

(DW1336596-0)

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To: All Part 146, 148 and 145 Organisations

Dear CAA Delegates

### **Guidance Regarding Modifications to Aircraft Seats**

1. Over the past twelve months, CAA has become increasingly aware of a number inadequately substantiated design changes which have been embodied on aircraft seats, particularly with regards to showing compliance against Federal Aviation Administration (FAA) or European Aviation Safety Authority (EASA) XX.562 requirements. These discoveries led to a significant amount of CAA research aimed at gaining a better understanding and, if possible, simplifying current international guidance on dynamic seat modifications. This effort also included a great deal of discussion with the FAA and EASA; discussion which both reaffirmed the safety benefits of dynamic seats and reinforced the requirement for the adequate substantiation of all dynamic seat modifications.

2. The aforementioned research is now nearing completion. Consequently, given the ongoing issues with dynamic seat modifications in New Zealand, the CAA considers it necessary to remind design, manufacturing and maintenance organisations that all modifications to dynamic seats are classified as a Major Design Change, with the exception of a few cases outlined below, and therefore require adequate substantiation through a formal design change process, such as a Modification or Supplemental Type Certificate.

### **Design Change Considerations for Aircraft Seats**

#### TSO C39 series/non-dynamic seats

- Must continue to show compliance to Minimum Performance Standards (MPS) of the TSO, regardless of the aircraft certification basis
- Dress cover changes = minor (need 146 approval)
- Foam changes = minor (need 146 approval)

#### TSO C127 series/dynamic seats

- Must continue to show compliance to the Minimum Performance Standards (MPS) of the TSO, regardless of the aircraft certification basis
- When considering health and safety impacts, it is not appropriate to “de-rate” the article; analogous to Changed Product Rule (CPR) – cannot reduce safety.
- Dress cover changes = minor (need 146 approval)
- Dress covers with fibre fill/backing foam/trim foam are major until proven minor (if measured compressed thickness within AC 25.562-1B guidance then minor)
- For any other proposed change to a dynamic seat, CAA can help interpret if a change is major/minor

Additional Considerations:

- In general, the approach given in FAA AC 25.562-1B is acceptable for use with other parts (i.e. 23, 27, 29). However, there are some changes that may need to be adapted based on the rules for each specific part. There are other FAA guidance documents for parts 23, 27, and 29 for the certification of dynamic seats that are also acceptable. Relevant sections of the guidance material must be considered and used in their entirety.
- The change in SRP must be confirmed by measurement.
- Available acceptable technical data may continue to be used to modify aircraft.
- All new modifications will be assessed using the Changed Product Rule as stated in AC 21-8 Rev. 1 Sect. 1.71 (i.e. Compliance is to be shown against the contemporary requirements unless adequate justification exists not to), and will be subject to the interpretation of an “appropriate level of safety” (clause 3.11 of FAA AC 21.101-1B).
- With the above in mind, you may also wish to consider any modifications or design changes in light of obligations you have under the Health and Safety at Work Act 2015 and, in particular, whether any overall reduction to occupant safety is acceptable in light of those obligations.

3. Notwithstanding the guidance set out above, the CAA remains committed to applying a risk-based approach through assisting the New Zealand aviation sector with clarifying and simplifying design change approval processes wherever possible. As such, I welcome your feedback on the guidance below and my team will be available to answer questions and provide you with support as required.

Yours faithfully



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