

**EASA NPA 2009-02 – FTL Flight Time Limitations**

**Objective:** EASA NPA 2009-02 includes a 3-page CS-FTL Certification Specification to Part-OR Subpart OPS Section VIII on Flight and duty time limitations and rest requirements (see NPA 2009-02C pages 33-35). LTU decided to comment the conditions as specified in OR.OPS.330.FTL and AMC.OR.OPS.330.FTL(c):

**OR.OPS.330.FTL Flight time specification schemes**

- (a) Commercial operators shall establish, implement and maintain flight time specification schemes which are appropriate for the type(s) of operation.
- (b) To meet the requirement in (a), commercial operators shall use:
  - (1) flight time specification schemes contained in certification specifications published by the Agency; or
  - (2) individual flight time specification schemes, subject to prior approval by the competent authority, as prescribed in Part AR.
- (c) When applying for the approval of an individual flight time specification scheme, the operator shall demonstrate to the competent authority compliance with the Basic Regulation and the associated implementing rules. When doing so, the operator shall provide the competent authority with a full description of the individual flight time specification scheme, including any revisions to manuals or procedures that may be relevant, as well as any documentation necessary. Such documentation shall:
  - (1) take into account operational experience and best practices;
  - (2) address all applicable flight and duty time limitations and rest requirements;
  - (3) include a detailed description of the fatigue risk management system;
  - (4) include a risk assessment;
  - (5) be supported by an assessment based on current scientific principles and knowledge; and
  - (6) include details regarding consultation with the affected groups.
- (d) The individual flight time specification scheme described in (c) shall contain a roster system for all crew members, including the following elements:
  - (1) Flight Duty Periods (FDP) in accordance with OR.OPS.035.FTL and OR.OPS.335.FTL;
  - (2) Flight times and duty periods in accordance with OR.OPS.040.FTL;
  - (3) Positioning duty in accordance with OR.OPS.045, where applicable to the type of operation;
  - (4) Standby duty in accordance with OR.OPS.050.FTL and OR.OPS.350.FTL, where applicable to the type of operation; and
  - (5) Rest periods in accordance with OR.OPS.055.FTL and OR.OPS.355.FTL

**AMC OR.OPS.330.FTL(c) Flight time specification schemes for commercial operators INDIVIDUAL FLIGHT TIME SPECIFICATION SCHEME**

- (a) The **risk assessment** for an individual flight time limitation scheme which is submitted to the competent authority should include a **hazard analysis** and risk management log, if appropriate for the type, size and complexity of the operations and the flight time limitations scheme.
- (b) The details regarding consultation with the affected groups should describe the consultation with scheduling managers, crew member representatives, etc., as applicable.

**Working paper:** consolidates all comments of LTU (2nd column) on the EASA NPA (1st column) as an intermediate step to an LTU proposal (3rd column). The required risk assessment and hazard analysis is essential to substantiate and justify (4th column) this CS-FTL. LTU.

EASA NPA 2009-02c Part-OR CS-FTL	LTU Comments	Proposal LTU	Substantiation / Justification
p33 CS FTL.1 Basic Certification		CS FTL.1 Basic Certification Specification	

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<p><b>Specification</b> for Commercial Air Transport (Aeroplanes)</p>		<p>for Commercial Air Transport – Aeroplanes – alternate proposed by LTU</p>	
<p><b>p33 CS FTL.1.100 Applicability</b> CS FTL.1 constitutes a flight time specification scheme in accordance with OR.OPS.330.FTL and is applicable for commercial air transport operations (aeroplanes) in conjunction with the applicable requirements for flight and duty time limitations and rest requirements.</p>		<p><b>CS FTL.1.100 Applicability</b> CS FTL.1 constitutes a flight time specification scheme in accordance with OR.OPS.330.FTL and is applicable for commercial air transport operations (aeroplanes) in conjunction with the applicable requirements for flight and duty time limitations and rest requirements.</p>	

