



WELLINGTON NEW ZEALAND

PURSUANT TO Section 30 of the Civil Aviation Act 1990

I, WILLIAM ROBSON STOREY, Minister of Transport,

HEREBY MAKE the following ordinary rules.

SIGNED AT Wellington

this 24th day of

August

1992

by WILLIAM ROBSON STOREY

Minister of Transport

A handwritten signature in black ink, appearing to read 'W. Robson Storey', written over the printed name.

Civil Aviation Rules

Part 121 Subpart K

**Air Transport Operations (Aeroplane) —
Operator Certification and Operations**

Part 123 Subpart K

**Air Transport Operations (Helicopter) —
Operator Certification and Operations**

Docket Nr. 1002

Civil Aviation Rules

**Part 121 Subpart K
Air Transport Operations (Aeroplane) —
Operator Certification and Operations**

**Part 123 Subpart K
Air Transport Operations (Helicopter) —
Operator Certification and Operations**

FATIGUE OF FLIGHT CREW

RULE OBJECTIVE AND EXTENT OF CONSULTATION

The objective of Subpart K of Parts 121 and 123 is to define a regulatory safety boundary that will serve to prevent the accumulation of fatigue in flight crew members that may affect the safety of flight during air transport operations (aeroplane and helicopter).

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.

A draft of Subpart Q (now Subpart K) was developed by the rules rewrite team in consultation with members of the consultative group. The first informal draft was published and distributed in February 1991. An intensive period of informal consultation followed which resulted in the publishing of a second draft which was distributed in June 1991. This consultation included written

submissions from the consultants and meetings between the responsible technical specialist and various industry groups at regional venues. This informal consultative process culminated in the issue of Notice of Proposed Rule Making 91-4 under Docket number 1002-NR on 10 July 1991. The publication of this notice was advertised in the daily newspapers in the five main provincial centres on 11 July 1991. 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 sixty days was allowed for comment on the proposed rules. Seventeen written submissions were received from industry in response to this notice. Further meetings were held with members of the consultative group to address their concerns and to discuss proposed remedies. These submissions and discussions were considered and where appropriate the proposed rules amended to take account of the concerns raised. Those rules as amended were then referred to and signed by the Minister of Transport.

List of Rules

Part 121	1	Part 123	2
121.901 Applicability	1	123.901 Applicability	2
121.903 Operator responsibilities	1	123.903 Operator responsibilities	2
121.905 Flight Crew responsibilities	1	123.905 Flight Crew responsibilities	2

Part 121

121.901 Applicability

This Subpart prescribes flight time limitations and other rules to minimise fatigue in flight crew members of aeroplanes engaged in air transport operations.

121.903 Operator responsibilities

- (a) The operator of an aeroplane shall not cause or permit that aeroplane to be used on an air transport operation unless —
- (1) a scheme has been established for the regulation of flight times for every person flying in that aeroplane as a flight crew member; and
 - (2) the scheme addresses the following factors where appropriate to the operator's type of operation:
 - (i) rest periods prior to flight:
 - (ii) acclimatisation:
 - (iii) time zones:
 - (iv) night operations:
 - (v) maximum number of sectors:
 - (vi) single pilot operations:
 - (vii) two pilot operations:
 - (viii) two pilots plus additional flight crew members:
 - (ix) flight crew members' qualifications:
 - (x) mixed duties:
 - (xi) dead-head transportation:
 - (xii) reserve or standby periods:
 - (xiii) flight duty period:
 - (xiv) in-flight relief:
 - (xv) type of operation:
 - (xvi) cumulative duty time:
 - (xvii) cumulative flight time:
 - (xviii) discretionary increases in flight time limitations or flight duty limitations or both:
 - (xix) circadian rhythm:
 - (xx) days off:
 - (xxi) record-keeping.

(b) The operator of an aeroplane engaged on an air transport operation shall not cause or permit any person to fly in the aeroplane as a flight crew member if the operator knows or has reason to believe that the person is suffering from, or, having regard to the circumstances of the flight to be undertaken, is likely to suffer from, such fatigue while they are so flying as may endanger the safety of the aeroplane or its occupants.

(c) The operator of an aeroplane engaged in air transport operations shall keep an accurate record of the flight times of each flight crew member flying in the aeroplane. Each flight time record shall be retained by the operator for a period of 12 months from the date on which it was made.

121.905 Flight Crew responsibilities

- (a) A person shall not act as a flight crew member of an aeroplane engaged on an air transport operation if that person knows or suspects that they are suffering from, or, having regard to the circumstances of the flight to be undertaken, are likely to suffer from, such fatigue as may endanger the safety of the aeroplane or its occupants.
- (b) A person shall not act as a flight crew member of an aeroplane engaged on an air transport operation unless that person has ensured that the limitations prescribed in the scheme required by 121.903 are not exceeded.
- (c) A person shall not act as a flight crew member of an aeroplane engaged on an air transport operation if, at the beginning of the flight, the aggregate of all that person's previous and planned flight times on air transport operations —
- (1) during the period of 28 consecutive days expiring at the end of the day on which the flight begins — exceeds 100 hours; or
 - (2) during the period of 365 consecutive days expiring at the end of the day on which the flight begins — exceeds 1000 hours.

