Document Comment Log (Table) – Public Comment, Dispositioned

Proposed AC 29 MG 17; Guidance on Analyzing an Advanced Flight Controls (AdFC) Systems.

Commenter / Organization	Page & Para. No.	Comment & Reason for Comment	Recommendation / Suggested Change	Disposition / Comment Resolution
TCCA, Aaron McCrorie	General (copied from TCCA ltr of 10-21-2013.)	The FAA has invited interested personnel to send comments regarding the above titled document. Transport Canada has reviewed the document and would like to offer the following comments for your consideration. TCCA along with EASA and the FAA have been working collaboratively on the draft AC 29-2c MG 17 and the associated AdFC Handbook for some time. Many comments are being worked between the three authorities as we continue to develop the material.	It is expected that continued discussions will result in the need for further revisions to the AdFC Handbook and AC material, and subsequent additional public consultation. TCCA feels therefore that it is premature to provide any public comments at this time on an on-going collaborative work. Should you require further information, please do not hesitate to contact Andrew Stirzaker – Senior Project Manager, Rotorcraft by phone at (613) 941-2524 or by e-mail at Andrew.Stirzaker@tc.gc.ca .	Noted; the agreement in the discussions with TCCA and EASA was that the public comment period could not be interrupted. The comments received in this working group would be included once an agreement was reached. There is time enough to conclude the list of issues but in the event some items are not resolved, they will be included in the next revision.
Garmin	Pg MG 17–1, para a.(1)	States the following: "This MG provides certification guidance for installation of an AdFC system in rotorcraft. An AdFC is a flight control system that utilizes or replaces mechanical parts in conventional mechanical flight control systems with electronic parts. Typical systems include fly-by-wire and fly-by-light."	Further definition is needed for AdFC. From this definition, a conventional limited authority or full authority Stability Augmentation System (SAS) could be considered an AdFC since an electromechanical link is inserted into the control linkages and replaces a portion of the mechanical link. It seems doubtful that this is what is intended by this document; consequently, clarification is needed in this section. Suggestion changing a.(1) to: "This MG provides certification guidance for installation of an AdFC system in rotorcraft. An AdFC is a flight control system that utilizes or	Adopted, the majority of the recommended change text is incorporated.

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			replaces mechanical parts in conventional mechanical flight control systems with electronic parts such that there is no remaining direct mechanical link from the pilot to the control surfaces or swashplate. Typical systems include fly-by-wire and fly-by-light. For the purpose of this document, conventional limited- or full-authority Stability Augmentation Systems (SAS) are not considered as a subset of AdFC since the mechanical link is maintained."	
Bell Helicopter	Para d.(1)	Recommended edit to the referenced paragraph. Paragraph d.(1) states the "Since part 29 regulations are inadequate for addressing the new and novel features of AdFC systems, it may require issue papers, special conditions, equivalent means of compliance, and methods of compliance to establish safety standards in the following areas:" Issue papers are the initiation process that result in these other document.	Change the sentence listed above to "Since part 29 regulations are inadequate for addressing the new and novel features of AdFC systems, it may require issue papers to document; special conditions, equivalent level of safety findings, and methods of compliance to establish safety standards in the following areas:"	Partially, adopted; the recommended change text was further edited and incorporated.

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Bell Helicopter	Para d.(1)(iv)	Recommended edit. In paragraph (d)(1)(iv), the title Control Surface Awareness is more appropriate for a fixed wing application of AdFC. It's understood that the reference to §29.143 in the paragraph relates to the implicit requirement of 29.143(b),(c) and (d) to provide a tactile cue to the pilot when approaching and/or reaching a control limit.	Change the title of the subject title to "Control Margin Awareness".	Adopted; change incorporated.
Bell Helicopter	Para d.(2)(i), Figure 17-1	In Figure MG 17-1, Limited Flight Tests is listed under Possible Additional Methods for Catastrophic. As failure conditions categorized as Catastrophic require an integrity level of 10E-9, there is no justification for exposing a flight test to the level of risk associated with that failure condition. Nor would such a test condition would not meet the risk assessment criteria of FAA Order 4040.26B. When following that process, a condition with a severity classification of Catastrophic that is injected during a flight test, resulting in a probability of 1.0, would be assessed as Avoid, and the test would not be authorized. Verification should be	In Figure AC29 MG 19-1, under Possible Additional Methods for Catastrophic, change Limited Flight Tests to Simulation. Or remove both verification methods and list them as "not applicable."	Not adopted; the table is a recommendation for the ACO engineer to consider for each type of classification, not a required template. We do concur with the commenter that we need to limit the amount of flight testing in those cases where other means are clearly valid for certification credit.

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		accomplished by analysis. Also the primary purpose of FHA verification is to assure that the hazard level was correctly assessed –specifically that the failure does not warrant a higher level assessment. Since "Catastrophic" is the highest level, it begs the question why any verification is required at all for assessments of Catastrophic.		