

## EU OPS SUB PART Q

### Flight and Duty Time Limitations and Rest Requirements for Flight Crew

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#### A. Objective and scope

1. An operator shall establish a flight and duty time limitations and rest (FTL) scheme for crew members.
2. An operator shall ensure that for all its flights:
  - 2.1. The flight and duty time limitations rest scheme is in accordance with the provisions of this Sub Part.
  - 2.2. Flights are planned to be completed within the allowable flight and duty period taking into account the time necessary for pre-flight duties, the flight and turn-around times and the nature of operation.
  - 2.3. Duty rosters will be prepared and published sufficiently in advance to provide the opportunity for crew members to achieve adequate rest

#### 3. Operators' Responsibilities

- 3.1. An operator shall nominate a home base for each crew member.
- 3.2. Operators will ensure that recovery periods provide enough time to enable crew members to recover sufficiently to undertake a further duty or to benefit from days off and for rest periods to provide enough time to be adequately to undertake the following duty.
- 3.3. For the duration of the flying duty period, crew should remain sufficiently free from fatigue so that they can operate to a satisfactory level of efficiency and safety in all normal and abnormal situations.
- 3.4. Operators are expected to appreciate the relationship between the frequency and pattern of flight duty periods and rest periods and give due consideration to the cumulative effects of undertaking long duty hours interspersed with minimum rest.
- 3.5. In allocating duties, operators will avoid such undesirable practices as alternating day & night duties or the positioning of crew members so that a serious disruption of established sleep & work pattern occurs.
- 3.6. Planning local days off free of duty and notifying crew members in advance.

#### 4. Crew Member's Responsibilities

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- 4.1. A crew member shall not operate on aeroplane if he/she knows or suspects that he/she is suffering from or is likely to suffer from fatigue, or feels unfit to the extent that the flight may be endangered.
- 4.2. Crew members should make optimum use of the opportunities and facilities for rest provided and plan and use their rest periods properly.

#### 5. Civil Aviation Authorities' Responsibilities

- 5.1. The Civil Aviation Authority responsible for granting the Air Operator's Certificate, shall ensure compliance with this Sub Part.
- 5.2. In arriving at any decision relating to the implementation, interpretation or variation of, to or from these regulations, the responsible Civil Aviation Authority will consult with all interested parties.
- 5.3. Variations
  - 5.3.1. Subject to the common (EU wide) review procedure, the responsible Civil Aviation Authority may grant variations to the requirements in this Sub Part for special types of operations or to meet specific operational needs in accordance with applicable laws and procedures within the country and in consultation with all interested parties.
  - 5.3.2. Each operator will have to demonstrate to the responsible Civil Aviation Authority, using current scientific knowledge and operational experience, that its request for a variation produces an equivalent level of safety. Such variations will be accompanied with suitable mitigation measures.
  - 5.3.3. In deciding to grant a variation, the responsible Civil Aviation Authority must take into account all the requirements of this sub part. Such variations should be granted only in isolation or in limited combinations.

#### B. Structure

The provisions in this Sub Part will include:

Definitions (see section 1 below)

Flight & Duty Limits (see section 2 below)

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Rest, Recovery and Days Off (see section 3 below)

In-flight Rest (see section 4 below)

Commanders' Discretion (see section 5 below)

Standby & Reserve (see section 6 below)

Nutrition (see section 7 below)

Records (see section 8 below)

#### 1. **Definitions.**

##### 1.1. **Augmented Crew**

An augmented flight crew is one which comprises more than the minimum number for which the operation of the aeroplane is certificated, and in which, during some portion of the flight, each flight crew member can leave his/her post and be replaced by another fully and currently qualified on type flight crew member for the purpose of in flight rest.

##### 1.2. **Block Time**

The time between an aeroplane first moving from its parking place for the purpose of taking off until it comes to rest on the designated parking position and until all engines are stopped.

##### 1.3. **Day Off**

Periods of time available for leisure and relaxation free from all duties. A single day off shall include two local nights. Consecutive days off shall include a further local night for each additional consecutive day off. A rest period may be included as part of a day off.

##### 1.4. **Duty**

Any task that a flight crew member is required to carry out associated with the business of an AOC holder.

##### 1.5. **Duty Period**

A period which starts when the crew member is required by an operator to report for a duty and ends when the crew member is free from all duties.

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#### 1.6. Flight Crew – Minimum Complement

The minimum certificated flight crew is that which is certified as being the minimum required for the operation of the aircraft and which includes all those flight crew members in routine operating procedures.

