

21 October 2020

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Dear Design Delegation Holder/Design Control Senior Person

14 CFR 23 Amendment 64

The purpose of this letter is to communicate CAA expectations regarding the latest amendment of airworthiness requirements for 'Part 23' aircraft. It is applicable to all personnel conducting design changes or developing new type designs for such aircraft. We encourage you to forward this communication to all members of your design organisation.

As you are aware, a design change or new type design requires compliance with a set of airworthiness requirements specified in CAA rule Part 21, Appendix C. This appendix calls up the Federal Aviation Regulations of the FAA or an equivalent ICAO Annex 8 set of airworthiness requirements. In the case of design changes, the Director has encouraged design organisations to show compliance with the latest version of airworthiness requirements in effect at the time of application and follow the "changed product" guidance of FAA AC21.101-1B when not doing so (ref. AC21-8).

As part of an initiative to improve safety and reduce the time for airworthiness standards to adapt to new technology, the FAA and EASA significantly revised their airworthiness requirements; 14 CFR 23 at amendment 64 and CS-23 at amendment 5 respectively. These new amendments are performance-based rather than prescriptive. Both FAA and EASA then published acceptable means of compliance to these requirements which are regularly updated and typically refer to consensus-based standards, primarily developed by ASTM's F44 committee.

In previous correspondence, the CAA have indicated that for significant or substantial design changes (as defined by FAA AC21.101-1B) a design organisation may use 14 CFR 23 at amendment 63 as an acceptable airworthiness standard in lieu of adopting the latest amendment 64. Initially this advice was given because much of amendment 63 was simply copied to the ASTM F44 standards. However, the ASTM F44 standards have now been used in several type certification and design change projects around the world and have changed in such a way as to show tangible safety benefits, particularly in relation to low speed handling characteristics (loss of control) and icing. Therefore, use of Amendment 63 alone is no longer acceptable i.e. designs and design changes must use the latest amendment where the changed product philosophy applies.

CAA also expect that design changes or new type designs use the accepted FAA (or equivalent) means of compliance. These means of compliance may specify earlier revisions

of, or alter the wording of, ASTM standards. It is important that the specific means of compliance are listed against the airworthiness requirement, including the paragraph number, in the certification plan and substantiation documents. Applicants may still propose alternate means of compliance, equivalent levels of safety or special conditions, which must be accepted by CAA.

The following resources are helpful when using the latest 14 CFR 23 or CS-23 amendments.

FAA accepted means of compliance:

https://www.faa.gov/aircraft/air_cert/design_approvals/small_airplanes/small_airplanes_regs/

and legally published here:

<https://www.federalregister.gov/documents/2020/09/22/2020-17911/accepted-means-of-compliance-airworthiness-standards-normal-category-airplanes>

EASA accepted means of compliance:

<https://www.easa.europa.eu/document-library/certification-specifications/cs-23-amendment-5-and-amc-gm-cs-23-issue-3>

Access to ASTM F44 standards is very low cost at just US\$75 per annum for participation membership with access to the relevant ASTM volume 15.09 *“General products, chemical specialities and end use products” covering LSA, UAS, Aircraft Systems, Aeronautical personnel and General Aviation.* Access to this resource is essential for all Part 146 aviation design organisations engaging in ‘Part 23’ design work. CAA has a subscription to access the ASTM F44 standards but will not be able to supply these to external participants due to copyright law. The standards are available for online reading at <https://www.astm.org/READINGLIBRARY/>.

If you have any questions, please direct your correspondence to me by email at greg.baum@caa.govt.nz or by telephone on +64 4 560 9529.

Yours sincerely



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