

Safety Regulation Group



CAP 371

The Avoidance of Fatigue In Aircrews

Guide to Requirements

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January 2004

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ISBN 0 86039 407 7

First published April 1975

Second edition July 1982

Third edition printed December 1989 (effective 1 May 1990)

Reprinted with corrections May 1990

Reprinted with further corrections July 1992

Fourth edition January 2004

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Gatwick Airport South, West Sussex, RH6 0YR.

The latest version of this document is available in electronic format at www.caa.co.uk, where you may also register for e-mail notification of amendments.

Published by TSO (The Stationery Office) on behalf of the UK Civil Aviation Authority.

Printed copy available from:

TSO, PO Box 29, Norwich NR3 1GN

Telephone orders/General enquiries: 0870 600 5522

Fax orders: 0870 600 5533

www.tso.co.uk/bookshop

E-mail: book.orders@tso.co.uk

Textphone: 0870 240 3701

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Foreword

It was recognised in the 1950s that a contributory factor in some aircraft accidents may have been aircrew fatigue. The Bader Report was commissioned and the Flight Time Limitation Board convened, with the object of regulating the hours worked by aircraft crew. Restrictions placed on the number of hours worked, developed over the years, have gone a long way towards ensuring that crew are sufficiently rested prior to commencing a flying duty period.

The preparation and presentation of any Flight Time Limitation (FTL) scheme is both complex and time consuming. The need to strike a balance between the many and varied views of all those who have an interest and aero medical evidence, and at the same time not disadvantage the United Kingdom industry, dictates that the composition of a scheme must set a standard which reflects the common good. The views of all interested parties have been sought, and where practical and acceptable, incorporated into the scheme. The end result, this CAP, presents a consensus of broad opinion and defines a basic framework for the duty hours of flight crew and cabin crew.

The application of this Civil Aviation Publication (CAP) by operators to their particular set of circumstances remains the responsibility of that operator. Section B deals with the scheme, and the format employed follows a pattern which is designed to lead sensibly from section to section. Compilers of Company schemes may find it advantageous to mimic the example given in the Annexes in Section C. Such action will not prevent operators from seeking changes to the maxima and minima specified, subject to presentation of a suitable case.

It is accepted that all the provisions in Section B do not apply to every AOC holder, and that those engaged in air taxi/sole-use charter, air ambulance work, and pleasure flying require less complex schemes. At Annexes B and C in Section C, are examples of schemes which cover the needs of these three types of operation. Again, those preparing FTL schemes of this nature are invited to utilise the relevant Annex in the preparation of their individual submission. Any proposed difference will be considered on merit. Further Annexes, D and E, respectively provide an example of a scheme for operators of helicopters and offer advice to Rostering Staff on the preparation of a Roster, Annex F contains Aeroplane Variations and Annex G contains Helicopter Variations.

In summary, the contents of this document have been produced after wide consultation and scrutiny at many levels. The regulations contained herein set a work pattern for flight crew and cabin crew designed to prevent the onset of fatigue, and yet allow an operator to pursue legitimate business interests.

Section A Introduction

1 Requirements of the Air Navigation Order

- 1.1 The Air Navigation Order 2000, Part VI, as amended, requires that the operator of an aircraft to which the Air Navigation Order applies shall have a scheme for the regulation of flight times of crew. The scheme must be approved by the Civil Aviation Authority (CAA) and included in the Company Operations Manual, or when an Operations Manual is not required by the Order, incorporated in a separate document. The Operations Manual, or separate document, shall be readily available to every person employed by the operator as a member of an aircraft crew.
- 1.2 The requirements of the Order apply in relation to an aircraft registered in the United Kingdom which is either:
- a) engaged on a flight for the purpose of public transport
 - or
 - b) operated by an air transport undertaking;
- provided that they shall not apply in relation to a flight made for the purpose of instruction in flying, given by or on behalf of a flying club or a flying school, or a person who is not an air transport undertaking.
- 1.3 In essence, the Air Navigation Order requires that a crew member shall not fly, and an operator shall not require him to fly, if either has reason to believe that he is suffering, or is likely to suffer while flying, from such fatigue as may endanger the safety of the aircraft or of its occupants.
- 1.4 A flight crew member is required to inform anyone who employs his services as a flight crew member of all flight times and flying duty periods undertaken, whether professionally or privately, except for flying in aircraft not exceeding 1,600 kg maximum weight and not flying for the purpose of public transport or aerial work. Aerial work includes flying instruction for which the pilot is remunerated. It is also aerial work where valuable consideration is given specifically for flying instruction, even if the pilot receives no reward.

2 General Principles Applied to Control of Flight, Duty and Rest Time

- 2.1 The prime objective of a flight time limitations scheme is to ensure that crew members are adequately rested at the beginning of each flying duty period, and whilst flying be sufficiently free from fatigue so that they can operate to a satisfactory level of efficiency and safety in all normal and abnormal situations. Aircraft operators are expected to appreciate the relationship between the frequency and pattern of scheduled flying duty periods and rest periods and time off, and give due consideration to the cumulative effects of working long hours interspersed with minimum rest.
- 2.2 Planned schedules must allow for flights to be completed within the maximum permitted flying duty period. The CAA, when assessing the planning of a schedule will take into account the time allowed for pre-flight duties, taxiing, the flight and turn-round times. However, it is recognised that on occasion a planned flight will experience unforeseen delays. Under these conditions, the aircraft commander may, within prescribed conditions, extend an FDP.

- 2.3 Other factors to be considered when planning duty periods include:
- a) the allocation of work patterns which avoid such undesirable practices as alternating day/night duties, the positioning of crew so that a serious disruption of established sleep/work patterns occur, or scheduling rest periods of between 18 and 30 hours especially after long flights crossing many time zones;
 - b) planning days off and notifying crew well in advance;
 - c) consultation between operators and crew to agree basic roster concepts which ensure adequate rest prior to flight but, within that constraint, takes account of the commercial requirements of the company.

NOTE: The CAA will conduct periodic and spot checks on operators' records and aircraft commanders' reports to determine if the planning of flight schedules and duty is compatible with the limitations provided for in the operator's scheme.

3 Responsibilities of Operators and Crew Members

3.1 It is the responsibility of the operator to prepare duty rosters sufficiently in advance to provide the opportunity for crew to plan adequate pre-duty rest. Operators must establish minimum periods of notification of duty for operating crew, or where this is not practicable due to the nature of the operation, must establish in advance minimum periods of notification of days off, during which a crew member will not be required for any duties. Training for Rostering Staff must include guidance on the effects of disturbing Circadian Rhythms, and sleep deprivation. Away from base, the operator must provide for crew members both the opportunity and facilities for adequate pre-flight rest, in suitable accommodation. When an operator employs a crew member on an irregular basis, then that employer must ensure that the crew member satisfies the provisions of the company approved FTL scheme. Furthermore, operators shall satisfy themselves that crew members who undertake other employment, if allowed by the operator, still have the opportunity to enjoy adequate pre-flight rest.

3.2 Responsibility for preventing the onset of fatigue cannot rest on the operator alone. The formal responsibilities of crew members, under the Fatigue of Crew provisions of the Air Navigation Order, are described in sub-paragraphs 1.3 and 1.4 above; furthermore, individuals shall ensure that they are not in breach of the Company approved FTL scheme. It is emphasised that crew members working on a freelance basis must maintain an individual record of their flying and duty hours which must be presented to an operator before undertaking a duty period. All crew members shall make optimum use of the opportunities and facilities for rest provided, and plan and use their rest periods properly. Before considering additional employment crew members must recognise that the responsibility for being sufficiently rested before undertaking a flying duty remains with the individual. Crew members are also reminded that persons are not entitled to act as a member of the crew of an aircraft registered in the United Kingdom if the individuals know or suspect that their physical or mental condition renders them temporarily unfit so to act.

4 Standard Provisions Applicable to an FTL Scheme

4.1 Subject to the maxima and minima specified in Section B of this document, it is incumbent on the operator to establish maximum flying duty periods and minimum rest periods appropriate to the nature of flight operations undertaken. The essentials are identified by use of the words 'shall' or 'must', desirable features are introduced

by the words 'should' or 'may'. Comprehensive guidance and instructions shall be included in the Operations Manual for the benefit of all crew members and the staff concerned with the preparation and day to day management of rostering and scheduling.

- 4.2 Although operators must plan their schemes in accordance with the requirements, it is recognised that the standard provisions will not necessarily satisfy every type of operation. In these circumstances operators may apply for a change to the standard provisions. Approval will only be given where an operator can show that his proposal will ensure a better or equivalent level of protection against fatigue than the basic requirements. Approved changes must be brought to the attention of crew members by incorporation into the Operations Manual, or other suitable operating instructions.
- 4.3 It is emphasised that the existence of any industrial agreement cannot in any way absolve either the operator or the crew member from observing any of the conditions contained within an approved FTL scheme.

5 Operators' Schemes and Their Approval

- 5.1 The requirements stated above mean that an operator must submit for approval to the CAA a proposed scheme for the regulation of flight and duty times and provision of minimum rest periods. Examples of FTL schemes relevant to the business of large companies, Air Taxi/Sole Use Charter, Air Ambulance work, Pleasure Flying, and Helicopter operations are contained within Section C.

Section B The Scheme

Introduction

The provisions of this Section set limits on the allowable duty hours and minimum periods of rest for flight crew and cabin crew, employed by holders of a United Kingdom Air Operator's Certificate. For the purpose of this document flight crew and cabin crew are as defined by the Air Navigation Order 2000, as amended.

The Section contains provisions that are applicable to both flight crew and cabin crew of all aircraft; however, where the nature of the work involved requires the application of other rules then those differences are stated in separate paragraphs. Helicopter flying is covered in paragraph 23 and the rules concerned with the work pattern of cabin crew in paragraph 24. Paragraphs not applicable to helicopter crew or cabin crew are so annotated.

All previous editions of CAP 371 and associated amending Notices to Air Operator Certificate Holders (NTAOCHs) are superseded by this edition.

Definitions

Unless otherwise defined below all words, phrases, definitions, and abbreviations, have identical meanings to those described in Article 129 of the Air Navigation Order 2000, as amended.

1) **'Acclimatised'**

When a crew member has spent 3 consecutive local nights on the ground within a time zone which is 2 hours wide, and is able to take uninterrupted nights sleep. The crew member will remain acclimatised thereafter until a duty period finishes at a place where local time differs by more than 2 hours from that at the point of departure.

2) **'Contactable'**

A short period of time during the day, other than on a `day off', during which the company requires a crew member to be at an agreed location for the purpose of giving notification of a duty period which will commence not less than ten hours ahead. The contactable period will be between [*] and [*] local time and shall not exceed 2½ hours.

* Times to be inserted by the company. If required, the 2½ hours can be split into 2 separate periods. Such arrangements must be agreed by the CAA.

3) **'Crew/Flight Crew/Cabin Crew'**

As defined in the ANO.

4) **'Days Off'**

Periods available for leisure and relaxation free from all duties. A single day off shall include 2 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.

5) **'Dispatch Crew'**

A fully qualified and current flight/cabin crew member authorised to carry out pre-flight duties as defined by an operator.

- 6) **'Duty'**

Any continuous period during which a crew member is required to carry out any task associated with the business of an aircraft operator.
- 7) **'Early Start Duty'**

A duty is an Early Start Duty if it commences in the period 0500 to 0659 hours local time.
- 8) **'Flying Duty Period (FDP)'**

Any time during which a person operates in an aircraft as a member of its crew. It starts when the crew member is required by an operator to report for a flight, and finishes at on-chocks or engines off, or rotors stopped, on the final sector.
- 9) **'Late Finish Duty'**

A duty is a Late Finish when the duty finishes in the period 0100 to 0159 hours local time.
- 10) **'Local Night'**

A period of 8 hours falling between 2200 and 0800 hours local time.
- 11) **'Night Duty'**

A duty is a Night Duty if any part of that duty falls within the period 0200 to 0459 hours local time.
- 12) **'Positioning'**

The practice of transferring crew from place to place as passengers in surface or air transport at the behest of an operator.
- 13) **'Regular'**

Regular, when applied to duties that are Late Finishes, Night or Early Starts, means a run of 4 or 5 consecutive duties, not broken by a period of 34 hours free from such duties, contained in a single 7 consecutive day period.
- 14) **'Reporting Time'**

The time at which a crew member is required by an operator to report for any duty.
- 15) **'Rest Period'**

A period of time before starting a flying duty period which is designed to give crew members adequate opportunity to rest before a flight.
- 16) **'Rostered/Planned Duty'**

A duty period, or series of duty periods, with stipulated start and finish times, notified by the operator to crew in advance.
- 17) **'Rostering Period'**

A number of consecutive weeks, usually 4, but defined by the operator.
- 18) **'Scheduled Duty'**

The allocation of a specific flight or flights or other duties to a crew member within the pre notified rostered/planned series of duty periods.
- 19) **'Sector'**

The time between an aircraft first moving under its own power until it next comes to rest after landing, on the designated parking position.

- 20) **'Split Duty'**
A flying duty period which consists of two or more sectors, separated by less than a minimum rest period.
- 21) **'Standby Duty'**
A period during which an operator places restraints on a crew member who would otherwise be off duty. However, it shall not include any time during which an operator requires a crew member to be contactable for the purpose of giving notification of a duty which is due to start 10 hours or more ahead.
- 22) **'Suitable Accommodation'**
A well furnished bedroom which is subject to minimum noise, is well ventilated, and has the facility to control the levels of light and temperature.
- 23) **'Travelling'**
All time spent by a crew member transitting between the place of rest, and the place of reporting for duty.
- 24) **'Week'**
A period of 7 consecutive days starting at any set time and on any set day as specified and stated by the operator.
- NOTE:** The terms Sole Use Charter, Pleasure Flying, and an Air Ambulance Flight are defined in Section C.

6 Calculation of a Flying Duty Period

- 6.1 The maximum FDP, in hours and fractions of hours, shall be in accordance with paragraph 13, Table A or B (2 or more flight crew, aeroplanes), Table C (single flight crew aeroplanes) or paragraph 23, Table D (helicopters). The times extracted from the tables may be extended by use of in-flight relief, split duty and commander's discretion, under the terms of paragraphs 15, 16 and 18. Where an aeroplane flight crew consists of two pilots only, any FDP involving a sector which is planned to exceed 7 hours must be calculated in accordance with the provisions of paragraph 14.

7 Additional Limits on Flying

7.1 Late Finishes/Early Starts

- 7.1.1 **The conditions set in this paragraph only apply when a crew member is acclimatised.**

- 7.2 Sleep deprivation, leading to the onset of fatigue, can arise if a crew member is required to report early for duty, or finishes a duty late, on a number of consecutive days. Therefore, not more than 3 consecutive duties that occur in any part of the period 0100 to 0659 hours local time can be undertaken, nor may there be more than 4 such duties in any 7 consecutive days. Any run of consecutive duties (Late Finishes or Nights or Early Starts) can only be broken by a period of not less than 34 consecutive hours free from such duties. This 34 consecutive hours may include a duty that is not an Early, Late or Night duty.

- 7.2.1 **This paragraph is not applicable to helicopters.**

However, crew members who are employed on a regular early morning duty for a maximum of 5 consecutive duties shall work to the following:

- a) The minimum rest period before the start of such a series of duties is 24 hours.
- b) The duty will not exceed 9 hours, irrespective of the sectors flown.
- c) At the finish of such a series of duties, crew members will have a minimum of 63 hours free from all duties.

7.3 Should a crew member be scheduled for duty that occurs during any part of the period 0200 to 0459 hours local time, for a minimum of 2 and a maximum of 3 consecutive nights, then crew members must be free from all duties by 2100 hours local time before covering the block of consecutive night duties, such that the crew members can take a rest period during a local night.

NOTE: Operators may replace the above paragraph with one of the following choices, either Options A and B OR Options B and C. The operator may roster crew members for either 2 or 3 consecutive nights, but must ensure that the duty preceding this series of duties finishes by 2359 hours local time (2 nights) or 2100 hours local time (3 nights) as appropriate.

If it is preferred to retain the present contents then attention must be paid to the notes attached to the Options listed (below). These notes list the actions to be followed in the event that duty is inadvertently extended beyond the cut-off times (i.e. 2100 or 2359 hours).

Option A

Should any duties be scheduled to be carried out within any part of the period 0200 and 0459 hours local time, for 3 consecutive nights, then crew members will finish the duty preceding this series of duties by 2100 hours local time before commencing the block of consecutive night duties, such that the crew members can take a rest period during a local night. If the duty immediately prior to the 3 consecutive night duties extends beyond 2100 hours local time and the individual crew member is willing to continue with the planned roster, (i.e. 3 consecutive night duties) then provided that duty preceding this series of duties finishes no later than 2359 hours local time, the schedule may continue.

NOTE: 1: Under this Option, if the crew member chooses not to continue the planned roster (after finishing duty between 2100 and 2359 hours) then only the planned first and second night duties that impinge on any part of the period 0200 to 0459 hours local time may be undertaken.

NOTE: 2: Under this Option, if the duty finishes after 2359 hours local time, then only the first of the 3 consecutive night duties that impinge on any part of the period 0200 to 0459 hours local time may be undertaken.

Option B - 2 consecutive night duties

Should any duties be scheduled to be carried out within any part of the period 0200 and 0459 hours local time, for 2 consecutive nights, then crew members will finish the duty preceding this series of duties by 2359 hours local time before commencing the block of 2 consecutive night duties, such that the crew members can take a rest period during a local night.

NOTE: Under this Option in the event of 2359 hours being exceeded, then only the first of the 2 planned consecutive night duties that impinge on any part of the period 0200 to 0459 hours local time may be undertaken.

Option C - 3 consecutive night duties

Should any duties be scheduled to be carried out within any part of the period 0200 and 0459 hours local time, for 3 consecutive nights, then crew members will finish the duty preceding this series of duties by 2100 hours local time before commencing

the block of consecutive night duties, such that the crew members can take a rest period during a local night.

NOTES: 1 Under this Option in the event of 2100 hours being exceeded, then only the first of the 3 planned consecutive night duties that impinge on any part of the period 0200 to 0459 hours local time may be undertaken.

2 In all cases the limits in paragraph 7.2 or 7.3 must not be exceeded (i.e. maximum of 3 consecutive nights and 4 in 7 consecutive days).

7.3.1 **This paragraph is not applicable to helicopters.**

However, crew members who are employed on a regular night duty for a maximum of 5 consecutive nights shall work to the following:

- a) The minimum rest period before the start of such a series of duties is 24 hours.
- b) The duty will not exceed 8 hours, irrespective of the sectors flown.
- c) At the finish of such a series of duties crew members will have a minimum of 54 hours free from all duties.

7.3.1.1 **Options For Night Operations**

If an operator elects to roster 4 or 5 consecutive night duties, then the criteria laid down in paragraph 7.3.1 (Section C Annex B paragraph 7.2.1 - Air Taxi) must be complied with and must form part of the approved FTL scheme. Operators are reminded that the normal days off requirements must be met (i.e. the 54 hours off between two blocks of 5 nights is only 1 proper day off). However, if operators find that this part of the Scheme is too restrictive then one of the following options may be employed but, if used, must be fully complied with:

- a) When crew are employed on duty for a total of 20 hours or less during 5 consecutive night duties, (i.e. maximum duty each night is 4 hours) the 54 hours free from all duties will meet the "Days Off" requirements for each 28 consecutive day period. Any positioning flights must be completed within the 20 hours duty.
- b) When crew are employed on duty for a total of more than 20 hours but not more than 40 hours during 5 consecutive night duties, the first 54 hours (between week 1 and week 2) may be counted as 2 "Days Off". For the 28 consecutive day period that starts on the first night of the first duty, crew must be given a minimum of a further 5 "Days Off" (average of a further 6 days). Any positioning flights must be completed within the 40 hours duty.
- c) When crew are employed on duty which requires full use of 40 hours duty during 5 consecutive night duties plus a maximum of 3 hours positioning (pre- and post-total) then:
 - i) allowable flying hours (month and year) will be reduced to the following:
 - 1) a maximum of 75 hours in any 28 consecutive days with a maximum of 60 hours in 28 consecutive days averaged over three 28 day periods, and;
 - 2) 600 hours in any 12 consecutive months.
 - ii) a minimum of 9 "Days Off" in any 28 consecutive days will be granted;
 - iii) any increase in duty over 40 hours during the block of 5 consecutive night duties is to be added to the subsequent 54 hours rest period which may not be reduced.

7.3.1.2 **General Rules**

To be applied when an operator utilises a), b) or c) of paragraph 7.3.1.1.

- a) The exercise of "Commander's Discretion" is limited to 1 hour per night with a total of 2 hours allowed during any 5 consecutive night cycle. Any duty worked in excess of 40 hours by use of "Commander's Discretion" must also be added to the subsequent 54 hours rest which may not be reduced.
- b) The absolute maximum duty permitted during a block of 5 consecutive night duties is 45 hours (40 hours, plus 3 hours positioning, plus 2 hours "Commander's Discretion", as per paragraphs 7.3.1.1 c) and 7.3.1.2 a) above).
- c) Crew cannot be rostered for more than 8 hours per night, except when working to paragraph 7.3.1.1 c) above.
- d) Split duties and extension of FDP by in-flight rest are not permitted.
- e) "Commander's Discretion" to reduce rest is not permitted.

NOTE: For 5 consecutive earlies, the same rule as in 7.3.1.2 a) above applies (i.e. maximum 1 hour discretion per day and a total of 2 hours in the 5 day cycle).

