# FTL/FRM INSPECTOR'S CHECKLIST

# SUPPORTING MATERIAL FOR NAAs INSPECTORS

# 2024

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| FTL/FRM Inspector's checklist - supporting material for NAAs Inspectors | Edition 3 | 16.02.2024 |
| The document will be reviewed periodically as part of the continuous improvement process. Comments should be forwarded to the address below: | | |

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This document is also published in conjunction with Art. 5(3) of Regulation (EU) No 628/2013: "The Agency shall provide competent authorities of Member States with relevant information to support the uniform implementation of the applicable requirements."

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## 1. Purpose of checklist

EASA has, with the involvement of FTL/FRM experts from Member States competent authorities, developed the following checklists to be used by NAA inspectors to ensure a standardised approach to:

- Part #1 - Assessing compliance with ORO.FTL.110 (Operator's responsibilities)
- Part #2 - Approval of operator's IFTSS and assessing operator's continued compliance with Subpart FTL
- Part #3 - Assessing compliance with ORO.FTL.120 (FRM)

This checklist is not only built upon FTL prescriptive limits, but also adds a risk- and performance-based approach with regard to the requirements concerning the operator's SMS and FRM.

Member States may complement the checklists in order to address national specificities.

## 2. How to use

These checklists may be used by NAAs inspectors to check operator's documented procedures and actual practices when carrying out onsite inspections and audits.

The inspector should carry out the necessary checks before assessing whether the main conclusion (marker) is wholly or partially true or false or does not apply.

## 3. References

Part ORO, Subpart GEN; Subpart FTL

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## 4. Flight time limitation (FTL) inspectors checklist

### 4.1. PART 1 - Assessing compliance with operator's responsibilities (ORO.FTL.110), including management system responsibilities (ORO.GEN.200)

| ORO.FTL.110 (a) | *'publish duty rosters sufficiently in advance to provide the opportunity for crew members to plan adequate rest'* | | |
|---|---|---|---|
| 1. | **The operator prepares duty rosters sufficiently in advance with planning of recurrent extended recovery rest periods and notification of the crew members well in advance to plan adequate pre-duty rest.**<br><br>**AMC1 ORO.FTL.110**<br><br>→ Check if the operator publishes duty rosters at least 14 days in advance or, alternatively, in less than 14 days advance under an approved AltMoC to AMC1 ORO.FTL.110 (a).<br><br>→ Check if the operator's published rosters include the following:<br>– DPs (duties times);<br>– Flight Duty Periods (FDPs);<br>– Extended Recovery Rest Periods (ERRPs);<br>– Standby availability times,<br>– Rest periods; and<br>– Reserve availability times<br>→ Check if, in the case of AltMoC, that AltMoC includes mitigations aimed to ensure that crew members have an opportunity to plan adequate rest.<br>⇒ Check if those mitigations in are implemented in practice.<br>⇒ Check if the operator assess the effectiveness of those mitigations.<br><br>*Examples of metrics for monitoring roster publication that may be used by the operator:*<br><br>▪ *Number of reports (sick, not fit for duty, fatigue) associated with inadequate rest because of late publication of rosters, below a specified threshold,*<br><br>▪ *Number of reports pointing to the lack of mitigation as per the AltMoC.* | ❒ yes, fully<br><br>❒ yes, partially<br><br>❒ no |  |

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| 2. | **The operator proactively manages the subsequent changes in the published rosters and their impact on aircrew under the operator's safety risk management – management of change function**<br><br>**AMC1 ORO.GEN.200(a)(3) (e)**<br><br>→ Check if the operator identifies roster changes as hazards that may have an adverse effect on fatigue.<br><br>⇒ Check if the operator's existing hazard identification, risk assessment and mitigation processes deal with roster changes and their impact on aircrew in a given period.<br><br>→ Check if the operator's OM-A includes a minimum period of time for notification of roster changes to allow the crew member to plan adequate rest.<br><br>→ Check for correct implementation of the operator's policy on roster changes:<br><br>  — by interviewing the crew scheduling personnel for their awareness of the policy;<br><br>  — by verifying at least 5 individual FC and 5 individual CC rosters for changes (if at least 3 out of 5 rosters are not in accordance with operator's policy, for example with the notification time, a deeper analysis should be made);<br><br>  — by interviewing the crew scheduling personnel about the proactive tools they use to assess whether the change would affect the crew opportunity for adequate rest;<br><br>  — by verifying aircrew training records for fatigue management training in accordance with AMC1 ORO.FTL.250<br><br>  — by establishing if the operator uses any performance metrics to monitor roster changes<br><br>*Examples of metrics that may be used by the operator for roster changes:*<br><br>▪ % change in flights from publication to actual, below threshold<br><br>▪ % crew keeping the original rostered duty close to target | ❏ yes, fully<br><br>❏ yes, partially<br><br>❏ no<br><br>❏ n/a | |

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| | ▪ Number of days-off removed from roster, below threshold <br><br> ▪ Number of changes without proper notification, below threshold <br><br> ▪ Number of reports pointing to reduce rest due to roster change below threshold | | |
| 3. | **The operator proactively manages roster changes on the day of operation.** <br><br> → Check if the operator has a documented procedure for managing on-the-day changes, including re-planning of rostered duties, for example by using buffer aircrew resources, delayed reporting, breaks (split duty) or otherwise. <br><br> → Check if the operator takes into account the originally rostered daily FDP, actual number of sectors and crew configuration when re-planning. <br><br> *Examples of metrics for roster changes that may be used by the operator :* <br><br> ▪ *Number of re-routes below threshold* <br><br> ▪ *Number of aircraft swaps below threshold* <br><br> ▪ *Number of unscheduled breaks below threshold* <br><br> ▪ *Number of reports associating the change to a fatigue event* | ❑ yes, fully <br> ❑ yes, partially <br> ❑ no <br> ❑ n/a | |
| *ORO.FTL.110 b)* | *'ensure that flight duty periods are planned in a way that enables crew members to remain sufficiently free from fatigue so that they can operate to a satisfactory level of safety under all circumstances'* | | |
| 4. | **The operator ensures a fair balance between its commercial needs and the capacity of individual crew members to work effectively.** <br><br> **AMC1 ORO.FTL.110** <br><br> → Check if the operator's documented rostering policy and procedures are tailored to the type and scope of operation and fatigue risk exposure. | ❑ yes, fully <br> ❑ yes, partially <br> ❑ no <br> ❑ n/a | |

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| | → Check if the applicable legal requirements and operator's rostering policy and procedures are reflected in the operator's roster planning tool/software.<br><br>→ Check if planned FDPs allow for buffers to the maximum permitted FDPs.<br><br>→ Check if the operator provides for specific mitigation measures in its rostering policy to address fatiguing duties such as: FDPs with extensions; FDPs with WOCL encroachment; training flights, consecutive duties etc., as applicable.<br><br>→ Check if the operator measures the effectiveness of those mitigation measures<br><br>→ Check if the operator uses performance metrics to monitor and measure flight duty periods in terms of their duration, workload, WOCL encroachment and consecutiveness.<br><br>*Examples of metrics that may be used by the operator:*<br><br>▪ *Number of night FDPs > 10h per crew member per week below threshold*<br><br>▪ *Number of FDPs > 13h per crew member per week below threshold*<br><br>▪ *Number of FDPs > 5 sectors below threshold* | | |
| 5. | **The operator verifies and monitors that aircrew who work on a freelance or part-time basis meet flight and duty time limitations and rest requirements**<br><br>**ORO.FC.100; ORO.CC.110**<br><br>→ Check if the operator has a documented process for verification and monitoring of duty periods, flight time and rest times of freelance or part-time aircrew.<br><br>→ Check an individual roster of a free-lance or part time aircrew. | ❑ yes, fully<br><br>❑ yes, partially<br><br>❑ no<br><br>❑ n/a | |

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| | | | *e.g. a finding is made; action items to be closed by…; or must be monitored* |
| *ORO.FTL.110 c)* | *'specify reporting times that allow sufficient time for ground duties'* | | |
| 6. | **The operator ensures that reporting times take into account the time necessary for the completion of ground duties.** <br><br> → Check if the operator has specified in the OMA reporting times for FC as well as for CC, taking into account the type of operation (ex. Charter; scheduled; short haul; long haul), the aircraft type and the reporting airport conditions. (GM1 ORO.FTL.205 (a)(1)). <br><br> → Check if the operator has specified in the OMA reporting times for completion of travelling procedures before aircrew positioning (e.g. registration of passengers and baggage, security checks, etc.) according to the mode of transportation (e.g. airplane, rail). <br><br> → Check if the operator uses metrics to monitor and measure the time necessary for ground duties, in particular *pre-flight duties* (briefings; provision of documentation; commuting to the aircraft parking) and *pre-departure duties* (on-board security checks; boarding; fueling; load sheet; aircrew briefing; pre-departure checklists). <br><br> *Examples of metrics that may be used by the operator:* <br><br> ▪ *Number of exceedances pre-flight and pre-departure times, below threshold* <br><br> ▪ *Number of FDP exceedances due to longer pre-flight and pre-departure times, below threshold* <br><br> ▪ *Number of crew reporting insufficient time for pre-flight and pre-departure duties* <br><br> ▪ *Minimum turnaround time planned v. actual* | ❏ yes, fully <br><br> ❏ yes, partially <br><br> ❏ no | |

