

# Effectiveness of Flight Time Limitations <Report on EU Study>

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# Background

[Regulation \(EU\) No 965/2012](#) - Article 9b

## Review



The Agency shall conduct a ***continuous review of the effectiveness of the provisions concerning flight and duty time limitations and rest requirements*** contained in Annexes II and III. No later than 18 February 2019 the Agency shall produce a first report on the results of this review. That review shall involve scientific expertise and shall be based on operational data gathered, with the assistance of Member States, on a long-term basis after the date of application of this Regulation. The review referred to in paragraph 1 shall assess the impact on aircrew alertness of at least the following:

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## Review



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# Objective: to gather data on the

## Impact on aircrew alertness of

- 1 duties of more than 13 hours at the most favourable time of the day
- 2 duties of more than 10 hours at the less favourable time of the day
- 3 duties of more than 11 hours for crew members in an unknown state of acclimatisation
- 4 duties including a high level of sectors (more than 6)
- 5 on-call duties such as standby or reserve followed by flight duties
- 6 disruptive schedules

# The project / public call for tenders

State of the art

Data collection

Critical assessment



Scoping of research

Conclusions

EASA report



Dedicated to innovation in aerospace



Finnish Institute of Occupational Health

# Scientific Committee



- assist with the gathering of background information and defining the scope and scale of the work;
- support in the development of the data collection methodology;
- assessing the suitability of the sample population proposed;
- advising the project steering group to ensure that decisions are based on the best available scientific information; and
- critiquing of the results and a peer-review of the deliverables.

# Mirror Group – FTL experts

- EASA Member States
- Aircrew organisations
- Airline associations

- providing advice to the definition of the scope and scale of the work;
- support the project by liaising with the relevant third parties – notably operators and national aircrew representatives; and
- provide the stakeholder’s perspective on the project development and outcome.

# State-of-the-art



Literature Review

Critical assessment of existing references



Lessons learned of comparable measurement campaigns

# Ranking of duty periods based on expected fatigue levels

- Bio-mathematical modelling
- Survey of aircrew, researchers and safety experts
- Literature review

1	duties of more than 13 hours at the most favourable time of the day
<b>2</b>	<b>duties of more than 10 hours at the less favourable time of the day</b>
3	duties of more than 11 hours for crew members in an unknown state of acclimatisation
4	duties including a high level of sectors (more than 6)
5	on-call duties such as standby or reserve followed by flight duties
<b>6</b>	<b>disruptive schedules</b>

# Target population for data collection

- Operate the two identified duty periods
- Balanced & representative
  - Regional
  - Size of aviation in various types of operations
  - Business models of operators

# Results

- Increased probability of high fatigue levels during **night duties** and duty periods with **late finishes**
- No significant increase of probability of high levels of fatigue at TOD was found for early start FDPs.
- A marginal increase was found for mixes of up to two disruptive schedule FDPs.
- ***Prescriptive limits alone are not sufficient to prevent high fatigue during night flights.***
- Need to support air operators with their responsibility to tailor more effective fatigue risk management strategies for night duties.
- Controlled rest observed in over 25% of night flights

# Results

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- Need to support air operators with their responsibility to tailor more effective fatigue risk management strategies for night duties.
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# Recommendations by NLR (1)

- amend the definition of 'night' FDP to reflect the different subgroups of 'night ' FDPs. This would help operators to design effective fatigue risk measures
- apply appropriate fatigue risk management to mitigate the fatiguing effect of late finish FDPs, regardless of FDP duration
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# Recommendations by NLR (2)

- duty periods that end at 6.00 or later combined with a start at 1.59 or earlier show the greatest probability of high fatigue at TOD. It is recommended that the regulation define this category of FDP and require operators to pay specific attention to these FDPs when applying fatigue risk management
- Amend GM to state that it is critical for the crew member to obtain sufficient sleep before all night duties, regardless of FDP duration.
- operators to promote optimum use of sleep opportunities (i.e. before reporting and during the FDP)

# Peer review by Scientific Committee

- Time frame for study too short
- No real stress test to regulation (study did not consider other mitigations e.g. CLAs)
- Study did not focus on operators who work regs to limit
- Research is needed on controlled rest
- More focussed data collection recommended
- Largest crew fatigue study in Europe so far
- Probability of high fatigue not simply related to duration of FDP

# Next steps

- Tender for research project FTL 2.0
  - Include **Scientific Committee** as early as possible
  - Duration **3 years instead of 2** to start in 2020
  - Cover 4 remaining duty types **plus controlled rest**
  - More focussed data collection

# Next steps

- Best Intervention Strategy (BIS) on FTL
  - Safety promotion to enhance FRM around night flights
  - Rulemaking on soft law to improve FRM around night flights
  - Promote resting opportunities in the context of night flights
  - Rulemaking to make *appropriate FRM* more explicitly mandatory (it already is as per operator responsibilities)
  
- Consider review of FTL regulation once FTL 2.0 is concluded

# Questions

Download on EASA website:

## Effectiveness of Flight Time Limitation (FTL) Report

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