

Comment response document CRD– Falcon 7X SC B-05 “Normal Load Factor Limiting System”

Commenter	Comment	Response
<p>CAA UK</p> <p>To Proposed Special Condition Text JAR 25.143(i)</p>	<p>The requirement for minimum load factors on the aircraft is extremely prescriptive and it is unclear whether the a/c equipped with EFCS can actually attain those load factors in all phases of flight. Although the CRI says that Dassault and the Team have agreed the CRI, it is unclear as to how compliance will be shown.</p>	<p>The way how compliance will be shown is usually documented in the compliance documentation. The purpose of the CRI is to define and agree the Special Condition. The text of the Special Condition is identical to previous projects with similar design features and should be kept for the sake of standardisation. The commenter seems to imply that this requirement should prescribe that the aircraft must be able to attain the load factor limits under all circumstances. This is not reasonable and not intended. The lead in sentence of the requirement reads “in absence of other limiting factors...”</p>
<p>CAA UK</p> <p>To Proposed Special Condition Text JAR 25.143(i)(1)</p>	<p>Are the words ‘positive limiting load factor’ sufficiently explicit? Is it clear what this means? ‘Limiting load factor’ is used in the structural definitions. Would it be better as ‘control law target load factor’ or something of that nature?</p>	<p>The commenter fails to explain what could cause a difficulty in meaning. Those words have been used in other Special Conditions and should be kept for the sake of standardisation. The team disagrees with the term “control law target load factor” as it is in fact a minimum design requirement, not a target.</p>
<p>CAA UK</p> <p>To Proposed Special Condition Text JAR 25.143(i)</p>	<p>It is presumed that the proposed special condition is concerned with steady states. Based on our experience of other control laws, they limit the rate at which a limit is approached so that there is no overshoot. For instance, with full back stick, it can take 10 seconds to drift back to maximum alpha in 1g flight. The objective of the limitation is to ensure sufficient manoeuvrability, therefore the load factor needs to be achievable in the same sort of time that it would be achievable on a conventionally controlled aircraft. Should there be some words to reflect this?</p>	<p>No. In CS 25.143 there is no requirement about the time required to achieve a certain load factor. There is no need to introduce such constraint for fly by wire aircraft. Manoeuvrability is assessed mainly qualitative. Experience has proven that a requirement implying a comparison with conventional controlled aircraft design is not suitable.</p>