

### Assessment N° IFTSS 2018/004/NO (report) under ARO.OPS.235 (d) of Regulation (EU) No 965/2012 of an individual flight time specification scheme, derogating from ORO.FTL.210 (a), approved to the operator Widerøe

#### A) BACKGROUND

1. Widerøe's individual flight time specification scheme (IFTSS), derogating from ORO.FTL.210 (a), Annex III to Regulation (EU) No 965/2012<sup>1</sup>, was approved in 2016 by the competent authority of Norway ('CAA-NO'). The approval was authorised by the EFTA Surveillance Authority (ESA Decision No 139/16/COL of 28 June 2016) based on a positive evaluation of EASA (Recommendation No IFTSS/2015/80/NO).
2. Widerøe's report assessing the effects of the derogation on aircrew fatigue was due for an EASA assessment in accordance with ARO.OPS.235 (d) of Regulation (EU) No 965/2012 by 07.07.2018 i.e. two years following the date on which in 2016 the CAA-NO informed the operator of the approved derogation and its terms.
3. On 05.07.2018 the CAA-NO submitted to EASA an interim report concerning the approved derogation, including 'Widerøe fatigue study' and 'Widerøe report on the study', and requested a postponement of the EASA assessment until the end of September 2018 in order to be able to finalise their evaluation of the operator's fatigue study. Final evaluation of 'Widerøe fatigue study' was submitted to EASA on 25.10.2018. Due to missing information and data in the operator's report, the Agency requested additional information to be provided by Widerøe. On 12.11.2018 the CAA-NO asked for another postponement until 31.01.2019 to be able to collect and analyse additional information. Nonetheless, on 27.11.2018 Widerøe provided EASA with additional answers which, though not complete, allowed for the start of the EASA assessment process assisted by an IFTSS Panel<sup>2</sup>.
4. On 05.02.2019 EASA, assisted by the IFTSS Panel, conducted an independent assessment of the operator's report under ARO.OPS.235 (d). Representatives from the CAA-NO were also present at that meeting. The IFTSS Panel found out that the information provided by the operator was not complete and did not cover the full scope of the derogation. The Panel therefore concluded that in order to be able to formulate its opinion, the operator would have to submit additional information such as: Safety Performance Indicators (SPIs) used by the operator's FRMS to monitor and measure the fatigue levels of crew members working under the derogation scheme; FSAG activities, etc.
5. Widerøe provided written clarifications on 02.04.2019. The IFTSS Panel met again on 14.05.2019 to consider those clarifications. The Panel found that despite all the data provided, it was still not

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<sup>1</sup> Regulation (EU) No 965/2012 of 5 October 2012 laying down technical requirements and administrative procedures related to air operations pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council.

<sup>2</sup> Panel composition IFTSS 2018/004/NO published on Circabc.



possible to define the scope and impact of the derogation. The main problem was that the operator's report did not fully address the risks intrinsic to cumulative duties of more than 60 hours in 7 days. The Panel also found that the effectiveness of sleep time as mitigation measure was not measured on the basis of actual operations data, but from BMM predictions. The Panel concluded that the operator did not apparently understand the purpose of the validation process of ARO.OPS.235 (d). The final clarifications provided by Widerøe on 16.05 2019 did not change these conclusions.

## B) LEGAL FRAMEWORK

6. ARO.OPS.235 (d) of Regulation (EU) No 965/2012 reads as follows:

*'Approved deviations or derogations shall be subject, after being applied, to an assessment to determine whether such deviations or derogations should be confirmed or amended. The competent authority and the Agency shall conduct an independent assessment based on information provided by the operator. The assessment shall be proportionate, transparent and based on scientific principles and knowledge.'*

7. ORO.FTL.125 (d) of Regulation (EU) No 965/2012 reads as follows:

*'For the purpose of point ARO.OPS.235 (d), within 2 years of the implementation of a deviation or derogation, the operator shall collect data concerning the granted deviation or derogation and analyse that data using scientific principles with a view to assessing the effects of the deviation or derogation on aircrew fatigue. Such analysis shall be provided in the form of a report to the competent authority.'*

8. The deviation refers to ORO.FTL.210(a) which reads:

*'The total duty periods to which a crew member may be assigned shall not exceed:*

*(1) 60 duty hours in any 7 consecutive days;*

*(2) 110 duty hours in any 14 consecutive days; and*

*(3) 190 duty hours in any 28 consecutive days, spread as evenly as practicable throughout that period.'*

