



WELLINGTON NEW ZEALAND

PURSUANT to Section 28 of the Civil Aviation Act 1990

I, MAURICE WILLIAMSON, Minister of Transport,

HEREBY MAKE the following ordinary rules.

SIGNED AT Wellington

This *4* day of *September* 1995

by **MAURICE WILLIAMSON**

Maurice Williamson
Minister of Transport

Civil Aviation Rules

Part 121, Amendment No. 1

Air Transport Operations – Large Aeroplanes

Subpart K, Fatigue of Flight Crew

Docket Nr. 1123

Civil Aviation Rules
Part 121, Amendment No. 1

Air Transport Operations – Large Aeroplanes
Subpart K, Fatigue of Flight Crew

RULE OBJECTIVE, EXTENT OF CONSULTATION AND COMMENCEMENT

The objective of Amendment No. 1 to Part 121 is to introduce applicability sections and transitional arrangements to enable Subpart K to take effect in advance of the remaining Subparts of Part 121.

In May 1990 the Air Transport Division of the Ministry of Transport published a notice of intention to carry out a complete review of the aviation regulatory system. This notice, in Civil Aviation Information Circular Air 3, listed the areas in which rules would be made and invited interested parties to register their wish to be part of the consultative process. This register was identified as the Regulatory Review Consultative Group. Forty-nine organisations and individuals registered their wish to be consulted in the development of rules for aircraft operations.

Part 121, Subpart K and Part 123, Subpart K were originally signed by the Minister on 24 August 1992. At that time the intention was to delay bringing these Subparts into force until the other subparts containing flight operations rules were complete.

Due to difficulties with the transitional provisions it was decided to bring forward the effective date of these Subparts. Some amendments were required to enable the Subparts to take effect before the other flight operations rules come into force. The amendments formalise the applicability of the two Parts and make administrative and editorial changes. These amendments were notified in Notice of Proposed Rule Making (NPRM) 94-2 under Docket number 1123 on 6 July 1994.

The publication of NPRM 94-2 was advertised in the daily newspapers in the five main provincial centres on 7 July 1994. The notice was mailed to those interested members of the Regulatory Review Consultative Group and to other parties, including overseas Aviation Authorities and organisations, who were considered likely to have an interest in the proposal.

A period of thirty days was allowed for comment on the proposed amendment to the rules. Two written submissions were received from industry in response to this notice. These submissions were considered, however no changes were found to be necessary. The amendment was then referred to and signed by the Minister of Transport.

Part 121, Amendment No. 1 comes into force on 14 November 1995.

Part 121 Amendments

List of Rules

The List of Rules is revoked and the following new List of Rules is substituted:

“List of Rules

Subpart A – General

121.1 Applicability

Subpart B – J [Reserved]

Subpart K – Fatigue of Flight Crew

121.801 Applicability

121.803 Operator Responsibilities

121.805 Flight Crew Responsibilities”

New Subparts A – J

Part 121 is amended by inserting before Subpart K, the following:

“Subpart A – General

121.1 Applicability

This Part prescribes rules governing the operation of aeroplanes having a passenger seating capacity of more than 30 seats (excluding any required crew member seat), or a payload of more than 3410 kg, performing air transport operations.

Subpart B – J [Reserved]”

Subpart K – Fatigue of Flight Crew

121.901 is renumbered 121.801.

121.903 is renumbered 121.803.

121.903(a) is amended by revoking the words “be used on” and substituting the word “perform”. Subparagraph (1) is amended by omitting the words “flight times” and substituting the words “flight and duty times”. Subparagraph (2)(xxi) is amended by substituting the words “record-keeping; and” for the words “record-keeping.”. The following new subparagraph (3) is added:

“(3) the operator complies with the applicable requirements in Appendix 1.”

121.903(b) is amended by revoking the words "engaged on" and substituting the word "performing".

121.903(c) is amended by revoking the words "engaged in" and substituting the word "performing".

121.905 is renumbered 121.805.

121.905 is amended by revoking the words "engaged on" and substituting the word "performing" in each case where those words occur.