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|---|---|---|---|
| *ORO.FTL.110 d)* | *'take into account the relationship between the frequency and pattern of flight duty periods and rest periods and give consideration to the cumulative effects of undertaking long duty hours combined with minimum rest periods'* | | |
| 7. | **The operator ensures adequate recovery for, in particular, frequent FDPs, consecutive FDP with different starting times and long duty periods combined with minimum rest periods.**<br><br>→ Check if the rostering rules/procedures established by the operator provide for an even distribution of flight duty periods. (AMC1 ORO.FTL.110 (a))<br><br>→ Check if the operator's rostering rules/procedures provide for additional recovery time following consecutive FDPs, in particular when they start at different times of the day.<br><br>→ Check if the operator's rostering rules/procedures provide for additional recovery time after rotations with extended FDP, time zone crossings, backward transitions, etc.<br><br>→ Check if the operator uses performance metrics for monitoring and measuring the even distribution of FDPs over a giver period of time.<br><br>*Examples of metrics that may be used by the operator:*<br><br>▪ *Ratio days on/days off close to target*<br><br>▪ *Ratio FDP/rest period close to target*<br><br>▪ *A limit on the days on/days off*<br><br>▪ *Number of fatigue reports due to insufficient rest between consecutive duties*<br><br>▪ *Number of early starts after a day off, below threshold* | ❏ yes, fully<br><br>❏ yes, partially<br><br>❏ no<br><br>❏ not applicable | |

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|---|---|---|---|
| ORO.FTL.110 e) | *'allocate duty patterns which avoid practices that cause a serious disruption of an established sleep/work pattern, such as alternating day/night duties'* | | |
| 8. | **The operator ensures that duties in a duty block maintain an established sleep/work pattern.**<br><br>**AMC1 ORO.FTL.110**<br><br>→ Check if the operator's rostering policy/procedures provide for maintaining stable sleep/work patterns<br><br>→ Check if the operator has a process to monitor disruptive practices in terms of their effect on crew member fatigue<br><br>→ Check at least 5 individual FC and 5 individual CC rosters for disruptive practices and if detected, check how the operator's SMS has mitigated the fatiguing effect of those practices.<br><br>→ Check if the operator uses performance metrics for monitoring and measuring the disruptive practices.<br><br>*Examples of metrics that may be used by the operator:*<br><br>▪ *% change in FDP starting times in a duty block, below threshold*<br><br>▪ *Ratio planned FDPs / actual FDPs*<br><br>▪ *Number of alternating day/night duties in a duty block, below threshold*<br><br>▪ *Number of alternating Eastward-Westward or Westward-Eastward transitions in a duty block, below threshold*<br><br>▪ *Number of transitions from a late finish/night duty to an early start in a duty block, below threshold* | ❏ yes, fully<br><br>❏ yes, partially<br><br>❏ no<br><br>❏ not applicable | |

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| *ORO.FTL.110 f)* | *'comply with the provisions concerning disruptive schedules in accordance with ARO.OPS.230'* | | |
| 9. | **The operator's IFTSS comply with the 'early' or 'late' schedule type as declared by the CA.**<br><br>**ARO.OPS.230**<br><br>→ Check if the IFTSS of the operator is in line with the NAA's determination. | ❑ yes, fully<br><br>❑ yes, partially<br><br>❑ no | |
| *ORO.FTL.110 g)* | *'provide rest periods of sufficient time to enable crew members to overcome the effects of the previous duties and to be rested by the start of the following flight duty period'* | | |
| 10. | **The operator ensures that rest periods allow aircrew to recover from transient and cumulative fatigue and be rested prior to undertaking the next FDP.**<br><br>→ Check if operator's rostering policy/procedures provide for the allocation of sufficient rest periods, especially after long flights crossing time-zones.<br><br>→ Check if the operator's rostering policy/procedures provides for the placement of the rest period /sleep opportunity during the optimal sleep time window.<br><br>→ Check if the operator has means to ensure that the crew member is sufficiently rested for duty when called from other-standby or reserve:<br><br>⇒ Check if the operator's rostering policy/procedures only allow for the use the standby availability period to place a call for duty.<br><br>⇒ Check if the operator's OM-A stipulates a maximum duration of other-standby taking into account the type of operation and the impact of the time spent on standby on the duty that may be assigned.<br><br>⇒ Check if the operator's OM-A specifies that any duty can be assigned out of standby or reserve, including extended duties.<br><br>(CS FTL. 1.225 ; CS FTL 1.230) | ❑ yes, fully<br><br>❑ yes, partially<br><br>❑ no | |

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| | → Check if the operator's roster department performs an extra calculation of cumulative fatigue after a roster change of a day off into a duty period.<br><br>*Examples of metrics that may be used by the operator:*<br><br>▪ *% of the sleep opportunities covering local night (2200 - 0800 LT) close to target;*<br><br>▪ *% of minimum rest periods, below threshold*<br><br>▪ *% of rest periods completely outside WOCL, below threshold*<br><br>▪ *Number of fatigue reports due to insufficient rest*<br><br>▪ *Number of single days free of duty* | | |
| ORO.FTL.110 (h) | *'plan recurrent extended recovery rest periods and notify crew members sufficiently in advance'* | | |
| 11. | **The operator ensures that the recurrent extended recovery rest periods (ERRPs) are planned and notified to aircrew in advance.**<br><br>→ Check if the operator publish duty rosters at least 14 days in advance in accordance with ORO.FTL.110(a), including recurrent extended recovery rest periods<br><br>→ Check if the notification time is included in the OMA. | ☐ yes, fully<br>☐ yes, partially<br>☐ no | |
| ORO.FTL.110 (i) | *'plan flight duties in order to be completed within the allowable flight duty period taking into account the time necessary for pre-flight duties, the sector and turnaround times'* | | |
| 12. | **The operator ensures that realistic times for pre-flight duties, taxiing, sector and turnaround are taken into account for the purpose of planning FDPs.**<br><br>→ Check whether airport infrastructure and specific traffic conditions (i.e. congested aerodromes such as New York JFK; London LHR; Paris CDG) are taken into account when planning. | ☐ yes, fully<br>☐ yes, partially<br>☐ no | |

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| | → Check if the operator has a process to monitor actual pre-flight, travelling and post flight times and the time for physiological needs. *Examples of metrics that may be used by the operator:* <br>▪ *City pair exceedances in the planned FDPs on a monthly basis due to traffic congestion and/or airport infrastructure* <br>▪ *Number of delays > 15 min* <br>▪ *Number of delays > 1 hour* <br>▪ *Minimum turnaround time planned v. actual* <br>▪ *Average duration of exceedances* | | |
| **ORO.FTL.110 (j)** | *'change a schedule and/or crew arrangements if the actual operation exceeds the maximum flight duty period on more than 33% of the flight duties in that schedule during a scheduled seasonal period'* | | |
| 13. | **The operator assesses the stability of its rostering system and effectively changes schedules and/or crew arrangements if the actual operation exceeds the maximum flight duty period on more than 33% of the flight duties during a scheduled seasonal period.** <br>→ Check if the operator has a process to monitor the realism of planned rosters on a seasonal basis and especially if the actual duties exceed the maximum FDP on more than 33% of the cases during a scheduled seasonal period. <br>→ Check if the operator has established performance metrics for operational robustness of rosters. AMC1 ORO.FTL.110(j) <br>*Examples of metrics that may be used by the operator:* <br>▪ *% of FDPs planned v actual close to target* <br>▪ *Number of FDP extended through CD* <br>▪ *Difference between planned and actual flight hours* <br>▪ *Difference between planned and actual duty hours* | ❑ yes, fully <br>❑ yes, partially <br>❑ no | |

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| | ▪ *Difference between planned and actual number of days off* <br><br> ▪ *Number of unscheduled overnights;* <br><br> ▪ *Number of roster changes per scheduled seasonal period* <br><br> ▪ *Changes of schedule carried out after published roster* | | |
| *ORO.GEN.200* | *Safety risk management* | | |
| 14. | **The operator's safety risk management processes and management structures in accordance with ORO.GEN.200 are used to manage fatigue risks.** <br><br> **The Operator ensures that fatigue risks processes reflect the complexity of their operation (e.g., long distance ops, night ops, multiple sectors etc.) and relevant risks are identified, assessed, and mitigated. The risk mitigation is monitored and controlled.** <br><br> **AMC1 ORO.GEN.200(a)(3)** <br><br> → Check if the operator's responsibilities are being managed by a department that is independent from commercial or industrial influence. <br><br> → Check if the operator has incorporated in its SMM or otherwise all relevant aspects of fatigue risk management, including the policy, objectives, procedures, processes and individual responsibilities with regard to flight crew and cabin crew fatigue. <br> (AMC2 ORO.GEN.200(a)(5)) <br><br> → Check if crew member's fatigue is indicated as a hazard on the operator's hazard log and how the operator is monitoring fatigue throughout its operations. <br><br> → Check if the operator has a system in place allowing crew members to report fatigue (ASR / specific Fatigue reporting form) : | ❑ yes, fully <br><br> ❑ yes, partially <br><br> ❑ no | |