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<p>p33 <b>CS FTL.1.135 Maximum daily Flight Duty Period (FDP)</b>                      (a) Maximum daily FDP without the use of extensions.                      The maximum basic daily FDP shall be 13 hours which shall be reduced by 30 minutes for each sector from the third sector onwards and be further reduced (up to a maximum of two hours) when the WOCL is encroached in accordance with the limits specified in the table below:</p> <table border="1" data-bbox="73 563 495 762"> <thead> <tr> <th>Start of FDP</th> <th>1 Sector</th> <th>2 Sectors</th> <th>3 Sectors</th> <th>4 Sectors</th> <th>5 Sectors or more</th> </tr> </thead> <tbody> <tr><td>0600 - 1259</td><td>13:00</td><td>13:00</td><td>12:30</td><td>12:00</td><td>11:30</td></tr> <tr><td>1300 - 1329</td><td>12:55</td><td>12:55</td><td>12:25</td><td>11:55</td><td>11:25</td></tr> <tr><td>1330 - 1359</td><td>12:40</td><td>12:40</td><td>12:10</td><td>11:40</td><td>10:50</td></tr> <tr><td>1400 - 1429</td><td>12:25</td><td>12:25</td><td>11:55</td><td>11:25</td><td>09:55</td></tr> <tr><td>1430 - 1459</td><td>12:10</td><td>12:10</td><td>11:40</td><td>11:10</td><td>10:40</td></tr> <tr><td>1500 - 1529</td><td>11:55</td><td>11:55</td><td>11:25</td><td>10:55</td><td>10:25</td></tr> <tr><td>1530 - 1559</td><td>11:40</td><td>11:40</td><td>11:10</td><td>10:40</td><td>10:10</td></tr> <tr><td>1600 - 1629</td><td>11:25</td><td>11:25</td><td>10:55</td><td>10:25</td><td>09:55</td></tr> <tr><td>1630 - 1659</td><td>11:10</td><td>11:10</td><td>10:40</td><td>10:10</td><td>09:40</td></tr> <tr><td>1700 - 0359</td><td>11:00</td><td>11:00</td><td>10:30</td><td>10:00</td><td>09:30</td></tr> <tr><td>0400 - 0429</td><td>11:15</td><td>11:15</td><td>10:45</td><td>10:15</td><td>09:45</td></tr> <tr><td>0430 - 0459</td><td>11:45</td><td>11:45</td><td>11:15</td><td>10:45</td><td>10:15</td></tr> <tr><td>0500 - 0529</td><td>12:15</td><td>12:15</td><td>11:45</td><td>11:15</td><td>10:45</td></tr> <tr><td>0530 - 0559</td><td>12:45</td><td>12:45</td><td>12:15</td><td>11:45</td><td>11:15</td></tr> </tbody> </table>	Start of FDP	1 Sector	2 Sectors	3 Sectors	4 Sectors	5 Sectors or more	0600 - 1259	13:00	13:00	12:30	12:00	11:30	1300 - 1329	12:55	12:55	12:25	11:55	11:25	1330 - 1359	12:40	12:40	12:10	11:40	10:50	1400 - 1429	12:25	12:25	11:55	11:25	09:55	1430 - 1459	12:10	12:10	11:40	11:10	10:40	1500 - 1529	11:55	11:55	11:25	10:55	10:25	1530 - 1559	11:40	11:40	11:10	10:40	10:10	1600 - 1629	11:25	11:25	10:55	10:25	09:55	1630 - 1659	11:10	11:10	10:40	10:10	09:40	1700 - 0359	11:00	11:00	10:30	10:00	09:30	0400 - 0429	11:15	11:15	10:45	10:15	09:45	0430 - 0459	11:45	11:45	11:15	10:45	10:15	0500 - 0529	12:15	12:15	11:45	11:15	10:45	0530 - 0559	12:45	12:45	12:15	11:45	11:15	<p>It is not possible to verify the values and the logic of the table, because the original rules are not part of the text. For example: Is the 50% WOCL-correction taken into account?</p> <p>The table is in general more restrictive than EU-OPS subpart Q, sometimes EASA allows a longer FDP:</p> <ul style="list-style-type: none"> <li>the actual FDP is not used to calculate the maximum allowable FDP;</li> <li>the sector correction is applied after the WOCL correction;</li> <li>the 50% correction when encroaching the WOCL is not always applied correctly;</li> <li>by using time brackets for reporting on duty times the max. FPD has in some instances been reduced.</li> </ul> <p>The safety arguments for the following adjustments are lacking:</p> <ul style="list-style-type: none"> <li>The sector correction is reduced from maximum daily FDP after the WOCL-correction (the values in columns 3, 4 and 5 is not correct and contradictory with the EU-OPS 1.135 (a));</li> <li>When calculating the WOCL-correction, a sliding scale is used. This is not taken into account when using brackets of 30 minutes;</li> </ul>	<p><b>CS FTL.1.135 Maximum daily Flight Duty Period (FDP)</b>                      (a) Maximum daily FDP without the use of extensions                      The maximum basic daily FDP shall be 13 hours which shall be reduced by 30 minutes for each sector from the third sector onwards and be further reduced (up to a maximum of two hours) when the WOCL is encroached. <b>The calculated Basic FDP is specified in Table A. The start of FDP is expressed in the WOCL time zone as per OR.OPS.010.FTL(o).