#### 1.7. Flight Duty Period

The period, which starts when a crew member first reports for duty prior to undertaking a flight and which ends when the immediate post-flight safety related duties are completed at the end of the last operating sector of the duty.

#### 1.8. Local Night

The period between 22.00 hours and 08.00 hours local time.

#### 1.9. Positioning

The transferring of a crew member, as a passenger, from place to place at the behest of an operator excluding travelling as defined in the sub-paragraph below.

#### 1.10. Recovery Period

A period provided after any duty period to allow a crew member to recover sufficiently to undertake a further duty or to benefit from days off. A recovery period may also include the rest period required before the next FDP.

#### 1.11. Rest Period

A period of time provided immediately prior to a flying duty period for the purpose of ensuring a flight crew member is adequately rested to undertake the flying duty. A flight crew member must not be disturbed during a rest period

#### 1.12. Standby

A duty period undertaken at a place of rest during which a crew member is required to be available to report for a further duty.

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#### **1.13. Time Zone Adapted**

To become time zone adapted a crew member must achieve 3 consecutive local nights free of duty on the ground in a time zone which is no more than two hours wide. He/she will remain time zone adapted until he/she becomes time zone adapted to another time zone or, becomes non- time zone adapted by finishing a duty period at a place where local time differs by more than two hours from that to which he/she is time zone adapted.

#### **1.14. Travelling**

Time spent by a crew member transferring between his/her place of rest and the place of reporting (see section 2.5).

#### **1.15. Window of Circadian Low (WOCL)**

The Window of Circadian Low (WOCL) is the period between 02.00 and 06.00 local time for a crew member who is time zone adapted and during which performance is degraded as physiological, psychological and behavioural functions are at a low status.

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#### 2 Flight & Duty Limits

##### 2.1 Cumulative Limit on Flying Hours

An operator shall ensure that the aggregated total of block times of flights on which a individual crew member is an operating crew member do not exceed:

- 2.1.1 900 hours in any 365 consecutive days
- 2.1.2 100 hours in any 28 consecutive days

##### 2.2 Cumulative Duty Hours

An operator shall ensure that the aggregated total of duty periods of a crew member do not exceed:

- 2.2.1 1800 hours in any 365 consecutive days
- 2.2.2 2000 hours in any 365 consecutive days for crew members who have a high level (>80%) of non mobile and non flying related duties
- 2.2.3 160 hours in any 28 consecutive days
- 2.2.4 55 hours in any 7 consecutive days
- 2.2.5 36 hours in any 3 consecutive days

##### 2.3 Calculation of Cumulative Duty Hours

Standby is duty and counts in full.

##### 2.4 Daily Maximum FDP

- 2.4.1 Reporting times shall realistically reflect the time required for pre-flight duties and shall not be less than the time specified by the operator.
- 2.4.2 A realistic time will be established for safety related post-flight duties in relation to the type of operation and it shall be counted as flight duty. Safety related post-flight duties are understood as being relevant to the safety of the passengers, its cargo or the aircraft.
- 2.4.3 The time for non-safety related post-flight duties shall realistically reflect the time required for post-flight duties and shall not be less then the time established by the operator.

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2.4.4 Pre-flight and safety related post-flight duties together shall not be less than 1 hour. All times must be approved in conjunction with the responsible Civil Aviation Authority.

2.4.5 Operational Robustness

Operations and rosters must be planned such that all of them should be capable of being completed on schedule and within the maximum permitted flying duty period taking into account the time necessary for pre-flight duties, taxiing, the flight, probable tech stops, realistic turn-around times, immediate post-flight duties and realistic performance planning bearing in mind the aircraft type and likely weather conditions. In the event that actual operations demonstrate that the planning is not realistic, schedules must be adjusted. Not less than 75% compliance must be achieved. A sequence of ten similar schedules, whether regular or not, will suffice for schedule regularity assessment unless the series is of a lesser duration in which case 50% of the series will constitute the assessment data. Corrections to unrealistic plans must be made before a further five similar operations are undertaken or immediately in the case of the lesser duration series referred to above. Relevant information from one year, season or series must be carried forward.