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| | $\Rightarrow$ Check if the operator receives information regarding reporting times, changes, long duties, disruptive schedules.<br><br>$\Rightarrow$ Check if the fatigue reports are trended against (associated with) route, duty pattern and individual.<br><br>$\Rightarrow$ Check who assesses the fatigue report forms? Are they sent to the safety department?<br><br>$\Rightarrow$ Check if there is a mechanism in place to give feedback to the reporter?<br><br>$\Rightarrow$ Check if crew rostering personnel takes into account fatigue reports.<br><br>$\rightarrow$ Check if the operator collects data and use appropriate metrics to monitor aircrew fatigue levels.<br><br>$\rightarrow$ Check if fatigue risk mitigations and controls are being verified / audited to confirm their effectiveness.<br><br>*Examples of metrics that may be used by the operator:*<br><br>▪ *Ratio proactive/reactive reports*<br><br>▪ *Distribution of root causes of submitted fatigue reports*<br><br>▪ *Fatigue report filing rate*<br><br>▪ *Timely closure of action items stemming from fatigue reports* | | |

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## 4.2. PART 2 - Approval of an individual flight time specification scheme (IFTSS) and a check of an operator's continued compliance with ORO.FTL.200 ÷ ORO.FTL.250 and CS-FTL.1

| ORO.FTL.125 | *Flight time specification schemes* | | |
|---|---|---|---|
| 1. | **The operator has developed for its scheduled and/or charter commercial air transport (CAT) operations by aeroplane\* an individual flight time specification scheme (IFTSS) that complies with the applicable requirements.**<br><br>→ Check if the operator's IFTSS as contained in OM-A, Chapter 7, includes the definitions of ORO.FTL.105 and is developed in on the basis of ORO.FTL.200 ÷ ORO.FTL.250 and CS-FTL.1.<br><br>(Note # 1: *If the operator's IFTSS contains one or more deviations from CS-FTL.1, a separate process for approval of those deviations by the NAA precedes the approval of the IFTSS (ref. Evaluation Form developed by EASA.*<br>Note # 2: *at the operator's level, differences from CS-FTL.1, if more protective to the crew members and agreed under CLA, are not considered as deviations from CS-FTL.1*.)<br><br>→ Check if the IFTSS (OM-A) is aligned with the roster department procedures, in particular when the roster activity is sub-contracted.<br><br>→ Check if the operator's IFTSS complies with the determination of 'early type' or 'late type' made by the NAA according to ARO.OPS.230.<br><br>→ Check if the operator's IFTSS is customised to the specificities of operations:<br><br>⇒ if the operator conducts mixed charter and scheduled flights, check if the IFTSS is customised to reflect e.g. long standby periods, reserve, multiple positioning flights, accommodation, time zone crossings, operations with unacclimatised aircrew; split duties; | ❑ yes, fully<br>❑ yes, partially<br>❑ no<br><br><br><br><br><br><br><br><br><br><br><br><br><br>❑ yes, fully<br>❑ yes, partially<br>❑ no | |

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| | ⇒ if the operator conducts complex rotations with more than two FDPs in different time zones, check if the IFTSS is customised to reflect e.g. aircrew acclimatisation, in-flight rest, accommodation, local transfers, transitions;<br><br>⇒ if the operator conducts multiple short sectors with short layovers, check if the IFTSS is customised to e.g. delayed reporting, nutrition, reduced rest, travelling time, accommodation; self-commuting;<br><br>⇒ if the operator conducts operations to large aerodromes, check if the IFTSS is customised to reflect e.g. longer pre- and post-flight times, long security checks.<br><br>(*) FTL for emergency medical service (EMS) with aeroplanes and helicopters, air taxi and single pilot operations by aeroplanes are under Subpart Q of Regulation 859/2008 amending Regulation 3922/91. | | |
| *ORO.FTL.200*<br>*CS FTL.1.200*<br>*ORO.FTL.245(a)(1)(iv)* | *Home base* | | |
| 2. | **The Operator complies with the requirements for assignment, change and recording of home base.**<br><br>→ Check if the operator has a list of home bases it operates from in the OM.<br>⇒ those home bases must be single airport locations assigned with a high degree of permanence.<br>⇒ check during audits a sample of worked rosters that a dual basing does not occur by comparing the assigned homebase with the applicable rest time or by checking the assigned homebase in the roster department software.<br><br>→ Check if the operator OM provides for maintaining a record of the home bases to which the crew are assigned.<br>⇒ check during audits that such record exist.<br><br>→ Check if the roster department software is updated accordingly. | ❒ yes, fully<br><br>❒ yes, partially<br><br>❒ no | |

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|---|---|---|---|
| | → Check if the operator's change of home base procedure provides for a 72 hrs (3 local nights) extended recovery rest period prior to starting duty at the new home base.<br><br>⇒ traveling between former and new home base is positioning.<br><br>⇒ check during audits that the required rest period has been allocated and travelling between former and new home has been considered as positioning.<br><br>→ Check if the operator recommends to their crew members that they should use a place of rest within 90 minutes travelling time of their assigned Home base. | | |
| *ORO.FTL.205 AMC1 ORO.FTL.205(f) GM1 ORO.FTL.205(a)(1) CS FTL.1.205 GM1 CS FTL.1.205(a)(2) GM2 CS FTL.1.205(a)(2) GM3 CS FTL.1.205(a)(2) GM4 CS FTL.1.205(a)(2) GM5 CS FTL.1.205(a)(2) GM3 CS FTL.1.205(c)(1)(ii) GM1 CS FTL.1.205(d)* | *Flight Duty Period* | | |
| 3. | **The operator has specified reporting times appropriate to each individual operation considering the size and type of aircraft and the reporting airport conditions.**<br>**ORO.FTL.205(a)(1); GM1 ORO.FTL.205(a)(1)**<br><br>**The reporting times specified by the operator for the cabin crew take into account the length of pre-flight briefing of the cabin crew.**<br>**ORO.FTL.205(c)** | ❑ yes, fully<br><br>❑ yes, partially<br><br>❑ no | |

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|---|---|---|---|
| | → Check if the OM-A specifies reporting times that ensure sufficient time for ground duties such as pre-flight duties (briefings; provision of documentation; commute to aircraft parking) and pre-departure duties (on-board security checks; passenger boarding; fuelling; load sheet; aircrew briefing; pre-departure check lists) taking into account the size and type of aircraft and/or airport.<br><br>→ Ask the operator how they assess that these reporting times ensure sufficient time for ground duties.<br><br>→ Check if the operator has specified different/extended reporting times for e.g. long distance flights.<br><br>→ Check if the difference between the reporting times for FC and CC does not exceed 1 hour. | | |
| 4. | **The operator' procedure for the use of commander's discretion (CD) in the case of unforeseen circumstances beyond the operator's control meets the applicable requirements.**<br>**ORO.FTL.205 (a)(2); ORO.FTL.205 (f); AMC1 ORO.FTL.205(f)**<br><br>→ Check if the OM-A contains the operator's policy on CD.<br>⇒ The policy has to account for the shared responsibility of management, flight and cabin crew in the case of unforeseen circumstances.<br>⇒ The policy has to state the safety objectives and account for factors that might decrease a crew member's alertness levels.()<br>⇒ The policy has to state the non-punitive nature of the use of commander's discretion.<br>⇒ The policy should include guidance to pilots as to what type of events fall under 'unforeseen circumstances' in the context of commander's discretion. For example, in view of the ICAO definition of 'unexpected conditions', unforeseen circumstances in flight operations for the purpose of ORO.FTL.205(f) may be events that could not reasonably have been predicted and accommodated, such as adverse weather, equipment malfunction or air traffic delay, which may result in necessary on-the-day operational adjustments.<br>⇒The policy should include guidance to pilots that commanders discretion should be avoided at home base.<br><br>→ Check if the operator includes sufficient margins in rostered | ❏ yes, fully<br><br>❏ yes, partially<br><br>❏ no | |

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|---|---|---|---|
| | FDPs so that commanders do not exercise discretion as a matter of routine.<br><br>→ Check during audits how the operator assesses pairings where commander's discretion has been exercised?<br><br>→ Check if the OM-A contains a procedure specifying how the commander can increase the maximum FDP for the actual number of sectors and the crew configuration and/or reduce the rest period following that FDP.<br>⇒the rest period must not be less than 10 hours.<br>⇒ The procedure shall instruct the commander to consult all crew members on their alertness status before applying commander's discretion.<br><br>→ Check if the OM-A contains a procedure specifying how the commander can reduce the actual FDP and/or increase the rest period following that FDP.<br>⇒ The procedure shall instruct the commander to consult all crew members on their alertness status before applying commander's discretion.<br><br>→ Check if the OM-A contains an instruction to the commander to report cases of discretion to the operator.<br>⇒ Does the operator provide adequate training to flight crew members on reporting cases of discretion to the operator?<br>⇒How does the operator ensure that all cases of commander's discretion are recorded, and reports are submitted in a timely manner.<br>⇒Does the operator specify in their Policy the timescales for submitting a commander's discretion report form?<br><br>→ Check if the operator has a procedure how to collect the CD reports and use them for the purpose of evaluating the roster robustness. (ORO.FTL.110 (j))<br><br>→ Check if the OM-A contains a procedure for reporting cases of discretion, whereby the FDP is increased or rest period is reduced by more than 1 hour, to the competent authority.<br>⇒The operator must add its comments and ensure that these reports are submitted to the competent authority not later than 28 days after the event. | | |

