



22 January 2009.

Summary of Results

“Scientific and Medical Evaluation of Flight Time Limitations”, Final Report by Moebus Aviation (TS.EASA.2007.OP.08)

Note: This summary has been compiled to provide – very quickly after the study’s publication – an overview on the study’s main findings & recommendations. The table will be completed should it turn out that certain findings are not reflected below. The full report is published on the ECA website.

What EASA Asked	What the Study Recommends
<p>Question 1 <i>The permissible max of 180 duty hours in 3 consecutive 60 hour weeks and the 1800 block hours in 18 consecutive months (Ref EU-OPS 1.1100)</i></p>	<p><i>setting an additional restriction of ‘100 duty hours in 14 consecutive days’</i></p> <p><i>restricting the annual block flying hours ‘900 block hours per 12 consecutive calendar months (rather than per calendar year, as currently required)</i></p>
<p>Question 2 <i>The provisions for the maximum daily Flight Duty Period (FDP), including extensions and mitigating conditions on their own, and in the framework of the entire Subpart Q (Ref EU OPS 1.1105 para 1.3).</i></p>	<p><i>‘For duties of 10-12 hours the relative risk of an accident was 1.7 times higher than for all duties, and for duties of 13 hours or more, the relative risk was over 5.5 times higher</i></p> <p><i>“The provisions of EU-OPS for the maximum basic FDP of 13 hours (extending up to 14 hours) are not in keeping with the body of scientific evidence.” “[...] a single FDP should never exceed 13 hours”; “13-hour FDPs are only acceptable under specific conditions;”</i></p> <p><i>the FDP for minimum crew should not exceed 10 hours overnight.</i></p> <p><i>maximum FDP be reduced by 30 minutes per sector for every sector after the first</i></p> <p><i>the maximum FDP should be reduced for non-acclimatized crew.</i></p>

<p>Question 3 The use of rostered extensions including the mitigation measures (ref EU OPS 1.1105 para 2)</p>	<p>removing those provisions from EU-OPS</p>
<p>Question 4 The FDP limit of 11:45 hours in the period 22:00 to 4:59, the need for additional provisions for duties within the WOCL, and the FDP limit of 11:45 starting in the WOCL on consecutive days (ref EU OPS 1.1105 para 7)</p>	<p>night duties and duties that encompass the WOCL are limited to 10 hours.</p>
	<p>the number of consecutive duties starting or ending in the WOCL should be limited.</p>
	<p>extending the definition of early starts to FDPs commencing before 7.00.</p>
<p>Question 5 the provisions of FDP extension for cabin crew including the need for additional conditions (ref EU OPS 1.1105 para 3.1)</p>	<p>cabin crew are more fatigued and therefore the same duty and rest requirements should be applied for both flight crew and cabin crew. It is recommended that an extension of the FDP of cabin crew with 30 minutes (to cater for the pre-flight briefing of cabin crew), would necessitate an adjustment of the rest period for cabin crew.</p>
<p>Question 6 Which detailed provisions and guidelines are needed within Subpart Q regarding split duty? (ref EU OPS 1.1105 para 6)</p>	<p>there are no scientific studies on the impact of split duty and further studies are required. Nevertheless it is recommend to set additional restrictions:</p> <ol style="list-style-type: none"> 1. The break between two sub-duties should be at least one third of the length of the total flight duty period 2. Adequate sleeping facilities must be provided by the operator if the break does not take place where the crew lives 3. total flight duty period of a split duty should never start before 6:00 or end after 22:00 4. In the case of consecutive split duties, the total FDP of a split duty should never be extended beyond 14 hours in order to allow an absolute minimum of 10 hours daily rest 5. Consecutive split duties with reduced daily rest time must be accompanied by an FRMS that includes training of crews and reporting systems
<p>Question 7 What provisions and/ or guidelines are needed on rest for time zone crossings (ref EU OPS 1.1110 para 1.3)</p>	<p>additional restrictions related to rest on layover and recovery at home base, in particular to take into account acclimatization.</p>
	<p>the minimum rest during layovers should be 14 hours after significant time crossings</p>

