

NPA 21-19; Advisory Material to JAR 21.35; Flight Tests

Comment - Response Document

General comments

LBA

Comment: Agrees

CAA Hungary

Comment: Agrees

MOT Germany

Comment: Agrees

CAA Denmark

Comment: No comments

Transport Canada

Comment: No comments

LFV Sweden

Comment: Agrees

CAA-UK

Comment: The NPA does not give guidance about what would be deemed as 'satisfactory' function and reliability test results.

Response: Agreed. The text of ACJ 21.35(b)(2) has been amended accordingly. See response below to P Kluth's comment.

Comment on JAR 21.35(f)

BAe RA

Comment: The ACJ material is appreciated. However, JAR 21.35(f) itself should be amended to take away the inequality between Function & Reliability duration requirements for new aircraft with 'old' engines and 'old' aircraft with new engines.

Response: Noted. Such an amendment is outside the scope of this NPA. The comment will be considered separately by the JAR 21WG, subject to JAA Certification Committee task approval.

Comments on ACJ 21.35(b)(2)

P Kluth, RAP member

Comment: The word 'satisfactory' is not precise enough and should be replaced by 'safely controllable and manoeuvrable during all phases of flight'.

Response: Agree that the word "satisfactory" is not precise. The text offered has not been adopted as controllability and manoeuvrability do not cover the full remit of the activity. An alternate text is suggested in the Final Rule to meet the intent of the comment.

CAA-UK

Comment: First sub-paragraph of **2.** : 'Satisfactory' needs to be defined.

Response: Agreed, see response to P Kluth's comment above.

Comment: Second sub-paragraph of **2.** : delete 'upon'.

Response: Agreed.

Comment: Third sub-paragraph of **2.** Insert 'the' between 'with' and 'participation'.

Response: Agreed, but see response to AIA comment below.

Austro Control/MOT Austria

Comment: Delete second sub-paragraph of **2.** to be consistent with FAA rules.

Response: Not agreed. One reason for this ACJ is to explain that some test flying for certification compliance showing can be regarded as F&R testing provided that the aircraft is close to the final certification standard. This provision has been reviewed by FAA and gave no rise to comments.

AIA

Comment: Delete third sub-paragraph of **2.** for the following reasons: F&R testing is required before a Type Certificate is issued and ownership transferred to the operator. To require that an airline's maintenance and flight crew staff participate in a test required for certification is inappropriate and poses significant legal obstacles. There are also potential labour union issues involved. Also the phrase "where possible" does not provide clear enough indication that this scenario is optional. Since the ACJs are a regulatory document, it is conceivable that the regulatory authority might feel empowered to levy this as an actual requirement which would be inappropriate.

Response: The comment is acknowledged. Participation of operator crews in pre-certification test-flying can give legal problems. Whilst the FAA uses the Provisional Type Certificate to solve this issue, there is no JAA equivalent. However, some form of co-operation with operators is felt to be desirable to simulate the 'operation as if it were in service' as well as possible. This needs to be encouraged through the ACJ. A new text is introduced.

CAA-UK

Comment: Third sub-paragraph of **2.** " ... with participation of an operators own flying and maintenance crews ... " is sensible but makes it difficult to give credit to certification flying. The ACJ should address where conflict may arise within the context of certification.

Response: Acknowledged. Text amended. See response to AIA comment above.

Comment: Fourth sub-paragraph of **2.** "..... operated as though it were in service" needs clarification as to whether the presence of passengers is necessary, desirable or not required.

Response: In order to confirm the proper functioning and reliability of some equipment, it may be necessary for members of the flight test crew to act as passengers. Given that the details of the total programme are to be agreed with the Authority in advance, and given that there may be national legal issues, it is concluded that no further information should be included in the ACJ.

Comment on ACJ 21.35(f)(1)

Austro Control/MOT Austria

Comment: Reword ACJ to make clear that all F&R testing needs to be done after all other compliance showing in certification.

Response: Not agreed. See response to previous Austro Control/MOT Austria comment.

Comment on ACJ 21.35(f)(2)

D&FSG

Comment: This indicates that any change to a Type Certificate will require 150 hours of testing. There will be major changes which will have no effect or no appreciable effect on the aircraft as far as F & R testing is concerned. Examples are cabin layout and weight changes. It is suggested that this be reworded as follows: "For all aircraft for which a Type Certificate is to be issued a period of not less than 150 hours Function and Reliability Testing will be required. For an aircraft for which the Type Certificate is to be amended the time for Function and Reliability Testing will be agreed with the Authority on a case by case basis taking account of the specific change to the aircraft. All flying"

Response: This matter is already clear from JAR 21.97(a)(4) which requires compliance with JAR 21.35 for major changes only "where applicable". A further explanation in this ACJ is not thought necessary. In addition, the nature of the proposed change appears to be applicable to a JAR rather than an ACJ and so would be outside the scope of this NPA.