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|---|---|---|---|
| | → Check if augmented crew are used for all cases of commander's discretion of over 2 hours .<br>→ Check during audits a sample of rosters if no more than 3 hours commander's discretion is used.<br>→ When commander's discretion is applied to the maximum daily FDP with extensions without in-flight rest, check that Table 2 of ORO.FTL.205(b) is used to calculate the limits of commander's discretion. | | |
| 5. | **Operator's defined FDP limits are commensurate to the type(s) of operation and comply with the applicable tables.**<br>**ORO.FTL.205 (b)(1),(2) and (3); CS FTL.1.205 (b) and (c)**<br><br>→ Check if the OM-A contains FDP limits appropriate to the intended operations.<br>⇒ If the operator conducts operations with acclimatised crew members only as well as with extensions without in-flight rest, the OM-A must contain the FDP limits of Table 2 of ORO.FTL.205 (b)(1) and the Table of CS FTL.1.205 (b)), respectively.<br>⇒ If the operator conducts operations with unacclimatised crew members, the OM-A must include the FDPs limits of Table 3 of ORO.FTL.205 (b)(2).<br>⇒ If the operator conducts long haul operations with in-flight rest and intends to apply extensions to the FDPs due to in-flight rest, the OM-A must contain the FDP limits of CS FTL.1.205 (c)(2) and (3)).<br><br>→ Check if the operator's OM-A provides for the establishment of aircrew acclimatisation in accordance with Table 1 of ORO.FTL.105(1) as a minimum.<br><br>→ If the operator intends to apply Table 4 of ORO.FTL.205 (b)(3) for crew members in an unknown state of acclimatisation, it must first submit evidences for compliance of its FRM with ORO.FTL.120, before being approved to apply Table 4.<br>(Note #1: *In addition, the operator must provide data (presumptions) from at least two sources (fatigue, sleep, workload or performance) and must establish fatigue thresholds and develop SPI's to monitor them.*<br>Note #2: *the checklist for assessing operator's compliance with ORO.FTL.120 is contained in Part 3 of this document*.)<br><br>→ Check that the used software is programmed accordingly<br><br>→ Check during audits that actual rosters comply with FDP limits | ❏ yes, fully<br><br>❏ yes, partially<br><br>❏ no | |

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|------|--------------------------|------------------------|---------|
| | | | |
| 6. | **The use of extensions on the maximum daily FDP without in-flight rest meets the applicable requirements.** **ORO.FTL.205 (d) and CS FTL 1.205(b)** <br><br> → Check if the operator's scheduling/planning rules (may be in a different manual) include an advance notification to crew members who are assigned with extended maximum daily FDPs. <br><br> → Check if the operator's scheduling/planning rules following an extended FDP provide for an increase of the rest periods. ⇒the preflight rest period & post flight rest periods must be increased by 2 hours or the post flight rest period must be increased by 4 hours ⇒check during audits a sample of rosters that the rest period following an extended FDP has been increased as required. <br><br> → Check if the operator's scheduling/planning rules provide for a ban on the combination of various extensions within one FDP period. <br><br> → Check that extensions on the maximum daily FDP without inflight rest are not used more than twice in any 7 consecutive days. ⇒check during audits a sample of rosters that extensions on the maximum daily FDP without inflight rest are not used more than twice in any 7 consecutive days. | ❑ yes, fully <br><br> ❑ yes, partially <br><br> ❑ no | |
| 7. | **The use of extensions on the maximum daily FDP with in-flight rest meets the applicable requirements.** **ORO.FTL.205 (e); CS FTL 1.205(c); GM1 CS FTL.1.205(c)(1)(ii)** <br><br> → Check if the operator's OM-A specifies on which route an extension on the maximum FDP due to in-flight rest applies. ⇒ such extensions are only possible if the FC is augmented, the FDP is limited to 3 sectors and each FC and CC use the in-flight rest facility. <br><br> → Check if the length of the sectors within an FDP allows every crew member on board to use the in-flight rest facility during the cruise phase of the flight. Note#1: This also applies in cases where augmented crew is not used at the beginning of the rotation, but later on in the rotation. | ❑ yes, fully <br><br> ❑ yes, partially <br><br> ❑ no | |

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|---|---|---|---|
| | → Check during audits a sample of rosters that every crew member is allocated sufficient rest according to CS FTL.1.205 (c)(1)(ii) or, for cabin crew, CS FTL.1.205 (c)(3).<br><br>→ Check if the in-flight rest is counted as FDP.<br><br>→ Check if the in-flight rest facilities used by the operator to extend the FDPs have been assessed as compliant with class 1, 2 or 3 rest facility standards of CS FTL 1.205(c).<br>⇒ the NAA should whenever possible carry out a physical check of whether those facilities meet the standard as stated in the operator's OM.<br><br>→ Check during audits that no crew members have started a positioning sector to become part of the operating crew on the same flight when using in-flight rest. | | |
| 8. | **Operator's procedures for delayed reporting in the case of unforeseen circumstances beyond the operator's control meet the applicable requirements.**<br>**ORO.FTL.205 (g); CS FTL.1.205(d); GM1 CS FTL.1.205(d)**<br><br>→ Check if the operator will practice delayed reporting in actual operations.<br><br>Where delayed reporting is used:<br><br>→ Check if the operator has established a procedure for delayed reporting in the OM-A.<br><br>→ Check if the operator' procedure for delayed reporting provides for the maintaining of relevant records.<br><br>→ Check if the procedure provides for a method for calculation of the FDP according to the length of delay (less than 4 hrs; more than 4 hrs; more than 10 hrs).<br><br>→ Check if the delayed reporting procedure provides for:<br>○ a method of notification of the delay, at home base or away from base, including the provision of an actual reporting time;<br>○ maximum and minimum notification times that allows a crew member to remain in his/her suitable accommodation when the delayed reporting procedure is activated;<br>○ a method to avoid disturbance of crew members in the case of delays of 10 hours or more. | ❏ yes, fully<br><br>❏ yes, partially<br><br>❏ no<br><br>❏ n/a | |

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| 9. | **The assignment of night duties complies with the applicable requirements.** **CS FTL.1.205(a)(1) ,(2) and (3); GM1 CS FTL.1.205(a)(2); GM2 CS.FTL.1.205(a)(2); GM3 CS.FTL.1.205(a)(2); GM4 CS.FTL.1.205(a)(2); GM5 CS.FTL.1.205(a)(2).** <br><br> → Check if the maximum FDP for consecutive night duties is set to the limit of 4 sectors per duty. <br> → Check if the operator's rostering procedures include appropriate fatigue risk management to any night duty irrespective of its length or late finish duty considering the effects of prior duties and rest periods. <br> → Check if the operator distinguishes between the following subtypes of night duties: <br><br> (1) FDPs with a start time between 02:00 and 04:59; <br> (2) FDPs with an end time between 02:00 and 05:59 and a start time at 01:59 or earlier; and <br> (3) FDPs with an end time at 06:00 or later and a start time at 01:59 or earlier. <br><br> → Check if the operator has assessed and ranked the night duties according to the probability for the onset of fatigue at TOD using rosters' data (e.g. how these duties are positioned among other duties, rest periods, days off, standbys). <br> → Check if the operator has tailored and prioritised its mitigating measures according to the subtype of night duty and how risky this subtype is in terms of producing high level of fatigue at TOD. Check if the operator has identified safety critical late finish duties and planned mitigating measures accordingly. <br> → Check if the operator monitors night duties and late finish duties. <br> → Check how the operator collects fatigue risk- related data for the purpose if its appropriate FRM; what tools have been used for data collection (e.g. reactive, proactive, predictive). <br> → Check if the operator has established fatigue metrics and associated targets or thresholds. <br> → Check if the operator communicates on the use of available rest facilities . <br> → Check how the operator promotes the optimum use of sleep opportunities. <br> → Check if the operator has established procedures for crew members to report insufficient prior sleep. <br> → Check if the operator provides training to aircrew on how to determine their actual level of fatigue and on fatigue-mitigation strategies | ❐ yes, fully <br><br> ❐ yes, partially <br><br> ❐ no | |

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| *ORO.FTL.210 AMC1 ORO.FTL.210(c)* | *Cumulative flight times and cumulative duty periods* | | |
| 10. | **The establishment of cumulative flight times (FT) and cumulative duty periods (DP) meets the applicable requirements.**<br><br>→ Check if the operator has specified the minimum time for post flight duties taking into account the type of operation, the size and type of aircraft and the airport conditions.<br>⇒ Ask the operator how they have assessed that the specified minimum time is sufficient for the completion of the post flight duties.  Do they monitor this time to ensure the post duty time is adequate?<br><br>→ Check if the operator properly applies the definitions of DP, FDP and FT when calculating their respective cumulative values.<br><br>→ Check if the flight time during a line training is accounted for the purpose of establishing cumulative FT.<br><br>→ Check if briefing and debriefing for training purposes  is accounted for the purpose of establishing cumulative DP.<br><br>→ Check if the operator has a method to ensure that his flight crew members who perform flight duties, including flight instruction, for more than one operator and/or ATO, comply with ORO.FC.100 and CAT.GEN.MPA.100 b) 4, and 5.<br><br>→ Check in the OM for provisions how e.g. office duties, ground duties, stand-by duties are considered<br><br>→ Check during actual audits that office duties, ground duties, stand-by times are considered in the cumulative DP. | ❏ yes, fully<br><br>❏ yes, partially<br><br>❏ no | |