</b></p>	<p>Table A has been calculated in accordance and in the sequence of EU-OPS as shown in attached <b>Flowchart</b>.</p> <p>The calculation method to ensure that the Maximum FDP is reduced by 50% of the calculated Basic FDP is explained in attached <b>Memo</b>.</p> <p>The differences between Table A and EASA CS FTL.135(a) are shown in attached <b>Graph A</b>.</p>
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The extension is further reduced to a maximum of four sectors when the WOCL is encroached and to a maximum of two sectors when FDP encroaches the WOCL by more than two hours with the limits specified in table below:</p> <table border="1" data-bbox="69 592 495 906"> <thead> <tr> <th>Start of FDP</th> <th>1 Sector</th> <th>2 Sectors</th> <th>3 Sectors</th> <th>4 Sectors</th> <th>5 Sectors</th> <th>6 Sectors or more</th> </tr> </thead> <tbody> <tr><td>0600 - 1259</td><td>14:00</td><td>14:00</td><td>13:30</td><td>13:00</td><td>12:30</td><td>Not Allowed</td></tr> <tr><td>1300 - 1329</td><td>13:55</td><td>13:55</td><td>13:25</td><td>12:55</td><td>12:25</td><td>Not Allowed</td></tr> <tr><td>1330 - 1359</td><td>13:40</td><td>13:40</td><td>13:10</td><td>12:40</td><td>Not Allowed</td><td>Not Allowed</td></tr> <tr><td>1400 - 1429</td><td>13:25</td><td>13:25</td><td>12:55</td><td>12:25</td><td>Not Allowed</td><td>Not Allowed</td></tr> <tr><td>1430 - 1459</td><td>13:10</td><td>13:10</td><td>12:40</td><td>12:10</td><td>Not Allowed</td><td>Not Allowed</td></tr> <tr><td>1500 - 1529</td><td>12:55</td><td>12:55</td><td>12:25</td><td>11:55</td><td>Not Allowed</td><td>Not Allowed</td></tr> <tr><td>1530 - 1559</td><td>12:40</td><td>12:40</td><td>12:10</td><td>11:40</td><td>Not Allowed</td><td>Not Allowed</td></tr> <tr><td>1600 - 1629</td><td>12:25</td><td>12:25</td><td>11:55</td><td>11:25</td><td>Not Allowed</td><td>Not Allowed</td></tr> <tr><td>1630 - 1659</td><td>12:10</td><td>12:10</td><td>11:40</td><td>11:10</td><td>Not Allowed</td><td>Not Allowed</td></tr> <tr><td>1700 - 2159</td><td>12:00</td><td>12:00</td><td>Not Allowed</td><td>Not Allowed</td><td>Not Allowed</td><td>Not Allowed</td></tr> <tr><td>2200 - 0359</td><td>11:45</td><td>11:45</td><td>Not Allowed</td><td>Not Allowed</td><td>Not Allowed</td><td>Not Allowed</td></tr> <tr><td>0400 - 0459</td><td>11:45</td><td>11:45</td><td>11:15</td><td>10:45</td><td>Not allowed</td><td>Not allowed</td></tr> <tr><td>0500 - 0529</td><td>13:15</td><td>13:15</td><td>12:45</td><td>12:15</td><td>Not Allowed</td><td>Not Allowed</td></tr> <tr><td>0530 - 0559</td><td>13:45</td><td>13:45</td><td>13:15</td><td>12:45</td><td>Not Allowed</td><td>Not Allowed</td></tr> </tbody> </table> <p>The maximum number of times that extensions can be used is two in any seven consecutive days. Where an FDP is planned to use an extension, the minimum pre flight and post flight rest periods are increased by two hours, or post flight rest only is increased by four hours. Where the extensions are used for consecutive FDPs the pre and post rest between the two operations run consecutively.</p>	Start of FDP	1 Sector	2 Sectors	3 Sectors	4 Sectors	5 Sectors	6 Sectors or more	0600 - 1259	14:00	14:00	13:30	13:00	12:30	Not Allowed	1300 - 1329	13:55	13:55	13:25	12:55	12:25	Not Allowed	1330 - 1359	13:40	13:40	13:10	12:40	Not Allowed	Not Allowed	1400 - 1429	13:25	13:25	12:55	12:25	Not Allowed	Not Allowed	1430 - 1459	13:10	13:10	12:40	12:10	Not Allowed	Not Allowed	1500 - 1529	12:55	12:55	12:25	11:55	Not Allowed	Not Allowed	1530 - 1559	12:40	12:40	12:10	11:40	Not Allowed	Not Allowed	1600 - 1629	12:25	12:25	11:55	11:25	Not Allowed	Not Allowed	1630 - 1659	12:10	12:10	11:40	11:10	Not Allowed	Not Allowed	1700 - 2159	12:00	12:00	Not Allowed	Not Allowed	Not Allowed	Not Allowed	2200 - 0359	11:45	11:45	Not Allowed	Not Allowed	Not Allowed	Not Allowed	0400 - 0459	11:45	11:45	11:15	10:45	Not allowed	Not allowed	0500 - 0529	13:15	13:15	12:45	12:15	Not Allowed	Not Allowed	0530 - 0559	13:45	13:45	13:15	12:45	Not Allowed	Not Allowed	<p>Following the sequence of the rules, the WOCL has been taken into account at the beginning. Therefore, extensions are not influenced anymore by the WOCL. Per EU-OPS, the maximum daily FDP can be extended by up to one hour per EU-OPS1.1105.1.