7.4 **Air Taxi/Sole Use Charter/Helicopters - Interrupted Rest**

If, prior to the start of an FDP, a crew member's rest period is interrupted for operational reasons between 2300 and 0700 hours local time, the following shall apply:

If the disturbance happens earlier than 1 hour before the planned departure from the crew member's place of rest, the time elapsed between that disturbance and the departure time from the place of rest minus 1 hour, shall count as part of the subsequent FDP.

NOTE: The phrase 'operational reasons' applies to such actions as contacting the customer, checking weather, liaison with ATC or any action pertaining to the planned flight. It is anticipated that operators with a 24 hour support organisation will provide these services for crew, leaving their crew members undisturbed.

8 Mixed Duties

8.1 When a crew member is required to report for duty in advance of the stipulated report time for a scheduled flight, to carry out a task at the behest of an employer, then the time spent on that task shall be part of the subsequent FDP.

8.2 **Fixed and Rotary Wing Flying**

When both fixed wing and rotary wing flying is carried out the more restrictive flight and duty time limitations shall apply.

8.3 **Mixed Simulator and Aircraft Flying**

This paragraph does not apply to cabin crew.

When a crew member flies in the simulator, either on a check or training flight, or as a Training Captain or Instructor, and then within the same duty period flies as a crew member on a public transport flight, all the time spent in the simulator is counted in full towards the subsequent FDP, and for helicopters towards the daily flying hour maxima. Simulator flying does not count as a sector, but the FDP allowable is calculated from the report time of the simulator detail.

8.4 Mixed Single Pilot/Two Pilot Operations

This paragraph does not apply to cabin crew.

In one duty period a pilot may fly as a single flight crew up to the point where the total flying and duty hours reach the single flight crew FDP limit. During this time the pilot may fly either in command or as a co-pilot on a 2 flight crew aircraft. The pilot may then continue beyond the single flight crew FDP limit in a 2 flight crew operation up to the 2 flight crew FDP and flying hour maxima, but may only fly as a co-pilot.

9 Travelling Time

- 9.1 Travelling time, other than that time spent on positioning, shall not be counted as duty.
- 9.2 Travelling time, from home to departure aerodrome, if long distances are involved, is a factor influencing any subsequent onset of fatigue. If the journey time from home to normal departure airfield is usually in excess of 1½ hours, crew members should consider making arrangements for temporary accommodation nearer to base.
- 9.3 When crew members are required to travel from their home to an aerodrome other than the one from which they normally operate, any travelling time over and above the journey time from home to the usual operating aerodrome shall be classed as positioning. Notional times for any additional travelling shall be agreed between the operator and the CAA.

10 Delayed Reporting Time in a Single FDP

- 10.1 When a crew member is informed of a delay to the reporting time due to a changed schedule, before leaving the place of rest, the FDP shall be calculated as follows. When the delay is less than 4 hours, the maximum FDP allowed shall be based on the original report time and the FDP shall start at the actual report time. Where the delay is 4 hours or more, the maximum FDP shall be based on the more limiting time band of the planned and the actual report time and the FDP starts 4 hours after the original report time.
- 10.2 When an operator informs a crew member before leaving the place of rest of a delay in reporting time of 10 hours or more ahead, and that crew member is not further disturbed by the operator until a mutually agreed hour, then that elapsed time is classed as a rest period. If, upon the resumption of duty, further delays occur, then the appropriate criteria in this paragraph and paragraph 10.1 above shall be applied to the re-arranged reporting time.

11 Positioning

- 11.1 All time spent on positioning at the behest of an operator shall count as duty, but positioning does not count as a sector when calculating the FDP. In these circumstances the FDP commences not later than the time at which the crew member reports for the positioning journey, or positions in accordance with paragraph 9.3.
- 11.2 If, after a positioning journey, the crew member spends less than a minimum rest period at suitable accommodation provided by the operator, and then carries out an FDP, the positioning must be counted as a sector if a split duty is claimed when calculating the allowable FDP. If it is not, then a split duty FDP cannot be used.

- 11.3 On occasion, and when agreed by the CAA an operator may recover a crew member from an overseas airfield on a positioning flight on the eighth consecutive day of duty.

12 Standby Duty

- 12.1 The time of start, end and nature of the standby duty must be defined and notified to crew members. The time a standby duty starts determines the allowable FDP, except that when the actual FDP starts in a more limiting time band then that FDP limit will apply. However, when standby is undertaken at home, or in suitable accommodation provided by the operator, during the period 2200 to 0800 hours local time and a crew member is given 2 hours or less notice of a report time, the allowable FDP starts at the report time for the designated reporting place.
- 12.2 When a crew member is on standby duty on immediate readiness at an airport, then the allowable FDP is calculated using the start time of the standby duty.
- 12.3 If a crew member is called out from standby, the standby duty will cease when that individual reports at the designated reporting point.
- 12.4 The following limits apply:

Duty	Maximum Duration
Standby Duty (all cases)	12 hours
Standby followed by an FDP	As in Case A and B below

Case A

If a crew member is called out from standby to conduct an FDP before completing 6 hours standby duty then the total duty period allowed is the sum of the time spent on standby and the FDP allowable from paragraph 13, Tables A, B, C, or paragraph 23, Table D.

Case B

If a crew member is called out from standby to conduct an FDP after completing 6 or more hours standby duty, then the total duty period allowed is the sum of all the time spent on standby and the allowable FDP, reduced by the amount of standby worked in excess of 6 hours.

- NOTES:** 1 The method of adding time spent on standby to cumulative totals is stated in paragraph 22.
- 2 The reference to 'total duty period' applies **only** to the sum of the standby time achieved + the allowable FDP obtained from paragraph 13. On the day, for cumulative duty totals and for minimum rest purposes, the total duty achieved will be standby time achieved + FDP achieved + post flight duties + any positioning.

- 12.5 When any period of standby finishes, during which a call-out has not occurred, at least 12 hours rest must follow prior to the next duty period. Similarly, following the end of a contactable period or periods, at least 10 hours must elapse prior to the next duty period.

13 Maximum FDP - Aeroplanes

- 13.1 Standard reporting times prior to flight must be specified by an operator. Pre-flight duties are part of the FDP. A period of duty must be allowed for post-flight activities:

the minimum for major operators is 30 minutes, 15 minutes for others. If this "period" for post FDP duties is routinely exceeded then the post FDP duty period stated in the scheme must be revised to better represent the actual time taken. The time spent between reporting for a flight and the completion of post-flight tasks determines the length of the subsequent rest period.

- 13.2 The utilisation of a non-standard reporting time, except by use of a dispatch crew, designed to take advantage of an increased FDP from a more favourable time band, must not be used.
- 13.3 Tables A and C apply when the FDP starts at a place where the crew member is acclimatised; Table B applies at other times.

Table A Two or more flight crew - Acclimatised

Local time of start	Sectors							
	1	2	3	4	5	6	7	8 or more
0600-0759	13	12¼	11½	10¾	10	9½	9	9
0800-1259	14	13¼	12½	11¾	11	10½	10	9½
1300-1759	13	12¼	11½	10¾	10	9½	9	9
1800-2159	12	11¼	10½	9¾	9	9	9	9
2200-0559	11	10¼	9½	9	9	9	9	9

Table B Two or more flight crew - Not Acclimatised

Length of preceding rest (hours)	Sectors						
	1	2	3	4	5	6	7 or more
Up to 18 or over 30	13	12¼	11½	10¾	10	9¼	9
Between 18 and 30	11½	11	10½	9¾	9	9	9

NOTE: The practice of inserting a short duty into a rest period of between 18 and 30 hours in order to produce a rest period of less than 18 hours, thereby taking advantage of the longer FDP contained in Table B, is not permitted.

Maximum FDP - Single Flight Crew

Table C

Local time of start	Sectors				
	Up to 4	5	6	7	8 or more
0600-0759	10	9¼	8½	8	8
0800-1259	11	10¼	9½	8¾	8
1300-1759	10	9¼	8½	8	8
1800-2159	9	8¼	8	8	8
2200-0559	8	8	8	8	8

- 13.4 Report times must not be reduced in order for crew members to achieve their required rest prior to an FDP.

14 Limits on Two Flight Crew Long Range Operations

This paragraph does not apply to helicopter crew or cabin crew.

- 14.1 When an aeroplane flight crew is only two pilots, the allowable FDP shall be calculated as follows. A sector scheduled for more than 7 hours is considered as a multi-sector flight, as below:

Scheduled Sector Times	Acclimatised	Not Acclimatised
	Sectors	
Sector Length over 7 hours but not more than 9 hours	2	4
Sector Length over 9 hours but not more than 11 hours	3	4
Sector Length over 11 hours	4	Not Applicable

The appropriate table in paragraph 13 is then entered with the start time of the duty period and the 'modified' number of sectors, to determine the allowable FDP.

- 14.2 When an additional, current, type rated pilot is a crew member, then these limits do not apply and the permissible FDP is determined by entering Table A or B in paragraph 13 with time of start and the actual sectors planned.

15 Extension of Flying Duty Period by In-flight Relief

- 15.1 When any additional crew member is carried to provide in-flight relief with the intent of extending an FDP, that individual shall hold qualifications which are equal or superior to those held by the crew member who is to be rested. To take advantage of this facility the division of duty and rest between crew members must be kept in balance. It is unnecessary for the relieving crew member to rest in between the times relief is provided for other crew members.

- 15.2 When in-flight relief is utilised there must be, for the crew members resting, a comfortable reclining seat, or bunk, separated and screened from the flight deck and passengers.
- 15.3 A total in-flight rest of less than three hours does not allow for the extension of an FDP, but where the total in-flight rest, which need not be consecutive, is three hours or more, then the permitted FDP may be extended as follows:

If rest is taken in a bunk

A period equal to one half of the total rest taken, provided that the maximum FDP permissible shall be 18 hours; 19 hours in the case of cabin crew.

If rest is taken in a seat

A period equal to one third of the total rest taken, provided that the maximum FDP permissible shall be 15 hours; 16 hours in the case of cabin crew.

16 Extension of Flying Duty Period by Split Duty

- 16.1 When an FDP consists of two or more sectors - of which one can be a positioning journey counted as a sector - but separated by less than a minimum rest period, then the FDP may be extended by the amounts indicated below.

Consecutive Hours Rest

Less than 3

3 - 10

Maximum Extension of the FDP

NIL

A period equal to half the consecutive hours rest taken.

- 16.2 The rest period shall not include the time allowed for immediate post-flight duties and pre-flight duties, a minimum total of 30 minutes. The actual time allowed shall be specified by the operator. When the rest period is 6 hours or less it will suffice if a quiet and comfortable place, not open to the public, is available. If the rest period is more than 6 consecutive hours, then suitable accommodation must be provided.
- 16.3 When rest is taken in the aircraft on the ground, the minimum standards of noise, temperature, light and ventilation are to be specified in the Operations Manual. Such arrangements will only be permitted when the crew have adequate control of the temperature and ventilation within the aircraft, and passengers are not on board.

17 Rest Periods

- 17.1 The aircraft operator must notify all crew members in good time of a flying duty period so that sufficient and uninterrupted pre-flight rest can be obtained. When away from base the operator must provide the crew with the opportunity and the facilities for adequate pre-flight rest. The operator must 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.
- 17.2 The minimum rest period which must be provided before undertaking a flying duty period shall be:
- a) at least as long as the preceding duty period, or

- b) 12 hours
whichever is the greater.
- 17.2.1 When away from base, in the case when the rest period earned by a crew member is 12 hours, and suitable accommodation is provided by the operator, then that rest period may be reduced by one hour. In such circumstances, if the travelling time between the aerodrome and the accommodation is more than 30 minutes each way then the rest period must be increased by the amount the total time spent travelling exceeds one hour. The room allocated to the crew member must be available for occupation for a minimum of 10 hours. This sub-paragraph does not apply to rest periods that exceed 12 hours.
- 17.2.2 Exceptionally at home base, individual crew members may be asked to exercise their discretion to reduce rest by up to a maximum of one hour but only to a minimum of 12 hours for flight crew and 11 hours for cabin crew. If discretion is used, it is the responsibility of the operator and the crew member to inform the commander of the flight immediately following the rest period, that a reduced rest period has been taken.
- 17.3 If the preceding duty period, which includes any time spent on positioning, exceeded 18 hours, then the ensuing rest period must include a local night.
- 17.4 The rest period following a sequence of reduced rest and then an extended FDP, cannot be reduced.
- 17.5 After being called out from a standby duty the length of minimum rest shall be determined by the length of standby duty, plus any time spent on positioning, and any FDP completed.
- 17.6 Crew members who inform an operator that they are having difficulty in achieving adequate pre-flight rest must be given the opportunity to consult an aviation medical specialist.

18 Aircraft Commander's Discretion to Extend a Flying Duty Period

- 18.1 An aircraft commander may, at his discretion, and after taking note of the circumstances of other members of the crew, extend an FDP beyond that permitted in paragraph 13, Tables A, B, C, or paragraph 23, Table D, provided he is satisfied that the flight can be made safely. The extension shall be calculated according to what actually happens, not on what was planned to happen. An extension of 3 hours is the maximum permitted, except in cases of emergency (see Note 1).
- 18.2 The operator's scheme shall include guidance to aircraft commanders on the limits within which discretion may be exercised, and shall include specific limits to which a commander may extend the flying duty period. In a Flying Duty Period involving 2 or more sectors up to a maximum of 2 hours discretion may be exercised prior to the first and subsequent sectors. On a single sector flight and immediately prior to the last sector on a multi-sector flight, a commander may utilise the full amount of discretion authorised by the operator.
- 18.3 A commander may exercise discretion to extend an FDP following a reduced rest period, only exceptionally, and then only to the extent necessary to allow for unforeseen circumstances that become apparent during the last sector.
- 18.4 Whenever a commander extends an FDP, it shall be reported to his employer on a Discretion Report Form, either in the format of Appendix A or on a form acceptable to the CAA. If the extension is greater than 2 hours, or when exercised after any

reduced rest period, then the operator shall submit the commander's written report, together with the operator's comments to the CAA, within 14 days of the aircraft's return to base.

- NOTES:**
- 1 In respect of an extension of a flying duty period, an emergency is a situation which in the judgement of the commander presents a serious risk to the health or safety of crew and passengers, or endangers the lives of others.
 - 2 Discretion reports may be used by the CAA to assess the realism of particular schedules.

19 Aircraft Commander's Discretion to Reduce a Rest Period

- 19.1 An aircraft commander may, at his discretion, and after taking note of the circumstances of other members of the crew, reduce a rest period but only insofar as the room allocated to the crew member must be available for occupation for a minimum of 10 hours. The exercise of such discretion shall be considered exceptional and must not be used to reduce successive rest periods. If the preceding FDP was extended, the rest period may be reduced, provided that the subsequent allowable FDP is also reduced by the same amount. In no circumstances may a commander exercise discretion to reduce a rest period below 10 hours at accommodation.
- 19.2 Whenever a commander reduces a rest period, it shall be reported to his employer on a Discretion Report Form, in the format of Appendix B, or on a form acceptable to the CAA. If the reduction is more than 1 hour, then the operator shall submit the commander's written report together with the operator's comments, to the CAA, within 14 days of the aircraft's return to base.

20 Days Off

This paragraph does not apply to helicopter crew.

- 20.1 Wherever possible and if required by the crew member, days off should be taken in the home environment.
- 20.2 A single day off shall include 2 local nights, and shall be of at least 34 hours duration.
- 20.3 A planned rest period may be included as part of a day off.
- 20.4 Crew members shall:
- a) not be on duty more than 7 consecutive days between days off, but may be positioned to the usual operating base on the eighth day, provided they are then allocated at least 2 consecutive days off, and
 - b) have 2 consecutive days off in any consecutive 14 days following the previous 2 consecutive days off, and
 - c) have a minimum of 7 days off in any consecutive 4 weeks, and
 - d) have an average of at least 8 days off in each consecutive 4 week period, averaged over 3 such periods.

21 Absolute Limits on Flying Hours

This paragraph does not apply to helicopter crew.

- 21.1 A person shall not act as a member of the flight crew of an aircraft if at the beginning of the flight the aggregate of all previous flight times:

- a) during the period of 28 consecutive days expiring at the end of the day on which the flight begins exceeds 100 hours. (This means that on the 28th day a flight crew member may depart on a single sector flight, and may complete that sector, even though at the end of the flight the total flying hours completed in 28 days will exceed 100 hours. Consequently, the flight crew member cannot then continue to operate as a flight crew member on any subsequent sectors during that day); or
- b) during the period of 12 months, expiring at the end of the previous month exceeds 900 hours.

22 Cumulative Duty Hours

- 22.1 The maximum duty hours for flight crew, excepting helicopters, shall not exceed:
- 55 hours in any 7 consecutive days, but may be increased to 60 hours, when a rostered duty covering a series of duty periods, once commenced, is subject to unforeseen delays;
 - 95 hours in any 14 consecutive days;
 - and 190 hours in any 28 consecutive days.

The maximum hours allowed to helicopter crew members are stated in sub-paragraph 23.5.

- 22.1.1 When away from base and where an individual crew member separates from the crew, or the crew as a whole splits up, then any use of discretion to reduce rest becomes a decision for an individual crew member. The decision to continue with the next flight and the submission of an associated discretion report is the responsibility of the relevant commander after the crew member, and operator if in a position to do so, has informed the commander that a reduced rest period has been taken.
- 22.2 When a crew member is not rostered for either standby or flying duties for 28 or more consecutive days then any duty hours worked need not be added to cumulative totals. However, when a crew member is anticipated to return to either standby or flying duties the duty hours worked in the 28 days preceding that duty must be recorded. Before allocating a flying duty to a crew member the operator must be satisfied that that crew member is in compliance with the scheme.

22.3 Calculation of Cumulative Duty Hours (all aircraft)

Duty hours shall be added to cumulative totals in accordance with the following:

- a) To count in full:
 - i) Duty periods and flying duty periods, plus subsequent post-flight duties
 - ii) All standby duty, except that specified in b) i) and ii) below
 - iii) The time spent on positioning.
- b) To count as half the time on duty:
 - i) The standby duty, when the period of notice given to the crew member by the operator before reporting for duty, is treble or more than the specified minimum report time.
 - ii) The standby duty when undertaken at home, or in suitable accommodation provided by the operator, takes place during the period 2200 to 0800 hours, and the crew member can take undisturbed rest and is not called out for duty.

23 Limits on Helicopter Flying

23.1 Table D Maximum FDP - Helicopters

Local time of start	SINGLE PILOT		TWO PILOTS	
	Max. Length of Flying Duty Period (Hours)	Maximum Flying Time (Hours)	Max. Length of Flying Duty Period (Hours)	Maximum Flying Time (Hours)
0600-0659	9	6	10	7
0700-0759	10	7	11	8
0800-1359	10	7	12	8
1400-2159	9	6	10	7
2200-0559	8	5	9	6

23.2 Additional Limits on Helicopter Flying

23.2.1 Repetitive Short Sectors

Crew flying repetitive short sectors, for example pleasure flying, offshore short sector shuttles, at an average rate of 10 or more landings per hour, shall have a break of at least 30 minutes away from the helicopter within any continuous period of 3 hours.

23.2.2 When carrying out the more demanding roles of helicopter flying, for example, winching and external load carrying, operators shall specify maximum periods of continuous operation. The limits set shall not exceed the maximum allowed in subparagraph 23.2.1, but depending on the nature and circumstances of a particular operation may need to be more restrictive.

23.2.3 After 3 hours shuttle operations between offshore installations in conditions other than day VMC, a rest of 30 minutes free of all duty shall be allowed.

23.2.4 Survival Suits

The wearing of survival suits can prove an irritant and be uncomfortable. Therefore:

- a) a flight crew member should not participate in moving freight or baggage, or any other activity requiring excessive physical effort. His role should be supervisory.
- b) Schedules which involve continuous flying in excess of 4½ hours must include provisions for a break free of all duty of at least 30 minutes, not including a total of 30 minutes for immediate post-flight duties and pre-flight duties. The break must be scheduled prior to exceeding a total of 6 hours flying.

23.3 Helicopter Crew Days Off

23.3.1 Wherever possible, and if required by the crew member, days off should be taken in the home environment. A single day off for helicopter crew shall include two local nights, and shall be of at least 36 hours duration. A planned rest period may be included as part of a day off.

23.3.2 Crew members shall:

- a) not work more than 7 consecutive days, and
- b) have 2 consecutive days off following a period of 7 consecutive days duty, and

- c) have 2 consecutive days off in any consecutive 14 days, and have at least 3 days off in any consecutive 14 days, and
- d) have a minimum of 7 days off in any consecutive 4 weeks, and
- e) have an average of at least 8 days off in each consecutive 4 week period averaged over 3 such periods.

NOTE: A single day off can only be allocated when 6 or less consecutive days duty have been worked.

23.4 **Absolute Limits on Flying Hours**

The maximum flying hours for flight crew will be 90 in any 28 consecutive days, and 800 in any period of 12 months.

23.5 **Cumulative Duty and Flying Hours (Helicopters)**

Maximum duty hours for flight crew shall not exceed:

- 60 hours in any 7 consecutive days and
- 200 hours in any 28 consecutive days.

23.6 **The Maximum number of Flying Hours** which a pilot may be permitted to undertake are:

Single Day	Table D
Any 3 consecutive days	18 hours
Any 7 consecutive days	30 hours
Any 3 consecutive 28 day periods	240 hours

24 **Rules Relating to Cabin Crew**

24.1 The requirements detailed in this paragraph shall be applicable to all cabin crew employed as crew members and are not intended to apply only to those cabin crew carried to meet the provisions of the Air Navigation Order.