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|---|---|---|---|
| *ORO.FTL.215* *ORO.FTL.105(18)* | *Positioning* | | |
| 11. | **Operator's procedures for positioning are in compliance with the applicable requirements.** <br><br> → Check if the time spent on positioning is counted as duty period according to the IFTSS. <br><br> → Check if the time spent to travel from a place of rest or home base to a simulator, at the request of the operator, counts as a duty period. <br><br> → Check if the reporting times allow for the completion of the travelling procedures such as registration of passengers and baggage, security checks, etc., depending on the transport mode, when the crew member is positioning. <br><br> → Check that positioning after reporting but prior to operating is counted as part of the FDP but is not required to be counted as a sector. <br><br> → If the operator permits, or requires, a crew member to self-position by the means of personally arranged transport directly to another location without initially reporting to home base, check whether the operator has included procedure and instructions in their IFTSS. <br> ⇒ (Note: *in any case the procedure must be approved as an AltMoC first before being implemented*.) | ❏ yes, fully <br><br> ❏ yes, partially <br><br> ❏ no | |
| *ORO.FTL.220* *CS FTL.1.220* *GM1 CS FTL.1.220(b)* | *Split duty* | | |
| 12. | **Operator's procedures for split duty are in compliance with the applicable requirements.** <br><br> → Check if the operator will use a break on the ground for the purpose of extension of the maximum FDP (split duty) during its operations. <br> (Note: *the use of breaks during the FDP for operation purposes other than for extension of the maximum FDP is not considered 'split' duty for the purpose of ORO.FTL.*) | ❏ yes, fully <br><br> ❏ yes, partially <br><br> ❏ no <br><br> ❏ n/a | |

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|---|---|---|---|
| | Where split duty applies: <br><br> → Check if split duties will be planned and notified in advance. <br><br> → Check if the IFTSS specifies the minimum duration of a break on the ground. <br> $\Rightarrow$ the maximum FDP may be extended by 50% of that break period; <br> $\Rightarrow$ suitable accommodation must be provided in the case of breaks longer than 6 hours. <br><br> → Check if the break is accounted for as FDP. <br><br> → Check if the break excludes the time for pre- and post-flight duty and travelling, and that these times are established taking into account the aircraft type, type of operation and airport conditions. <br> (Note: Minimum time is 15 minutes for post-flight duties and travelling and 15 minutes for travelling and pre-flight duties). <br><br> → Ask the operator how they assess and monitor these times. <br><br> → Check during audits a sample of worked rosters that the operator does not use split duty combined with in-flight rest. <br><br> → Check during audits a sample of worked rosters that reduced rest has not been used prior to a split duty. <br><br> → Check during audits for the actual use of split duty and planning of the necessary extended rest time afterwards. | | |

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| *ORO.FTL.225*<br>*CS FTL.1.225*<br>*GM1 CS FTL.1.225*<br>*GM1 CS FTL.1.225(b)*<br>*GM1 CS FTL.1.225(b)(2)* | *Standby and Duties at the Airport* | | |
| 13. | **Operator's standby procedures and practices meet the applicable requirements.**<br><br>→ Check if the operator's IFTSS specifies the maximum duration of airport standby and FDP, as well as that of standby other than airport standby (other-standby), applicable within their organisation.<br>(Note: *Under the obligations of ORO.FTL.110 (b & e), operators must carefully evaluate what duration of standby is safely allowable within their particular operation*)<br>⇒ check during audits a sample of worked rosters that the maximum combined duration of airport standby and assigned FDP during operations has not exceeded 16 hours.<br><br>→ Check if the operator's IFTSS specifies how the maximum FDP that may be assigned during any standby will be reduced after the crew member has spent certain time on standby.<br>⇒ check during audits a sample of worked rosters that the max. FDP out of airport stand-by/other stand-by is actually reduced according to provisions of CS FTL.1.225.<br><br>→ Check if the operator's IFTSS provides for the advance notification of the standby availability period (start and end time) to the aircrew concerned.<br>⇒The IFTSS shall indicate that the operator can only use the rostered standby availability period to place their call for duty.<br>(Note: *ORO.FTL.105 (25) defines standby as the period of time during which a crew member is required by the operator to be available to receive an assignment for a flight*.)<br>⇒ check during audits a sample of worked rosters that the start and end times of the standby duty are annotated on the roster. | ❐ yes, fully<br><br>❐ yes, partially<br><br>❐ no | |

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|---|---|---|---|
| | → Check if the operator's IFTSS specifies a reasonable response time from a call out from other-standby to the reporting time. <br>(Note: *The response time between call and reporting time should under normal circumstances allow the crew member to arrive from their place of rest to the reporting point*.) <br>⇒ check during audits a sample of worked rosters that the operator has specified and monitored the response time. | | |
| | → Check if the operator's IFTSS has a procedure for reporting after the rostered standby period ends. <br>(Note: *The response time between call and reporting time may extend beyond the end of originally rostered standby period.* ) | | |
| | → Check if the operator has one or more procedures designed to prevent situations where the combination of other-standby and FDP assigned during that other-standby does create an "awake" time greater than 18 hours. <br>⇒ For the design of the procedure(s) the operator should consider, among other things, in what time of the day the standby take place and if at night, whether a minimum of 8 hours' sleep opportunity is provided to the crew member during which s/he is not disturbed. | | |
| | → Check if the accommodation that will be made available to the crew member on airport standby meets the definition of 'accommodation' as per ORO.FTL.105(3). | | |
| | → Check if the operator's IFTSS specifies that the rest calculation after airport standby/airport duty followed by an FDP is based on the reporting time for that airport standby/airport duty. | | |
| | → Check if the operator's IFTSS specifies the minimum rest period following any standby which does not lead to assignment of an FDP. | | |
| | → Check if the operator specifies that the combination of airport duty and assigned FDP will be counted 100% as FDP from the airport duty reporting time. | | |
| | → Check if the operator specifies that airport standby is counted 100% as duty period for the purpose of ORO.FTL.210 and ORO.FTL.235. | | |

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|---|---|---|---|
| | → Check if the operator's IFTSS specifies the % of time spent on other standby that will be considered as duty period for the purpose of ORO.FTL.210. | | |
| *ORO.FTL.230* *ORO.FTL.105(20)* *GM1* *ORO.FTL.230(a)* *CS FTL.1.230* *GM1 CS FTL.1.230* *GM2 CS FTL.1.230* *GM1 CS FTL.1.230(c)* | *Reserve* | | |
| 14. | **Operator's reserve procedures and practices meet the applicable requirements.** <br><br> → Check if the operator intends to assign crew members to reserve. <br><br> Where reserve process applies: <br><br> → Check if the operator's IFTSS provides for rostering of reserve. <br>(Note: *A reserve period may not retrospectively be considered as part of a recurrent extended recovery rest period*.) <br><br> → Check if the operator's IFTSS specifies the maximum duration of a single reserve period and the number of reserve periods that can be consecutively assigned within 168 hours or less. <br><br> → Check if the operator's IFTSS includes a notification process of at least 10 hrs for a duty assignment out of reserve. <br>(Note: *the notification process should avoid interference with normal sleeping patterns, where possible*.) <br><br> → Check if the operator's reserve process includes an 8-hour sleep opportunity within each reserve day where the crew member cannot be contacted. <br>(Note#1: *the 8 hrs sleep opportunity may overlap with the minimum notification period of 10 hours*. <br>Note#2: *the 8 hrs are meant to run consecutively; the whole reserve period must be in the roster before any duty assignment take place*. | ❒ yes, fully <br><br> ❒ yes, partially <br><br> ❒ no <br><br> ❒ n/a | |

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| *ORO.FTL.235<br>AMC1<br>ORO.FTL.235(b)<br>CS FTL.1.235<br>GM1 CS<br>FTL.1.235(b)(3)<br>GM2 CS<br>FTL.1.235(b)(3)* | *Rest Periods* | | |
| 15. | **Operator's procedures and practices for allocation of rest periods meet the applicable requirements, including Directive No 2000/79/EC or the act that transposes it into national legal order.**<br><br>→ Check if the operator's IFTSS specifies <u>minimum rest periods</u> at home base which must be at least as long as the preceding duty period or 12 hours whichever is greater and away from home base at least as long she is preceding duty period or 10 hours whichever is greater, to compensate for transient fatigue.<br>⇒ check during audit a sample of worked rosters if these minimum rest period are complied with.<br><br>→ Check if the operator's IFTSS specifies that rest periods are free from all duties, standby and reserve. ORO.FTL.105(21).<br><br>→ Ask the operator to demonstrate that the location(s) of the selected suitable accommodation for rest periods away from home base allows for an 8 hour sleep opportunity, travelling and physiological needs, as a minimum.<br>⇒ check if the IFTSS provides for an increase of the rest period away from home base, if the travelling time to the suitable accommodation is more than 30 minutes.<br>(Note: *in usual circumstances, the time for physiological needs should be 1 hour and for travelling to the suitable accommodation should be 30 minutes.*)<br><br>→ If the operator intends to apply <u>reduced rest periods</u> at home base and/or away from home base, it must first submit evidences for compliance of its FRM with ORO.FTL.120, before being approved to apply reduced rest periods.<br>(Note #1: *In addition, the operator must provide data (presumptions) from at least two sources (fatigue, sleep, workload or performance) and must establish fatigue thresholds and develop SPI's to monitor them.*<br>Note #2: *the checklist for assessing operator's compliance with ORO.FTL.120 is contained in Part 3 of this document.*) | ❑ yes, fully<br><br>❑ yes, partially<br><br>❑ no<br><br>❑ n/a | |

