data production, in particular tests on the target application. The QRH data should have been delivered by Airbus in accordance with this process at the time of the eQRH entry into service.

- A "double layer" display mechanism has been designed and implemented in the eQRH, which enables a properly-trained crew to detect any spurious display of incorrect data.

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Page 1 of 2

The evaluation has in addition led to several HMI recommendations made by EASA and taken into account by Airbus in version 1.0 or for future versions.

Airbus publishes the eQRH User and Compliance Manual (ref. X4611RP1705952, revision 1.1), which contains important considerations and recommendations for the use of the eQRH application in compliance with Air Ops rules and EFB regulatory guidance. The manual covers in particular considerations on the EFB hardware, backup means, V&V process, administration, flight crew procedures and training, and risk assessment.

EASA recommends operators to take into account the considerations and recommendations provided in the eQRH User and Compliance Manual. In particular, EASA recommends to pay attention to any customisation of the data by the operator. The operator remains responsible for the compliance and validity of these data, and should ensure that the aircraft are operated in accordance with the AFM and the operations manual.

EASA reviewed the eQRH eLearning material at issue 1.0. This material includes the recommended training items identified during the evaluation and is deemed satisfactory to cover the generic eQRH initial training items.

EASA recognizes that eQRH version 1.0 (stand-alone) satisfies the applicable guidelines of AMC 20-25 and has no technical objection to the grant by the National Authorities of an operational approval for the use of the application provided that the recommendations proposed in this letter and the eQRH User and Compliance manual revision 1.1 from Airbus are taken into account.

This letter does not constitute an Operational Approval, operators remain responsible for demonstrating compliance with the EFB requirements and guidance of their National Aviation Authority.

Colin Hancock
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