2.4.6 Daily Standard Maximum FDP

2.4.6.1 For Time Zone Adapted Crew Members

Local Time Of FDP Start	1 & 2 sectors	3 sectors	4 sectors	5 sectors	6 sectors	Extended duty available
0500 – 0559	9:45	9:15	8:45	8:15	7:45	0:30
0600 – 0659	11:45	11:15	10:45	10:15	9:45	0:30
0700 – 0759	12:15	11:45	11:15	10:45	10:15	0:30
0800 – 0859	12:45	12:15	11:45	11:15	10:45	1:00
0900 – 0959	12:45	12:15	11:45	11:15	10:45	1:00
1000 – 1059	12:30	12:00	11:30	11:00	10:30	1:00
1100 – 1159	12:15	11:45	11:15	10:45	10:15	0:30
1200 – 1259	11:45	11:15	10:45	10:15	9:45	0:30
1300 – 1359	11:37	11:07	10:37	10:07	9:37	0:30
1400 – 1459	11:30	11:00	10:30	10:00	9:30	0:30
1500 – 1559	11:15	10:45	10:15	9:45	9:15	0:30
1600 – 1659	11:00	10:30	10:00	9:30	9:00	0:30
1700 – 1759	10:45	10:15	9:45	9:15	8:45	0:30
1800 – 1859	10:30	10:00	9:30	9:00	8:30	0

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1900 – 1959	10:19	9:49	9:19	8:49	8:19	0
2000 – 2059	10:08	9:38	9:08	8:38	8:08	0
2100 – 2159	9:56	9:26	8:56	8:26	7:56	0
2200 – 0459	9:45	9:15	8:45	8:15	7:45	0

#### 2.4.6.2 For Non Time Zone Adapted Crew Members

##### 2.4.6.2.1 For Flight Crew on Aircraft where the Flight Crew Minimum complement is 2:

1 sector FDP limit 9:45 hours (30mins less for each additional sector).

##### 2.4.6.2.2 For Flight Crew on Aircraft where the Flight Crew Minimum Complement is more than 2:

1 sector FDP limit 10:45 hours (30mins less for each additional sector).

#### 2.4.7 Table Shift

Approval can be given by a responsible Civil Aviation Authority in a member state for all operators to disregard the change to summer time for the purposes of the above table times for all duties which commence in the EU. During any summer when this provision is in force, all reporting times relating to FDPs in the table 2.4.6.1 above would, therefore, advance by one hour. Such a change would apply to all crew members in based in any state where this is agreed.

#### 2.4.8 Night Duties

A crew member may be scheduled for no more than 3 consecutive duties that encroach on the period 01:00 to 06:59 local time within any 7 consecutive days.

#### 2.4.9 Use of Extensions

2.4.9.1 Standard rest is applicable to standard daily limits.

2.4.9.2 To plan up to and including 30min extension, crew members must be off duty by 2200 local on the day prior to the extended FDP and will require 8 Days Off in any 28 consecutive days.



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- 2.4.9.3 To plan beyond 30min extension, crew members must achieve 2 local nights (minimum 34 hours) free from all duties prior to the extended flight duty period, a Recovery Period of time of at least 34hrs, including 2 local nights and will require 8 Days Off in any 28 consecutive days.

#### 2.5 Positioning & Travelling

- 2.5.1 All time spent on positioning is counted as duty.
- 2.5.2 Positioning immediately prior to or during an FDP shall be included as part of that FDP and shall count as a sector. Positioning following an FDP does not count as FDP and, unless separated from it by a minimum rest period, is included in the Duty Period.
- 2.5.3 Travelling time, other than that time spent on positioning, shall not be counted as duty except:
- a) When crew members are required to travel from their home to a reporting point other than their home base, any travelling time over and above the journey time from home to the home base shall be classed as positioning. Notional times and any other related arrangements shall be determined by the responsible Civil Aviation Authority.
  - b) Any travelling time in excess of 30 minutes to and from suitable accommodation provided by the operator to the place of reporting for duty is classed as positioning. See section 3. below for further details.

### 3. Rest, Recovery & Days Off

#### 3.1 Minimum Rest

- 3.1.1 The minimum rest period which must be provided before undertaking a flying duty period starting away from base shall be at

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least as long as the preceding flight duty period or 11 hours whichever is the greater, plus travelling time.

3.1.2 The minimum rest period which must be provided before undertaking a flying duty period starting at base shall be at least as long as the preceding flight duty period or 12 hours whichever is the greater.

