



ECA
Piloting Safety

ECA Position Paper **Age 60 for single pilot HEMS**

1. The issue at stake

Early 2013 EASA received derogation requests from some HEMS operators to increase the maximum age limit for single pilot HEMS operations from 60 to 65 years in Part-FCL. The Agency decided not to grant derogations because of absent mitigating measures. As a result some operators applied and were granted exemptions. In the meantime some operators had commissioned a study (to the Munich and Dusseldorf Universities) to look into this maximum age limit. Based on the results of this study the HEMS operators asked for support at the EASA Advisory Board to raise the maximum age limit.

Bearing in mind the complexity of the whole debate, the researchers were very much aware of the limiting factors they were faced with. On page 84 of the report they state *“Finally, a more general limitation to the logic of the “Age 60 Rule” and the demand for “proof” to reject it, i.e. one would have to demonstrate that there is no difference between risks factors for flight safety depending on pilot age. Against the background of the philosophy of science and all statistics based on it this is impossible: The absence of evidence is not evidence for absence – meaning there might always be a pilot sample or a time when differences not yet found could be found. Moreover, statistics are about probabilities so that our results do not allow predictions about individual pilots.”*

The study does not give a clear answer if there is a safety concern or not to raise the age above 60. Thus the study can not be used as the proof that safety is guaranteed for single pilot HEMS operations above 60 years. The conclusion on page 27 is exemplary of how the researchers do not express a firm opinion. *“In sum, medical incapacitations are a very rare event and are still rare at an older age. However, the number of in-flight as well as general incapacitations clearly does increase with age, starting at 45y and – for general flight incapacitations – even more obvious at 60y of age. The slope of the increase of in-flight incapacitation is a lot flatter than for medical incapacitation in general. If this increase results in an increase of accidents or can be compensated for by reduction of pilot-error accidents through experience cannot be answered.”*

As incapacitation may in any case be a relatively rare event, the cognitive capacities and performances are particularly relevant in this context. It is therefore welcome that the study also looked beyond the pure medical aspects by testing cognitive functioning. It did so in a simulated environment, using well rested pilots, and doing the testing over a relatively short period. Although there may be operations in Europe where HEMS schedules are benign, this is unfortunately not the case everywhere – and the trend actually goes towards more demanding schedules, rather than the opposite. In one country for example the practice is to have a 7-day working shift with 16 hours of allowed working time including 6 nights with rest times not longer than 8 hours. Such a strain,

which becomes harder to manage at an older age, can not be simulated in a short controlled experiment.

The report concludes on page 34 that *"processing speed, working memory and executive functioning have been shown to be especially age-sensitive in cognitive testings."* This brings us to the issue of proficiency. Expecting that flying experience will counterbalance the mental performance decay would be a risky bet. The increase of experience between the age of 60 and 65 is very weak while there is a high probability of lower cognitive performance and lower fatigue recovery ability. In addition, helicopter flying – and especially single pilot HEMS – is undisputedly one of the most demanding of all aviation jobs and often take place in very challenging conditions. In these demanding operations flying experience, as counterbalance for the mental speed decay, has only limited benefits since mission profiles are always different.

Regretfully, helicopter accident statistics are not good at all. EASA is aware of this and has, amongst others through EHEST of which ECA is an active partner, been working intensively to try to bring down the accident rate. Increasing the maximum age for single pilot HEMS operations would go in exactly the opposite direction: it would further increase the risk, not lower it.

2. Conclusion

The age 60 discussion has always been a complex debate because of the medical, proficiency and social issues involved. Next to the safety arguments there is a whole different discussion to be held about pension rights and loss-of-license insurance. How do we solve the Solomon's question that a pilot who can no longer fly single pilot HEMS at 60 should bridge the financial gap to 65 (or 67) when s/he receives his/her retirement? Versus how to protect a pilot against a loss of license due to medical reasons in the age range 60 to 65, when loss of license coverage stops at 60? Although these concerns fall outside EASA's safety scope, they cannot be ignored and have to be taken up in the overall considerations, including in an adequate impact assessment.

The main issue is that a parameter (age) is used to determine how fit a pilot is to continue flying. The age limit was set arbitrarily, and in best faith in line with the precautionary principle. We strongly advise to keep it at 60 until it can be replaced by a better scientifically proven selection and/or test. The study actually hints at such a solution in its main conclusions on page 85 *"So, for practical purposes, even stricter individual medical, cognitive and performance testing might identify those conditions that are critical for flight safety"*. We are aware that it will be an uphill struggle to identify such medical, cognitive and performance testing. However, as long as these have not been established ECA requests the Agency to keep the maximum age limit at 60 as is specified today in Part-FCL and instead to continue with its current practice of granting case-by-case exemptions coupled with adequate mitigating measures.

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29 April 2014