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Our Ref:9/61/1OCD

2nd August 1999

U.S. Department of Transportation Dockets
Docket No. FAA- 1999-540 1
400 Seventh St, SW
Room Plaza 401
Washington DC 20590

DEPT OF TRANSPORTATION
AUG 11 PM 3:44

Dear Sir,

ATTENTION DOCKET NO: FAA-1999-5401 - 40

Please accept the comments attached below on the Notice of Proposed Rulemaking.

Thank you for the opportunity to take part in your rulemaking process.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'M Poole'.

M Poole
Requirements and Policy Unit

Editorial:

- Ref. page 4 ‘Historical Perspective’, it is noted on page 4 column 1 that the damage tolerance method reference in para (2) is incorrect. The correct reference should be 14 CFR 23.573, 23.574 and 23.575 Amendment 23-48 (61 FR 5147)
- Proposed rule 12.1370(a) paragraph (b)(1) references Appendix M. Should this read Appendix N ?
- Proposed rule 135.168 paragraph (c)(2) references Appendix F. Should this read Appendix G ?
- Proposed rule 129.33 paragraph (b)(8)(iii) references 12.1370. Should this read 129.16 ?

General

1. Ref. page 2 ‘Historical Perspective’ it is noted that the NPRM “...does not propose requirements for on-demand passenger or cargo carrying operations under 14 CFR part 135.” However, the NPRM does introduce a new rule into Part 135, as FAR 135.168. How will the distinction be made in the rule that on-demand operations are exempt ? A recent CAA study has determined that the number of accidents related to cargo operations are greater than scheduled operations. Will non-scheduled operations be addressed ?
2. Ref. page 4 ‘Historical Perspective’ it is noted in column 2 that the Lockheed Electra is given as an example of a non-damage tolerance based SIP. Our understanding from the ‘**Criteria, methodology and results for L-188 Electra SIP**’ document LR 30238 dated 19 November 1982 is that all relevant aspects of damage tolerance analyses were included in the SIP. We would also question the FAA’s assumption that the Fokker F-27 SIP was not damage tolerance based.
3. Proposed rule 12.1368 requires the records review to include the damage tolerance based inspections required under the proposed rule 12.1370(a). However the damage tolerance based inspections required under rule 12.1370(a) may not be in place when the record review is being undertaken. How is this non-compliance to be dealt with. Parts 129 and 135 are similarly affected
4. It is unclear as to the meaning and use of the term ‘age sensitive parts.’ Other documents such as AC 25.571, AC 91-MA and indeed the many ageing aircraft initiatives have been at pains to identify and define the affected structural parts and the various individual and combined sources of structural deterioration.
5. There is a fundamental question regarding the relationship of this NPRM to the existing and proposed ageing aircraft rulemaking.
 - (i) How are the existing 11 aircraft already on the ageing aircraft programme affected ?
 - (ii) Is this programme to encompass all aspects of ageing aircraft ? The basic fatigue and damage tolerance SIP is noted, but what requirements are in place for corrosion, repair and widespread fatigue damage assessment?

(iii) The proposed rule 121.370a paragraph (a) implies that ALL aircraft operating under Part 121 will need a maintenance programme that includes damage tolerance based inspections and procedures. This is required prior to 4 years after the effective date of this rule. The number of a/c types is now increased beyond those noted in Appendix N. Some of those a/c types had no life limitations, either because none were required at certification or the life was determined to be unlimited. Unless there is a clear indication that these a/c types pose a greater threat to safety than those noted in Appendix N, it would be appropriate to require compliance with the damage tolerance based maintenance inspections and procedures by December 20 10. The same comment is true for Part 129 and Part 135.

(iv) AC 91-MA Appendix 1 paragraph 5 requires an upper boundary for the continuing structural inspection programme to be established. Does this need to be established prior to the time limits noted in the subject NPRM ? Will a 'grace' period be granted for operations beyond this upper boundary, while further damage tolerance analyses are undertaken ? Will this form part of the Airworthiness Limitations for the a/c type ?

1. The CAA strongly endorse the approach of stating life limitations as a point that cannot be passed until further evidence about structural integrity is provided. However these life limitations need to be established either on an equal basis, or the effect of the differences accounted for. CAA believe it is unfair to quote lives in the same table where one has been established on a judgement basis for a safe life aircraft with limited testing (e.g. PA 31) but another has been subjected to full damage tolerance testing (e.g. SD360).
2. Furthermore, the CAA would note that aircraft in the USA have flown well beyond the lives imposed by some countries. The nature of fatigue scatter and the safety levels we wish to achieve is such that we would expect some aircraft to continue safe flight and landing beyond the stated limit. We also note that a small commuter aircraft suffered a wing failure due to fatigue in the USA recently. The CAA will not be changing their mandated lives.
3. With regard to the need for an absolute limit of operation, set as December 20, 2010, the CAA would question the airworthiness benefits of this limit for aircraft that had not yet reached their design life goal. Could this policy please be explained.