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| | → Check if the operator's IFTSS specifies the <u>recurrent extended recovery rest</u> periods (ERRPs) to compensate for cumulative fatigue within 168 hours or less.<br>⇒ the time between the end of one ERRP and the start of the next ERRP must be 168 hours or less.<br>⇒ check during audit a sample of worked rosters if these minimum ERRPs are complied with.<br><br>→ Check if the operator's IFTSS specifies that whenever a single day free of duty is assigned to the crew member, it is notified in advance and contain two local nights.<br><br>→ Check if the operator's IFTSS provides for additional rest periods  to mitigate the fatigue from disruptive schedules.<br>⇒ check if the operator's IFTSS provides for a local night during the rest period at home base, between a late finish/night duty and an early start;<br>⇒ check if the operator's IFTSS provides a 60 hours ERRP following 4 or more night duties, early starts or late finishes within 168 hours or less.<br>⇒ check during audit a sample of worked rosters if these rest requirements are complied with.<br><br>→ Check if the operator's IFTSS provides for <u>additional rest periods</u>  to compensate for the effects of time zone differences and extensions of the FDP.<br>⇒check if the operator's IFTSS includes a process for monitoring  the impact of rotations and combinations of rotations on crew member's fatigue level and for adapting the rosters, if necessary.<br>⇒check if the table of CS FTL.1.235(b)(3)(i) is included in the operator's IFTSS;<br>⇒check if the operator compensates the transition at home base between alternating rotations by minimum of 3 local nights of rest.<br>⇒check during audit a sample of worked rosters if these additional rest periods are complied with. | | |

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| **ORO.FTL.240**<br>**AMC1 ORO.FTL.240** | *Nutrition* | | |
| 16. | **Operator's procedures and practices for nutrition meet the applicable requirements.**<br><br>→ Check if the operator's IFTSS provides for the crew member's nutrition during the FDP by at least specifying minimum duration of the meal opportunity, normal meal times during which a meal opportunity is provided and the number of hours of work after which a regular meal should be consumed.<br><br>→ Check if operator's nutrition procedures and practices are customised to the operator's specific operating conditions such as routes and airports served, rest periods and FDP length.<br><br>→ Check how the operator's nutrition procedures and practices intend to avoid any detriment to a crew member's performance, especially when the FDP exceeds 6 hours | ❒ yes, fully<br>❒ yes, partially<br>❒ no | |
| **ORO.FTL.245** | *Records of home base, flight times, duty and rest periods* | | |
| 17. | **Operator's procedures and practices for keeping records of flight times, duty and rest periods, and assigned home bases, for each crew member, meet the applicable requirements.**<br><br>→ Check if the operator's IFTSS provides for keeping individual records of each crew member's flight times, duty and rest periods, and assigned home bases.<br><br>→ Check if the operator's IFTSS provides for keeping records of planned and achieved rosters.<br><br>→ Check if the operator's IFTSS provides for keeping reports of commander's discretion.<br><br>→ Check these records are maintained for a period of 24 months.<br><br>→ Check if the operator keeps reports on extended FDPs and reduced rest periods. | ❒ yes, fully<br>❒ yes, partially<br>❒ no | |

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|---|---|---|---|
|  | → Check that the operator provides copies of individual records of FT, DP and rest period to crew member concerned and to another operator (ORO.FTL.245 (b)(1)(2) |  |  |
| *ORO.FTL.250* *AMC1 ORO.FTL.250* | *Fatigue Management Training* |  |  |
| 18. | **Operator's fatigue management training programme meets the applicable requirements.**<br><br>→ Check if the operator's OM provides for a training programme on fatigue management education and awareness.<br>⇒ check if the training programme contains as a minimum the training syllabus specified in AMC1 ORO.FTL.250;<br>⇒ check if the training programme is adapted to the type of operations and operator's specific fatigue risks.<br><br>→ Check if the training programme provides for initial and recurrent fatigue management training to crew members, personnel responsible for preparation and maintenance of crew rosters and management personnel.<br>⇒ check if the initial and recurrent training syllabus is adapted for the required groups.<br>(Note: *the fatigue management training is a competency-based training; the operator should identify what training and competences are needed for each personnel group*.)<br><br>→ Check if the training programme provides for training on operator's processes for reporting fatigue. (AMC1 ORO.GEN.200(a)(4))<br><br>→ Check if the operator has identified how often recurrent training will take place.<br><br>→ Check if the operator's OM requires that training records are kept up to date (AMC1 ORO.GEN.200(a)(4) &(6))<br><br>→ Check how the operator intend to continuously measure the effectiveness of the training. | ❒ yes, fully<br><br>❒ yes, partially<br><br>❒ no |  |

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### 4.3. PART 3 - Assessing compliance with fatigue risk management (FRM) (ORO.FTL.120)

| ORO.FTL.120 (a) ORO.FTL.125(b) AMC3 ORO.MLR.100 (7.3) | *'When FRM is required by this Subpart or an applicable certification specification…', the operator shall establish, implement and maintain a FRM as an integral part of its management system. The FRM shall ensure compliance with the essential requirements in points 7.5, 7.6 and 8.7 of Annex V to Regulation (EU) 2018/1136. The FRM shall be described in the operations manual.* |
|---|---|

| 1. | **The operator implements a required FRM as part of its approved IFTSS.**<br><br>*What to check, where to look at, in order to confirm the above:*<br><br>→ If the operator rosters reduced rest in accordance with CS FTL1.235(c), the operator is required to have an FRM as part of its IFTSS and receive an approval by the NCA.<br><br>→ If the operator rosters long FDPs for crew members in an unacclimatised state in accordance with Table 4 of ORO.FTL.205 (b), the operator is required to have an FRM as part of its IFTSS and receive an approval by the NCA.<br><br>Note! If the above conditions are not present, Part-3 of the inspector's check list is not applicable to this operator.<br><br>→ OM-A Chapter 7 contains FRM items or alternatively, FRM is described in the FRM Manual (FRMM).<br><br>Note! According to ORO.MLR.100 (7.3) the operator should describe its approved IFTSS including the FRM, where required, in the OM-A Chapter 7. The operator may alternatively describe the FRM in another document e.g. the FRMM. In this case the operator should provide a reference in OM-A Chapter 7 to such other document. | ☐ yes, fully<br>☐ yes, partially<br>☐ no | |
|---|---|---|---|
| 2. | **The operator's FRM process is an integral part of its management system.** | ☐ yes, fully<br>☐ yes, partially<br>☐ no | |

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| | *What to check, where to look at, in order to confirm the above:*<br><br>→ The operator is in possession of a mature SMS:<br> o no major findings have been raised within the last oversight cycle<br> o review the outcome of previous management system audit(s), in particular the Present Suitable Operating Effective (PSOE) evaluation of the elements of the management system<br><br>Note! The mature SMS is a leading indicator for the effectiveness of an FRM<br><br>→ The FRM is an integral but distinct element of the operator's SMS, backed up by an organisation structure with dedicated staff, independent from normal airline commercial processes.<br><br>→ The FRM organisation has developed and is working in accordance with the OM or FRMM.<br><br>→ A Fatigue Safety Action Group (FSAG) is established within the operator to coordinate all fatigue management activities.<br><br>Note! The establishment of an FSAG, although not specifically required by Subpart FTL, is considered to be paramount for an effective FRM.<br><br>*Additional items to consider:*<br><br>**FSAG:** The FSAG functions would typically be described in the FRMM. They include monitoring of fatigue information sources, collecting and analysing data, monitoring of the operator's fatigue related SPI, investigating fatigue related issues, conducting internal audits of specific fatigue-related issues, making recommendations on fatigue related issues, providing feedback to crew members and management, monitoring the quality of fatigue management training across the organisation, monitoring roster development, modelling and roster changes.<br><br>The composition of the FSAG should reflect the shared responsibility of individual crew members and operator's management by including a proportionate number of representatives from all stakeholder groups (management, scheduling staff, crew members and/or their representatives) and other individuals as needed to ensure that it has appropriate access to scientific and medical expertise. | | |

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| | **FRM manager**: The operator should have identified an FRM manager to be the responsible individual and focal point for the implementation and maintenance of an effective FRM. <br><br> It is recommended that the FRM Manager has operational background but is not involved in commercially driven tasks. | | |
| *ORO.FTL.120 (b)(1)* <br> *AMC1 ORO.FTL.120(b)(1)* | *The FRM established, implemented and maintained shall provide for continuous improvement to the overall performance of the FRM and shall include:* <br><br> *(1) a description of the philosophy and principles of the operator with regard to FRM, referred to as the FRM policy;* | | |
| 3. | **The operator has an adequate description of its FRM philosophy and principles (the FRM policy)** <br><br> *What to check, where to look at, in order to confirm the above:* <br><br> → The FRM policy is described in the OM; if described in another document, that document should be referred to in the OM; <br><br> → The operator's FRM policy identifies all the elements of FRM: <br>     o documentation process; <br>     o fatigue hazard identification and risk assessment process; <br>     o fatigue risk mitigation process; <br>     o assurance process; <br>     o promotion process and <br>     o application of scientific principles and knowledge. <br><br> → The FRM policy defines to which operations FRM applies. If the operator applies an FRM process to e.g., reduced rest, the specific operation/rotation and associated safety objectives are clearly identifiable in the FRM documentation. <br><br> → The FRM policy highlights the shared responsibility between the management and individual crew members. <br><br> → The FRM policy states that the individual crew members are responsible at least for: | ❑ yes, fully <br><br> ❑ yes, partially <br><br> ❑ no | |