APPENDICES

Part 121 is amended by inserting after Subpart K the following Appendices:

"Appendix 1 – Transitional Rules

(a) Each holder of an air service certificate issued under regulation 136 of the Civil Aviation Regulations 1953 shall comply with one of the following:

- (1) the Flight and Duty Time scheme specified in Appendix 2, including any variations to Civil Aviation Safety Order 3 that have been approved by the Director for the holder at the time this rule comes into force;
- (2) a Flight and Duty Time scheme, other than the scheme specified in Appendix 2, that has been approved by the Director.

(b) If the certificate holder elects to comply with paragraph (a)(2), the holder shall submit to the Director for approval—

- (1) a scheme required by 121.803; and
- (2) a statement signed by the Chief Executive of the certificate holder's organisation confirming that the scheme submitted—
 - (i) is the organisation's means for regulating flight and duty times; and
 - (ii) will be complied with at all times; and
- (3) details of internal quality assurance procedures for ensuring compliance with the scheme including details of—
 - (i) the level of quality that the applicant intends to achieve; and
 - (ii) the level and frequency of internal reviews; and

- (iii) the person or persons responsible for carrying out the internal reviews; and
- (iv) how the findings of the internal reviews are to be recorded and reported to the Chief Executive; and
- (v) how quality indicators such as error reports, incidents, and complaints are incorporated into the internal quality assurance procedures; and
- (vi) the means for rectifying any deficiencies found during an internal review; and
- (vii) the documentation requirements for all aspects of the review."

[Appendix 1 will be revoked on the date Part 119, Air Transport Operator Certification comes into force]

“Appendix 2 – Flight and Duty Time Scheme

SECTION 1 – DEFINITIONS

In this appendix:

Adequate rest facilities means rest facilities considered by the Director to be sufficiently segregated and comfortable so as to provide suitable rest for resting flight crew members, having regard to the service concerned.

Disrupted schedule means a schedule which by reason of circumstance outside the control of the operator is prevented from being completed within its scheduled time.

Duty period means any continuous period throughout which a flight crew member is required by an operator to be on duty or available for duty, whether on the ground or in the air.

Where a flight crew member is required by an operator to be on duty or available for duty for two or more periods separated by an interval of less than 10 hours, the periods shall be deemed continuous, starting when the first of the periods begins and finishing when the last period ends.

External operation means an operation, excluding an operation to the Chatham Islands, the greater part of which is carried out outside the territorial waters of New Zealand.

Internal operation means an operation which is carried out between places within New Zealand, and includes an operation between the islands of New Zealand.

Rest period means any period of time on the ground during which a flight crew member is relieved of all duties by the operator.

Standby period means the period of time during which a flight crew member is required to hold himself available for active duty.

Stay in an area means a stopover in an area for a period which includes facility for two normal night's rest; that is two consecutive periods between midnight and 6 am local time.

Tour of duty means the period of time commencing at the start of duties at home base prior to a series of flights and ending at home base on completion of the duties associated with series of flights.

When a flight crew member is based temporarily at a place other than his home base, that place, for the period of the detachment, will be regarded as his home base.

Total hours of duty means the sum of the duty periods within any particular period that a flight crew member is at the disposal of an operator.

SECTION 2 – GENERAL

2.1 – 2.4 *Reserved*

2.5 When, during a particular duty period, a flight crew member is engaged in air transport operations which have differing flight time limitations, the most restrictive flight time will apply.

2.6 A flight crew member shall not carry out other flying while employed by an air transport operator when such flying, in addition to that in air transport operations, will exceed the appropriate flight time limitations specified herein.

2.7 When, in connection with any business of operating an aircraft, a flight crew member flies in any aircraft otherwise than as a member of that aircraft's operating crew, he shall be treated as being on duty whether he flies as an extra member of its crew or as a passenger.

2.8 When a flight crew member is required to carry out standby at an aerodrome or at a place where adequate facilities for rest are not available the time from the beginning of the standby period until he is required to fly or is released from duty shall be regarded as a part of a duty period.

When standby is carried out at home or at a place away from home where adequate rest facilities are available, the standby period shall not be regarded as part of any duty period or any rest period.

Standby at home or at a place away from home where adequate rest facilities are available shall not exceed one continuous period of 16 hours. When followed by a period of active duty, the total elapsed time from the beginning of standby to the end of that duty period shall not exceed 23 hours.