24.2 The limitations which shall be applied to cabin crew are those applicable to flight crew members contained in paragraphs 6 to 23, but with the following differences:

- a) A flying duty period can be 1 hour longer than that permitted for flight crew. The FDP and limits set on early starts for cabin crew shall be based on the time at which the flight crew report for their flying duty period, but that FDP will start at the report time of the cabin crew.
- b) For cabin crew the minimum rest period which will be provided before undertaking a flying duty period shall be:
 - i) at least as long as the preceding duty period less 1 hour; or
 - ii) 11 hours;
 whichever is the greater.
- c) The combined sum of standby time and subsequent FDP can be 1 hour longer than that permitted to flight crew.
- d) The maximum duty hours for cabin crew shall not exceed:

60 hours in any 7 consecutive days, but may be increased to 65 hours when a rostered duty covering a series of duty periods, once commenced, is subject to unforeseen delays.

105 hours in any 14 consecutive days.

210 hours in any 28 consecutive days.

- e) The annual and 28 day limits on flying hours appertaining to flight crew need not be applied.
- f) The limits relating to two pilot flight crew long range operations do not apply.

25 Records to be Maintained

25.1 Records for the duty and rest periods of all flying staff must be kept. These records shall include:

For each crew member:

The beginning, end and duration of each duty or flying duty period, and function performed during the period. Duration of each rest period prior to a flying duty or standby duty period. Dates of days off. 7 consecutive day totals of duty.

With the agreement of the CAA, operators employing more than 100 cabin crew need only record the information required above for a percentage of cabin crew. The size of the percentage and the rate of sampling will be agreed by the assigned Inspector and the operator.

For each flight crew member:

Daily and 7 consecutive day flying hours.

Records shall be preserved for at least 12 calendar months from the date of the last relevant entry.

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

Appendix A Commander's Discretion Report - Extension Of Flying Duty Period/Flying Hours

Part A Operator _____ Aircraft Type _____
 Flight Number _____ Commander _____
 Date _____

NOTE: If discretion exercised for part crew or individuals state name(s) and operating capacity below.

Part B Voyage Details

- 1 Crew acclimatised YES/NO
- 2 Length of preceding rest - 18 to 30 hrs/under 18 or over 30 hrs Hrs Mins
- 3 Allowable FDP from Table A or B
- 4 Split duty: actual time off..... time on..... Credit
- 5 In-flight relief; rest taken..... bunk/seatCredit
- 6 Revised allowable FDP

Voyage Details						
Schedule (Planned)				Actual		
	Place	UTC	Local		UTC	Local
Duty to start				Duty started		
Depart				Departed		
Arrive				Arrived		
Depart				Departed		
Arrive				Arrived		
Depart				Departed		
Arrive				Arrived		
Depart				Departed		
Arrive				Arrived		
Depart				Departed		
Arrive				Arrived		
FDP to end				FDP ended		
				Actual FDP		

Amount of Commander's Discretion Exercised – Hrs Mins
 Maximum Flying Hours Permitted in 28 days/1 year period. Hours Flown

Part C Commander's Report

Signed

Date

Operator's Remarks/Action Taken

Signed

Date

Forwarded to CAA

Filed

Appendix B Commander's Discretion Report - Reduction of Rest

NOTE: All times to be recorded as date/time six-figure groups, expressed in both UTC and Local time.

Part A	Operator	Aircraft Type
	Flight Number	Commander
	Date	

NOTE: If discretion exercised for part crew or individuals state name(s) and operating capacity below.

Part B	Last duty started	UTC/Local
	Last duty ended	UTC/Local
	Rest earned	Hours
	Calculated earliest next available	UTC/Local
	Actual start of next FDP	UTC/Local
	Rest period reduced by	
	Crew affected:	

Part C Commander's Report

Signed

Date

Operator's Remarks/Action Taken

Signed

Date

Forwarded to CAA

Filed

Section C Examples of FTL Schemes

Introduction

The content of this Section contains four examples of schemes for use, if so desired, by companies operating scheduled services and those associated with the IT market, those involved with Air Taxi/Sole Use Charter, Commercial Pleasure Flying, Air Ambulance Work, and Helicopter operations.

A further Annex presents an example of guidance that companies may wish to issue to Rostering Staff.

The purpose behind providing these examples is to relieve operators of the burden of determining what may or may not be acceptable to the CAA. There is no obligation on companies to reproduce what is set out in the Annexes, but equally there is no objection to any AOC Holder using an example in its entirety as their FTL scheme. Furthermore, the Annexes do not attempt to cover the working practices adopted by every single operator, and it is recognised and accepted that some may need to modify what is stated herein to suit their particular circumstances. Previously this was achieved, in practice, by the granting of a variation. While the word variation is still valid, any such differences to what is the standard will be incorporated into the approved scheme. Further variations to the approved scheme will result in the withdrawal of that scheme's approval and the issue of a further full approval for the revised scheme.

In each Annex, some paragraphs are annotated with the symbol `‡', and certain values are shown as (*). The paragraphs marked `‡' are those which may not apply to all schemes, and can be included or omitted, as appropriate. **If omitted, it is implicit that the operator will not use the provisions of that particular paragraph.** In the Introduction to the first four Annexes a key is provided, giving a paragraph number and the associated maxima or minima as the case may be, that when inserted in the relevant position completes the scheme. If they wish, operators can vary these figures to suit their purpose, but only to the extent of providing a better level of protection against the onset of fatigue than is given in Section B. The scheme in the Annexes has paragraphs numbered sequentially and simply: this approach is adopted for ease of reference. Operators should number the paragraphs in their submission in line with what is in use in their Operations Manual.

In sum, a set of FTL schemes and an example of guidance to rostering staff is provided with the intent of easing the task of those compiling Company FTL schemes.

Annex A Large Companies

Introduction

The scheme set out in this Annex is one that may suit the purpose of companies operating scheduled services and those involved in the IT market. If any difficulty is experienced in deciding whether or not the Annex refers to the nature of the operation conducted by a particular company, reference to the introduction to the other Annexes will give sufficient guidance.

As will be seen, the content of the Annex follows faithfully the provisions of Section B. Only in a few instances are compilers given the option of omitting a paragraph - annotated with the symbol '‡' - where the specific practice covered may not be utilised by their company. As mentioned in the Introduction to this Section, those paragraphs containing the symbol (*) must have the appropriate figure inserted, as specified in the Key.

Key

Definition 5.3		Times inserted, which must not cover more than 2½ hours
Definition 5.19		As required by the operator
Definition 5.26		Insert four figure UTC or local time and day
Paragraph 9.2	line 3	Not more than 1½ hours
Paragraph 12.4	line 3	Not more than 12
Paragraph 13.1	line 1	A minimum of 1 hour, but can be increased dependent on aircraft type and route to be flown
	line 2	Not less than 30
Paragraph 13.5	line 1	Insert aircraft type
	line 2	Not less than 15
Paragraph 15.3		Left hand block - not more than 18 and 19 respectively Right hand block - not more than 15 and 16 respectively
Paragraph 16.2	line 1	Not less than 30
Paragraph 17.3	line 2	Not more than 18
Paragraph 18.1	line 5	Not more than 3
Paragraph 18.2	line 3	Not more than 2
	line 4	Not more than 3
Paragraph 19.1	line 4	Not less than 10
Paragraph 20.1	line 1/2	Specify point of contact and as appropriate
Paragraph 20.2	line 1/2	Specify as above
Paragraph 21.4 a)	line 1	Not more than 7
	b) line 1	Not less than 2, not more than 14, respectively
	c) line 1	Not less than 7, not more than 4
	d) line 1	Not less than 8
Paragraph 23.2 b) i)		At least treble the time stated in paragraph 13.1
Paragraph 25.1	line 8	Not less than 10, and not more than 6 respectively

Flight and Duty Time Limitations Scheme

1 Purpose

The purpose of this scheme is to interpret the requirements of the relevant articles of the Air Navigation Order and CAP 371, Fourth Edition, as they apply to the regulation of flight times and the avoidance of fatigue in crew members.

2 Aim

The aim of this document is to express the intent behind the published, relevant documents, thereby taking all reasonable precautions to ensure that crew members are adequately rested at the beginning of each flying duty period. To meet this aim, due note will be taken of length of duty cycles, periods of time off and cumulative duty hours.

3 Applicability

The scheme shall apply in relation to any duty carried out at the behest of the company by both flight crew and cabin crew. The scheme shall apply to all cabin crew carried as crew members.

4 Responsibilities

4.1 The Company

The company will publish rosters in advance so that operating crew can plan adequate pre-flight rest. Crew members will normally be given at least 7 days notice of days off. Before the start of the new roster year, the start and finish dates of each roster period, plus the expected publication date, will be issued to crew members.

4.2 Crew Members

Responsibility for the proper control of flight and duty time does not rest wholly with the company. Crew members have the responsibility to make optimum use of the opportunities and facilities for rest provided. They are also responsible for planning and using their rest periods properly in order to minimise incurring fatigue. The ANO places a further responsibility on crew members. Simply put, crew members shall not act as operating crew if they know, or suspect, that their physical or mental condition renders them unfit to operate. Furthermore, they must not fly if they know that they are, or are likely to be, in breach of this scheme.

5 Definitions

Unless otherwise defined below all words, phrases, definitions and abbreviations, have identical meanings to those described in Article 129 of the Air Navigation Order 2000, as amended.

5.1 'Acclimatised'

When a crew member has spent 3 consecutive local nights on the ground within a time zone which is 2 hours wide, and is able to take uninterrupted nights sleep. The crew member will remain acclimatised thereafter until a duty period finishes at a place where local time differs by more than 2 hours from that at the point of departure.

5.2 'Cabin Crew'

A person employed to facilitate the safety of passengers, whose duties are detailed by the company or the aircraft commander. Such persons will not act as a member of the flight crew.

5.3 'Contactable'

A short period of time during the day, other than on a 'day off', during which the company requires a crew member to be contactable for the purpose of giving notification of a duty period which will commence not less than 10 hours ahead. The contactable period will be between (*) and (*) local time.

5.4 'Crew'

A member of the flight crew or cabin crew.

5.5 'Days Off'

Periods available for leisure and relaxation free from all duties. A single day off shall include 2 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.

5.6 'Dispatch Crew'

A fully qualified and current flight crew/cabin crew authorised to carry out pre-flight duties as defined by the company.

5.7 'Duty'

Any continuous period during which a crew member is required to carry out any task associated with the business of the company.

5.8 'Early Start Duty'

A duty is an Early Start Duty if it commences in the period 0500 to 0659 hours local time.

5.9 'Flight Crew'

Those members of the crew of an aircraft who act as a pilot or flight engineer.

5.10 'Flying Duty Period (FDP)'

Any time during which a person operates in an aircraft as a member of its crew. It starts when the crew member is required by the company to report for a flight, and finishes at on-chocks on the final sector.

5.11 'Late Finish Duty'

A duty is a Late Finish when the duty finishes in the period 0100 to 0159 hours local time.

5.12 'Local Night'

A period of 8 hours falling between 2200 hours and 0800 hours local time.

5.13 'Night Duty'

A duty is a Night Duty if any part of that duty falls within the period 0200 to 0459 hours local time.

5.14 'Positioning'

The practice of transferring crew from place to place as passengers in surface or air transport at the behest of the company.

5.15 'Regular'

Regular, when applied to duties that are Late Finishes, Night or Early Starts, means a run of 4 or 5 consecutive duties, not broken by a period of 34 hours free from such duties, contained in a single 7 consecutive day period.

5.16 'Reporting Time'

The time at which a crew member is required by the company to report for any duty.

5.17 'Rest Period'

A period of time before starting a flying duty period which is designed to give crew members adequate opportunity to rest before a flight.

5.18 'Rostered/Planned Duty'

A duty period, or series of duty periods, with stipulated start and finish times, notified by the company to crew in advance.

5.19 'Rostering Period'

(*) consecutive weeks.

5.20 'Scheduled Duty'

The allocation of a specific flight or flights or other duties to a crew member within the pre-notified rostered/planned series of duty periods.

5.21 'Sector'

The time between an aircraft first moving under its own power until it next comes to rest after landing, on the designated parking position.

5.22 'Split Duty'

A flying duty period which consists of two or more sectors, separated by less than a minimum rest period.

5.23 'Standby Duty'

A period during which the company places restraints on a crew member who would otherwise be off duty. However, it shall not include any time during which the crew member is contactable for the purpose of giving notification of a duty which is due to start 10 hours or more ahead.

5.24 'Suitable Accommodation'

A well furnished bedroom which is subject to minimum noise, is well ventilated, and has the facility to control the levels of light and temperature.

5.25 'Travelling'

All time spent by a crew member transitting between the place of rest, and the place of reporting for duty.

5.26 'Week'

A period of 7 consecutive days starting at (*) on (*).

6 Calculation of a Flying Duty Period

6.1 The maximum FDP, in hours and fractions of hours, will be in accordance with paragraph 13. The times extracted from the tables may be extended by use of in-flight relief, split duty, and commander's discretion, under the terms of paragraphs 15, 16 and 18. Where a flight crew consists of two pilots only, any FDP involving a sector which is planned to exceed 7 hours will be calculated as detailed in paragraph 14.

7 Additional Limits on Flying

7.1 Late Finishes/Early Starts

7.1.1 This paragraph only applies to crew members who are acclimatised.

7.2 Sleep deprivation, leading to the onset of fatigue, can arise if a crew member is required to report early for duty on a number of consecutive days. Therefore, not more than 3 consecutive duties that occur in any part of the period 0100 to 0659 hours local time can be undertaken, nor will there be more than 4 such duties in any 7 consecutive days.

Any run of consecutive duties (Late Finishes or Nights or Early Starts) can only be broken by a period of not less than 34 consecutive hours free from such duties. This 34 consecutive hours may include a duty that is not an Early, Late or Night duty.

‡ 7.2.1 Crew members who are employed on a regular early morning duty for a maximum of 5 consecutive duties will work to the following:

- a) The minimum rest period before the start of such a series of duties will be 24 hours.
- b) The duty will not exceed 9 hours, irrespective of the sectors flown.
- c) At the finish of such a series of duties, crew members will have a minimum of 63 hours free of all duties.

7.3 Should any duties be scheduled to be carried out within any part of the period 0200 to 0459 hours local time, for a minimum of 2 and a maximum of 3 consecutive nights, then crew members will finish the duty preceding this series of duties by 2100 hours local time before covering the block of consecutive night duties, such that the crew members can take a rest period during a local night.

NOTE: Operators may replace the above paragraph with one of the following choices, either Options A and B OR Options B and C. The operator may roster crew members for either 2 or 3 consecutive nights, but must ensure that the duty preceding this series of duties finishes by 2359 hours local time (2 nights) or 2100 hours local time (3 nights) as appropriate.

If it is preferred to retain the present contents then attention must be paid to the notes attached to the Options listed (below). These notes list the actions to be followed in the event that duty is inadvertently extended beyond the cut-off times (i.e. 2100 or 2359 hours).

Option A

Should any duties be scheduled to be carried out within any part of the period 0200 and 0459 hours local time, for 3 consecutive nights, then crew members will finish the duty preceding this series of duties by 2100 hours local time before commencing the block of consecutive night duties, such that the crew members can take a rest period during a local night. If the duty immediately prior to the 3 consecutive night duties extends beyond 2100 hours local time and the individual crew member is willing to continue with the planned roster, (i.e. 3 consecutive night duties) then provided that duty preceding this series of duties finishes no later than 2359 hours local time, the schedule may continue.

NOTES: 1 Under this Option, if the crew member chooses not to continue the planned roster (after finishing duty between 2100 and 2359 hours local time) then only the planned first and second night duties that impinge on any part of the period 0200 to 0459 hours local time may be undertaken.

- 2 Under this Option, if the duty finishes after 2359 hours local time, then only the first of the 3 consecutive night duties that impinge on any part of the period 0200 to 0459 hours local time may be undertaken.

Option B - 2 consecutive night duties

Should any duties be scheduled to be carried out within any part of the period 0200 and 0459 hours local time, for 2 consecutive nights, then crew members will finish the duty preceding this series of duties by 2359 hours local time before commencing the block of 2 consecutive night duties, such that the crew members can take a rest period during a local night.

NOTE: Under this Option in the event of 2359 hours being exceeded, then only the first of the 2 planned consecutive night duties that impinge on any part of the period 0200 to 0459 hours local time may be undertaken.

Option C - 3 consecutive night duties

Should any duties be scheduled to be carried out within any part of the period 0200 and 0459 hours local time, for 3 consecutive nights, then crew members will finish the duty preceding this series of duties by 2100 hours local time before commencing the block of consecutive night duties, such that the crew members can take a rest period during a local night.

NOTES: 1 Under this Option in the event of 2100 hours being exceeded, then only the first of the 3 planned consecutive night duties that impinge on any part of the period 0200 to 0459 hours local time may be undertaken.

- 2 In all cases the limits in paragraph 7.2 or 7.3 must not be exceeded (i.e. maximum of 3 consecutive nights and 4 in 7 consecutive days).

‡ 7.3.1 Crew members who are employed on a regular night duty for a maximum of 5 consecutive nights will work to the following:

- a) The minimum rest period before the start of such a series of duties will be 24 hours.
- b) The duty will not exceed 8 hours, irrespective of the sectors flown.
- c) At the finish of such a series of duties crew members will have a minimum of 54 hours free of all duties.

7.3.1.1 Options For Night Operations

If an operator elects to roster up to 5 consecutive night duties, then the criteria laid down in paragraph 7.3.1 (Section C Annex B paragraph 7.2.1 - Air Taxi) must be complied with and must form part of the approved FTL scheme. Operators are reminded that the normal days off requirements must be met (i.e. the 54 hours off between two blocks of 5 nights is only 1 proper day off). However, if operators find that this part of the Scheme is too restrictive then one of the following options may be employed but, if used, must be fully complied with:

- a) When crew are employed on duty for a total of 20 hours or less during 5 consecutive night duties, (i.e. maximum duty each night is 4 hours) the 54 hours free from all duties will meet the "Days Off" requirements for each 28 consecutive day period. Any positioning flights must be completed within the 20 hours duty.
- b) When crew are employed on duty for a total of more than 20 hours but not more than 40 hours during 5 consecutive night duties, the first 54 hours (between week 1 and week 2) may be counted as 2 "Days Off". For the 28 consecutive day period that starts on the first night of the first duty, crew must be given a minimum of a further 5 "Days Off" (average of a further 6 days). Any positioning flights must be completed within the 40 hours duty.

- c) When crew are employed on duty which requires full use of 40 hours duty during 5 consecutive night duties plus a maximum of 3 hours positioning (pre- and post-total) then:
- i) allowable flying hours (month and year) will be reduced to the following:
 - 1) a maximum of 75 hours in any 28 consecutive days with a maximum of 60 hours in 28 consecutive days averaged over three 28 day periods, and;
 - 2) 600 hours in any 12 consecutive months.
 - ii) a minimum of 9 "Days Off" in any 28 consecutive days will be granted;
 - iii) any increase in duty over 40 hours during the block of 5 consecutive night duties is to be added to the subsequent 54 hours rest period which may not be reduced.

NOTE: Where crew do less than a 7 consecutive day period of such duties, then normal Table A limits and the limits in paragraphs 7.2 and 7.3 apply.

7.3.1.2 General Rules

To be applied when an operator utilises a), b) or c) of paragraph 7.3.1.1.

- a) The exercise of "Commander's Discretion" is limited to 1 hour per night with a total of 2 hours allowed during any 5 consecutive night cycle. Any duty worked in excess of 40 hours by use of "Commander's Discretion" must also be added to the subsequent 54 hours rest which may not be reduced.
- b) The absolute maximum duty permitted during a block of 5 consecutive night duties is 45 hours (40 hours, plus 3 hours positioning, plus 2 hours "Commander's Discretion", as per paragraphs 7.3.1.1 c) and 7.3.1.2 a) above).
- c) Crew cannot be rostered for more than 8 hours per night, except when working to paragraph 7.3.1.1 c) above.
- d) Split duties and extension of FDP by in-flight rest are not permitted.
- e) "Commander's Discretion" to reduce rest is not permitted.

NOTE: For 5 consecutive earlies, the same rule as in 7.3.1.2 a) above applies (i.e. maximum 1 hour discretion per day and a total of 2 hours in the 5 day cycle).

8 Mixed Duties

- 8.1 When a crew member is required to report for duty in advance of the stipulated report time for a scheduled flight, to carry out a task at the behest of the company, then the time spent on that task shall be part of the subsequent FDP.

8.2 Mixed Simulator and Aircraft Flying

When a flight crew member flies in the simulator, either on a check or training flight, or as a Training Captain or Instructor, and then within the same duty period flies as a flight crew member on a public transport flight, all the time spent in the simulator is counted in full towards the subsequent FDP. Simulator flying does not count as a sector, but the FDP allowable is calculated from the report time of the simulator detail.

9 Travelling Time

- 9.1 Travelling time, other than that time spent on positioning, does not count as duty.

- 9.2 Travelling time, from home to departure aerodrome, if long distances are involved, is a factor influencing any subsequent onset of fatigue. If the journey time from home to normal departure airfield is usually in excess of (*) hours, crew members should make arrangements for temporary accommodation nearer to base.
- 9.3 When crew members are required to travel from their home to an aerodrome other than the one from which they normally operate, any travelling time over and above the journey time from home to the usual operating aerodrome will count as positioning.

The notional additional times when reporting to the following airfields are as stated:

Gatwick	minutes
Luton	minutes

If reporting to any other airfield the company will specify an appropriate allowance for the extra travel involved.