## C) EVALUATION

9. The combined examination of documents and subsequent clarifications and data submitted by the CAA-NO and the operator showed that:

a) 80% of all Widerøe's aircrew are eligible to use the derogation. They operate from short field operations bases in Bodø, Oslo and Tromsø, seven days on, followed by seven days off (six days off for cabin crew) i.e. a rostering system 7/7/(6). The route structure from these operations bases consists of a high number of sectors, typically 6-8 per day. The rest of the aircrew is working outside derogation five days on, followed by four days off (i.e. a 5/4 rostering system). Those crew members operate from regional operations bases in Bergen



and Sandefjord. The route structure from these operations bases consists of lower number of sectors, typically 4-6 sectors per day, but with a longer duration;

- b) From the latest information provided by the operator it may be concluded that the scope of the derogation has been so far relatively large: from January 2018 until April 2019 the share of crew members who effectively worked more than 60 duty hours in 7 consecutive days out of total crew number of aircrew concerned by the derogation ranged between 18% and 28%, in the peak season. Outside the peak season that share ranged between 10% and 17%;
- c) The operator's FRM system is relatively new, being established 2.5 years ago and is still under development. Widerøe have had difficulties to find a reference group of crew members with a similar workload in order to correlate the data gathered from operations under 7/7(6) rostering system. To measure fatigue the operator have compared the short field operations, under the derogation, with the regional operations, outside derogation, recognising that the data for both crew groups working outside and within the derogation are influenced by the same mitigations. The chosen method of data correlation, hence does not fully reveal the real impact of the derogation on crew members' fatigue levels, since there is no analytical data available for the duty hours an individual crew member has achieved while working under the derogation;
- d) Widerøe has not collected and analysed individual data on how many times an individual crew member has achieved more than 60 hours cumulative duty time in a 7 days period. The operator acknowledge that there are no study data 'specifically for crew working 60+ hours' and that until now they have not measured the number of crew working more than 60 hours on an individual basis. It is therefore not possible to evaluate fatigue levels of aircrew affected by the derogation;
- e) The operator has not entirely fulfilled point (vi) of the terms of the initial derogation approval, in particular the data on cabin and flight crew fatigue do not include '*...at least two sources of objective data (e.g. psychomotor vigilance test (PVT), actigraphy) to verify the effectiveness of the proposed mitigating measures..*'. The reason why at least two sources of objective data are prescribed is because fatigue-related impairment has multiple causes. Therefore, various measurement tools are usually used in scientific research to provide a more comprehensive picture of fatigue, such as performance tests and different types of physiological monitoring. Also, each tool has strengths and weaknesses. Instead, the operator has provided the results of two performance tests that measure aircrew reaction time and sustained attention. Both are actually neuropsychological testing and represent one source of data.
- f) SPIs used by the operator's FRM with regard to sleep opportunity and time were not based on actual data but on a bio-mathematical model predictions alone. There is a disproportionate emphasis on bio-mathematical modelling (BMM) as a validation tool. The weaknesses of generic BMM are not acknowledged by the operator;
- g) Since 2015 the FSAG has performed no specific review of the derogation usage. At the same time, 46 fatigue report forms relating to 'working within the derogation' were received within the last 12 months (46% of the total);



- h) Widerøe has developed a tool enabling the comparison of FDM-events to average BMM fatigue scores and fatigue reports. A simple comparison to the average BMM score of the entire rotation could however be misleading. BMM scores drop sharply upon fatigue onset. Should this occur at the very end of a rotation the impact on the average BMM score could be insignificant despite a significant increase in risk. It would be therefore necessary to generate a correlation between FDM events and predicted fatigue level at the time of occurrence.

## D) CONCLUSION

10. Widerøe did not provide scientific data on cabin and flight crew fatigue, to verify the effectiveness of the proposed mitigating measures, from a second source. As a result point (vi) of the 2016 CAA-NO authorisation decision is not fully respected. The terms of the derogation approval are to be executed in the way they are prescribed, since they become the mandatory legal norms replacing the implementing rules which they derogate from. Therefore, the operator may not choose to implement only those conditions they find most convenient.
11. The data provided by the operator does not fully address the risks intrinsic to the derogation, namely cumulative duties of more than 60 hours in 7 days. Data gathered for the purpose of any validation shall prove that the actual fatigue levels and the stability of the operation is sufficiently close to the predicted fatigue levels and assumed operational parameters.
12. It is recommended that the 2016 derogation approval be only temporarily extended until **31 October 2019**, in order to allow time for the shortcomings to be corrected. By 31 October 2019 the operator should submit to both CAA-NO and EASA evidence demonstrating that the 2016 derogation approval has been fully implemented. In parallel to this, the operator should provide more evidence of FRM maturity and plans for its continuous development.
13. EASA shall conduct another independent assessment under ARO.OPS.235 (d) based on the evidence submitted, in order to ensure that a level of protection equivalent to CS FTL-1 is maintained.

Signed on 05.06.2019

  
Jesper RASMUSSEN  
Flight Standards Director