#### 3.2 Recovery Periods

3.2.1 The recovery period provided after any duty will normally be: As long as the preceding duty period OR 12 hours whichever is the greater

3.2.2 Longer recovery periods are required following time zone crossings and sequences of night duties

3.2.3 No more than 8 hours of a recovery period may be included in a day off

3.2.4 When recovery periods away from the home base are required, the operator shall provide suitable accommodation. When flights are carried out at such short notice that it is impracticable for an operator to arrange suitable accommodation, then this responsibility devolves to the aircraft commander

3.2.5 A recovery period may be reduced at the Commander's Discretion and prior to positioning only duties. However, it cannot be reduced to less than the minimum required rest period if prior to an FDP or less than 8 hours prior to any other duty

3.2.6 If a recovery period has been reduced, the next recovery period must be increased by the amount of the reduction, and cannot itself be reduced.

#### 3.3 Days Off

3.3.1 As determined by the Working Time Directive.

### 4. In-flight Rest

#### 4.1 Flight Crew Augmentation

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When a flight crew member or members are carried on board an aircraft above the Minimum Crew Complement, FDPs on single sector flights may be increased by the following amounts:

- a) 1/3 of the uninterrupted rest time allowed in a seat, separated and screened from flight deck, galley areas, passengers and away from smoking areas up to a maximum FDP of 15 hours
- b) 1/2 of the uninterrupted rest time allowed in a bunk (FAA spec) , separated and screened from flight deck, galley areas, passengers and away from smoking areas up to a maximum FDP of 18 hours

providing,

- i) the division of duty and rest is kept in balance between all of the flight crew
- ii) the flight crew member replacing the resting flight crew member must hold qualifications equal or superior to the flight crew member being relieved
- iii) In-flight rest periods must be notified sufficiently in advance such that flight crew members can be adequately prepared.

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#### 5. Commanders' Discretion

5.1 Any re-plans initiated by the operator as a result of material factors occurring prior to duty must not exceed normal FDP limits. However, during the actual flight operation, which starts at the reporting time, the limits on flight duty, duty and rest periods prescribed in this Sub Part may be modified in the event of unforeseen circumstances. Any such modifications must be acceptable to the commander after consultation with all other crew members and must, in all circumstances, comply with the following:

- (1) The allowable flight duty period may not be increased by more than 2 hours unless the flight crew has been augmented, in which case the allowable flight duty period may be increased by not more than 3 hours.
- (2) If on the final sector within a flight duty period 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; and
- (3) Away from base the rest period may be reduced by a maximum of 2 hours but to not less than 10 hours provided that a crew member's previous rest period was not reduced. The amount by which a rest period is reduced must be added to the next rest period which must not be reduced.

5.2. The commander shall, in the case of special circumstances which might lead to fatigue and after consultation with the crew members affected, reduce the actual flight duty time and/or increase the rest time for the purposes of eliminating any adverse effects on flight safety.

5.3. An operator shall ensure that:

- (1) The Commander submits a report to the operator whenever a flight duty period is increased by his/her discretion or when a rest period is reduced in actual flight operation; and

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- (2) Where the increase of a flight duty period or reduction of a rest period exceeds one hour, a copy of the report, to which the operator must add his comments, is sent to the Authority no later than 28 days after the event.

#### 6. Standby & Reserve

##### 6.1 Airport Standby

- 6.1.1 A crew member is on standby duty from reporting at the normal reporting point until the end of the notified standby period.
- 6.1.2 Standby duty will count in full for the purposes of cumulative duty hours totals.
- 6.1.3 Standby duty must be followed by at least a minimum rest period.
- 6.1.4 If called for a flying duty, the FDP will be considered to have commenced at the time of start of standby duty and the allowable FDP is calculated by using this start time.
- 6.1.5 Whilst on airport standby, the operator will provide a quiet and comfortable place for the crew member which is not open to the public.

##### 6.2 Other Forms of Standby and Reserve

- 6.2.1 The maximum duration of Standby duty will not exceed 12 hours
- 6.2.2 The maximum duration of Standby duty + FDP = 20hours
- 6.2.3 When called from standby, the FDP to be drawn from table (2.4.6.1) is the most limiting of either that which is related to the standby start time or that which is related to the report time for the duty.
- 6.2.4 Standby duty commences at start of standby period and ends at report time.
- 6.2.5 If a standby duty follows a minimum rest period then after:
- 6.2.5.1 4 hours on standby, 50% of the additional time reduces FDP available. If there is no immediately preceding minimum rest period (i.e this standby follows