10 Delayed Reporting Time in a Single FDP

- 10.1 When a crew member is informed of a delay to the reporting time due to a changed schedule, before leaving the place of rest, the FDP shall be calculated as follows. When the delay is less than 4 hours the maximum FDP allowed will be based on the original report time and the FDP will start at the actual report time. When the delay is 4 hours or more, the maximum FDP will be calculated using the more limiting of the planned and actual report times and the FDP will start 4 hours after the original report time.
- 10.2 When the company informs a crew member before leaving the place of rest of a delay in reporting time of 10 hours or more ahead, and that crew member is not further disturbed by the company until a mutually agreed hour, then that elapsed time is classed as a rest period. If, upon the resumption of duty, further delays occur then the appropriate criteria in this paragraph and paragraph 10.1 above will be applied to the re-arranged reporting time.

11 Positioning

- 11.1 All time spent on positioning at the behest of the company shall count as duty, but positioning does not count as a sector when calculating the FDP. In these circumstances the FDP commences not later than the time at which the crew member reports for the positioning journey, or positions in accordance with paragraph 9.3.
- 11.2 If, after a positioning journey, the crew member spends less than a minimum rest period at suitable accommodation provided by the company, and then carries out an FDP, the positioning will be counted as a sector if a split duty is claimed when calculating the allowable FDP. If it is not, a split duty FDP will not be used.
- ‡ 11.3 On occasion, with the agreement of the CAA the company can recover a crew member to main base from an overseas airfield by means of a positioning flight on the eighth consecutive day of duty.

12 Standby Duty

- 12.1 The time of start, end and nature of the standby duty will be defined and notified to crew members. The time a standby duty starts determines the allowable FDP, except that when the actual FDP starts in a more limiting time band, then that FDP limit will apply. However, when a standby duty is undertaken at home or in suitable accommodation provided by the company during the period 2200 to 0800 hours local time, and a crew member is given 2 hours or less notice of a report time, then the allowable FDP starts at the report time at the designated reporting place.
- 12.2 When a crew member is on standby duty on immediate readiness at an airport, the allowable FDP is calculated using the start time of the standby duty.
- 12.3 If a crew member is called out from standby, the standby duty will cease when the crew member reports at the designated reporting point.
- 12.4 The following limits apply:

Duty	Maximum Duration
Standby Duty (all cases)	(*) hours
Standby followed by FDP	As in Case A and B below

Case A

If a crew member is called out from standby to conduct an FDP before completing 6 hours standby duty then the total duty period allowed is the sum of the time spent on standby and the FDP obtained from paragraph 13.

Case B

If a crew member is called out from standby to conduct an FDP after completing 6 or more hours standby duty, then the total duty period allowed is the sum of all the time spent on standby and the FDP obtained from paragraph 13, reduced by the amount of standby worked in excess of 6 hours.

NOTE: The reference to 'total duty period' applies **only** to the sum of the standby time achieved + the allowable FDP obtained from paragraph 13. On the day, for cumulative duty totals and for minimum rest purposes, the total duty achieved will be standby time achieved + FDP achieved + post flight duties + any positioning.

- 12.5 When any period of standby finishes, during which a call-out has not occurred, at least 12 hours rest must follow prior to the next duty period. Similarly, following the end of a contactable period or periods, at least 10 hours must elapse prior to the next duty period.

13 Maximum FDP

- 13.1 The standard reporting time prior to flight is (*). Pre-flight duties are part of the FDP; (*) minutes duty will be allowed for post-flight activities. The time spent between reporting for a flight and the completion of post-flight tasks determines the length of the subsequent rest period. If this "period" for post FDP duties is routinely exceeded then the post FDP duty period stated in the scheme must be revised to better represent the actual time taken.
- 13.2 A non-standard reporting time designed to take advantage of an increased FDP from a more favourable time band, must not be used.

- 13.3 Table A applies when the FDP starts at a place where the crew member is acclimatised; Table B applies at other times.

Table A Acclimatised

Local time of start	Sectors							
	1	2	3	4	5	6	7	8 or more
0600-0759	13	12¼	11½	10¾	10	9½	9	9
0800-1259	14	13¼	12½	11¾	11	10½	10	9½
1300-1759	13	12¼	11½	10¾	10	9½	9	9
1800-2159	12	11¼	10½	9¾	9	9	9	9
2200-0559	11	10¼	9½	9	9	9	9	9

Table B Not Acclimatised

Length of preceding rest (hours)	Sectors						
	1	2	3	4	5	6	7 or more
Up to 18 or over 30	13	12¼	11½	10¾	10	9¼	9
Between 18 and 30	11½	11	10½	9¾	9	9	9

NOTE: The practice of inserting a short duty into a rest period of between 18 and 30 hours in order to produce a rest period of less than 18 hours, thereby taking advantage of the longer FDP contained in Table B, is not permitted.

- 13.4 Report times must not be reduced in order for crew members to achieve their required rest prior to an FDP.
- ‡ 13.5 On the route X to Y, using (*), a dispatch crew will prepare the aircraft for departure. The operating crew will come on duty (*) minutes before scheduled departure time, and the FDP allowable for that crew shall be calculated from the 'on duty' time.

‡ 14 Limits on Two Flight Crew Long Range Operations

- 14.1 When an aeroplane flight crew is only two pilots, the allowable FDP shall be calculated as follows. A sector scheduled for more than 7 hours is considered as a multi-sector flight, as in the table below:

Scheduled Sector Times	Acclimatised	Not Acclimatised
	Sectors	
Sector Length over 7 hours but not more than 9 hours	2	4
Sector Length over 9 hours but not more than 11 hours	3	4
Sector Length over 11 hours	4	Not Applicable

The appropriate table in paragraph 13 is then entered with the start time of the duty period and the 'modified' number of sectors, to determine the allowable FDP.

- 14.2 When an additional, current, type rated pilot is carried then these limits do not apply and the permissible FDP is determined by entering the appropriate table in paragraph 13 with time of start and the actual sectors planned.

‡ 15 **Extension of Flying Duty Period by In-flight Relief**

- 15.1 When any additional crew member is carried to provide in-flight relief, with the intent of extending an FDP, that individual shall hold qualifications which are equal or superior to those held by the crew member who is to be rested. The division of duty and rest between those crew members being relieved will be kept in balance. It is unnecessary for the relieving crew member to rest in between the times relief is provided for other crew members.
- 15.2 When in-flight relief is utilised there will be for the crew member resting a comfortable reclining seat, or bunk, separated and screened from the flight deck and passengers, and free from disturbance.
- 15.3 A total in-flight rest of less than 3 hours does not allow for the extension of an FDP, but where the total in-flight rest, which need not be consecutive, is 3 hours or more, then the FDP may be extended as follows:

If rest is taken in a bunk

A period equal to one half of the total of rest taken, provided that the FDP shall not exceed (*) hours; (*) hours in the case of cabin crew

If rest is taken in a seat

A period equal to one third of the total of rest taken, provided that the FDP permissible shall not exceed (*) hours; (*) hours in the case of cabin crew

16 **Extension of Flying Duty Period by Split Duty**

- 16.1 When an FDP consists of two or more sectors - of which one can be a positioning journey counted as a sector - but separated by less than a minimum rest period, then the FDP will be extended by the amounts indicated below:

Consecutive Hours Rest

Less than 3

3 - 10

Maximum Extension of the FDP

NIL

A period equal to half the consecutive hours rest taken

- 16.2 The rest period shall not include the (*) minutes total allowed for immediate post flight and pre-flight duties. When the rest period is 6 hours or less it will suffice if a quiet and comfortable place, not open to the public, is available. If rest is taken in the aircraft on the ground, the crew must have adequate control of the temperature and ventilation within the aircraft, either by use of a ground power unit or the aircraft internal power units. The passengers must not be on board. If the rest period is more than 6 consecutive hours, then suitable accommodation will be provided by the company.

17 Rest Periods

- 17.1 Crew members will be notified in good time of a flying duty period so that sufficient and uninterrupted pre-flight rest can be obtained. When away from base opportunities and facilities for adequate pre-flight rest will be provided by the company in suitable accommodation. When flights are carried out at such short notice that it is impracticable for the company to arrange suitable accommodation, then this responsibility devolves to the aircraft commander.
- 17.2 The minimum rest period which must be taken before undertaking a flying duty period shall be:
- a) at least as long as the preceding duty period, or
 - b) 12 hours,
- whichever is the greater.
- 17.2.1 When away from base, in the case when the rest period earned by a crew member is 12 hours, and suitable accommodation is provided by the company, then that rest period may be reduced by one hour. In such circumstances, if the travelling time between the aerodrome and the accommodation is more than 30 minutes each way then the rest period will be increased by the amount the total time spent travelling exceeds one hour. In both situations the room allocated to the crew member must be available for occupation for a minimum of 10 hours. **This sub-paragraph does not apply to rest periods that exceed 12 hours.**
- 17.2.2 Exceptionally, at home base, individual crew members may be asked to exercise their discretion to reduce rest by up to a maximum of one hour but only to a minimum of 12 hours for flight crew and 11 hours for cabin crew. If discretion is used, it is the responsibility of the operator and the crew member to inform the commander of the flight immediately following the rest period, that a reduced rest period has been taken.
- 17.3 If the preceding duty period, which includes any time spent on positioning, exceeded (*) hours, then the ensuing rest period must include a local night.
- 17.4 Following a sequence of reduced rest and an extended FDP the subsequent rest period cannot be reduced.
- 17.5 After being called out from a standby duty the length of the minimum rest period will be determined by the length of standby duty, plus any time spent on positioning, and any FDP completed.
- 17.6 Crew members who have difficulty in achieving adequate pre-flight rest shall inform their manager, and then will be given the opportunity to consult an aviation medical specialist.

18 Aircraft Commander's Discretion to Extend a Flying Duty Period

- 18.1 An aircraft commander may, at his discretion, and after taking note of the circumstances of other members of the crew, extend an FDP beyond that permitted in paragraph 13, provided he is satisfied that the flight can be made safely. The extension shall be calculated according to what actually happens, not on what was planned to happen. An extension of (*) hours is the maximum permitted, except in cases of emergency (see Note).
- 18.2 A commander is authorised to exercise his discretion in the following circumstances and to the limits set. In a Flying Duty Period involving 2 or more sectors, up to a maximum of (*) hours discretion may be exercised prior to the first and subsequent sectors, but this may be up to (*) hours prior to the start of a single sector flight, or immediately prior to the last sector on a multi-sector flight.
- 18.3 A commander may exercise discretion to extend an FDP following a reduced rest period, only exceptionally, and then only to the extent necessary to allow for unforeseen circumstances that become apparent during the last sector.

NOTE: In respect of an extension to a flying duty period, an emergency is a situation which in the judgement of the commander presents a serious risk to the health or safety of crew and passengers, or endangers the lives of others.

19 Aircraft Commander's Discretion to Reduce a Rest Period

- 19.1 An aircraft commander may, at his discretion, and after taking note of the circumstances of other members of the crew, reduce a rest period, but only insofar as the room allocated to the crew member must be available for occupation for a minimum of (*) hours. The exercise of such discretion will be exceptional and must not be used to reduce successive rest periods. If the preceding FDP was extended, the rest period may be reduced, provided that the subsequent allowable FDP is also reduced by the same amount. In no circumstances may a commander exercise discretion to reduce a rest period below 10 hours at accommodation.
- 19.1.1 When away from base and where an individual crew member separates from the crew, or the crew as a whole splits up, then any use of discretion to reduce rest becomes a decision for an individual crew member. The decision to continue with the next flight and the submission of an associated discretion report is the responsibility of the relevant commander after the crew member, and operator if in a position to do so, has informed the commander that a reduced rest period has been taken.

20 Reporting Exercise of Discretion

- 20.1 Whenever a commander extends an FDP it shall be reported to (*) on a Discretion Report Form, in the format of (*). If the extension is greater than 2 hours, or discretion is exercised after any reduced rest period, then the company will submit the commander's written report, together with company comments, to the CAA, within 14 days of the aircraft's return to base.
- 20.2 Whenever a commander reduces a rest period, it shall be reported to (*) on a Discretion Report Form, in the format of (*). If the reduction is more than 1 hour, then the company will submit the commander's written report together with comments by the company to the CAA, within 14 days of the aircraft's return to base.

21 Days Off

- 21.1 Wherever possible, and if required by the crew member, days off will be allocated so that they can be taken in the home environment.
- 21.2 A single day off will include 2 local nights, and cover at least 34 hours.
- 21.3 A planned rest period may be included as part of a day off.
- 21.4 Crew members will:
- not be on duty more than (*) consecutive days between days off, but may be positioned to the usual operating base on the next day after which they will have 2 consecutive days off, and
 - have (*) consecutive days off in any consecutive (*) days following the previous 2 consecutive days off, and
 - have a minimum of (*) days off in any consecutive (*) weeks, and
 - have an average of at least (*) days off in each consecutive 4 week period, averaged over 3 such periods.

22 Absolute Limits on Flying Hours

- 22.1 A person shall not act as a member of the flight crew of an aircraft if at the beginning of the flight the aggregate of all previous flight times:
- during the period of 28 consecutive days expiring at the end of the day on which the flight begins exceeds 100 hours. (This means that on the 28th day a flight crew member may depart on a single sector flight, and may complete that sector, even though at the end of the flight the total flying hours completed in 28 days will exceed 100 hours. Consequently, the flight crew member cannot then continue to operate as a flight crew member on any subsequent sectors during that day); or
 - during the period of 12 months, expiring at the end of the previous month exceeds 900 hours.

23 Cumulative Duty Hours

- 23.1 The maximum duty hours for flight crew will not exceed:
- 55 hours in any 7 consecutive days, but this figure can be increased to 60 hours when a rostered duty covering a series of duty periods has commenced and is subject to unforeseen delays;
 - 95 hours in any 14 consecutive days;
 - and, 190 hours in any 28 consecutive days.

When a crew member is not rostered for either standby or flying duties for 28 or more consecutive days then any duty hours worked will not be added to cumulative totals. However, when a crew member is anticipated to return to either standby or flying duties the duty hours worked in the 28 days preceding that duty must be recorded. Those hours worked will be used to ensure that the crew member complies with the requirements of this scheme.

23.2 Calculation of Cumulative Duty Hours

Duty hours will be added to cumulative totals in accordance with the following:

- a) to count in full:
 - i) Duty periods and flying duty periods, plus subsequent post-flight duties
 - ii) All standby duty, except that specified in b) i) and ii) below
 - iii) The time spent on positioning
- b) to count as half the time on duty:
 - i) The standby duty, when the period of notice given to the crew member by the company before reporting for duty is (*)
 - ii) The standby duty when undertaken at home, or in suitable accommodation provided by the company, takes place during the period 2200 to 0800 hours local time, and the crew member can take undisturbed rest and is not called out for duty.

24 Rules Relating to Cabin Crew

- 24.1 The requirements detailed in this paragraph are applicable to all cabin crew employed as crew members, and are not intended to apply only to those cabin crew carried to meet the provisions of the Air Navigation Order.
- 24.2 The limitations applied to cabin crew are those applicable to flight crew members contained in paragraphs 6 to 23, but with the following differences:
- a) A flying duty period is 1 hour longer than that permitted for flight crew. The FDP and limits set on early starts for cabin crew will be based on the time at which the flight crew report for their flying duty period, but that FDP will start at the report time of the cabin crew.
 - b) For cabin crew the minimum rest period which will be provided before undertaking a flying duty period shall be:
 - i) at least as long as the preceding duty period less 1 hour; or
 - ii) 11 hours;whichever is the greater.
 - c) The combined sum of standby time and subsequent FDP will be 1 hour longer than that permitted to flight crew.
 - d) The maximum duty hours for cabin crew will not exceed:
 - 60 hours in any 7 consecutive days, but can be increased to 65 hours under similar circumstances applicable to flight crew
 - 105 hours in any 14 consecutive days
 - 210 hours in any 28 consecutive days.
 - e) The annual and 28 day limits on flying hours appertaining to flight crew do not apply.
 - f) The limits set for two pilot flight crew long range operations do not apply.

25 Records to be Maintained

- 25.1 Records for duty and rest periods of all flying staff shall include:
For each crew member:

The beginning, end and duration of each duty or flying duty period, and function performed during the period. Duration of each rest period prior to a flying duty or standby duty period. Dates of days off. 7 consecutive day totals of duty.

- ‡ The duty and rest periods recorded for cabin crew will be a percentage of those so employed. The percentage used will be (*), and the sample will be changed every (*) months.

For each flight crew member:

Daily and 7 consecutive day flying hours.

Records shall be preserved for at least 12 calendar months from the date of the last relevant entry.

- 25.2 Additionally, copies of all aircraft commanders' discretion reports of extended flying duty periods and reduced rest periods will be retained for a period of at least 6 months after the event.

Appendix *

Commander's Discretion Report - Extension of Flying Duty Period/Flying Hours

Part A Operator Aircraft Type
 Flight Number Commander
 Date

‡ **NOTE:** If discretion exercised for part crew or individuals state name(s) and operating capacity below.

Part B Voyage Details

1 Crew acclimatised YES/NO

2 Length of preceding rest - 18 to 30 hrs/under 18 or over 30 hrs Hrs Mins

3 Allowable FDP from Table A or B

4 Split duty: actual time off time on Credit

5 In-flight relief; rest takenbunk/seat Credit

6 Revised allowable FDP

Voyage Details						
Schedule (Planned)				Actual		
	Place	UTC	Local		UTC	Local
Duty to start				Duty started		
Depart				Departed		
Arrive				Arrived		
Depart				Departed		
Arrive				Arrived		
Depart				Departed		
Arrive				Arrived		
Depart				Departed		
Arrive				Arrived		
Depart				Departed		
Arrive				Arrived		
FDP to end				FDP ended		
				Actual FDP		

Amount of Commander's Discretion Exercised - Hrs Mins
 Maximum Flying Hours Permitted in 28 days/1 year period. Hours Flown

Part C Commander's Report

Signed

Date

Operator's Remarks/Action Taken

Signed.....

Date.....

Forwarded to CAA

Filed

Appendix *

Commander's Discretion Report - Reduction of Rest

NOTE: All times to be recorded as date/time six-figure groups, expressed in both UTC and Local time.

Part A	Operator	Aircraft Type
	Flight Number	Commander
	Date	

NOTE: If discretion exercised for part crew or individuals state name(s) and operating capacity below.

Part B	Last duty started	UTC/Local
	Last duty ended	UTC/Local
	Rest earned	Hours
	Calculated earliest next available	UTC/Local
	Actual start of next FDP	UTC/Local
	Rest period reduced by	
	Crew affected:	

Part C Commander's Report

Signed

Date

Operator's Remarks/Action Taken

Signed

Date

Forwarded to CAA

Filed

Annex B Air Taxi/Sole Use Charter, Including Pleasure Flying and Air Ambulance Supplement

Introduction

The content of this Annex is designed for use by companies conducting the business of Air Taxi/Sole Use Charter. In the context of this document this type of operation is being carried out when the operator utilises an aircraft which contains 19 or less passenger seats, and

- a) flights are confined to an area within which the local time does not vary by more than 2 hours, and
- b) the application of in-flight relief to extend an FDP is not used.

For those operators who combine air taxi/sole-use charter business with either/or commercial pleasure flying and air ambulance work, supplements to the main body of the scheme are provided. These supplements are only intended for use by companies that combine two or more types of operation within one AOC. A special scheme for those operators whose AOC allows for the use of a single engine aircraft for the purpose of public transport is the subject of a separate Annex.

Compilers of company FTL schemes are invited to reproduce the specimen scheme in toto, selecting from the paragraphs annotated with a '‡' those which suit their particular type of operation, and adding the relevant figures in the spaces marked (*). Alternatively, selected sections of the specimen scheme can be used. Neither course of action prevents an operator from proposing an alternative to the standard provisions, provided an equivalent or better level of protection against fatigue is ensured. **If any paragraphs annotated with a '‡' are not included in a scheme, it is implicit that the operator will not use the provisions of that particular paragraph.**

The following Key shows the maximum and minimum figures acceptable to the CAA.

Key

Definition 5.2	line 4	The operator to add the times, and the difference between them not to be more than 2½ hours
Definition 5.17		As required by the operator
Definition 5.24		Insert four figure group and day of week, as required
Paragraph 9.2	line 3	Not more than 1½
Paragraph 12.4	line 3	Not more than 12
Paragraph 13.1	line 1	In the range 30 to 60, depending on nature of operation
	line 2	Not less than 15
Paragraph 15.3	line 1	Not more than 18
Paragraph 16.1	line 5	Not more than 3
Paragraph 16.2	line 2	Not more than 2
	line 3	Not more than 3
Paragraph 18.1/2		Specify reporting point The form can be that contained in this Annex, or one used by the operator which is acceptable to the CAA
Paragraph 19.4	a) line 1	Not more than 7
	b) line 1	Not less than 2
	c) line 1	Not less than 7
	d) line 1	Not less than 8
Paragraph 21.2	b) i)	Not less than 3 times the value given in para 13.1 line 1

PLEASURE FLYING SUPPLEMENT

Paragraph 1.1	line 1	Not more than 10
	line 1	Only 2 more than above
Paragraph 1.2	line 1	Not more than 7
	line 5	Not more than 3
	line 6	Not less than 30

Flight and Duty Time Limitations Scheme

1 Purpose

The purpose of this scheme is to interpret the requirements of the relevant articles of the Air Navigation Order and CAP 371, Fourth Edition, as they apply to the regulation of flight times and the avoidance of fatigue in crew members.

2 Aim

The aim of this document is to express the intent behind the published relevant documents, thereby taking all reasonable precautions to ensure that crew members are adequately rested at the beginning of each flying duty period. To meet this aim, due note will be taken of length of duty cycles, periods of time off and cumulative duty hours.

3 Applicability

The scheme shall apply in relation to any duty carried out at the behest of the company by both flight deck crew and cabin crew. The scheme shall apply to all cabin crew carried as crew members.