<p>Question 8 <i>What provisions are needed for reduced rest arrangements (ref EU OPS 1.1110 para 1.4.1)</i></p>	<p><i>reduced rest is only allowed as part of a comprehensive FRMS and that FRMS would need take into account of a wide range of factors including both the time spent commuting and the influence of the body clock on sleep duration.</i></p> <p><i>any reduced rest that is less than 12 hours long should include the entire WOCL period, and consideration should be given to to ensuring that the subsequent flight duty is not too onerous</i></p>
<p>Question 9 <i>The potential impact of reporting at 4.00 on the effectiveness of the weekly rest period (ref EU-OPS 1.1110 para 2.1)</i></p>	<p><i>removing from EU-OPS the “exemption” for the second local night (which currently allows reporting time as early as 04:00, resulting in aircrew starting their week of consecutive duty periods in a fatigued state).</i></p>
<p>Question 10 <i>The effects on the format of rest period on cumulative effect (ref EU-OPS 1.1110 para 2.1)</i></p>	<p><i>defining local nights as a period of 10 hours falling between 22:00 and 10:00.</i></p> <p><i>requiring four weekly rest periods in every 28 consecutive days.</i></p>
<p>Question 11 <i>What provisions are needed for extend FDP operations with augmented crew and/or time zone crossings? (ref EU OPS 1.1115 para 1.1)</i> Question 12 <i>quality of rest regarding rest location/ rest facilities for flight crew and cabin crew (ref EU OPS 1.1115 para 1.1 and 1.2)</i></p>	<p><i>setting additional restrictions related to augmented crew in respect to the maximum FDP with augmented crew i.e. taking into account quality of the bunk facilities and the effect of crew acclimatization (e.g. FDP may be extended by a period equal to three-quarters of the total rest taken, if in-flight relief and adequate bunk facilities are provided; or equal to half of the total rest taken if the aircrew is not acclimatized).</i></p> <p><i>not allowing extensions of the FDP in case of rest in economy class seats.</i></p>
<p>Question 13 <i>What provisions are needed for cabin crew regarding extended FDP operations with in-flight rest and/or time zone crossings (ref EU OPS 1.1115 para 1.2)</i></p>	<p><i>suggest to implement an FRMS to monitor and evaluate fatigue and alertness levels of cabin crew exposed to extended FDPs with augmentation and/or time zone crossings.</i></p>
<p>Question 14 <i>What provisions are needed for the calculation of maximum FDP when called</i></p>	<p><i>recommends that airport standby should not be considered as rest, but count 100% as flight duty when calculating the maximum FDP.</i></p> <p><i>this percentage can be reduced to 50% if a FRMS is in place and sleeping facilities away</i></p>

<p><i>out from airport stand-bye)</i> (ref EU OPS 1.1125 para 1.3)</p>	<p><i>from public areas are provided for</i></p> <p><i>No more than one consecutive duty should involve airport standby; such standby should be avoided when onerous duties are involved</i></p>
<p>Question 15 <i>What provisions are needed for the calculation of maximum FDP and minimum post duty rest when called out from other forms of standby. (ref EU OPS 1.1125 para 2.1.4)</i></p>	<p><i>suggests that the longer the crew has been standby at home, the greater should be the contribution towards maximum FDP and minimum post duty rest period.</i></p>
<p>Question 16 <i>What guidelines are need for the counting of standby times for cumulative duty hours? (ref EU OPS 1.1125 para 2.1.5)</i></p>	<p><i>no sufficient scientific evidence available to make recommendations</i></p>
<p>Question 17 <i>What guidelines are needed for the provision of a meal and drink opportunity, in particular for cabin crew? (ref EU OPS 1.1130)</i></p>	<p><i>30 minutes meal-break in a six hour period for cabin crew</i></p> <p><i>in addition, cabin crew are given adequate short breaks to ensure that they remain hydrated and as a break from continuous duties (e.g. 10 min breaks every three hours)</i></p>
<p>Question 18 <i>The possibility of alterations to Subpart Q for operations which are exclusively based on night-time operations regarding the number of consecutive night duties and FDP provisions (ref EU OPS Article 1 rectal 9a).</i></p>	<p><i>in the absence of further research, night freight operations beyond current limits should only be permitted if supported by a suitable FRMS;.</i></p>
<p><i>Acclimatization</i></p>	<p><i>include acclimatization as a provision within the EU-OPS Regulation.</i></p>
<p><i>FRMS (Fatigue Risk Management Systems)</i></p>	<p><i>Operators should be provided with guidance on the essential elements than a FRMS must contain; the recent ICAO working paper (ICAO, 2008) provides such guidance</i></p>

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