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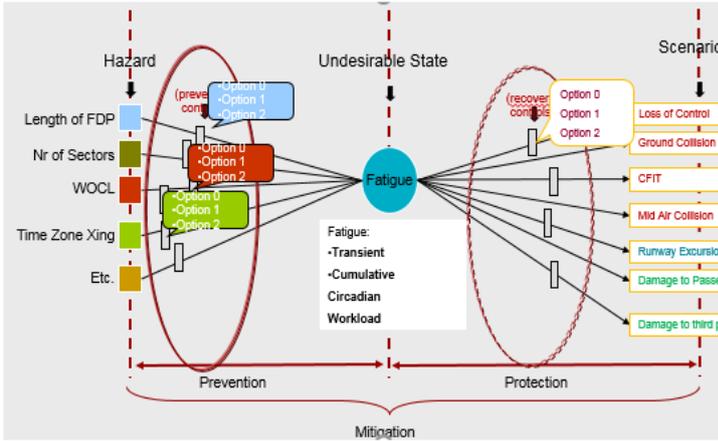| Ref: | Markers and verification | How is it implemented? | Remarks<br><br>*e.g. a finding is made; action items to be closed by…; or must be monitored* |
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| | <ul><li>not performing duties when unfit due to fatigue or if suffering from fatigue;</li><li>making optimum use of the opportunities and facilities for rest provided and for planning and using their rest periods properly;</li><li>ensuring that they are not in breach of their IFTSS;</li><li>not commuting from home to departure aerodrome for more than 90 minutes;</li><li>reporting fatigue, fatigue hazards, and fatigue-related events</li></ul><br>→ The FRM policy has been signed by the accountable manager.<ul><li>Assess accountable managers knowledge and understanding of the FRM policy.</li></ul><br>→ The FRM policy includes a commitment to observe applicable legal requirements, standards and best practices.<br><br>→ The FRM policy defines "Just Culture" or "Safety Culture" and actively encourages fatigue reporting.<br><br>→ The FRM policy includes the management commitment to maintaining an effective system for fatigue reporting and handling fatigue reports.<br><br>→ The FRM policy includes the management commitment to the provision of adequate resources for FRM.<br><br>→ The FRM policy includes the management commitment to continuous improvement of FRM.<br><br>→ The FRM policy includes the management commitment to providing fatigue risk management training to flight, cabin crew and other FRM support staff;<br><br>→ The FRM policy identifies the lines of accountability for the management, flight and cabin crew, and all other involved personnel.<br><br>→ The FRM policy requires periodic reviews to ensure it remains relevant and appropriate.<ul><li>Check when the company safety policy has been reviewed and what was the outcome.</li></ul> | | |

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| *ORO.FTL.120 (b)(2)* <br><br> *AMC2 ORO.FTL.120(b)(2)* | The FRM ... shall include: <br><br> *(2) documentation of the FRM processes, including a process for making personnel aware of their responsibilities and the procedure for amending this documentation;* | | |
| 4. | **The operator describes the FRM processes and related responsibilities in controlled documents that are regularly updated according to the procedure for amending documentation.** <br><br> *What to check, where to look at, in order to confirm the above:* <br><br> → FRM policy and objectives (see paragraph above for more information) <br><br> → The FRM documentation is current and is tailored to the operation and the operation objectives <br><br> → The FRM documentation describes the FRM processes and procedures and related responsibilities, including procedures and workflows between the involved departments. <br><br> → The FRM documentation of processes and procedures is customised to the operator and its operations. <br><br> → The FRM documentation includes a procedure for making personnel aware of their responsibilities. <br><br> → There are records of scheduled and actual flight times, duty periods and rest periods under the scope of the FRM; <br><br> → There are records of fatigue data, analysis, actions, and decisions; <br><br> → The operator maintains a fatigue hazard/risk register. | ❒ yes, fully <br><br> ❒ yes, partially <br><br> ❒ no | |

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| *ORO.FTL.120(b)(3)*<br><br>*GM1 ORO.FTL.120(b)(3)* | *The FRM shall include:*<br><br>*(3) scientific principles and knowledge;* | | |
| 5. | **The operator FRM process requires the application of scientific principles and knowledge to rostering, collection and use of safety data, development of safety cases and the conduct of scientific studies.**<br><br>*What to check, where to look at, in order to confirm the above:*<br><br>→ The OM/FRMM contains information about the sources of fatigue in air operations and the science of sleep.<br><br>→ Operator's rostering rules account for the scientific principles and fatigue mitigation strategies.<br><br>→ The OM/FRMM contains procedures for the use of external/internal sources of validated information to support the FRM.<br><br>Note**!** Ideally, the operator should have established a list of possible external providers for the purpose of scientific validation of information that is being used to support the FRM.<br><br>→ The operator uses data from validated scientific studies to feed their proactive hazard identification and risk assessment process. Validation is provided by an independent scientific organisation.<br><br>Note! The basic scientific principles for the purpose of managing fatigue are:<br><br>1. Periods of wake need to be limited. Getting enough sleep (both quantity and quality) on a regular basis is essential for restoring the brain and body.<br>2. Reducing the amount or the quality of sleep, even for a single night, decreases the ability to function and increases sleepiness the next day.<br>3. The circadian body clock affects the timing and quality of sleep and produces daily highs and lows in performance on various tasks. | ❒ yes, fully<br><br>❒ yes, partially<br><br>❒ no | |

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| | 4. Workload can contribute to an individual's level of fatigue. Low workload may unmask physiological sleepiness while high workload may exceed the capacity of a fatigued individual. | | |
| *ORO.FTL.120(b)(4)*<br>*AMC1*<br>*ORO.FTL.120(b)(4)*<br>*AMC2*<br>*ORO.FTL.120(b)(4)* | *The FRM … shall include:*<br><br>*(4) a hazard identification and risk assessment process that allows managing the operational risk(s) of the operator arising from crew member fatigue on a continuous basis;* | | |
| 6. | **The operator has an adequate process for fatigue hazard identification and risk assessment.**<br><br>*What to check, where to look at, in order to confirm the above regarding hazard identification:*<br><br>→ The operator has documented the three processes for fatigue hazard identification - predictive, proactive and reactive, and related methods of examination<br><br>PREDICTIVE HAZARD IDENTIFICATION:<br><br>→ In its (strategic) predictive process the operator identifies fatigue hazards by examining crew scheduling and takes into account factors known to affect sleep and fatigue for use in roster construction.<br><br>→ The operator uses one or more of the following methods of examination:<br> o operator or industry operational experience and data collected on similar types of operations.<br> o evidence-based scheduling practices; and<br> o bio-mathematical models (BMM) to predict the levels of fatigue.<br><br>→ Where evidence-based scheduling practices are being used, the operator has recorded the scientific basis for the scheduling rules.<br><br>→ Where a BMM is being used:<br> o the operator has set levels in the fatigue modelling software to determine acceptable/ unacceptable levels of fatigue/alertness; | ☐ yes, fully<br><br>☐ yes, partially<br><br>☐ no | |

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| | o the hypothetical fatigue/alertness levels are reflective of the actual fatigue/alertness levels of operating crew members;<br>o the operator has a process to identify if the limits are too high/low;<br>o the operator demonstrate knowledge of the BMM limitations.<br><br>PROACTIVE HARZARD IDENTIFICATION:<br><br>→ In its (tactical) proactive process the operator identifies fatigue hazards within current flight operations using one or more of the following methods:<br>o self-reporting of fatigue risks;<br>o crew fatigue surveys;<br>o relevant flight and cabin crew performance data;<br>o available safety databases and scientific studies; and<br>o analysis of planned versus actual time worked.<br><br>REACTIVE HAZARD IDENTIFICATION<br><br>→ In its reactive process the operator analyses the following to assess if fatigue hazards have contributed to these reports and events, and how the impact of fatigue could have been minimised:<br>o fatigue reports;<br>o confidential reports;<br>o audit reports;<br>o incidents; or<br>o flight data monitoring (FDM) events.<br><br>*What to check, where to look at, in order to confirm the above regarding the risk assessment process*:<br><br>→ The operator risk assessment methodology/tools include guidance on fatigue related hazards that may trigger a safety risk assessment process.<br><br>→ Multiple fatigue hazards are being identified and assessed, such as but not limited to: high workload during WOCL, roster changes, cumulative night duties/late finish duties, long commuting, long rotations, multi sector duties, disruptive schedules. | | |