A standby period shall only be considered a separate period when the intervening rest period between the standby period and a period of active duty or a further period of standby is not less than 10 hours.

2.9 When a flight crew member is transported by company surface transport:

2.9.1 Before the beginning of a duty period, time involved in transporting the flight crew member to the normal place of work for that base shall not be regarded as part of any duty period or any rest period.

2.9.2 At the beginning of a duty period, time involved in transporting the flight crew member to a place of work other than the normal for that base shall be considered duty time for the purpose of these limitations.

2.9.3 At the completion of a duty period, time involved in transporting a flight crew member to his company City office or place of rest, whichever is applicable, shall not be regarded as part of any duty period or of any rest period.

2.10 Any duty period shall be followed by a rest period of not less than 10 hours except where it is otherwise stated in this document.

When at the end of a duty period, a rest period is given at any place other than home base, facilities shall be available for horizontal rest in an environment conducive to rest.

When, to preserve the sleep/wake cycle or for other reasons, it is necessary for a flight crew member to sleep at times other than between the hours of midnight and 6 am local time, the rest facility must be capable of giving the same opportunity for sleep as it would be expected to give between the hours of midnight and 6 am local time.

When, due to diversion or disruption, the rest facility is not to the required standard, the applicable rest period may be reduced at the discretion of the pilot-in-command to not less than 10 consecutive hours in order that the flight may be continued to the planned place of rest. When advantage is taken of this dispensation, the balance of the required rest period must be added to the applicable rest period at the planned place of rest.

When rest facilities are required to be provided on an aircraft properly segregated first or business class or equivalent seats must be provided for resting flight crew members.

When the planned duty period is in excess of 14 hours, the Director, having regard to:

- (a) the length of the immediately preceding duty and rest periods:
- (b) the time of day of the flight:
- (c) the ground accommodation at the last place of rest:
- (d) the route to be flown:

may require bunks or berths to be provided instead of the required standard of seats on specified route sectors. These bunks or berths should provide, as far as possible, maximum opportunity for comfortable and uninterrupted rest.

2.11 When, at the end of a duty period, the requirements of two or more rest periods coincide, the longest rest period applicable in the particular circumstances shall be taken.

2.12 A tour of duty which includes a duty period exceeding 8 hours, including any time between midnight and 6 am local time (departure point) on two successive nights may not be flown by any flight crew member more often than once in any 7 consecutive days or more often than on two occasions in any 28-day period.

2.13 The total hours of duty of any flight crew member in any consecutive 30-day period shall not exceed 200 hours.

2.14 In meeting the provisions of this document an operator shall not roster a flight crew member on a flight or series of flights that cannot be completed within the requirements of these limitations on at least 80 percent occasions.

2.15 *Reserved*

2.16 The basic flight time limitations and the general provisions relating thereto as specified herein or as otherwise approved by the Director shall apply alike to all air transport operations, with the exception that they shall not apply where the flight is one which ought to be made in the interests of safety or health of any person. In such cases it will be the responsibility of the pilot-in-command to be satisfied that the safety of the flight will not be endangered by reason of any flight crew member exceeding the applicable flight time limitations.

SECTION 3 – INTERNAL OPERATIONS

3.1 Single-pilot crews

3.1.1 Pilots – Instrument Flight Rules (IFR) Operations

A pilot of an aircraft which carries one pilot on internal air transport operations planned wholly or in part under IFR shall be subject to the following flight time limitations:

- (a) The pilot shall not be rostered to fly in excess of 6 hours in any one duty period.
- (b) The pilot shall not be rostered for a duty period of more than 11 hours.
- (c) A duty period already commenced may be extended in flight time to 6 hours 30 minutes to complete disrupted schedules.
- (d) During any duty period exceeding 4 hours the pilot shall have a rostered meal period on the ground of not less than 30 minutes free of duty. Provision shall be made for such a meal period within the first 5 hours of a duty period and thereafter at intervals of not more than 4 hours from the completion of the preceding meal period.
- (e) When the pilot has flown more than 6 hours, or has been on duty more than 11 hours in any 24 consecutive hours he or she shall have, on completion of that duty period, a rest of not less than 12 consecutive hours, including the hours between midnight and 6 am or extended to include that period, up to a maximum of 24 consecutive hours.
- (f) When the pilot has flown more than 12 hours or been on duty more than 22 hours in any 48 consecutive hours, he or she shall have, on completion of that duty period, a rest period of not less than 24 consecutive hours.
- (g) In addition to any rest period applicable at the end of the pilot's last duty period he or she shall have a recreational period of not less than 24 consecutive hours free of all duties at least once in every 7 consecutive days. If, because of the length of the required rest period, this is not possible he or she shall have this recreational period free of all duties at the conclusion of that rest period.
- (h) The pilot shall not fly, and an operator shall not roster the pilot to fly, in excess of:
 - 30 hours in any 7 consecutive days
 - 90 hours in any 30 consecutive days
 - 250 hours in any 90 consecutive days

3.1.2 Reserved

3.1.3 Pilots – Visual Flight Rules (VFR) Operations

A pilot of an aircraft which carries one pilot on internal air transport operations, planned to be conducted wholly under VFR, shall be subject to the following flight time limitations:

- (a) The pilot shall not be rostered to fly in excess of 8 hours in any one duty period.
- (b) The pilot shall not be rostered for a duty period of more than 11 hours.
- (c) A duty period already commenced may be extended in flight time to 8 hours 30 minutes, and duty time to 12 hours, to complete disrupted schedules.
- (d) During any duty period exceeding 4 hours the pilot shall have a rostered meal period on the ground of not less than 30 minutes free of any duty. Provision shall be made for such a meal period within the first 5 hours of a duty period and thereafter at intervals of not more than 4 hours from the completion of the preceding meal period.
- (e) When the pilot has flown more than 8 hours, or has been on duty more than 11 hours in any 24 consecutive hours, he or she shall have, on completion of that duty period, a rest period of not less than 12 consecutive hours including the hours between midnight and 6 am, or extended to include that period up to a maximum of 24 consecutive hours.
- (f) When the pilot has flown more than 16 hours or been on duty more than 22 hours in any 48 consecutive hours, he or she shall have, on completion of that duty period, a rest period of not less than 24 consecutive hours.
- (g) In addition to any rest period applicable at the end of the pilot's last duty period he or she shall have a recreational period of not less than 24 consecutive hours free of all duties at least once in every 7 consecutive days. If because of the length of the required rest period this is not possible he or she shall have this recreational period free of all duties at the conclusion of that rest period.
- (h) The pilot shall not fly, and an operator shall not roster the pilot to fly, in excess of:
 - 35 hours in any 7 consecutive days
 - 100 hours in any 28 consecutive days
 - 300 hours in any 90 consecutive days

3.2 *Two-pilot crews*

3.2.1 A pilot of an aircraft which carries two pilots on internal air transport operations shall be subject to the following flight time limitations:

- (a) The pilot shall not be rostered to fly in excess 8 hours in any one duty period.
- (b) The pilot shall not be rostered for a duty period of more than 11 hours.
- (c) A duty period already commenced may be extended in flight time to 8 hours 30 minutes, and duty time to 12 hours, to complete disrupted schedules.
- (d) When the pilot has flown more than 8 hours, or has been on duty more than 11 hours in any 24 consecutive hours, he or she shall have, on completion of that duty period, a rest period of not less than 12 consecutive hours, including the hours between midnight and 6 am or extended to include that period, up to a maximum of 24 consecutive hours.
- (e) When the pilot has flown more than 16 hours or been on duty more than 22 hours in any 48 consecutive hours, he or she shall have, on completion of that duty period, a rest period of not less than 24 consecutive hours.
- (f) When the pilot has flown more than 20 hours or been on duty more than 29 hours in any 72 consecutive hours, he or she shall have, on completion of that duty period, a rest period of not less than 24 consecutive hours.
- (g) When, for any reason, a pilot has flown for more than 8 hours or where a duty period exceeds 11 hours, he or she shall have, on completion of that duty period and in addition to his or her rest period after that duty or series of duties, a consecutive rest period of one hour for each 15 minutes, or the greater part thereof, flight time exceeds 8 hours or duty time exceeds 11 hours.
- (h) When, for any reason outside the pilot's control, or by an approved dispensation, the pilot has flown more than 8 hours 30 minutes or has been on duty more than 12 hours in any one duty period, he or she shall have, on completion of that duty period, a rest period of not less than 24 consecutive hours.
- (i) In addition to any rest period applicable at the end of the pilot's last duty period, he or she shall have a recreational period of 24 consecutive hours at home base, free of all duties, at least once on every 7 days. If, because of the length of the required rest period, this is not possible he or she shall have this recreational period free of all duties at the conclusion of that rest period.
- (j) A pilot shall not fly, and an operator shall not roster a pilot to fly, in excess of:
- 35 hours in any 7 consecutive days
 - 100 hours in any 28 consecutive days
 - 300 hours in any 90 consecutive days