</p>	<p><b>CS FTL.1.135 Maximum daily Flight Duty Period (FDP)</b>                      (b) Maximum daily FDP with the use of extensions.                      The maximum daily FDP can be extended by up to one hour and this extension is limited to a maximum of 5 sectors. The extension is further limited to a maximum of four sectors when the WOCL is encroached and to a maximum of two sectors when FDP encroaches the WOCL by more than two hours. The calculated Extended FDP are specified in <b>Table B</b>. The start of FDP is expressed in the WOCL time zone as per OR.OPS.010.FTL(o). Flights departing between 22:00 and 05:00 are limited to 11:45.</p> <p>The maximum number of times that extensions can be used is two in any seven consecutive days. Where an FDP is planned to use an extension, the minimum pre flight and post flight rest periods are increased by two hours, or post flight rest only is increased by four hours. Where the extensions are used for consecutive FDPs the pre and post rest between the two operations run consecutively.</p>	<p>Table B has been calculated in accordance and in the sequence of EU-OPS as shown in attached <b>Flowchart</b>. The one hour extension is only added when permitted by the WOCL encroachment of the Basic FDP for the number of sectors.</p> <p>The differences between Table B and EASA CS FTL.135(a) are shown in attached <b>Graph B</b>.</p>
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1300 - 1329	13:55	13:55	13:25	12:55	12:25	Not Allowed																																																																																																						
1330 - 1359	13:40	13:40	13:10	12:40	Not Allowed	Not Allowed																																																																																																						
1400 - 1429	13:25	13:25	12:55	12:25	Not Allowed	Not Allowed																																																																																																						
1430 - 1459	13:10	13:10	12:40	12:10	Not Allowed	Not Allowed																																																																																																						
1500 - 1529	12:55	12:55	12:25	11:55	Not Allowed	Not Allowed																																																																																																						
1530 - 1559	12:40	12:40	12:10	11:40	Not Allowed	Not Allowed																																																																																																						
1600 - 1629	12:25	12:25	11:55	11:25	Not Allowed	Not Allowed																																																																																																						
1630 - 1659	12:10	12:10	11:40	11:10	Not Allowed	Not Allowed																																																																																																						
1700 - 2159	12:00	12:00	Not Allowed	Not Allowed	Not Allowed	Not Allowed																																																																																																						
2200 - 0359	11:45	11:45	Not Allowed	Not Allowed	Not Allowed	Not Allowed																																																																																																						
0400 - 0459	11:45	11:45	11:15	10:45	Not allowed	Not allowed																																																																																																						
0500 - 0529	13:15	13:15	12:45	12:15	Not Allowed	Not Allowed																																																																																																						
0530 - 0559	13:45	13:45	13:15	12:45	Not Allowed	Not Allowed																																																																																																						