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| | → The operator risk assessment methodology and tools include a determination of the probability and severity of fatigue-related hazards, determination of risk levels and evaluation of risk acceptability: <br> o severity and likelihood criteria are clearly defined and fit the operator's actual circumstances and link them to operational processes; <br> o risk analysis and assessments are carried out in a consistent manner; <br> o the risk matrix and acceptability criteria are clearly defined and usable; <br> o responsibilities and timelines for accepting the risk are clearly defined; <br> o the defined risk acceptability is being applied; <br> o risk analysis and assessment processes are reviewed for consistency and to identify improvements; <br> o completed risk assessments are regularly reviewed to ensure they remain current; <br> o risk acceptability criteria are used routinely and applied in management decision making processes and are regularly reviewed; <br> o the operator's methodology ensures that commercial decisions about flight schedules do not introduce fatigue risk into the roster construction and operations <br><br> → Appropriate risk controls are being applied to reduce the risk to an acceptable level, including timelines and allocation of responsibilities: <br> o Check how fatigue risk on 'day of operations' is being managed by the FRM <br><br> → The operator risk assessment methodology and tools include an assessment of the effectiveness of the safety barriers and controls. <br><br> → The operator's fatigue risk assessment methodology account for human, organisational and operational factors that impact on sleep debt, wakefulness, circadian factors and workload. <br><br> → The fatigue risk register summarizes the output of operator's processes for identifying fatigue hazards, their causes, associated risks, risk ratings, and risk controls. <br><br> Note! Here below is an example of a bow tie assessment: | | |

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|---|---|---|---|
| | <br><br>Note! There is no formal definition of fatigue risk set by ICAO or IATA. A proven useful definition when planning crew members is: the risk of crew performing a lapse, slip, mistake or violation, negatively impacting flight safety, as an effect of low levels of alertness. | | |
| *ORO.FTL.120(b)(5) AMC1 ORO.FTL.120(b)(5)* | *The FRM … shall include:*<br><br>*(5) a risk mitigation process that provides for remedial actions to be implemented promptly, which are necessary to effectively mitigate the operator's risk(s) arising from crew member fatigue and for continuous monitoring and regular assessment of the mitigation of fatigue risks achieved by such actions;* | | |
| 7. | **The operator has an effective fatigue risk mitigation process**<br><br>*What to check, where to look at, in order to confirm the above:*<br><br>→ The operator has a process for selection of appropriate mitigation strategies<br><br>→ Human Factors are considered as part of the development of fatigue risk mitigation strategies.<br><br>→ Fatigue risk mitigation strategies are practical and sustainable and applied in a timely manner and do not create additional risks.<br><br>→ The operator has included recommendations for personal | ☐ yes, fully<br><br>☐ yes, partially<br><br>☐ no | |

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|---|---|---|---|
| | fatigue risk mitigation strategies in the OM/FRMM. <br><br> → The operator has guidance on how to implement fatigue principles and mitigation strategies into roster construction: <br><br>      o Check how it is ensured that the fatigue risk mitigations put in place during roster build are not impacted by weather, u/s aircraft, delays etc.; <br><br> → Mitigation measures are monitored through regular reporting of SPIs to measure effectiveness and reviewed periodically to ensure they remain valid. <br><br> → Fatigue risk mitigations are logged in the company FRM/SMS and also reflected in the appropriate rostering rules. <br><br>      o Check if the operator's log contains decisions and actions from which an overall view with accountabilities and responsibilities with regard to actions taken can be seen. | | |
| *ORO.FTL.120(b)(6)* <br><br> *AMC1 ORO.FTL.120(b)(6)* | *The FRM shall include:* <br><br> *(6) FRM safety assurance processes;* | | |
| 8. | **The operator has effective FRM safety assurance processes, including a process to monitor and measure the FRM performance, a process for the management of change, and a process for the continuous improvement of FRM** <br><br> *What to check, where to look at, in order to confirm the above:* <br><br> CONTINUOUS FRM PERFORMANCE MONITORING <br><br> → The operator evaluates the performance of its FRM through SPIs that are identified through hazard reports, audits, surveys, investigations, FRM processes etc. <br><br> → Thresholds or targets have been set for SPIs and these are continuously monitored. <br><br> → SPIs are reviewed and regularly updated to ensure they remain relevant. | ☐ yes, fully <br><br> ☐ yes, partially <br><br> ☐ no | |

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| | → Where the SPIs indicate a risk control not being effective appropriate action is taken.<br><br>→ The operator has a process to audit the FRM, including appropriate auditor's checklists covering the duties/rest periods under FRM and associated criteria to be verified, a process to report the outcome of the audit and take action.<br><br>→ The operator monitors and assesses the corrective actions and preventive measures to ensure they are effective in preventing a recurrence of the finding.<br><br>→ The operator has a process to periodically review the effectiveness of FRM.<br><br>→ Duties related to the FRM assurance program are fulfilled by persons who are not responsible for carrying out the task or activity being evaluated.<br><br>MANAGEMENT OF CHANGE<br><br>→ The operators applies a management of change process for the identification of changes in operational environment and within the operator that may affect FRM.<br><br>→ The management of change process includes hazard identification and risk assessments with appropriate risk controls being put in place before the decision to make the change is taken.<br><br>→ Responsibilities and timelines are defined.<br><br>→ The management of change process also considers business related changes (organisational restructuring, downsizing, IT projects etc.) with possible fatigue impact<br><br>→ The operator uses tools to maintain or improve FRM performance prior to implementing changes<br><br>CONTINUOUS IMPROVEMENT OF FRM<br><br>→ FRM is periodically reviewed for the purpose of elimination and/or modification of risk controls have had unintended consequences or that are no longer needed due to changes in the operational or organisational environment. | | |

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| | → The operator routinely evaluates facilities, equipment, documentation and procedures (i.e. hotels, rest facilities, BMM etc.)<br><br>→ The operator uses multiple sources of information to determine if there is a need to introduce new processes and procedures to mitigate emerging fatigue-related risks. ()<br><br>Note! The assurance process is an important indicator for the proper functioning of FRM. The operator should be aware that this is likely to extend the duration of the FRM evaluation. The inspector should therefore discuss this with the operator beforehand. | | |
| *ORO.FTL.120(b)(7)*<br><br>*AMC1 ORO.FTL.120(b)(7)*<br><br>*AMC1.ORO.FTL.250* | *The FRM shall include:*<br><br>*(7) FRM promotion processes.* | | |
| 9. | **The operator has an effective FRM promotion process.**<br><br>*What to check, where to look at, in order to confirm the above:*<br><br>→ The operator's FRM promotion program includes regular competency-based training on the components and functioning of the FRM, employee responsibilities and actions, and fatigue-related science.<br><br>→ Training will, as a minimum, cover all of the topics specified in AMC1.ORO.FTL.250.<br><br>→ The training program identifies who needs to be trained and what training and competencies they needed to perform their roles effectively in the FRM, specifies training methods and learning objectives that correspond to the competencies.<br><br>→ There is a training schedule and timeframe for completion.<br><br>→ There are records of FRM training programmes, training requirements and attendance; | ❏ yes, fully<br><br>❏ yes, partially<br><br>❏ no | |

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| | → Training packages are reviewed and updated annually to incorporate the most recent information and scientific understanding. <br><br> → Initial and refresher training modules contain a knowledge check at the end of each to ensure an adequate level of understanding is achieved. <br><br> → All training materials will be covered in the audit programme for the FRM. <br><br> → The operator has a procedure for communicating to its employees the FRM policies, procedures and responsibilities. <br><br> → The operator uses various communication channels to gather and disseminate FRM-related information (Intranet Site; workplace; newsletters focussing on FRM; periodic updates on developments regarding FRM; video updates; training programmes). | | |
| *ORO.FTL.120 (c)* | *'The FRM shall correspond to the flight time specification scheme, the size of the operator and the nature and complexity of its activities, taking into account the hazards and associated risks inherent in those activities and the applicable flight time specification scheme.* | | |
| 10. | **The operator's FRM is commensurate to the nature and complexity of its activities.** <br><br> *What to check, where to look at, in order to confirm the above:* <br><br> → The operator's IFTSS clearly defines the scope of operations under FRM and associated risks, as well as the scope of operations not covered by FRM. <br><br> → By definition, operations that use reduced rest and long FDP to unacclimatized flight crew are complex rotations. The size of the operator is irrelevant. | ☐ yes, fully <br><br> ☐ yes, partially <br><br> ☐ no | |

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| *ORO.FTL.120 (d)* | *The operator shall take mitigating actions when the FRM safety assurance process shows that the required safety performance is not maintained.* | | |
| 11. | **The operator takes mitigating actions to ensure that the required safety performance is maintained to acceptable levels in accordance with the operator's safety objectives.**<br><br>*What to check, where to look at, in order to confirm the above:*<br><br>→ There is a periodic audit process, maintained on a regular basis, that ensures the quality of the FRM safety assurance process.<br><br>Note! Periodic audits provide a static and limited operational snapshot.<br><br>→ Alternatively, there is an ongoing dynamic review of the FRM risk profile, fatigue related events and FRM metrics and SPIs. These are assessed against operational context to ascertain if they represent a credible reflection of the fatigue risk contained within the operation under FRM.<br><br>→ The operator applies mitigating actions when violation of the FTL scheme under FRM have been found.<br><br>→ The operator investigates and applies appropriate mitigating actions when the crew has complained about the quality of their roster. | ☐ yes, fully<br><br>☐ yes, partially<br><br>☐ no | |

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