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- 6.2.5.2 but is part of a continuous preceding duty) then 50% of all time on standby reduces FDP available **or** 6 hours on standby, 100% of the additional time reduces FDP available. If there is no immediately preceding minimum rest period (i.e this standby follows but is part of a continuous preceding duty) then all time on standby reduces FDP available.
- 6.2.6 Subsequent rest period after standby duty is at least equal to period from start of standby to end of DP.
- 6.2.7 Reserve (Contactable/On-Call ): A rostered period of time during a day, other than a day off, of between 2 and 4 hours between 0800 & 2000 during which an operator may expect to be able to contact a crew member solely for notification of duty the next day (>12hours ahead). Such periods do not count in cumulative duty totals and are not standby. There are no constraints on crew activity whilst on reserve.
- 6.2.8 Standby duty shall count in full for the purposes of cumulative duty hours limits.
- 6.2.9 A crew member is on standby from the beginning to the end of the notified standby period or until actual report time for duty having been called during the standby period.
- 6.2.10 A crew member may not be called out for a duty which starts more than 2 hours after the end of the standby period.

## 7. Nutrition

Both crew members and operators should be aware that a lack of sustenance can prove detrimental to an individual's performance and level of vigilance.

Meal opportunities should occur sufficiently frequently in order to avoid any detriment to a crew member's performance.

Where the FDP exceeds 6 hours, a meal opportunity should be built into the schedule.

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#### 8. Records

8.1.1 An operator shall ensure that sufficiently detailed records of crew member's:

- a) Block times;
- b) Start, duration and end of each duty or flight duty periods;
- c) Duty Periods
- d) Rest periods and days free of all duties,

are maintained to ensure compliance with the requirements of this Sub Part.

8.1.2 Copies of these records will be available to that crew member upon request.

8.2. All crew members shall maintain an individual record, as appropriate, of their:

- a) Block times;
- b) Flight duty periods;
- c) Duty periods; and
- d) Rest periods and local days free of all duties,

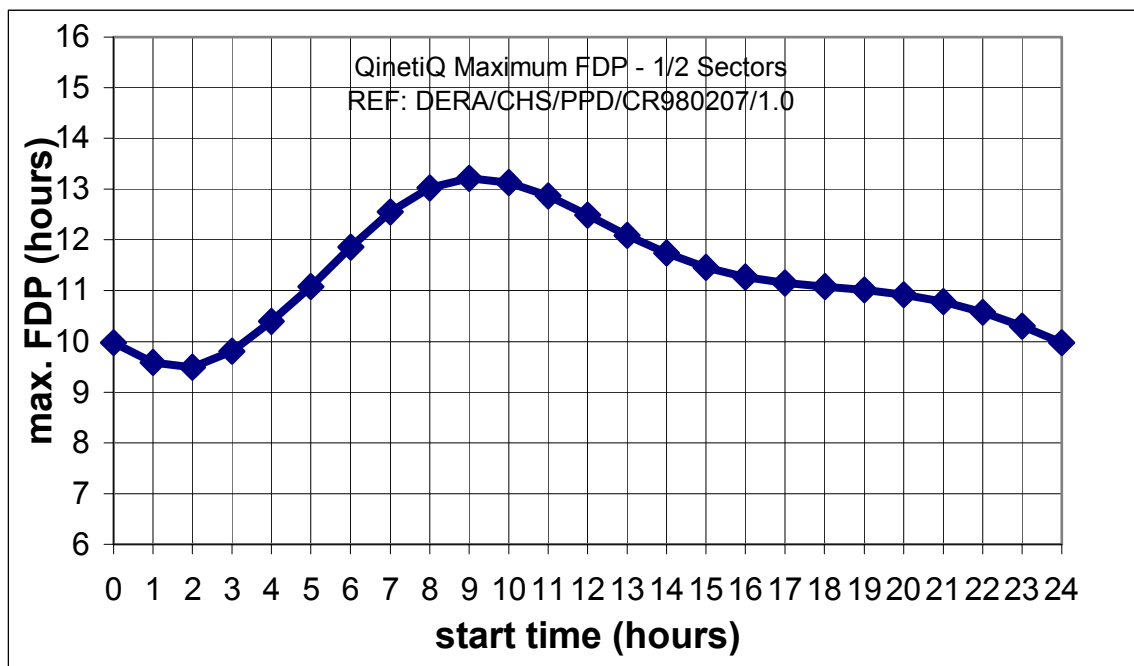
which must be presented to any operator who employs his/her services before he/she commences a flight duty period.

8.3. Records shall be preserved for at least 24 calendar months from the date of the last relevant entry.

8.4. Additionally, operators shall separate and retain all aircraft commanders' discretion reports of extended flying duty periods, extended flying hours, and reduced recovery periods for a period of at least six months after the event.

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