3.2.2 Flight crew members other than pilots

The flight time limitations as set out in paragraph 3.2.1 shall apply equally to any flight crew member who is assigned for duty on an aircraft engaged in internal air transport operations as part of a crew which has two pilots.

SECTION 4 – (RESERVED)

SECTION 5 – EXTERNAL OPERATIONS – TURBOJET AIRCRAFT

5.1 Two-pilot crews

5.1.1 A pilot of an aircraft which carries two pilots on external operations shall be subject to the following flight time limitations:

- (a) The pilot shall not be rostered to fly in excess of 8 hours in any one duty period.
- (b) The pilot shall not be rostered for a duty period of more than 11 hours.
- (c) A duty period already commenced may be extended in flight time to 9 hours and duty time to 13 hours to complete disrupted schedules.
- (d) When a pilot flies more than 8 hours or has been on duty more than 11 hours in any 24 consecutive hours, he or she shall have, at the completion of that duty period, a rest period of not less than 12 consecutive hours, including the hours between midnight and 6 am local time, or 14 consecutive hours.
- (e) When a pilot has flown more than 16 hours or has been on duty for more than 22 hours in any 48 consecutive hours, he or she shall have, at the completion of that duty period, a rest period of not less than 24 consecutive hours.
- (f) When a pilot has flown more than 20 hours or been on duty for more than 29 hours in any 72 consecutive hours, he or she shall have, at the completion of that duty period, a rest period of not less than 24 consecutive hours.
- (g) On return to home base after a tour of duty a pilot's rest period shall not be less than twice the number of hours flown as an operating crew member since leaving home base on that tour of duty. Except that, when a tour of duty includes a stay in an area having a time difference of more than 2 hours, the rest period at home base on completion of the tour of duty shall not be less than 72 consecutive hours.

5.1.2 When a pilot is temporarily detached at a place other than home base and the tour of duty is completed at that place, the rest period applicable to home base shall apply.

5.1.3 When a pilot begins a tour of duty at home base and completes it at a place of detachment or begins a tour of duty at the place of detachment and completes it at home base, the rest period applicable shall be that which applies when the place of detachment is also regarded as home base.

5.1.4 In addition to the rest period applicable at the end of the pilot's last duty period, he or she shall have a recreational period of 24 consecutive hours free of all duties at least once in every 7 consecutive days. If, because of the length of the required rest period, this is not possible the pilot shall have this recreational period free of all duties at the conclusion of that rest period.

5.1.5 When at home base, the rest period applicable and the recreational 24 hours must together include a continuous period embracing the hours between midnight and 6 am local time on two successive nights or extended to include that period.

5.1.6 A pilot shall not fly and an operator shall not roster a pilot to fly in excess of:

- 35 hours in any 7 consecutive days
- 100 hours in any 28 consecutive days
- 250 hours in any 84 consecutive days

5.2 Three-pilot crews

5.2.1 Crew composition

For the purpose of this document a three-pilot flight crew shall include:

- (a) At least two pilots normally rostered to act as pilot-in-command for the particular class of operation; or
- (b) One pilot normally rostered to act as pilot-in-command for the particular class of operation and two pilots possessing qualifications approved by the Director for the operation.