4 Responsibilities

4.1 The Company

The company will publish rosters in advance so that operating crew can plan adequate pre-flight rest. Where crew members request specific days off, 7 days or more in advance, this will normally be granted. Should such allocated days off subsequently need to be worked, this will be entirely at the discretion of the crew member concerned. Rosters will provide details of flying duty periods, standby duty, and rest periods. The company will be satisfied that crew members employed on an irregular basis are not in breach of this FTL scheme before offering a flying duty.

4.2 Crew Members

Responsibility for the proper control of flight and duty time cannot rest wholly with the company. Crew members have a responsibility to make optimum use of the opportunities and facilities for rest provided. They are also responsible for planning and using their rest periods properly in order to minimise incurring fatigue. The ANO places a further responsibility on crew members. Simply put, crew members shall not act as operating crew if they know, or suspect, that their physical or mental condition

renders them unfit to operate. Furthermore, they must not fly if they know that they are in breach of this FTL scheme. Crew members not in the regular employ of the company must provide details of their previous 28 day totals of flying hours/duty periods to the company before undertaking a flying duty.

5 Definitions

‡ 5.1 'Cabin Crew'

A person employed to facilitate the safety of passengers, whose duties are detailed by the company or the aircraft commander. Such persons will not act as a member of the flight crew.

‡ 5.2 'Contactable'

A short period of time, other than on a day off, unless mutually agreed, during which the company requires a crew member to be contactable for the purpose of giving notification of a duty period which will commence not less than ten hours ahead. The contactable period will be between (*) and (*) local time.

5.3 'Crew'

A member of the flight crew or cabin crew.

5.4 'Days Off'

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

5.5 'Duty'

Any continuous period during which a crew member is required to carry out any task associated with the business of the company.

5.6 'Early Start Duty'

A duty is an Early Start Duty if it commences in the period 0500 to 0659 hours local time.

5.7 'Flight Crew'

Those members of the crew of an aircraft who act as a pilot.

5.8 'Flying Duty Period (FDP)'

Any time during which a person operates in an aircraft as a member of its crew. It starts when the crew member is required by an operator to report for a flight, and finishes at on-chocks or engines off, at the end of the final sector.

5.9 'Late Finish Duty'

A duty is a Late Finish when the duty finishes in the period 0100 to 0159 hours local time.

5.10 'Local Night'

A period of 8 hours falling between 2200 and 0800 hours local time.

5.11 'Night Duty'

A duty is a Night Duty if any part of that duty falls within the period 0200 to 0459 hours local time.

- 5.12 **'Positioning'**
The practice of transferring crew from place to place as passengers in surface or air transport at the behest of the company.
- 5.13 **'Regular'**
Regular, when applied to duties that are Late Finishes, Night or Early Starts, means a run of 4 or 5 consecutive duties, not broken by a period of 34 hours free from such duties, contained in a single 7 consecutive day period.
- 5.14 **'Reporting Time'**
The time at which a crew member is required by the company to report for any duty.
- 5.15 **'Rest Period'**
A period of time before starting a flying duty period which is designed to give crew members adequate opportunity to rest before a flight.
- 5.16 **'Rostered/Planned Duty'**
A duty period, or series of duty periods, with stipulated start and finish times, notified to crew in advance, by the company.
- ‡ 5.17 **'Rostering Period'**
(*) consecutive weeks.
- 5.18 **'Scheduled Duty'**
The allocation of a specific flight or flights or other duties to a crew member within the pre-notified rostered/planned series of duty periods.
- 5.19 **'Sector'**
The time between an aircraft first moving under its own power until it next comes to rest after landing, on the designated parking position.
- 5.20 **'Split Duty'**
A flying duty period which consists of two or more sectors, separated by less than a minimum rest period.
- ‡ 5.21 **'Standby Duty'**
A period during which the company places restraints on a crew member who would otherwise be off duty. However, it shall not include any time during which a crew member is contactable for the purpose of giving notification of a duty which is due to start 10 hours or more ahead.
- 5.22 **'Suitable Accommodation'**
A well furnished bedroom which is subject to minimum noise, is well ventilated, and has the facility to control the levels of light and temperature.
- 5.23 **'Travelling'**
All time spent by a crew member transitting between the place of rest, and the place of reporting for duty.
- 5.24 **'Week'**
A period of 7 consecutive days starting at (*) local on a (*).

6 Calculation of a Flying Duty Period

- 6.1 The maximum rostered FDP, in hours and fractions of hours, shall be in accordance with paragraph 13. Rostering limits in the tables may be extended by split duty under the terms of paragraph 14. On the day, the aircraft commander may at his discretion, and after taking note of the circumstances of other members of the operating crew, if carried, about their fitness, further extend the FDP actually worked as outlined in paragraph 16.

7 Additional Limits on Flying

‡ 7.1 Late Finishes/Early Starts

Sleep deprivation, leading to the onset of fatigue, can arise if a crew member is required to report early for duty on a number of consecutive days. Therefore, not more than 3 consecutive duties that occur in any part of the period 0100 to 0659 hours local time will be undertaken, nor may there be more than 4 such duties in any 7 consecutive days. Any run of consecutive duties (Late Finishes or Nights or Early Starts) can only be broken by a period of not less than 34 consecutive hours free from such duties. This 34 consecutive hours may include a duty that is not an Early, Late or Night duty.

- ‡ 7.1.1 However, crew members who are employed on a regular early morning duty for a maximum of 5 consecutive duties will work to the following:

- a) The minimum rest period before the start of such a series of duties will be 24 hours.
- b) The duty will not exceed 9 hours, irrespective of the sectors flown.
- c) At the finish of such a series of duties, crew members will have a minimum of 63 hours free of all duties.

- ‡ 7.2 Should any duties be scheduled to be carried out in any part of the period between 0200 and 0459 hours local time, for a minimum of 2 and a maximum of 3 consecutive nights, then crew members must be free from all duties by 2100 hours local time before covering the block of consecutive night duties, such that crew members can take a rest period during a local night.

NOTE: Operators may replace the above paragraph with one of the following choices, either Options A and B OR Options B and C. The operator may roster crew members for either 2 or 3 consecutive nights, but must ensure that the duty preceding this series of duties finishes by 2359 hours local time (2 nights) or 2100 hours local time (3 nights) as appropriate.

If it is preferred to retain the present contents then attention must be paid to the notes attached to the Options listed (below). These notes list the actions to be followed in the event that duty is inadvertently extended beyond the cut-off times (i.e. 2100 or 2359 hours).

Option A

Should any duties be scheduled to be carried out within any part of the period 0200 and 0459 hours local time, for 3 consecutive nights, then crew members will finish the duty preceding this series of duties by 2100 hours local time before commencing the block of consecutive night duties, such that the crew members can take a rest period during a local night. If the duty immediately prior to the 3 consecutive night duties extends beyond 2100 hours local time and the individual crew member is willing to continue with the planned roster, (i.e. 3 consecutive night duties) then

provided that duty preceding this series of duties finishes no later than 2359 hours local time, the schedule may continue.

- NOTES:**
- 1 Under this Option, if the crew member chooses not to continue the planned roster (after finishing duty between 2100 and 2359 hours local time) then only the planned first and second night duties that impinge on any part of the period 0200 to 0459 hours local time may be undertaken.
 - 2 Under this Option, if the duty finishes after 2359 hours local time, then only the first of the 3 consecutive night duties that impinge on any part of the period 0200 to 0459 hours local time may be undertaken.

Option B - 2 consecutive night duties

Should any duties be scheduled to be carried out within any part of the period 0200 and 0459 hours local time, for 2 consecutive nights, then crew members will finish the duty preceding this series of duties by 2359 hours local time before commencing the block of 2 consecutive night duties, such that the crew members can take a rest period during a local night.

- NOTE:** Under this Option in the event of 2359 hours being exceeded, then only the first of the 2 planned consecutive night duties that impinge on any part of the period 0200 to 0459 hours local time may be undertaken.

Option C - 3 consecutive night duties

Should any duties be scheduled to be carried out within any part of the period 0200 and 0459 hours local time, for 3 consecutive nights, then crew members will finish the duty preceding this series of duties by 2100 hours local time before commencing the block of consecutive night duties, such that the crew members can take a rest period during a local night.

- NOTES:**
- 1 Under this Option in the event of 2100 hours being exceeded, then only the first of the 3 planned consecutive night duties that impinge on any part of the period 0200 to 0459 hours local time may be undertaken.
 - 2 In all cases the limits in paragraph 7.2 or 7.3 must not be exceeded (i.e. maximum of 3 consecutive nights and 4 in 7 consecutive days).

‡ 7.2.1 However, crew members who are employed on a regular night duty for a maximum of 5 consecutive nights will work to the following:

- a) The minimum rest period before the start of such a series of duties will be 24 hours.
- b) The duty will not exceed 8 hours, irrespective of the sectors flown.
- c) At the finish of such a series of duties crew members will have a minimum of 54 hours free of all duties.

7.2.1.1 Options For Night Operations

If an operator elects to roster up to 5 consecutive night duties, then the criteria laid down in paragraph 7.2.1 must be complied with and must form part of the approved FTL scheme. Operators are reminded that the normal days off requirements must be met (i.e. the 54 hours off between two blocks of 5 nights is only 1 proper day off). However, if operators find that this part of the Scheme is too restrictive then one of the following options may be employed but, if used, must be fully complied with:

- a) When crew are employed on duty for a total of 20 hours or less during 5 consecutive night duties, (i.e. maximum duty each night is 4 hours) the 54 hours free from all duties will meet the "Days Off" requirements for each 28 consecutive day period. Any positioning flights must be completed within the 20 hours duty.

- b) When crew are employed on duty for a total of more than 20 hours but not more than 40 hours during 5 consecutive night duties, the first 54 hours (between week 1 and week 2) may be counted as 2 "Days Off". For the 28 consecutive day period that starts on the first night of the first duty, crew must be given a minimum of a further 5 "Days Off" (average of a further 6 days). Any positioning flights must be completed within the 40 hours duty.
- c) When crew are employed on duty which requires full use of 40 hours duty during 5 consecutive night duties plus a maximum of 3 hours positioning (pre- and post-total) then:
 - i) allowable flying hours (month and year) will be reduced to the following:
 - 1) a maximum of 75 hours in any 28 consecutive days with a maximum of 60 hours in 28 consecutive days averaged over three 28 day periods, and;
 - 2) 600 hours in any 12 consecutive months.
 - ii) a minimum of 9 "Days Off" in any 28 consecutive days will be granted;
 - iii) any increase in duty over 40 hours during the block of 5 consecutive night duties is to be added to the subsequent 54 hours rest period which may not be reduced.

NOTE: Where crew do less than a 7 consecutive day period of such duties, then normal Table A limits and the limits in paragraphs 7.2 and 7.3 apply.

7.2.1.2 General Rules

To be applied when an operator utilises a), b) or c) of paragraph 7.2.1.1.

- a) The exercise of "Commander's Discretion" is limited to 1 hour per night with a total of 2 hours allowed during any 5 consecutive night cycle. Any duty worked in excess of 40 hours by use of "Commander's Discretion" must also be added to the subsequent 54 hours rest which may not be reduced.
- b) The absolute maximum duty permitted during a block of 5 consecutive night duties is 45 hours (40 hours, plus 3 hours positioning, plus 2 hours "Commander's Discretion", as per paragraphs 7.2.1.1 c) and 7.2.1.2 a) above).
- c) Crew cannot be rostered for more than 8 hours per night, except when working to paragraph 7.2.1.1 c) above.
- d) Split duties and extension of FDP by in-flight rest are not permitted.
- e) "Commander's Discretion" to reduce rest is not permitted.

NOTE: For 5 consecutive earlies, the same rule as in 7.2.1.2 a) above applies (i.e. maximum 1 hour discretion per day and a total of 2 hours in the 5 day cycle).

7.3 Interrupted Rest

If, prior to the start of an FDP, a crew member's rest period is interrupted for operational reasons between 2300 and 0700 hours local time, the following shall apply:

If the disturbance happens earlier than 1 hour before the planned departure from the crew member's place of rest, the time elapsed between that disturbance and the departure time from the place of rest minus 1 hour, is to count as part of the subsequent FDP.

NOTE: The phrase 'operational reasons' applies to such actions as contacting the customer, checking weather, liaison with ATC or any action pertaining to the planned flight.

8 Mixed Duties

8.1 When a crew member is required to report for duty in advance of the stipulated report time for a scheduled flight, to carry out a task at the behest of the company, then the time spent on that task shall be part of the subsequent FDP.

‡ 8.2 Fixed Wing and Rotary Wing Flying

When both fixed wing and rotary wing flying is carried out the more restrictive flight and duty time limitations apply.

‡ 8.3 Mixed Single Pilot/Two Pilot Operations

In one duty period a pilot may fly as single flight crew up to the point where the total duty hours reach the single flight crew FDP limit. During this time the pilot may fly either in command or as a co-pilot on a two pilot aircraft. The pilot may then continue beyond the single flight crew FDP limit in a two pilot operation up to the two flight crew FDP maxima, but may only fly as a co-pilot.

9 Travelling Time

9.1 Travelling time, other than that spent on positioning, shall not be counted as duty.

9.2 Travelling time, from home to departure aerodrome, if long distances are involved, is a factor influencing any subsequent onset of fatigue. If the journey time from home to normal departure airfield is usually in excess of (*) hours, crew members should make arrangements for temporary accommodation nearer to base.

‡ 9.3 When crew members are required to travel from their home to an aerodrome other than the one from which they normally operate, any travelling time over and above the time taken for the journey from home to the usual operating aerodrome shall be classed as positioning. Such additional travelling time will be agreed between the crew member and the company.

10 Delayed Reporting Time in a Single FDP

10.1 When a crew member is informed of a delay to the reporting time before leaving the place of rest, the FDP shall be calculated as follows. When the delay is less than 4 hours the maximum FDP allowed will be based on the original report time and the FDP will start at the actual report time. When the delay is 4 hours or more then the more limiting time band associated with the planned and actual reporting time will be used and the FDP will start 4 hours after the original report time.

10.2 When the company informs a crew member before leaving the place of rest of a delay in reporting time of 10 hours or more ahead, and that crew member is not further disturbed by the company until a mutually agreed time, then that period is classed as a rest. If, upon the resumption of duty, further delays occur then the appropriate criteria in this paragraph and paragraph 10.1 above will be applied to the re-arranged reporting time.

11 Positioning

11.1 All the time spent on positioning at the behest of the company will count as duty, but positioning does not count as a sector when calculating the FDP. In these circumstances the FDP commences at the time the crew member reports for the

positioning journey, or positions in accordance with sub-paragraph 9.3. The subsequent rest period must account for the FDP plus positioning journey.

- 11.2 If, after a positioning journey, the crew member spends less than a minimum rest period at suitable accommodation provided by the company and then carries out an FDP, the positioning will be counted as a sector if a split duty is claimed when calculating the allowable FDP. If it is not, then a split duty FDP will not be used.

‡ 12 Standby Duty

- 12.1 The time of start, end and nature of the standby duty will be defined and notified to crew members. The time a standby duty starts determines the allowable FDP, except that when the actual FDP starts in a more limiting time band, then that FDP limit will apply.
- 12.2 When a crew member is on standby duty on immediate readiness at an airport, then the allowable FDP is calculated using the start time of the standby duty.
- 12.3 If a crew member is called out from standby, the standby duty will cease when the crew member reports at the designated reporting point.
- 12.4 The following limits apply:

Duty	Maximum Duration
Standby Duty (all cases)	(*) hours
Standby followed by an FDP	As in Case A and B below

Case A

If a crew member is called out from standby to conduct an FDP before completing 6 hours standby duty then the total duty period is the sum of the time spent on standby and the FDP allowable from paragraph 13.

Case B

If a crew member is called out from standby to conduct an FDP after completing 6 or more hours standby duty, then the total duty period is the sum of all the time spent on standby and the allowable FDP from paragraph 13, reduced by the amount of standby worked in excess of 6 hours.

NOTE: The reference to 'total duty period' applies only to the sum of the standby time achieved + the allowable FDP obtained from paragraph 13. On the day, for cumulative duty totals and for minimum rest purposes, the total duty achieved will be standby time achieved + FDP achieved + post flight duties + any positioning.

13 Maximum FDP

- 13.1 Standard reporting times prior to flight will be (*) minutes. Pre-flight duties are part of the FDP. A minimum of (*) minutes duty will be allowed for post-flight activities. The time spent between reporting for a flight and the completion of post-flight tasks determines the length of the subsequent rest period. If this "period" for post FDP duties is routinely exceeded then the post FDP duty period stated in the scheme must be revised to better represent the actual time taken.
- 13.2 A non-standard reporting time designed to take advantage of an increased FDP from a more favourable time band, will not be used.

- 13.3 When any period of standby finishes, during which a call-out has not occurred, at least 12 hours rest must follow prior to the next duty period. Similarly, following the end of a contactable period or periods, at least 10 hours must elapse prior to the next duty period.

Table A Two Flight Crew

Local time of start	Sectors							
	1	2	3	4	5	6	7	8 or more
0600-0659	13	12¼	11½	10¾	10	9½	9	9
0700-1259	14	13¼	12½	11¾	11	10½	10	9½
1300-1759	13	12¼	11½	10¾	10	9½	9	9
1800-2159	12	11¼	10½	9¾	9	9	9	9
2200-0559	11	10¼	9½	9	9	9	9	9

Table B Single Flight Crew

Local time of start	Sectors				
	Up to 4	5	6	7	8 or more
0600-0659	10	9¼	8½	8	8
0700-1259	11	10¼	9½	8¾	8
1300-1759	10	9¼	8½	8	8
1800-2159	9	8¼	8	8	8
2200-0559	8	8	8	8	8

14 Extension of Flying Duty Period by Split Duty

- 14.1 When an FDP consists of two or more sectors - one of which can be a positioning journey counted as a sector - but separated by less than a minimum rest period, then the FDP may be extended by the amounts indicated below.

Consecutive Hours Rest

Less than 3

3 - 10

Maximum Extension of the FDP

NIL

A period equal to half the consecutive hours rest taken

The rest period shall not include the time allowed for immediate post flight and pre-flight duties, a minimum total of 30 minutes. When the rest period is 6 hours or less it will suffice if a quiet and comfortable place, not open to the public, is available. Rest may be taken in the aircraft on the ground only when the crew has adequate control of the temperature and ventilation within the aircraft, and the passengers are not on board. If the rest period is more than 6 consecutive hours, then suitable accommodation will be provided.

15 Rest Periods

- 15.1 The company will notify all crew members in good time of a flying duty period so that sufficient and uninterrupted pre-flight rest can be obtained. When away from base the company will provide the crew with the opportunity and the facilities for adequate pre-flight rest. The company will provide suitable accommodation. When flights are carried out at such short notice that it is impracticable for the company to arrange suitable accommodation, then this responsibility devolves to the aircraft commander.
- 15.2 The minimum rest period which will be provided before undertaking a flying duty period shall be:
- a) at least as long as the preceding duty period, or
 - b) 12 hours
- whichever is the greater.
- 15.2.1 When away from base, in the case when the rest period earned by a crew member is 12 hours, and suitable accommodation is provided by the company, then that rest period will be reduced by one hour. In such circumstances, if the travelling time between the aerodrome and the accommodation is more than 30 minutes each way then the rest period will be increased by the amount the total time spent travelling exceeds one hour. In both situations the accommodation allocated to the crew member must be available for occupation for a minimum of 10 hours. **This subparagraph does not apply to rest periods that exceed 12 hours.**
- 15.3 If a duty period, which includes any time spent on positioning, exceeds (*) hours, then the ensuing rest period will include a local night.
- 15.4 After being called out from a standby duty the length of the minimum rest period will be determined by the length of standby duty, plus any time spent on positioning, and any FDP completed.
- 15.5 Crew members who are having difficulty in achieving adequate pre-flight rest must inform the company, who will arrange for the individual to be given the opportunity to consult an aviation medical specialist.

16 Aircraft Commander's Discretion to Extend a Flying Duty Period

- 16.1 An aircraft commander may, at his discretion, and after taking note of the circumstances of other members of the crew, if carried, extend an FDP beyond that permitted in paragraph 13, provided he is satisfied that the flight can be made safely. The extension shall be calculated according to what actually happens, not on what was planned to happen. An extension of (*) hours is the maximum permitted, except in cases of emergency (see Note).
- 16.2 A commander may exercise his discretion to extend an FDP involving 2 or more sectors up to a maximum of (*) hours prior to the first and subsequent sectors, but this may be up to (*) hours prior to the start of a single sector flight, or immediately prior to the last sector on a multi-sector flight.
- 16.3 A commander may exercise discretion to extend an FDP following a reduced rest period, only exceptionally, and then only to the extent necessary to allow for unforeseen circumstances that become apparent during the last sector.

NOTE: In respect of an extension of a flying duty period, an emergency is a situation which in the judgement of the commander presents a serious risk to the health or safety of crew and passengers, or endangers the lives of others.

17 Aircraft Commander's Discretion to Reduce a Rest Period

- 17.1 An aircraft commander may, at his discretion, and after taking note of the circumstances of other members of the crew, if carried, reduce a rest period, but only insofar as the accommodation allocated to the crew member must be available for occupation for a minimum of 10 hours. The exercise of such discretion, must be considered exceptional and must not be used to reduce successive rest periods. If the preceding FDP was extended, the rest period may be reduced, provided that the subsequent allowable FDP is also reduced by the same amount. In no circumstances may a commander exercise discretion to reduce a rest period below 10 hours at accommodation.
- 17.1.1 When away from base and where an individual crew member separates from the crew, or the crew as a whole splits up, then any use of discretion to reduce rest becomes a decision for an individual crew member. The decision to continue with the next flight and the submission of an associated discretion report is the responsibility of the relevant commander after the crew member, and operator if in a position to do so, has informed the commander that a reduced rest period has been taken.

