Title: Applicability of PSE’s for normal category rotorcraft

Submitter: IND (AIRBUS HELICOPTERS)

Issue: In the MSG-3 Volume 2 document, PSE’s definition is used in [Section 2-4-1 Aircraft Structure Defined], subsection 1 “Significant and Other Structure”.

This definition is expressly linked to 14 CFR / CS / CAR §29.571. This is due to the fact that PSE’s were only applicable to Transport Rotorcraft category (CFR/CS/CAR 29). At the time of the authoring of the Volume 2 in 2012-2013, there were no PSE in Normal Rotorcraft category (CFR/CS/CAR 27).

However, the CAR 527 revised on July 8th, 2014 now includes PSE’s, exactly as does CAR 529, and AC 27-1B change 4, dated January 5th, 2014 also does, as AC 29-2C. So the reference to 14 CFR / CS / CAR §29.571 has now become too restrictive.

The MSG-3 Volume 2 needs to be updated.

Problem: a) To date, the CS-27 has not been modified as CAR 527 and AC 27 have.
   b) The explicit mention to 14 CFR / CS / CAR §xx.571 limits the applicable references to FAA, TCCA and EASA regulatory documents. If the MSG-3 document is to be endorsed by other regulatory authorities, the CFR/CS/CAR will have to be completed at each occasion.

Recommendation (including Implementation):

Modify [Section 2-4-1.1] Significant and Other Structure as follows:

Structure can be subdivided into items according to the consequences of their failure to aircraft safety as follows:

a) A Structural Significant Item (SSI) is any detail, element or assembly, which contributes significantly to carrying flight, ground, pressure or control loads, and whose failure could affect the structural integrity necessary for the safety of the aircraft.
   SSI must not be confused with Principal Structural Elements, PSE (14 CFR/CS/CAR §29.571 Section 571 of the applicable certification standard); however, all aircraft structure which are PSEs must be addressed by the SSIs
b) Other Structure is what is judged not to be a Structural Significant Item. It is defined both externally and internally within zonal boundaries.

NOTE: When assemblies are selected to be SSI, those elements that form the assembly and comply with the SSI definition need to be included (e.g., single bolt attaching a pylon diagonal brace).
IMRBPB Position:

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Position:

Accepted as drafted and closed IP 148.

Status of Issue Paper (when closed state the closure date): 22/04/2015

Recommendation for implementation: Next revision of MSG-3.

Retroactive: No

Important Note: The IMRBPB positions are not policy. Positions become policy only when the policy is issued formally by the appropriate National Aviation Authority.