Formatiert: Englisch (Großbritannien)

EASA NPA 2009-02 – FTL Flight Time Limitations

EASA NPA 2009-02c Part-OR CS-FTL	LTU Comments	Proposal LTU	Substantiation / Justification
<p>p33 <b>CS FTL.1.135 Maximum daily Flight Duty Period (FDP)</b>                      (c) FDP with different reporting time for flight crew and cabin crew in cases where cabin crew require more time than the flight crew for their pre-flight briefing for the <u>same</u> flight or series of flights, the FDP of the cabin crew may be extended by the difference in reporting time between the cabin crew and the flight crew, as long as the difference does not exceed 60 minutes.</p>	<p>The added word ‘same’ makes this article more restrictive. The safety argument for this adjustment is lacking.</p> <p>Delete the word “same” and add:                      “(d) For the determination of the maximum FDP of the cabin crew the reporting time of the flight crew shall be assumed to be the reporting time of the cabin crew.”</p>	<p><b>CS FTL.1.135 Maximum daily Flight Duty Period (FDP)</b>                      (c) FDP with different reporting time for flight crew and cabin crew in cases where cabin crew require more time than the flight crew for their pre-flight briefing for the flight or series of flights, the FDP of the cabin crew may be extended by the difference in reporting time between the cabin crew and the flight crew, as long as the difference does not exceed 60 minutes.                      (d) For the determination of the maximum FDP of the cabin crew the reporting time of the flight crew shall be assumed to be the reporting time of the cabin crew.</p>	<p>Motivation: Cabin crew shall never be the limiting factor with respect to FDP.</p> <p>If the reporting time of the cabin crew is used to determine the maximum FDP, it could be that in certain instances the cabin crew will still be more restrictive by as much as one hour w.r.t. the flight crew.                      Eg.: Cc. reports at 04:00; Fc. reports at 05:00. Cc. max FDP will be 11:15 + 01:00 = 12:15 i.e. latest reporting off time 16:15; Fc max FDP will be 12:15 i.e. latest reporting off time 17:15.</p>
<p>p.34 <b>CS FTL.1.140 Flight times and duty periods</b>                      (a) The total duty periods to which a crew member is assigned shall not exceed:                      (1) 60 duty hours in any seven consecutive days;                      (2) 190 duty hours in any 28 consecutive days</p>	<p>To provide flexibility due different reporting times for cabin crew and flight crew in case of unforeseen delays, cabin crew have an additional 5 hours per any seven consecutive days.</p>	<p><b>CS FTL.1.140 Flight times and duty periods</b>                      (a) The total duty periods to which a crew member is assigned shall not exceed:                      (1) 60 (65 for cabin crew) duty hours in any seven consecutive days;                      (2) 190 (210 for cabin crew) duty hours in any 28 consecutive days</p>	<p><b>Justification: UK CAP371</b>                      Motivation: The safety tasks of flight crew and cabin crew are different: cabin crew are re-active while flight crew more pro-active. Cabin crew shall never be the limiting factor with respect to flight times and duty periods.</p>