18 Reporting Exercise of Discretion

- 18.1 Whenever a commander extends an FDP it shall be reported to (*) on a Discretion Report Form, in the format of (*). If the extension is greater than 2 hours or discretion is exercised after any reduced rest period, then the company will submit the commander's written report, together with the company's comments, to the CAA, within 14 days of the aircraft's return to base.
- 18.2 Whenever a commander reduces a rest period, it shall be reported to (*) on a Discretion Report Form, in the format of (*). If the reduction is more than 1 hour, then the company will submit the commander's written report together with the comments by the company, to the CAA, within 14 days of the aircraft's return to base.

19 Days Off

- 19.1 Wherever possible, and if required by the crew member, days off will be taken in the home environment.
- 19.2 A single day off will include 2 local nights, and will last at least 34 hours.
- 19.3 A planned rest period may be included as part of a day off.
- 19.4 **Crew members will:**
- a) not be on duty more than (*) consecutive days between days off, and
 - b) have (*) consecutive days off in any consecutive 14 days following the previous 2 consecutive days off, and
 - c) have a minimum of (*) days off in any consecutive 4 weeks, and
 - d) have an average of at least (*) days off in each consecutive 4 week period, averaged over 3 such periods.

20 Absolute Limits on Flying Hours

- 20.1 A person shall not act as a member of the flight crew of an aircraft if at the beginning of the flight the aggregate of all previous flight times:

- a) during the period of 28 consecutive days expiring at the end of the day on which the flight begins exceeds 100 hours. (This means that on the 28th day a flight crew member may depart on a single sector flight, and may complete that sector, even though at the end of the flight the total flying hours completed in 28 days will exceed 100 hours. Consequently, the flight crew member cannot then continue to operate as a flight crew member on any subsequent sectors during that day); or
- b) during the period of 12 months, expiring at the end of the previous month exceeds 900 hours.

21 Cumulative Duty Hours

21.1 The maximum duty hours for flight crew, shall not exceed:

- 55 hours in any 7 consecutive days
- 95 hours in any 14 consecutive days
- and 190 hours in any 28 consecutive days.

When a crew member is not rostered for either standby or flying duties for 28 or more consecutive days then any duty hours worked are not added to cumulative totals. However, when a crew member is anticipated to return to either standby or flying duties then the duty hours worked in the 28 days preceding that duty must be recorded. Those hours worked will be used to ensure that the crew member complies with the requirements of this scheme.

21.2 Calculation of Cumulative Duty Hours

- a) To count in full:
 - i) Duty periods and flying duty periods, plus subsequent post-flight duties
 - ii) All standby duty, except that specified in b) i) and ii) below
 - iii) The time spent on positioning.
- b) To count as half the time on duty:
 - i) The standby duty, when the period of notice given to the crew member before reporting for duty is (*) hours.
 - ii) The standby duty when undertaken at home, or in suitable accommodation provided by the company, takes place during the period 2200 to 0800 hours local time, and the crew member can take undisturbed rest and is not called out for duty.

‡ 22 Rules Relating To Cabin Crew

22.1 These requirements are applicable to all cabin crew employed as crew members.

22.2 The limitations which shall be applied to cabin crew are those applicable to flight crew members contained in paragraphs 6 to 21, but with the following differences:

- a) A flying duty period will be 1 hour longer than that permitted for flight crew. The FDP for cabin crew will be based on the time at which the flight crew report for their flying duty period, but that FDP will start at the report time of the cabin crew.
- b) For cabin crew the minimum rest period which will be provided before undertaking a flying duty period shall be:
 - i) at least as long as the preceding duty period less 1 hour; or
 - ii) 11 hours;whichever is the greater.

- c) The sum of the time spent on any standby, and any time on positioning plus subsequent FDP will be 1 hour longer than that permitted to flight crew.
- d) The maximum duty hours for cabin crew will not exceed:
 - 60 hours in any 7 consecutive days
 - 105 hours in any 14 consecutive days
 - 210 hours in any 28 consecutive days
- e) The annual and 28 day absolute limits on flying hours appertaining to flight crew do not apply.

23 Records to be Maintained

- 23.1 Records for the duty and rest periods of all flying staff must be kept. These records will include:

For each crew member:

The beginning, end and duration of each duty or flying duty period, and function performed during that period. Duration of each rest period prior to a flying duty or standby duty period. Dates of days off. 7 consecutive day totals of duty.

For each flight crew member:

Daily and 7 consecutive day flying hours

Records shall be preserved for at least 12 calendar months from the date of the last relevant entry.

- 23.2 Additionally, aircraft commander's discretion reports of extended flying duty periods and reduced rest periods will be retained for a period of at least six months after the event.

‡ 24 Pleasure Flying/Air Ambulance Work

- 24.1 As the company's business includes pleasure flying and air ambulance work in addition to air taxi/sole use charter work two supplements to the main body of the scheme are contained in the pages following. The conditions applying to each addition are stated and must be followed by crew in the employ of the company.

- 24.2 On those occasions when a crew member is employed in the same duty period on flights to which the limits in the main body of this scheme and the pleasure flying addition apply, then the hours flown and the duty period worked will be the more restrictive of the two.

24.3 Commercial Pleasure Flying

When an aircraft takes-off from and lands at the same aerodrome without making an intermediate landing, but does not account for any positioning flight to or from that aerodrome.

24.4 Air Ambulance

When the sole reason for the flight is to carry an ill or injured person to a recognised medical facility, or the carriage of a human organ necessary for a transplant operation.

‡ **Pleasure Flying Supplement**

1 The following will apply whenever the pilot is **solely** engaged in Commercial Pleasure flying duties in a single FDP.

1.1 **Flying Duty Period**

A single FDP will not exceed (*) hours, except that this may be extended to (*) hours for the **sole purpose** of positioning the aircraft from/to the operator's base.

1.2 **Flying Hours**

A pilot will not spend more than (*) hours at the controls in any one flying duty period. When positioning the pilot may spend an additional 2 hours at the controls for the **sole purpose** of positioning the aircraft.

The maximum period which a pilot may spend continuously at the controls without a break is (*) hours.

During the FDP the pilot shall have breaks of (*) minutes duration according to the following table:

FDP up to 3 hours	Breaks totalling at least 30 minutes
FDP up to 6 hours	Breaks totalling at least 1 hour
FDP between 6 and 8 hours	Breaks totalling at least 1½ hours
FDP over 8 hours	Breaks totalling at least 2 hours

1.3 **Rest Period**

At the completion of an FDP solely concerned with commercial pleasure flying, and if applicable the return of the aircraft **to the operator's base**, the flight crew will have a rest period of at least 12 hours.

‡ **Air Ambulance Supplement - Fixed Wing**

1 Dedicated Air Ambulance

When carrying out an Air Ambulance flight, the allowable FDP extracted from paragraph (* insert as appropriate) in the company's approved FTL scheme may be increased by up to a maximum of 4 hours, subject to all the following conditions being met:

- a) Where an FDP is extended under the terms of this provision, a qualified medical attendant must accompany the flight.
- b) The only passengers that may be carried in addition to the patient and medical attendants are the immediate family or next of kin. One close friend only may be carried in lieu of any immediate family or next of kin.
- c) The crew must have had the full entitlement of rest relating to the preceding duty prior to starting an air ambulance flying duty.

d) Single Pilot Crew

If, exceptionally, the FDP is scheduled to be extended beyond the maximum of the 4 hours permitted by this supplement then an additional qualified commander must be carried as a relief pilot at least until the aircraft reaches the site where the patient or organ is disembarked. Commander's discretion cannot be used to extend the FDP after the patient or organ has been disembarked. A discretion report must be submitted to the CAA.

e) Two Pilot Crew

The use of Commander's discretion to further extend the FDP, beyond the extra 4 hours permitted, may be exercised only to offload/deliver the patient or organ to the destination. Such discretion cannot be used after the patient or organ has been offloaded. A discretion report must be submitted to the CAA.

- f) Following an Air Ambulance FDP the appropriate full rest period must be taken.
- g) At least 48 hours must elapse between the end of one extended Air Ambulance FDP and the start of another Air Ambulance FDP. In one Air Ambulance operation involving two or more extended FDP duties (the first of which is positioning to uplift a patient or organ) the necessity for the 48 hours rest may be deferred until return to base. In this case the Commander may reduce the rest following the first FDP by up to 3 hours or to 10 hours in suitable accommodation, whichever is the greater.
- h) A pilot can only fly 3 air ambulance extended FDPs in any 28 consecutive days. (This ruling shall only apply where extensions exceed 1½ hours).
- i) The relevant duty records must show where an FDP was conducted in accordance with this supplement.
- j) The use of split duty to extend the FDP is not permitted.

2 Combined Public Transport/Air Ambulance

On the day, if an operator wishes to use an aircraft and crew for a combination of Public Transport and Air Ambulance work then the FDP specified must be that obtained from paragraph (* insert as appropriate). Extension of the allowable FDP by the use of split duty and Commander's discretion, as stated in paragraphs 14 and 16 of the main scheme, is allowed. The extension permitted for dedicated air ambulance (in paragraph 1 above), does not apply in this case.

3 Air Ambulance - Heavy Crew

3.1 Heavy Crew Additional Requirements

A further 2 hours may be added to the 4 already allowable subject to the following additional conditions being met:

- a) A third Captain qualified crew member must be on board.
- b) A stretcher or comfortable reclining seat must be available for the resting crew member.
- c) Maximum duty will be 18 hours or as per Table A plus 6 hours whichever is the lesser.
- d) The air ambulance operation will terminate when the patient or organ has been off-loaded and full rest entitlement must be taken at that point.
- e) An additional 'day off' (minimum 34 hours which includes 2 local nights) must be taken on completion of the full rest entitlement.
- f) All 'heavy crew' duty days carried out must be notified to the CAA.

3.2 Revised Cumulative Duty Hours Limitations

- a) Only 2 'heavy crew' duty days will be permitted in any 28 consecutive days.
- b) In any 28 day period containing a 'heavy crew' duty day:
 - i) A minimum of 10 days off will be achieved.
 - ii) Maximum duty hours must not exceed 160 hours.
 - iii) Maximum flying hours shall be limited to 75 hours.
 - iv) A maximum of 60 hours flying averaged over 3 such 28 consecutive day periods.
 - v) If one or more such periods contain 'heavy crew' duty days then the allowable flying hours for the 12 month period must be reduced to 700 hours.

Appendix *

Commander's Discretion Report

Operator Aircraft Type
 Flight Number Commander
 Date

NOTE: If discretion exercised for part crew or individuals state name and operating capacity below.

Commander*/First Officer*/Cabin Attendant* (Delete as necessary)

Part A - Extension of Flying Duty Period/Flying Hours

Voyage Details						
Schedule (Planned)				Actual		
	Place	UTC	Local		UTC	Local
Duty to start				Duty started		
Depart				Departed		
Arrive				Arrived		
Depart				Departed		
Arrive				Arrived		
Depart				Departed		
Arrive				Arrived		
Depart				Departed		
Arrive				Arrived		
Depart				Departed		
Arrive				Arrived		
FDP to end				FDP ended		
Scheduled FDP				Actual FDP	Hrs	Mins
Split duty:	Actual Time Off On			Credit FDP	Hrs	Mins
				Max. Allowable FDP	Hrs	Mins

Amount of Commander's Discretion Exercised FDP Hrs Mins
 Maximum Flying Hours Permitted in 28 days/1 year period. Hours Flown

Part B - Reduction of Rest

Last duty started UTC/Local
Last duty ended UTC/Local
Rest earned (Hours)
Calculated earliest next available UTC/Local
Actual start of next FDP UTC/Local
Rest period reduced by

NOTE: All times to be recorded as date/time six-figure groups, expressed in both UTC and Local Time.

Commander's Signature Date

Part C - Commander's Report

Signed.

Date

Operator's Remarks/Action Taken

Signed.

Date

Forwarded to CAA

Filed

Annex C Pleasure Flying and Aerial Photography

Introduction

This Annex presents a simple Flight Time Limitation scheme, designed for use by a company holding an AOC which only permits the use of single engined aircraft for the purpose of public transport. In practice, this involves pleasure flying and aerial photography. When an operator carries out both air taxi/sole use charter flight and pleasure flights this Annex is inapplicable, and the pleasure flying supplement attached to the air taxi/sole use charter scheme should be used.

For the purposes of this document pleasure flying and aerial photography is being conducted when the aircraft takes-off from and lands at the same aerodrome, but does not take into account any positioning flight to or from that aerodrome.

An operator has the flexibility to include figures in the spaces marked (*), for the type of operation being conducted, but the maxima and minima acceptable to the CAA are set out in the Key following.

Key

Definition 5.6		Insert four figure group and day of week
Paragraph 6.1	line 1	Not more than 10
	line 2	Only 2 more than above
Paragraph 6.2	line 1	Not more than 7
Paragraph 6.3		Not more than 3
Paragraph 6.6	line 7	Not less than 7
	line 10	Not less than 8
Paragraph 7.1	line 1	Not more than 190

Flight and Duty Time Limitations Scheme

1 Purpose

The purpose of this scheme is to interpret the requirements of the relevant articles of the Air Navigation Order and CAP 371, Fourth Edition, as they apply to the regulation of flight times and the avoidance of fatigue in crew members.

2 Aim

The aim of this document is to express the intent behind the published relevant documents, thereby taking all reasonable precautions to ensure that crew members are adequately rested at the beginning of each flying duty period. To meet this aim, due note will be taken of length of duty cycles, periods of time off and cumulative duty hours.

3 Applicability

The scheme shall apply in relation to any duty carried out by a pilot at the behest of the company.

4 Responsibilities

4.1 The Company

The company will apply the content of this scheme in the scheduling of flights, and the allocation of rest periods. Due to the nature of the company's business the publication of a weekly or monthly roster is not a practical proposition, but the company will endeavour to provide a specific day/days off on request. The company will be satisfied that crew members employed on an irregular basis are not in breach of this FTL scheme before offering a flying duty.

4.2 Crew Members

Responsibility for the proper control of flight and duty time cannot rest wholly with the company. Crew members have a responsibility to make optimum use of the opportunities and facilities for rest provided. They are also responsible for planning and using their rest periods properly in order to minimise incurring fatigue. Crew members should not act as operating crew if they know, or suspect, that their physical or mental condition renders them unfit to operate, or if they know they will infringe the company's FTL scheme. Crew members not in the regular employ of the company must provide details of their previous 28 day totals of flying hours/duty periods to the company before undertaking a flying duty.

5 Definitions

5.1 'Days Off'

Periods 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.

5.2 'Duty'

Any continuous period during which a crew member is required to carry out any task associated with the business of the company.

5.3 'Flying Duty Period (FDP)'

Any time during which a person operates in an aircraft as a member of its crew. It starts when the crew member is required by the company to report for a flight, normally 30 minutes prior to planned take-off time, and finishes at on-chocks on the last flight of the day.

5.4 'Local Night'

A period of 8 hours falling between 2200 and 0800 hours local time.

5.5 'Rest Period'

A period of time before starting a flying duty period which is designed to give crew members adequate opportunity to rest before a flight.

5.6 'Week'

A period of 7 consecutive days starting at (*) local on a (*).

6 Limitations

6.1 A single FDP shall not exceed (*) hours, except that this may be extended to a maximum of (*) hours for the sole purpose of positioning the aircraft from/to the operator's base.

6.2 A pilot shall not spend more than (*) hours at the controls in any one flying duty period. When positioning the aircraft, the pilot may spend up to an additional 2 hours at the controls for the sole purpose of completing this task.

6.3 A pilot shall not be at the controls continuously for more than (*) hours.

6.4 During an FDP a pilot shall have breaks of not less than 30 minutes duration, according to the following scale:

FDP up to 3 hours	Breaks totalling at least 30 minutes
FDP up to 6 hours	Breaks totalling at least 1 hour
FDP between 6 and 8 hours	Breaks totalling at least 1½ hours
FDP over 8 hours	Breaks totalling at least 2 hours

6.5 Rest Periods

The minimum rest period before undertaking a flying duty shall be at least 12 hours.

6.6 Days Off

The company will, wherever possible, give 7 days notice of a day off. When this is not possible a pilot will be given the opportunity to request a particular day/days off. The company will comply with this request, wherever possible. Having been allocated a day off a subsequent duty required by the company for that day will only be worked with the agreement of the individual concerned.

Usually, a pilot will not be rostered to fly more than 7 consecutive days, between days off, and will have a minimum of (*) days off in any 4 consecutive weeks. If, for any

reason, a pilot is requested to work for 8 or 9 consecutive days then 4 consecutive days off will follow.

A pilot shall have an average of at least (*) days off in each consecutive 4 week period, averaged over 3 such periods.

7 Cumulative Duty and Flying Hours

7.1 Maximum Cumulative Duty Hours

A pilot may be on duty for a maximum of (*) hours in any 28 consecutive days. All types of duty shall be counted in full.

7.2 Maximum Monthly Flying Hours

A pilot will not fly more than 100 hours in any 28 consecutive days.

7.3 Maximum Annual Flying Hours

A person shall not act as a flight crew member if the aggregate of flight times, in the period of 12 months expiring at the end of the previous month, exceeds 900 hours.

8 Records to be Maintained

8.1 The company will maintain records showing the duty and rest periods of all flying staff, both permanent and temporary, on the form overleaf. These records shall include:

For each pilot -

- Start, finish and duration of each duty and flying duty period, and function performed during the duty, and

- Duration of each rest period prior to a flying duty

- Dates of days off

- Weekly totals of duty

- Daily and 7 consecutive day flying hours.

Records shall be preserved for at least 12 calendar months from the date of the last relevant entry.

Annex D Helicopters

Introduction

The content of this Annex is designed for use by those companies holding an AOC which operate helicopters only. Those organisations that have a fleet of fixed and rotary wing aircraft and are using this Section to assist in the compilation of an FTL scheme should refer to Annex B.

The scheme has been compiled on the assumption that:

- a) Operations are confined within an area where local time varies by not more than one hour.
- b) Use of in-flight relief to obtain an extension to the allowable FDP is not exercised.

The main body of the scheme is complemented by additions that allow for commercial pleasure flying and air ambulance work. In the context of this Annex the following applies:

- **Commercial Pleasure Flying**

When the helicopter takes-off from and lands at the same aerodrome or approved pleasure flying site, without making an intermediate landing, but does not take into account any positioning flight to or from that aerodrome or pleasure flying site.

- **Air Ambulance**

When the sole reason for the flight is to carry an ill or injured person to a recognised medical facility, or the carriage of a human organ necessary for the conduct of a transplant operation.

It is accepted that a few operators have helicopters based on oil rigs and provide emergency cover. The application of limits placed on allowable FDPs in such circumstances is detailed and complex, and not of interest to the wider audience. Therefore, although what is understood by these terms is detailed below, the construction of such schemes will be arranged between the operator and the CAA.

- **Offshore Based and Remote Site Operations**

Those operations in support of the oil/gas industry, where the helicopter and crew are based on a rig or at a remote operating site.

- **Emergency Flight**

A flight undertaken for the sole purpose of assisting in the resolution of an emergency, which is, or under slightly different circumstances could be, a threat to human life.

It is recognised that all the paragraphs contained within the scheme are not applicable to the operations of all companies: such paragraphs annotated with a '‡' symbol can be omitted, where appropriate. However if omitted, it is implicit that the operator will not use the provisions of that particular paragraph. Furthermore, operators are given the opportunity to insert their own values where the symbol (*) appears. The figures added must not exceed those quoted in the following key.

Key

	Definition 5.2		Times inserted, which must not cover more than 2½ hours
	Definition 5.17		As required by the operator
	Definition 5.24		Insert four figure UTC or local time and day
	Paragraph 9.2	line 4	Not more than 1½
	Paragraph 13.1	line 1	Not less than 30 or 45 minutes as appropriate Not less than 15
	Paragraph 14.2	line 2	Not less than 30
	Paragraph 15.2	line 1	Not less than 30
	Paragraph 19.1/2		Add nominated person, add relevant letter, as appropriate
	Paragraph 22.3 b) i)	line 2	Not less than 3 times the value given in Paragraph 13.1 line 1

Flight and Duty Time Limitations Scheme

1 Purpose

The purpose of this scheme is to interpret the requirements of the relevant articles of the Air Navigation Order and CAP 371, Fourth Edition, as they apply to the regulation of flight times and the avoidance of fatigue in crew members.

2 Aim

The aim of this document is to express the intent behind the published, relevant documents, thereby taking all reasonable precautions to ensure that crew members are adequately rested at the beginning of each flying duty period. To meet this aim, due note will be taken of length of duty cycles, periods of time off and cumulative duty hours.

3 Applicability

The scheme shall apply in relation to any duty carried out at the behest of the company by both flight crew and cabin crew. The scheme shall apply to all cabin crew carried as crew members.

4 Responsibilities

4.1 The Company

The company will publish rosters in advance so that operating crew can plan adequate pre-flight rest. Crew members will normally be given at least 7 days notice of days off.

‡ Before the start of the new roster year, the start and finish dates of each roster period, plus the expected publication date, will be issued to crew members.

The company will be satisfied that crew members employed on an irregular basis are not in breach of this FTL scheme before offering a flying duty to the individual.

4.2 Crew Members

Responsibility for the proper control of flight and duty time does not rest wholly with the company. Crew members have the responsibility to make optimum use of the opportunities and facilities for rest provided. They are also responsible for planning and using their rest periods properly. The ANO places a further responsibility on crew members. Simply put, crew members shall not act as operating crew if they know, or suspect, that their physical or mental condition renders them unfit to operate. Furthermore, they must not fly if they know that they are or are likely to be in breach of this scheme.