5.2.2 Three-pilot crew limitations

5.2.2.1 A pilot of an aircraft which carries a three-pilot crew, as defined in paragraph 5.2, on external operations shall be subject to the following flight time limitations:

- (a) When the flight crew includes at least 2 pilots normally rostered to act as pilot-in-command for the particular class of operation:

- (1) A pilot shall not be rostered for a duty period of more than 18 hours.

- (2) A duty period already commenced may be extended in duty time to 20 hours to complete disrupted schedules.

(b) When the flight crew includes one pilot normally rostered to act as pilot-in-command for the particular class of operation and two pilots possessing qualifications approved by the Director for the operation:

- (1) A pilot shall not be rostered for a duty period of more than 14 hours.
- (2) A duty period already commenced may be extended in duty time to 16 hours to complete disrupted schedules.

5.2.2.2 Within each duty period the pilot-in-command shall establish a roster of periods of active duty and rest for each pilot which may only be varied at the discretion of the pilot-in-command.

5.2.2.3 Adequate rest facilities are to be provided on the aircraft.

5.2.2.4 On completion of the duty period a pilot shall have a rest period on the ground calculated as follows:

- (a) For the first 11 hours duty – 10 consecutive hours.
- (b) For each subsequent hour's duty – 2 additional hours, up to a maximum of 24 consecutive hours.

5.2.2.5 When a pilot has been on duty for more than 24 hours in 48 consecutive hours he or she shall have, at the completion of that duty period, a rest period of not less than 24 consecutive hours.

5.2.2.6 When a pilot has been on duty for more than 32 hours in any 72 consecutive hours he or she shall have, at the completion of that duty period, a rest period of not less than 24 consecutive hours.

5.2.2.7 On return to home base after a tour of duty, the pilot's rest period shall not be less than twice the number of hours flown as an operating flight crew member since leaving home base on that tour of duty. Except that, when a tour of duty includes a stay in an area having a time difference of more than two hours, the rest period at home base on completion of the tour of duty shall not be less than 72 consecutive hours.

5.2.2.8 When a pilot is temporarily detached at a place other than home base and a tour of duty is completed at that place, the rest period applicable to home base shall apply.

5.2.2.9 When a pilot begins a tour of duty at home base and completes it at a place of detachment or begins a tour of duty at the place of detachment and

completes it at home base, the rest period applicable shall be that which applies when the place of detachment is also regarded as the pilot's home base.

5.2.2.10 In addition to the rest period applicable at the end of a pilot's last duty period, he or she shall have a recreational period of 24 consecutive hours free of all duties at least once in every 7 consecutive days. If, because of the length of the required rest period, this is not possible, the pilot shall have this recreational period free of all duties at the conclusion of that rest period.

5.2.2.11 When at home base, the rest period applicable and the recreational 24 hours must together include a continuous period embracing the hours between midnight and 6 am on two successive nights or extended to include that period.

5.2.2.12 A pilot shall not fly, and an operator shall not roster a pilot to fly, in excess of:

- 35 hours in any 7 consecutive days
- 100 hours in any 28 consecutive days
- 250 hours in any 84 consecutive days

5.3 *Reserved*

5.4 *Flight Engineers*

5.4.1 A flight engineer of an aircraft which carries only one flight engineer as part of a crew on external operations shall be subject to the following flight time limitations:

5.4.1.1 The flight crew member shall not be rostered to fly in excess of 9 hours in any one duty period.

5.4.1.2 The flight crew member shall not be rostered for a duty period of more than 12 hours.

5.4.1.3 A duty period already commenced may be extended in flight time to 10 hours and duty time to 14 hours to complete disrupted schedules.

5.4.1.4 When the flight crew member has flown more than 9 hours or has been on duty more than 12 hours in any 24 consecutive hours he or she shall have, at the completion of that duty period, a rest period of not less than 12 consecutive hours, including the hours between midnight and 6 am local time, or 14 consecutive hours.

5.4.1.5 When the flight crew member has flown more than 18 hours or has been on duty for more than 24 hours in any 48 consecutive hours he or she shall have, at the completion of that duty period, a rest period of not less than 24 consecutive hours.

5.4.1.6 When the flight crew member has flown more than 23 hours or has been on duty for more than 32 hours in any 72 consecutive hours he or she shall have, at the completion of that duty period, a rest period of not less than 24 consecutive hours.