**EASA NPA 2009-02 – FTL Flight Time Limitations**

EASA NPA 2009-02c Part-OR CS-FTL	LTU Comments	Proposal LTU	Substantiation / Justification
<p>p.34 <b>CS FTL.1.140 Flight times and duty periods</b>                      (b) The total flight time of the flights on which an individual crew member is assigned as an operating crew member shall not exceed:                      (1) 100 flight hours in any 28 consecutive days;                      (2) 900 flight hours in any 12 consecutive calendar months.</p>	<p>This text is more restrictive than EU-OPS Subpart Q text which refers to 900 hrs in a calendar year. The safety argument is lacking.                      Revert back to EU-OPS text which is in line with the EU Working Time Directive by replacing „any 12 consecutive calendar months“ by „one calendar year“.                      Due to diverging demand in winter season and summer season no balance possible. LTU is highly subject to seasonal effects, e.g. peak during summer season. The “one calendar year” as in EU-OPS and Working Time Directive (Council Directive 2000/79/EC) reduces the problem to a one-time exercise at the end of the calendar year, i.e. in the winter low season. The EASA proposed “12 consecutive months” present however an unnecessary continuing challenge, also during the summer peak. Note that this summer peak is not driven by the operator, but by the market itself, e.g. hard working families and tax payers going on well deserved summer holidays.</p>	<p><b>CS FTL.1.140 Flight times and duty periods</b>                      (b) The total flight time of the flights on which an individual crew member is assigned as an operating crew member shall not exceed:                      (1) 100 flight hours in any 28 consecutive days;                      (2) 900 flight hours in a calendar year.</p>	<p>The “900 hours in any 12 consecutive months” are not specified by ICAO and is more restrictive than the EU Working Time Directive EC 2000/79 Clause 9:                      “Without prejudice to Clause 3, mobile staff in civil aviation shall be given days free of all duty and standby, which are notified in advance, as follows:                      a) at least seven local days in each calendar month, which may include any rest periods required by law; and                      b) at least 96 local days in each calendar year, which may include any rest periods required by law.                      There is no safety justification given for the additional requirement, which will lead to reduced flexibility in particular when planning crew members’ leave.                      Finally, Certification Specification CS FTL.1.140 (a) and (b)(1) will avoid any intended abuse of the “one calendar year”. The intent is already covered by 1.140 (c).</p>

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EASA NPA 2009-02c Part-OR CS-FTL	LTU Comments	Proposal LTU	Substantiation / Justification
<p>p.34 <b>CS FTL.1.140 Flight times and duty periods</b>                      (c) The total duty periods and total flight times referred to in (a) and (b) above should be spread as evenly as practicable throughout their respective periods.</p>	<p>The text, not stated in the original EU-OPS subpart Q regulations, is described vaguely and does not have any added value.</p>	<p><b>CS FTL.1.140 Flight times and duty periods</b>                      Deleted (c )</p>	
<p>p35- <b>CS FTL.1.155 Minimum Rest Period</b>                      (a) Minimum rest period at home base.                      The minimum rest period provided before undertaking a flight duty period starting at home base is at least as long as the preceding duty period, or 12 hours, whichever is the greater.</p>	<p>Maintain the wording of EU-OPS  <b>EU- OPS 1.1110.1 Rest</b></p>	<p><b>CS FTL.1.155 Minimum Rest Period</b>                      1. Minimum rest                      1.1. The minimum rest which must be provided before undertaking a flight duty period starting at home base shall be at least as long as the preceding duty period or 12 hours whichever is the greater;</p>	<p>EU-OPS 1.1110 Rest</p>
<p>p35 <b>CS FTL.1.155 Minimum Rest Period</b>                      (b) Minimum rest period away from home base.                      The minimum rest period provided before undertaking a flight duty period starting away from home base is at least as long as the preceding duty period, or 10 hours, whichever is the greater. The minimum rest period away from home base includes an 8 hour sleep opportunity taking account of travelling and other physiological needs</p>	<p>Maintain the wording of EU-OPS  <b>EU- OPS 1.1110.1 Rest</b></p>	<p>1.2. The minimum rest which must be provided before undertaking a flight duty period starting away from home base shall be at least as long as the preceding duty period or 10 hours whichever is the greater; when on minimum rest away from home base, the operator must allow for an eight hour sleep opportunity taking due account of travelling and other physiological needs;</p>	<p>EU-OPS 1.1110 Rest</p>