Crew members not in the regular employ of the company must provide details of their previous 28 day totals of duty periods/flying hours before undertaking a flying duty on behalf of the company.

5 Definitions

Unless otherwise defined below all words, phrases, definitions and abbreviations, have identical meanings to those described in Article 129 of the Air Navigation Order 2000, as amended.

5.1 'Cabin Crew'

A person employed to facilitate the safety of passengers, whose duties are detailed by the company or the aircraft commander. Such persons will not act as a member of the flight crew.

5.2 'Contactable'

A short period of time other than on a day off, unless mutually agreed, during which the company requires a crew member to be contactable for the purpose of giving notification of a duty period which will commence not less than ten hours ahead. The contactable period will be between (*) and (*) local time.

5.3 'Crew'

A member of the flight crew or cabin crew.

5.4 'Days Off'

Periods available for leisure and relaxation free from all duties. A single day off shall include 2 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.

5.5 'Duty'

Any continuous period during which a crew member is required to carry out any task associated with the business of the company.

5.6 'Early Start Duty'

A duty is an Early Start Duty if it commences in the period 0500 to 0659 hours local time.

5.7 'Flight Crew'

Those members of the crew of an aircraft who act as a pilot.

5.8 'Flying Duty Period (FDP)'

Any time during which a person operates in a helicopter as a member of its crew. It starts when the crew member is required by the company to report for a flight, and finishes at rotors stopped on the final sector.

5.9 'Late Finish Duty'

A duty is a Late Finish when the duty finishes in the period 0100 to 0159 hours local time.

5.10 'Local Night'

A period of 8 hours falling between 2200 hours and 0800 hours local time.

5.11 'Night Duty'

A duty is a Night Duty if any part of that duty falls within the period 0200 to 0459 hours local time.

5.12 'Positioning'

The practice of transferring crew from place to place as passengers in surface or air transport at the behest of the company.

5.13 'Regular'

Regular, when applied to duties that are Late Finishes, Night or Early Starts, means a run of 4 or 5 consecutive duties, not broken by a period of 34 hours free from such duties, contained in a single 7 consecutive day period.

5.14 'Reporting Time'

The time at which a crew member is required by the company to report for any duty.

5.15 'Rest Period'

A period of time before starting a flying duty period which is designed to give crew members adequate opportunity to rest before a flight.

5.16 'Rostered/Planned Duty'

A duty period, or series of duty periods, with stipulated start and finish times, notified by the company to crew in advance.

5.17 'Rostering Period'

(*) consecutive weeks.

5.18 'Scheduled Duty'

The allocation of a specific flight or flights or other duties to a crew member within the pre-notified rostered/planned series of duty periods.

5.19 'Sector'

The time between a helicopter first moving under its own power until it next comes to rest after landing, on the designated parking position.

5.20 'Split Duty'

A flying duty period which consists of two or more sectors, separated by less than a minimum rest period.

5.21 'Standby Duty'

A period during which the company places restraints on a crew member who would otherwise be off duty. However, it shall not include any time during which the crew member is contactable for the purpose of giving notification of a duty which is due to start 10 hours or more ahead.

5.22 'Suitable Accommodation'

A well furnished bedroom which is subject to minimum noise, is well ventilated, and has the facility to control the levels of light and temperature.

5.23 'Travelling'

All time spent by a crew member transitting between the place of rest, and the place of reporting for duty.

5.24 'Week'

A period of 7 consecutive days starting at (*) on (*).

6 Calculation of a Flying Duty Period

6.1 The maximum FDP shall be in accordance with paragraph 13. The times extracted from the table may be extended by use of split duty and commander's discretion, under the terms of paragraphs 15 and 17.

7 Additional Limits on Flying

7.1 Late Finishes/Early Starts

Sleep deprivation, leading to the onset of fatigue, can arise if a crew member is required to report early for duty, or finishes a duty late, on a number of consecutive days. Therefore, not more than 3 consecutive duties that occur in any part of the period 0100 to 0659 hours local time can be undertaken, nor may there be more than 4 such duties in any 7 consecutive days. Any run of consecutive duties (Late Finishes or Nights or Early Starts) can only be broken by a period of not less than 34 consecutive hours free from such duties. This 34 consecutive hours may include a duty that is not an Early, Late or Night duty.

7.2 Should any duties be scheduled to be carried out in any part of the period 0200 and 0459 hours local time, for a minimum of 2 and a maximum of 3 consecutive nights, then crew members will be free from all duties by 2100 hours local time before covering the block of consecutive night duties, such that the crew members can take a rest period during a local night.

NOTE: Operators may replace the above paragraph with one of the following choices, either Options A and B OR Options B and C. The operator may roster crew members for either 2 or 3 consecutive nights, but must ensure that the duty preceding this series of duties finishes by 2359 hours local time (2 nights) or 2100 hours local time (3 nights) as appropriate.

If it is preferred to retain the present contents then attention must be paid to the notes attached to the Options listed (below). These notes list the actions to be followed in the event that duty is inadvertently extended beyond the cut-off times (i.e. 2100 or 2359 hours).

Option A

Should any duties be scheduled to be carried out within any part of the period 0200 and 0459 hours local time, for 3 consecutive nights, then crew members will finish the duty preceding this series of duties by 2100 hours local time before commencing the block of consecutive night duties, such that the crew members can take a rest period during a local night. If the duty immediately prior to the 3 consecutive night duties extends beyond 2100 hours local time and the individual crew member is willing to continue with the planned roster, (i.e. 3 consecutive night duties) then provided that duty preceding this series of duties finishes no later than 2359 hours local time, the schedule may continue.

NOTES: 1 Under this Option, if the crew member chooses not to continue the planned roster (after finishing duty between 2100 and 2359 hours local time) then only the planned first and second night duties that impinge on any part of the period 0200 to 0459 hours local time may be undertaken.

2 Under this Option, if the duty finishes after 2359 hours local time, then only the first of the 3 consecutive night duties that impinge on any part of the period 0200 to 0459 hours local time may be undertaken.

Option B - 2 consecutive night duties

Should any duties be scheduled to be carried out within any part of the period 0200 and 0459 hours local time, for 2 consecutive nights, then crew members will finish the duty preceding this series of duties by 2359 hours local time before commencing the block of 2 consecutive night duties, such that the crew members can take a rest period during a local night.

NOTE: Under this Option in the event of 2359 hours local time being exceeded, then only the first of the 2 planned consecutive night duties that impinge on any part of the period 0200 to 0459 hours local time may be undertaken.

Option C - 3 consecutive night duties

Should any duties be scheduled to be carried out within any part of the period 0200 and 0459 hours local time, for 3 consecutive nights, then crew members will finish the duty preceding this series of duties by 2100 hours local time before commencing the block of consecutive night duties, such that the crew members can take a rest period during a local night.

NOTES: 1 Under this Option in the event of 2100 hours local time being exceeded, then only the first of the 3 planned consecutive night duties that impinge on any part of the period 0200 to 0459 hours local time may be undertaken.

2 In all cases the limits in paragraph 7.2 or 7.3 must not be exceeded (i.e. maximum of 3 consecutive nights and 4 in 7 consecutive days).

7.3 Interrupted Rest

If, prior to the start of an FDP, a crew member's rest period is interrupted for operational reasons between 2300 and 0700 hours local time, the following shall apply:

If the disturbance happens earlier than 1 hour before the planned departure from the crew member's place of rest, the time elapsed between that disturbance and the departure time from the place of rest minus 1 hour, is to count as part of the subsequent FDP.

NOTE: The phrase 'operational reasons' applies to such actions as contacting/being contacted by the customer, checking weather, liaison with ATC or any action pertaining to the planned flight.

8 Mixed Duties

8.1 When a crew member is required to report for duty in advance of the stipulated report time for a scheduled flight, to carry out a task at the behest of the company, then the time spent on that task shall be part of the subsequent FDP.

‡ 8.2 Mixed Simulator and Aircraft Flying

When a flight crew member flies in the simulator, either on a check or training flight, or as a Training Captain or Instructor, and then within the same duty period flies as a flight crew member on a public transport flight, all the time spent in the simulator is counted in full towards the subsequent FDP and daily flying hour maxima. The FDP allowable is calculated from the report time of the simulator detail.

‡ 8.3 Mixed Single Pilot/Two Pilot Operations

In one duty period a pilot may fly as single flight crew up to the point where the total flying and duty hours reach the single flight crew FDP limit. During this time the pilot may fly either in command, or as a co-pilot on a two flight crew helicopter. The pilot may then continue beyond the single flight crew FDP limit in a two flight crew operation up to the two flight crew FDP and flying hour maxima, but may only fly as a co-pilot.

9 Travelling Time

9.1 Travelling time, other than that time spent on positioning, does not count as duty.

- 9.2 Travelling time, from home to departure aerodrome, if long distances are involved, is a factor influencing any subsequent onset of fatigue. If the journey time from home to normal departure airfield is usually in excess of (*) hours, crew members should make arrangements for temporary accommodation nearer to base.
- 9.3 When crew members are required to travel from their home to an aerodrome other than the one from which they normally operate, any travelling time over and above the journey time from home to the usual operating aerodrome shall be classed as positioning. For the purposes of this sub-paragraph the additional travelling times to the following airfields are:

Peterhead	mins
Aberdeen	mins

10 Delayed Reporting Time in a Single FDP

- 10.1 When a crew member is informed of a delay to the reporting time due to a changed schedule, before leaving the place of rest, the FDP shall be calculated as follows. When the delay is less than 4 hours, the maximum FDP allowed will be based on the original report time and the FDP will start at the actual report time. When the delay is 4 hours or more, the maximum FDP allowed will be based on the more limiting time band of the planned report time and the actual report time and the FDP will start 4 hours after the original report time.
- 10.2 When the company informs a crew member before leaving the place of rest of a delay in reporting time of 10 hours or more ahead, and that crew member is not further disturbed by the company until a mutually agreed time, then that period is classed as a rest. If, upon the resumption of duty, further delays occur then the appropriate criteria in this paragraph and paragraph 10.1 above will be applied to the re-arranged reporting time.

11 Positioning

- 11.1 Time spent on positioning, at the behest of the company, before carrying out an FDP, will count as duty. The FDP commences not later than the time at which the crew member reports for the positioning journey, or positions in accordance with sub-paragraph 9.3.
- 11.2 Positioning after completion of an FDP is counted as duty, and the subsequent rest period must account for the FDP plus the positioning journey.
- 11.3 If, after a positioning journey, the crew member spends less than a minimum rest period at suitable accommodation provided by the company, and then carries out an FDP, the positioning will be counted as a sector if the allowable FDP is being extended by use of a split duty.

‡ 12 Standby Duty

- 12.1 The time of start, end and nature of the standby duty will be defined and notified to crew members. The time a standby duty starts determines the allowable FDP, except that when the actual FDP starts in a more limiting time band, then that FDP limit will apply. However, when standby is undertaken at home, or in suitable accommodation provided by the company, during the period 2200 to 0800 hours local time and a crew

member is given 2 hours or less notice of a report time, the allowable FDP starts at the report time for the designated reporting place.

- 12.2 When a crew member is on standby duty on immediate readiness at the airport or helicopter operating site, then the allowable FDP is calculated using the start time of the standby duty.
- 12.3 If a crew member is called out from standby, the standby duty will cease at the notified start time of the FDP, that is to say when the crew member reports at the designated reporting point.
- 12.3.1 The following limits apply:

Duty	Maximum Duration
Standby Duty (all cases)	12 hours
Standby followed by an FDP	As in Case A and B below

Case A

If a crew member is called out from standby to conduct an FDP before completing 6 hours standby duty then the total duty period allowed is the sum of the time spent on standby and the FDP from paragraph 13.

Case B

If a crew member is called out from standby to conduct an FDP after completing 6 or more hours standby duty, then the total duty period allowed is the sum of all the time spent on standby and the FDP, reduced by the amount of standby worked in excess of 6 hours.

- NOTES:** 1 The method of adding time spent on standby to cumulative totals is defined in paragraph 22.3.
- 2 The reference to 'total duty period' applies **only** to the sum of the standby time achieved + the allowable FDP obtained from paragraph 13. On the day, for cumulative duty totals and for minimum rest purposes, the total duty achieved will be standby time achieved + FDP achieved + post flight duties + any positioning.

- 12.4 When any period of standby finishes, during which a call-out has not occurred, at least 12 hours rest must follow prior to the next duty period. Similarly, following the end of a contactable period or periods, at least 10 hours must elapse prior to the next duty period.

13 Maximum FDP - Helicopters

- 13.1 The standard reporting time prior to flight is (*). Pre-flight duties are part of the FDP; (*) minutes duty must be allowed for post-flight activities. The time spent between reporting for a flight and the completion of post-flight tasks determines the length of the subsequent rest period. If this "period" for post FDP duties is routinely exceeded then the post FDP duty period stated in the scheme must be revised to better represent the actual time taken.
- 13.2 A non-standard reporting time designed to take advantage of an increased FDP from a more favourable time band, must not be used.

13.3 Maximum FDP - Helicopters

Local time of Start	SINGLE PILOT		TWO PILOTS	
	Max. Length of Flying Duty Period (Hours)	Maximum Flying Time (Hours)	Max. Length of Flying Duty Period (Hours)	Maximum Flying Time (Hours)
0600-0659	9	6	10	7
0700-0759	10	7	11	8
0800-1359	10	7	12	8
1400-2159	9	6	10	7
2200-0559	8	5	9	6

- 13.4 Report times must not be reduced in order for crew members to achieve their required rest prior to an FDP.

14 Additional Limits on Helicopter Flying

14.1 Repetitive Short Sectors

Crew flying repetitive short sectors, for example pleasure flying, offshore short sector shuttles, at an average rate of 10 or more landings per hour, will have a break of at least 30 minutes away from the helicopter within any continuous period of 3 hours.

- 14.2 When carrying out the more demanding roles of helicopter flying, for example, winching and external load carrying, crew will have a break of (*) minutes away from the helicopter within any continuous period of 3 hours.

- ‡ 14.3 After 3 hours shuttle operations between offshore installations in conditions other than day VMC, a rest of 30 minutes free of all duty will be allowed.

‡ 14.4 Survival Suits

The wearing of survival suits can prove an irritant and be uncomfortable. Therefore:

- a) a flight crew member should not participate in moving freight or baggage, or any other activity requiring excessive physical effort. His role should be supervisory;
- b) schedules which involve continuous flying in excess of 4½ hours will include provisions for a break free of all duty of at least 30 minutes, not including a total of 30 minutes for immediate post and pre-flight duties. The break will be scheduled prior to exceeding a total of 6 hours flying.

15 Extension of Flying Duty Period by Split Duty

- 15.1 The calculation of a permitted FDP does not rely on the number of sectors flown, but to increase an FDP as allowed for in this paragraph then at least one sector must be flown before any extension is permitted. The extensions allowed are set out below:

Consecutive Hours Rest**Maximum Extension of the FDP**

Less than 2

NIL

2 - 3 (see Note)

1 hour

3 - 10

A period equal to half the consecutive hours rest taken.

NOTE: Consecutive hours of rest between 2 and 3 hours will only be used once in any single FDP.

- 15.2 The rest period shall not include the minimum total of (*) minutes allowed for immediate post flight and pre-flight duties. When the rest period is 6 hours or less it will suffice if a quiet and comfortable place, not open to the public, is available. Rest cannot be taken in the helicopter. If the rest period is more than 6 consecutive hours, then suitable accommodation will be provided.

16 Rest Periods

- 16.1 Crew members will be notified in good time of a flying duty period so that sufficient and uninterrupted pre-flight rest can be obtained. When away from base opportunities and facilities for adequate pre-flight rest will be provided by the company in suitable accommodation. When flights are carried out at such short notice that it is impracticable for the company to arrange suitable accommodation, then this responsibility devolves to the aircraft commander.
- 16.2 The minimum rest period which must be taken before undertaking a flying duty period shall be:
- a) at least as long as the preceding duty period, or
 - b) 12 hours, whichever is the greater.
- 16.2.1 When away from base, in the case when the rest period earned by a crew member is 12 hours, and suitable accommodation is provided by the company, then that rest period may be reduced by one hour. In such circumstances, if the travelling time between the aerodrome and the accommodation is more than 30 minutes each way then the rest period will be increased by the amount the total time spent travelling exceeds one hour. The room allocated to the crew member will be available for occupation for a minimum of 10 hours. **This sub-paragraph does not apply to rest periods that exceed 12 hours.**
- 16.2.2 Exceptionally, at home base, individual crew members may be asked to exercise their discretion to reduce rest by up to a maximum of one hour but only to a minimum of 12 hours for flight crew and 11 hours for cabin crew. If discretion is used, it is the responsibility of the operator and the crew member to inform the commander of the flight immediately following the rest period, that a reduced rest period has been taken.
- 16.3 If the preceding duty period, which includes any time spent on positioning, exceeded 18 hours, then the ensuing rest period must include a local night.
- 16.4 After being called out from a standby duty the length of the minimum rest period shall be determined by the length of standby duty, plus any time spent on positioning, and any FDP completed.

- 16.5 Crew members who inform the company that they are having difficulty in achieving adequate pre-flight rest will be given the opportunity to consult an aviation medical specialist.

17 Aircraft Commander's Discretion to Extend a Flying Duty Period

- 17.1 An aircraft commander may, at his discretion, and after taking note of the circumstances of other members of the crew, if carried, extend an FDP beyond that permitted in paragraph 13, provided he is satisfied that the flight can be made safely. The extension shall be calculated according to what actually happens, not on what was planned to happen. An extension of 3 hours is the maximum permitted, except in cases of emergency (see Note).
- 17.2 A commander is authorised to exercise his discretion in the following circumstances and to the limits set. In a Flying Duty Period involving 2 or more sectors, up to a maximum of 2 hours discretion may be exercised prior to the first and subsequent sectors. On a single sector flight and immediately prior to the last sector on a multi-sector flight, a commander may use the maximum amount of discretion permitted.
- 17.3 A commander may exercise discretion to extend an FDP following a reduced rest period, only exceptionally, and then only to the extent necessary to allow for unforeseen circumstances that become apparent during the last sector.

NOTE: In respect of an extension to a flying duty period, an emergency is a situation which in the judgement of the commander presents a serious risk to the health or safety of crew and passengers, or endangers the lives of others.

18 Aircraft Commander's Discretion to Reduce a Rest Period

- 18.1 An aircraft commander may, at his discretion, and after taking note of the circumstances of other members of the crew, if carried, reduce a rest period, but only insofar as the room allocated to the crew member must be available for occupation for a minimum of 10 hours. The exercise of such discretion must be considered exceptional and must not be used to reduce successive rest periods. If the preceding FDP was extended, the rest period may be reduced, provided that the subsequent allowable FDP is also reduced by the same amount. In no circumstances may a commander exercise discretion to reduce a rest period below 10 hours at accommodation.
- 18.1.1 When away from base and where an individual crew member separates from the crew, or the crew as a whole splits up, then any use of discretion to reduce rest becomes a decision for an individual crew member. The decision to continue with the next flight and the submission of an associated discretion report is the responsibility of the relevant commander after the crew member, and operator if in a position to do so, has informed the commander that a reduced rest period has been taken.

19 Reporting Exercise of Discretion

- 19.1 Whenever a commander extends an FDP it shall be reported to (*) on a Discretion Report Form, in the format of (*). If the extension is greater than 2 hours, or discretion is exercised after any reduced rest period, then the company will submit the commander's written report, together with company comments, to the CAA, within 14 days of the event.

- 19.2 Whenever a commander reduces a rest period, it shall be reported to (*) on a Discretion Report Form, in the format of (*). If the reduction is more than 1 hour, then the company will submit the commander's written report together with comments by the company to the CAA, within 14 days of the event.

20 Days Off

- 20.1 Wherever possible, and if required by the crew member, days off will be taken in the home environment. A single day off for helicopter crew shall include two local nights, and shall be of at least 36 hours duration. A planned rest period may be included as part of a day off.

- 20.2 Crew members will:

- a) not work more than 7 consecutive days, and
- b) have 2 consecutive days off following a period of 7 consecutive days duty, and
- c) have 2 consecutive days off in any consecutive 14 days, and have at least 3 days off in any consecutive 14 days, and
- d) have a minimum of 7 days off in any consecutive 4 weeks, and
- e) have an average of at least 8 days off in each consecutive 4 week period, averaged over 3 such periods.

NOTE: A single day off may only follow up to a maximum of 6 consecutive days duty.

21 Absolute Limits on Flying Hours

- 21.1 The maximum flying hours for flight crew will be 90 hours in 28 consecutive days, and 800 hours in any period of 12 months.

22 Cumulative Duty and Flying Hours

- 22.1 Maximum duty hours for flight crew shall not exceed:

60 hours in any 7 consecutive days and
200 hours in any 28 consecutive days

- 22.2 The maximum number of flying hours which a pilot may be permitted to undertake are:

Single Day	Table in paragraph 13
Any 3 consecutive days	18 hours
Any 7 consecutive days	30 hours
Any 3 consecutive 28 day periods	240 hours

22.3 Calculation of Cumulative Duty Hours

Duty hours shall be added to cumulative totals in accordance with the following:

- a) to count in full:
 - i) Duty periods and flying duty periods, plus subsequent post-flight duties

- ii) All standby duty, except that specified in b) i) and ii) below
 - iii) The time spent on positioning
- b) To count as half the time on duty:
- i) The standby duty, when the period of notice given to the crew member by the company before reporting for duty is (*).
 - ii) The standby duty when undertaken at home, or in suitable accommodation provided by the company, takes place during the period 2200 to 0800 hours local time, and the crew member can take undisturbed rest and is not called out for duty.