5.4.1.7 On return to home base after a tour of duty the flight crew member's rest period shall not be less than twice the number of hours flown since leaving home base on that tour of duty. Except that, when a tour of duty includes a stay in an area having a time difference of more than 2 hours, the rest period at the home base on completion of a tour of duty shall not be less than 72 consecutive hours.

- When the flight crew member is temporarily detached at a place other than home base and a tour of duty is completed at that place, the rest period applicable to home base shall apply.
- When the flight crew member begins a tour of duty at home base and completes it at the place of detachment or begins a tour of duty at the place of detachment and completes it at home base, the rest period applicable shall be that which applies when the place of detachment is also regarded as home base.

5.4.1.8 In addition to the rest period applicable at the end of the flight crew member last duty period, he or she shall have a recreational period of 24 consecutive hours free of all duties at least once in every 7 consecutive days. If, because of the length of the required rest period, this is not possible, the flight crew member shall have this recreational period free of all duties at the conclusion of that rest period.

- When at home base, the rest period applicable and the recreational 24 hours must together include a continuous period embracing the hours between midnight and 6 am on two successive nights or extended to include that period.

5.4.1.9 The flight crew member shall not fly, and an operator shall not roster the member to fly, in excess of:

- 35 hours in any 7 consecutive days
- 100 hours in any 28 consecutive days
- 250 hours in any 84 consecutive days

5.4.2 A flight engineer of an aircraft which carries two flight engineers or one flight engineer and a pilot who has completed an approved training course and who is certified by the company to give in-flight relief to the flight engineer shall be subject to the following flight time limitations:

5.4.2.1 The flight crew member shall not be rostered for a duty period exceeding 18 hours.

5.4.2.2 A duty period already commenced may be extended in duty time to 20 hours to complete disrupted services.

5.4.2.3 Within each duty period the pilot-in-command shall establish a roster of periods of active duty and rest for each flight crew member which may only be varied at the discretion of the pilot-in-command.

5.4.2.4 Adequate rest facilities are to be provided on the aircraft.

5.4.2.5 On completion of the duty period the flight crew member shall have a rest period on the ground calculated as follows:

- (a) For the first 11 hours – 10 consecutive hours.
- (b) For each subsequent hour's duty – 2 additional hours, up to a maximum of 24 consecutive hours.

5.4.2.6 When the flight crew member has been on duty for more than 24 hours in any consecutive 48 hours he or she shall have, at the completion of that duty period, a rest period of not less than 24 consecutive hours.

5.4.2.7 When the flight crew member has been on duty for more than 32 hours in any consecutive 72 hours he or she shall have, at the completion of that duty period, a rest period of not less than 24 consecutive hours.

5.4.2.8 On return to home base after a tour of duty the flight crew member's rest period shall not be less than twice the number of hours flown as an operating crew member since leaving home base on that tour of duty. Except that, when a tour of duty includes a stay in an area having a time difference of more than 2 hours the rest period at the home base on completion of a tour of duty shall not be less than 72 consecutive hours.

- When the flight crew member is temporarily detached at a place other than home base and a tour of duty is completed at that place the rest period applicable at home base shall apply.
- When the flight crew member begins a tour of duty at home base and completes it at a place of detachment or begins a tour of duty at the place of detachment and completes it at home base, the rest period applicable shall be that which applies when the place of detachment is also regarded as home base.

5.4.2.9 In addition to the rest period applicable at the end of the flight crew member's last duty period he or she shall have a recreational period of 24 consecutive hours free of all duties at least once in every 7 consecutive days. If, because of the length of the required rest period, this is not possible, the flight

crew member shall have this recreational period free of all duties at the conclusion of that rest period.

- When at home base, the rest period applicable and the recreational 24 hours must together include a continuous period embracing the hours between midnight and 6 am on two successive nights or extended to include that period.

5.4.2.10 The flight crew member shall not fly as an operating crew member, and an operator shall not roster the member to fly as an operating crew member, in excess of:

- 35 hours in any 7 consecutive days
- 100 hours in any 28 consecutive days
- 250 hours in any 84 consecutive days"