**EASA NPA 2009-02 – FTL Flight Time Limitations**

<b>EASA NPA 2009-02c Part-OR CS-FTL</b>	<b>LTU Comments</b>	<b>Proposal LTU</b>	<b>Substantiation / Justification</b>
<p>p35 <b>CS FTL.1.155 Minimum Rest Period</b>                      (c) Recurrent extended recovery rest periods                      The minimum recurrent extended recovery rest period to compensate for cumulative fatigue is a 36-hour period including two local nights, such that there are never more than 168 hours between the end of one recurrent extended recovery rest period and the start of the next.</p>	<p>There is no definition for “cumulative fatigue”. There is no safety argument to link “recurrent extended recovery “ rest periods with “cumulative fatigue”.</p> <p>To quote the Moebus study on page 27: “Question 10: The effects of the format of rest periods on cumulative fatigue (ref. EU-OPS 1.1110 para 2.1)...In the absence of direct scientific evidence, it is not possible to provide clear guidance on the relationship between cumulative fatigue and the frequency of days off.”</p> <p>Maintain the wording of EU-OPS  <b>EU- OPS 1.1110.2 Rest Periods</b></p>	<p><b>CS FTL.1.155 Minimum Rest Period</b>                      (c) Recurrent extended recovery rest periods                      An operator shall ensure that the minimum rest provided as outlined above is increased periodically to a weekly rest period, being a 36-hour period including two local nights, such that there shall never be more than 168 hours between the end of one weekly rest period and the start of the next. As an exception, the second of those local nights may start from 20:00 hours if the weekly rest period has a duration of at least 40 hours.</p>	<p>EU-OPS 1.1110.2</p> <p>There is no scientifically based argument to link cumulative fatigue and frequency of days off.</p>

EASA NPA 2009-02 – FTL Flight Time Limitations

EASA NPA 2009-02c Part-OR CS-FTL	LTU Comments	Proposal LTU	Substantiation / Justification
<p>p35 <b>CS FTL.1.160 Unforeseen circumstances in actual flight operations – discretion by pilot in command</b></p> <p>(a) The conditions for the modification of the limits on flight duty, duty and rest periods by the pilot in command in the case of unforeseen circumstances in actual flight operations, and after the reporting time, should comply with the following:</p> <p>(1) The maximum basic daily FDP which results after applying CS FTL.1.135 <u>(b) and (c)</u> may not be increased by more than two hours unless the flight crew has been augmented, in which case the maximum flight duty period may be increased by not more than 3 hours;</p> <p>(2) The maximum basic daily FDP which results after applying CS FTL.1.135 <u>(b), (c) and (d)</u> may not be increased by more than one hour unless the flight crew has been augmented, in which case the maximum flight duty period may be increased by not more than 2 hours;</p> <p>(3) If on the final sector within a FDP unforeseen circumstances occur after take off that will result in the permitted increase being exceeded, the flight may continue to the planned destination or alternate;</p> <p>(4) In the event of such circumstances,</p>	<p>Should be <u>(a) and (c)</u>. OPS 1.1120.1 does not specify who shall made the decision to extend, but only specifies such decision shall be acceptable to the PIC. The EASA NPA specifies this decision shall be made by the PIC. The operator shall still be able to propose extensions to the PIC, subject to PIC’s acceptance.</p> <p>Should be <u>(b) and (c)</u>. CS FTL.1.160 references to CS FTL.1.135 are wrong (e.g. CS FTL.1.135 (d) does not exist).</p> <p>Replace “such” by “unforeseen”. If not,</p>	<p><b>CS FTL.1.160 Unforeseen circumstances in actual flight operations – discretion by pilot in command</b></p> <p>Maintain wording of EU-OPS 1.1120, but replacing the reference to “1.1105.1.3” by “maximum basic FDP of 13 hours”.</p>	<p>EU-OPS 1.1120.1.1 clearly refers to 1.1105.1.3 i.e. maximum basic FDP of 13 hours.</p> <p>The (ab)use of the discretion by the PIC is monitored: EU-OPS 1.1120.1.3.2. requires the PIC whenever the increase of a FDP or reduction of a rest period exceeds one hour, to file a report, to which the operator must add his comments, and provide to the Competent Authority no later than 28 days after the event. Last but not least, such events will also be considered under the operator’s FRMS, part of its SMS.</p>

**EASA NPA 2009-02 – FTL Flight Time Limitations**

<p>the rest period following the FDP may be reduced but never below the minimum rest period defined in CS FTL.1.155 (b). (b) The pilot in command should consult all crew members before deciding these modifications</p>	<p>(4) will not be possible if the PIC has not extended the previous FDP. PIC should be able to reduce rest period without necessarily having increased the previous FDP.</p>		
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**Attachments** (to be provided)

- Table A – Basic FDP
- Table B – Extended FDP
- Flowchart FDP calculation
- Memo FDP calculation
- Graph A - Basic FDP - Comparison between LTU and EASA NPA
- Graph B - Extended FDP – Comparison between LTU and EASA NPA