European Union Aviation Safety Agency

FAQ n.20162

FAQs:

DOA Capabilities (technical fields), Design Organisations

Question:

My company is involved in software / complex electronic hardware installation. What are the expectations of the Agency in this field of expertise?

Answer:

Design Organisations involved in the certification of products integrating Software (SW) or Airborne Electronic Hardware (AEH) must have competence on how compliance will be demonstrated to applicable requirements (CS XX.1301 and CS XX.1309), taking into account the related AMC (AMC 20-1, AMC 20-3 and AMC 20-115) and international standards (Eurocae ED-12, ED-80). A key aspect to be considered is the classification of the failure condition associated to the function installed, the so-called DAL (Design Assurance Level).

When an equipment has its own approval (e.g. ETSOA or equivalent national equipment approval), this may be used to demonstrate compliance with some requirements of the established certification basis, particularly for those requirements and for those functions which are covered by the equipment approval standard. However, appropriate demonstration and verification of compliance with regards to aspects of the installation of the equipment must be provided by the DOA holder (in line with AMC xx.1309 aspects related to “Highly Integrated Systems” and applicable references). Note that the outcome of this activity is directly dependent on the classification of the failure condition associated to the malfunction of the function(s) ensured by the equipment [DAL].

If installation is requesting additional requirements (CS-xx, CRIs, etc.), and unless the latter have been as well covered by the applicant in the demonstration of compliance to ETSO standards, the compliance to these additional requirements/functions has to be assessed by the DOA holder. Hence the DOA holder should have access to the DDP and, when required, also to corresponding SW/AEH documentation (e.g. PSAC/PHAC, SAS/HAS, SCI/HCI). This SW/AEH documentation ensures to the DOA holder the DALs, the compliance of development process to SW and AEH standards, and provide information on SW/AEH and equipment Part Numbers, ETSO compliance, etc.

Please also check out the presentation on Investigation and Surveillance of Organisations performing Software and Airborne Electronic Hardware activities published as best practices on

the EASA website.

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Link:

https://www.easa.europa.eu/en/faq/20162