‡ 23 Rules Relating to Cabin Crew

- 23.1 The requirements detailed in this paragraph will apply to all cabin crew employed as crew members and are not intended to apply only to those cabin crew carried to meet the provisions of the Air Navigation Order.
- 23.2 The limitations applying to cabin crew are those applicable to flight crew members but with the following differences:
- a) A flying duty period can be 1 hour longer than that permitted for flight crew. The FDP and limits set on early starts for cabin crew will be based on the time at which the flight crew report for their flying duty period, but that FDP will start at the report time of the cabin crew.
 - b) For cabin crew the minimum rest period which will be provided before undertaking a flying duty period shall be:
 - i) at least as long as the preceding duty period less than one hour; or
 - ii) 11 hours;whichever is the greater.
 - c) The combined sum of standby time and subsequent FDP can be 1 hour longer than that permitted to flight crew.
 - d) The maximum duty hours for cabin crew will not exceed:
 - 60 hours in any 7 consecutive days
 - 105 hours in any 14 consecutive days
 - 210 hours in any 28 consecutive days.
 - e) The annual and 28 day limits on flying hours appertaining to flight crew do not apply.

24 Records to be Maintained

- 24.1 Records for the duty and rest periods of all flying staff shall include:

For each crew member:

The beginning, end and duration of each duty and flying duty period, and function performed during the period. Duration of each rest period prior to a flying duty or standby duty period. Dates of days off. 7 consecutive day totals of duty.

For each flight crew member:

Daily and 7 consecutive day flying hours.

Records shall be preserved for at least 12 calendar months from the date of the last relevant entry.

- 24.2 Additionally, copies of all aircraft commanders' discretion reports of extended flying duty periods and reduced rest periods will be retained for a period of at least six months after the event.

‡ **Pleasure Flying Supplement - Helicopters**

1 The following will apply whenever the pilot is solely engaged in Commercial Pleasure flying duties in a single FDP.

1.1 **Flying Duty Period**

A single FDP will not exceed 10 hours, except that this may be extended to 11 hours for the **sole purpose** of positioning the aircraft from/to the operator's base.

1.2 **Flying Hours**

A pilot will not spend more than 6 hours at the controls in any one flying duty period. When positioning the pilot may spend an additional 1 hour at the controls for the sole purpose of positioning the aircraft.

The maximum period which a pilot may spend continuously at the controls without a break is 3 hours.

During the FDP the pilot shall have breaks of 30 minutes duration according to the following table:

FDP up to 3 hours	Breaks totalling at least 30 minutes
FDP up to 6 hours	Breaks totalling at least 1 hour
FDP between 6 and 8 hours	Breaks totalling at least 1½ hours
FDP over 8 hours	Breaks totalling at least 2 hours

1.3 **Rest Period**

At the completion of an FDP solely concerned with commercial pleasure flying, and if applicable the return of the aircraft to the **operator's base**, the flight crew will have a rest period of at least 12 hours.

‡ **Air Ambulance Supplement - Helicopter**

1 Dedicated Air Ambulance

When carrying out an Air Ambulance flight, the allowable FDP extracted from paragraph (* insert as appropriate) in the company's approved FTL scheme may be increased by up to a maximum of 4 hours, subject to all the following conditions being met:

- a) Where an FDP is extended under the terms of this provision, a qualified medical attendant must accompany the flight.
- b) The only passengers that may be carried in addition to the patient and medical attendants are the immediate family or next of kin. One close friend only may be carried in lieu of any immediate family or next of kin.
- c) The crew must have had the full entitlement of rest relating to the preceding duty prior to starting an Air Ambulance flying duty.

d) Single Pilot Crew

If, exceptionally, the FDP is scheduled to be extended beyond the 4 hours permitted by this supplement then an additional qualified commander must be part of the crew, at least until the helicopter reaches the site where the patient or organ is disembarked. Commander's discretion cannot be used to extend the FDP after the patient or organ has been disembarked. A discretion report must be submitted to the CAA.

e) Two Pilot Crew

The use of Commander's discretion to further extend the FDP, beyond the extra 4 hours permitted, may be exercised only to offload/deliver the patient or organ to the destination. Such discretion cannot be used after the patient or organ has been offloaded. A discretion report must be submitted to the CAA.

- f) Following an Air Ambulance FDP the appropriate full rest period must be taken.
- g) At least 48 hours must elapse between the end of one extended Air Ambulance FDP and the start of another Air Ambulance FDP.
- h) A pilot can only fly 3 Air Ambulance extended FDPs in any 28 consecutive days.
- i) The relevant duty records must show where an FDP was conducted in accordance with this supplement.
- j) The use of split duty to extend the FDP is not permitted.

2 Combined Public Transport/Air Ambulance

On the day, if an operator wishes to use a helicopter and crew for a combination of Public Transport and Air Ambulance work then the FDP specified must be that obtained from paragraph (* insert as appropriate). Extension of the allowable FDP by the use of split duty and Commander's discretion, as stated in paragraphs (*insert as appropriate) of the main scheme, is allowed. The extension permitted for dedicated Air Ambulance (in paragraph 1 above), does not apply in this case.

Appendix *

Commander's Discretion Report

Operator Aircraft Type
 Flight Number Commander
 Date

NOTE: If discretion exercised for part crew or individuals state name and operating capacity below.

Commander*/First Officer*/Cabin Attendant* (Delete as necessary)

Part A - Extension of Flying Duty Period/Flying Hours

Voyage Details						
Schedule (Planned)				Actual		
	Place	UTC	Local		UTC	Local
Duty to start				Duty started		
Depart				Departed		
Arrive				Arrived		
Depart				Departed		
Arrive				Arrived		
Depart				Departed		
Arrive				Arrived		
Depart				Departed		
Arrive				Arrived		
Depart				Departed		
Arrive				Arrived		
FDP to end				FDP ended		
Scheduled FDP				Actual FDP	Hrs	Mins
Split duty:	Actual Time Off On			Credit FDP	Hrs	Mins
				Max. Allowable FDP	Hrs	Mins

Amount of Commander's Discretion Exercised FDP Hrs Mins
 Maximum Flying Hours Permitted in 28 days/1 year period. Hours Flown

Part B - Reduction of Rest

Last duty started UTC/Local
Last duty ended UTC/Local
Rest earned (Hours)
Calculated earliest next available UTC/Local
Actual start of next FDP UTC/Local
Rest period reduced by

NOTE: All times to be recorded as date/time six-figure groups, expressed in both UTC and Local Time.

Commander's Signature Date

Part C - Commander's Report

Signed.

Date

Operator's Remarks/Action Taken

Signed.

Date

Forwarded to CAA

Filed

Annex E The Preparation of a Roster

Introduction

The production of any roster is dependent upon the nature of the operator's business. At best, the example given for rostering staff in this Annex can only illustrate a broad approach to the instructions an operator may wish to issue to the appropriate staff.

The content of this Annex draws the attention of those employed in the preparation and day-to-day management of rosters to some basic principles, which when followed can lead to the even distribution of the workload within a company. The table in paragraph 11 is not designed to be a definitive statement of the time off that crew must have on return to base, but is presented as an example of what can be done to remove uncertainty in the minds of rostering officers and crew.

Guidance for Rostering Staff

Introduction

- 1** This section is designed to give guidance on the preparation of a roster and the day to day management of the published roster to staff employed in the Rostering Section.
- 2** The construction of a workable roster is a complex task. The Rostering Officer needs to consider many variables, before allocating crew to specific duties. The consideration of factors affecting human behaviour cannot be ignored. The finished product must strike a balance between the commercial needs of the company and the capacity of individual crew members to work effectively. It is of the utmost importance that rosters are seen by each crew member as distributing the amount of work to be done evenly amongst those involved. The watchword is 'fairness'.
- 3** On some occasions it will be impossible to produce a well balanced roster, and some will work harder than others. When this situation cannot be avoided, any unbalanced distribution of work should be redressed where possible in the next roster. In general terms, staff should endeavour to allocate duties evenly over each 3 month period.

Reference Documents

- 4** The construction of a roster is governed by many rules and regulations that are contained within several publications.

It is the responsibility of rostering staff to be familiar with the relevant content of the following documents:

- a) The Air Navigation Order 2000, Section 1 Part IV, V and VI, as amended
- b) The Air Navigation Order 2000, Section 5 Part II, as amended
- c) CAP 371 - current edition
- d) CAP 360, Part One - current edition
- e) Company Flight Time Limitation Scheme as approved
- f) Agreements on scheduling reached between the company and crew

g) Company Training Manual

Background information on the effects of long range operations and heavy short range schedules on individuals is given in the document AGARD-AG-270E, 2nd Edition, Chapter 6.

Roster Planning

- 5** As stated in the Introduction, the production of a workable and balanced roster requires consideration of much background knowledge and the constant application of the principle of fairness. The end result should satisfy the requirements of the company and individual crew members, but it is accepted that some personal inconvenience will be experienced by individuals from time-to-time. This must be borne if the company is to flourish and continue to provide employment.
- 6** The rostering officer must utilise the following principles when constructing a roster:
 - a) Work within the requirements of the company scheme.
 - b) Be fair in the allocation of duties; give an equitable distribution of workload and time off, paying particular attention to weekends.
 - c) Be consistent.
 - d) Provide individual crew members with a stable roster as far as practicable.

Day-to-Day Management

- 7** The best planned roster will be subject to disruption, brought about by circumstance that is impossible to predict. The unserviceability of an aircraft or the sudden imposition of flow control cannot be foreseen, but these factors and others can have a profound effect on a roster.
- 8** To control such disruptions requires that those involved are fully aware of the current state of the affected roster. This situation can only be achieved by a constant and accurate updating of rosters as the changes occur, and the certainty that all relevant factors are taken into account before adjustments are made to what was planned.
- 9** In this situation certain aspects of the FTL scheme assume a more important position than others. Rostering Officers will need to consider the following:
 - a) Delayed reporting.
 - b) Availability of Commander's discretion (which must not be assumed).
 - c) Use of standby crew, taking into account length of standby duty and required FDP.
 - d) Cumulative duty hours.
- 10** Wherever possible, the decision reached should cause minimum disruption to the planned roster, and still maintain a balanced workload amongst crew members - a difficult, demanding, yet rewarding task.

A Suggested Guide for Rostering Officers - Days Off

- 11** The table below provides an easy reference for days off at base, allocated to crew members on return from a flying duty or series of flying duties. If an individual crew member requests less days off than allowed for in the table this may be granted, provided the actual time off does not contravene the provisions of the FTL scheme.

Days Off Calculation Table

Return Sector Length	Duration of Trip	Time Zones Crossed	Minimum base turn around (MBTR)	
			Flight Crew	Cabin Crew
Up to 7 hours	Up to 48 hrs	Up to 3	min.rest	min.rest
Up to 7 hours	48 - 96 hrs	4 to 7	2 days	1 day
7 to 10 hours	48 - 96 hrs	4 to 7	2 days	2 days
7 to 10 hours	96 - 216 hrs	4 to 7	3 days	2 days
10 to 14 hours	48 - 96 hrs	7 plus	3 days	3 days
10 to 14 hours	96 - 216 hrs	7 plus	4 days	3 days
14 hours plus	48 - 96 hrs	7 plus	4 days	4 days
14 hours plus	96 - 216 hrs	7 plus	5 days	4 days

Summary

- 12** Without wishing to labour the point, when it is apparent that trips and time off, particularly weekends, are fairly distributed then individuals will have no cause for complaint, and the difficulties associated with the duties of a rostering officer will be minimised.

Annex F Aeroplane Variations

Introduction

With the increasing range of modern aircraft, for example the B777/A330, the CAA has concluded that within very carefully controlled circumstances and with a number of built-in compensating factors, it is possible to extend the FDP presently allowed for two-pilot crew. The compensating factors are designed to prevent the onset of fatigue by requiring progressively an increase in days off, reduction of overall duty hours and a limit on the number of extended FDPs permitted.

Where operators' FTL schemes contain a number of different standard Variations each of which contain suitable compensating factors, there must be no overlap when using the Variations concurrently. For example where a Florida One Variation requires 3 days off afterwards and then a Level 2 Variation is to be used which requires a single day off beforehand, a total of 4 days off must be achieved between the two Variations.

Companies are invited to apply to incorporate any of the following variations:

Standard Variations Levels 1 and 2

Florida 1 and 2

1 **Standard Variations, Extended Single Flight Duty Period**

1.1 **Introduction**

1.1.1 The Variations are identified as Level 1 and 2, allowing for an increase in the planned FDP of 30 and 60 minutes respectively. They are intended to allow flights from the UK and return, or a two-sector flight from or to the UK, within a single extended FDP. Sector lengths over 7½ hours will continue to be factorised or will require an additional pilot as a flight crew member.

1.1.2 An operator wishing to utilise one of the Variations in this package can only employ one of the three that are available at any one time for each fleet of aircraft. In this context, where a mix of Boeing 757 and 767 aircraft is used and pilots are qualified on both, these two types are considered to comprise one fleet.

1.1.3 The selection of the level appropriate to a schedule must be nominated in advance by the operator and notified to all crew members. Where more than one schedule is affected, the more limiting will lead to the level chosen. For example, where one schedule requires an extension of 20 minutes and another 1 hour then Level 2 will be applicable to both schedules and all crew members involved.

1.2 **LEVEL 1 - FDP Plus 30 minutes**

Flight crew

- a) The allowable FDP obtained from Table A may be extended by 30 minutes and a sector need not be considered as a multi-sector flight until the sector is scheduled for more than 7½ hours subject to the following conditions:
- b) Flight crew members must be off duty by 2200 hours local on the day prior to the extended FDP so that either a rest period equivalent to the preceding duty period or a minimum of 12 hours rest is achieved, and discretion to reduce rest prior to or following such a flight may not be exercised.

- c) Flight crew members must be acclimatised.
- d) Commander's normal discretion to extend an FDP is reduced to a maximum of 2½ hours with no more than 1½ hours being exercised prior to leaving the initial point of departure.
- e) Where a commander exercises discretion which uses any portion of the time allowed after leaving the initial point of departure, then a report will be submitted to the CAA.
- f) A maximum of 4 extended FDP flights may be undertaken in any consecutive 28 day period.
- g) Maximum duty hours will be 185 hours in any 28 consecutive day period in which the use of this extension takes place.
- h) Minimum number of days off for flight crew operating one or more of these flights will be 8 days in any period of 4 consecutive weeks in which the use of this extension takes place.
- i) Despatch crew will not be used.
- j) Extension of FDP by split duty is not permitted.

Cabin crew

- a) Cabin crew will work to normal rules except that they must be acclimatised.

1.3 **LEVEL 2 - FDP Plus 60 minutes**

Flight crew

- a) The allowable FDP obtained from Table A may be extended by 60 minutes and a sector need not be considered as a multi-sector flight until the sector is scheduled for more than 7½ hours subject to the following conditions:
- b) 2 local nights (minimum 34 hours) free from all duties must be achieved prior to an extended flight duty period.
- c) Flight crew members must be acclimatised.
- d) Commander's normal discretion to extend an FDP is reduced to a maximum of 2 hours with no more than 1 hour being exercised prior to leaving the initial point of departure.
- e) Where a commander exercises discretion which uses any portion of the time allowed after leaving the initial point of departure, then a report will be submitted to the CAA.
- f) One day off must be achieved following the extended FDP.
- g) A maximum of 3 extended FDP flights may be undertaken in any consecutive 28 day period.
- h) Maximum duty hours will be 180 hours in any 28 consecutive day period in which the use of this extension takes place.
- i) Minimum number of days off for flight crew operating one or more of these flights will be 9 days in any period of 4 consecutive weeks in which the use of this extension takes place.
- j) Despatch crew must not be used.
- k) Extension of FDP by split duty is not permitted.

Cabin crew

- a) Cabin crew may be planned for an extra 30 minutes on their normal allowable FDP.
- b) Cabin crew members must be off duty by 2200 hours local on the day prior to the extended FDP so that either a rest period equivalent to the preceding duty period or a minimum of 11 hours rest is achieved, and discretion to reduce rest prior to or following such a flight may not be exercised.
- c) Cabin crew members must be acclimatised.
- d) A maximum of 4 extended FDP flights may be undertaken in any consecutive 28 day period.
- e) One day off must be achieved following the extended FDP.
- f) Maximum duty hours will be 205 hours in any 28 consecutive day period in which the use of this extension takes place.
- g) Minimum number of days off for cabin crew operating one or more of these flights will be 8 days in any period of 4 consecutive weeks in which the use of this extension takes place.

2 Florida Variations**2.1 Florida 1**

This Variation may be applied to two-pilot crew operations in order to fly from the UK to Florida or similar destinations either on a single or two sector flight, take normal rest and then return to the UK (again on a single or two sector flight). It involves a 6 consecutive day package as follows:

- a) Duty must end by 2000 hours the day before the flight so that a local night's rest can be taken.
- b) The flight outbound, normal rest and flight inbound are completed during the morning of the third day. The remainder of the third day is rest.
- c) There then must follow 3 consecutive days off free from all duties.
- d) Maximum number of Florida (6-day package) flights permitted shall be 4 in any 28 consecutive days.
- e) For crew operating one or more of these flights the maximum duty hours will be 180 in any 28 consecutive day period in which the use of this Variation takes place.
- f) Minimum number of days off for crew operating one or more of these flights will be 9 days in any consecutive 28 day period in which the use of this extension takes place.
- g) For the purpose of this Variation only, flights may be planned up to 7½ hours sector length before factoring (in accordance with Section B paragraph 14).
- h) Despatch crew will not be used.
- i) Cabin crew will work to their normal rules but will be given at least two days off immediately following one of these operations.
- j) Extension of FDP by split duty is not permitted.

2.2 Florida 2

This Variation may be applied to a two-pilot crew operation in order to fly from the UK to Florida/Caribbean either on a single or two sector flight, take normal rest and then return to the UK with the crew on departure being unacclimatised (again on a single or two sector flight). The FDP upon return must end upon first landing in the UK. It involves a 6 or 7 consecutive day package. For return flights from Florida/Caribbean the maximum FDP will be that contained in Table B. Both outbound/inbound flights will be factored in accordance with the table below. The conditions that must be met to enable the increases are:

- a) Duty must end by 2000 hours the day before the flight so that a local night's rest can be taken.
- b) The flight outbound is followed by normal rest and flight inbound and positioning to base is completed on the 3rd or 4th day, the remainder of which is rest. No duty will be undertaken during the local night when unacclimatised and away from UK base (8 hours defined between 2200 to 0800 hours local).
- c) There must follow two consecutive days off free from all duties. The earliest report after two days off will be 0800 hours local.
- d) The maximum number of Florida (6 or 7 day package) shall be 2 in any 28 consecutive days and a maximum of 9 such operations per pilot in any 6 consecutive calendar months.
- e) For crew operating one or more of these flights the maximum duty hours will be 180 in any 28 consecutive day period in which the use of this Variation takes place.
- f) Minimum number of days off for crew operating one or more of these flights will be 8 in any 28 consecutive day period which includes any day that forms part of this package.
- g) For the purposes of this Variation only, flights may be planned up to 7½ hours sector length before factoring (in accordance with Section B paragraph 14).
- h) Despatch crews will not be used.
- i) Cabin crew will work to their normal rules but will be given at least two days off immediately following one of these operations.

Acclimatised UK - Florida/Caribbean		Not Acclimatised UK Return Florida/Caribbean
	Sectors	
Sector Length over 7½ hours but no more than 9 hours	2	2
Sector Length over 9 hours but no more than 11 hours	3	3
Sector Length over 11 hours	4	N/A

Annex G Helicopter Variations

Companies are invited to apply to incorporate any of the following variations:

Extended FDP Variation known as the Silverstone Variation and Four Early Starts

1 Silverstone Variation

The wording to be included in the company's scheme should be as follows:

"Extended FDP Variation

The Company has a Standard Variation to the Approved FTL Scheme which permits an extended FDP on the day for special events such as Silverstone. The Company will notify the Civil Aviation Authority by telex or fax, at least 24 hours ahead, of their intention to make use of this Variation. Duty records are to be annotated whenever use is made of this Variation.

The Variation is as follows: (Enter relevant wording from the examples)"

1.1 Example of 12 Hour Variation

This Variation permits the Scheduled flying duty period for any pilot of any helicopter operated by the said company to be extended to 12 hours provided that:

- a) such FDP lies wholly within the period 0600 to 2200 hours local times;
- b) a rest break free from all duties of at least three consecutive hours shall be provided for the pilots within the said FDP; and
- c) the normal rest period shall be given to the pilots before and after the extended FDP in accordance with the Approved FTL Scheme and it shall not be reduced by discretion.

This Variation is valid only on.....in connection with flying tasks associated with (enter details).

1.2 Example of 13 Hour Variation

This Variation permits the Scheduled flying duty period for any pilot of any helicopter operated by the said company to be extended to 13 hours provided that:

- a) such FDP lies wholly within the period 0700 to 2200 hours local times;
- b) a rest break free from all duties of at least four consecutive hours shall be provided for the pilots within the said FDP;
- c) pilots shall be free of all duties from 1700 hours on the day prior to this Variation;
- d) the normal rest period shall be given to the pilots before and after the extended FDP in accordance with the Approved FTL Scheme and it shall not be reduced by discretion.

This Variation is valid only onin connection with flying tasks associated with (enter details).

2 Four Early Starts

- 2.1 A crew member may undertake four consecutive early starts subject to the following conditions:

- a) The duty carried out immediately prior to four early starts may not commence before 0800 hours local.
- b) The earliest commencement of any of these duties shall not be before 0500 hours local.
- c) When reporting for duty at any time within the period 0500 to 0659 hours local, the maximum FDP shall not exceed 9 hours. The maximum flying time shall not exceed 6 hours.
- d) A minimum of two days off shall follow any achieved period of four consecutive early starts.