Part 123

123.901 Applicability

This Subpart prescribes flight time limitations and other rules to minimise fatigue in flight crew members of helicopters engaged in air transport operations.

123.903 Operator responsibilities

- (a) The operator of a helicopter shall not cause or permit that helicopter to be used on an air transport operation unless —
- (1) a scheme has been established for the regulation of flight times for every person flying in that helicopter as a flight crew member; and
 - (2) the scheme addresses the following factors where appropriate to the operator's type of operation:
 - (i) rest periods prior to flight:
 - (ii) acclimatisation:
 - (iii) time zones:
 - (iv) night operations:
 - (v) maximum number of sectors:
 - (vi) single pilot operations:
 - (vii) two pilot operations:
 - (viii) two pilots plus additional flight crew members:
 - (ix) flight crew members' qualifications:
 - (x) mixed duties:
 - (xi) dead-head transportation:
 - (xii) reserve or standby periods:
 - (xiii) flight duty period:
 - (xiv) in-flight relief:
 - (xv) type of operation:
 - (xvi) cumulative duty time:
 - (xvii) cumulative flight time:
 - (xviii) discretionary increases in flight time limitations or flight duty limitations or both:
 - (xix) circadian rhythm:
 - (xx) days off:
 - (xxi) record-keeping.

(b) The operator of a helicopter engaged on an air transport operation shall not cause or permit any person to fly in the helicopter as a flight crew member if the operator knows or has reason to believe that the person is suffering from, or, having regard to the circumstances of the flight to be undertaken, is likely to suffer from, such fatigue while they are so flying as may endanger the safety of the helicopter or its occupants.

(c) The operator of a helicopter engaged in air transport operations shall keep an accurate record of the flight times of each flight crew member flying in the helicopter. Each flight time record shall be retained by the operator for a period of 12 months from the date on which it was made.

123.905 Flight Crew responsibilities

- (a) A person shall not act as a flight crew member of a helicopter engaged on an air transport operation if that person knows or suspects that they are suffering from, or, having regard to the circumstances of the flight to be undertaken, are likely to suffer from, such fatigue as may endanger the safety of the helicopter or its occupants.
- (b) A person shall not act as a flight crew member of a helicopter engaged on an air transport operation unless that person has ensured that the limitations prescribed in the scheme required by 123.903 are not exceeded.
- (c) A person shall not act as a flight crew member of a helicopter engaged on an air transport operation if, at the beginning of the flight, the aggregate of all that person's previous and planned flight times on air transport operations —
- (1) during the period of 28 consecutive days expiring at the end of the day on which the flight begins — exceeds 100 hours; or
 - (2) during the period of 365 consecutive days expiring at the end of the day on which the flight begins — exceeds 1000 hours.

CONSULTATION DETAILS AND TRANSITIONAL ARRANGEMENTS

(This statement does not form part of the rules contained in Part 121K and 123K. It provides details of consultation undertaken in making the rules and also explains transitional arrangements.)

Background to the Rules

In April 1988 the Swedavia - McGregor Report on Civil Aviation Regulation in New Zealand was completed. Following the recommendations contained in that report the Air Transport Division of the Ministry of Transport is undertaking a complete review of all existing civil aviation legislation.

Considerable research was carried out to determine the format for the new legislation. It was decided that the most suitable legislative framework should incorporate the advantages from the system being developed by the European Joint Aviation Authorities and published as Joint Aviation Requirements (JAR), and from the Federal Aviation Regulations (FAR) developed by the Federal Aviation Administration (FAA) of the United States of America.

The JAR are structured in a manner similar to the FAR and aim to achieve maximum harmonisation whilst allowing for national variations.

New Zealand's revised legislation will be published as Civil Aviation Rules (CAR) divided into several Parts. Each Part will enunciate a series of individual rules which relate to a particular aviation activity. As with these rules, some Parts may be developed in stages by using a number of smaller units called Subparts. Subpart K is one of these subparts that has been produced separately.

Accompanying each part of the CAR there will be, where necessary, an associated Advisory Circular (AC) which will explain, in an informative way, how the specific requirements of the CAR can be achieved. The information will explain an acceptable means of compliance. For example, an AC may contain the minimum acceptable practice which would be necessary to meet the standard advocated in the rule.

The CAR numbering system is based on the FAR system. As a general principle the subject matter of a rule part will be the same or similar to the FAR, although the title may differ to suit New Zealand terminology. Where a CAR does not readily equate with a FAR number code a number has been selected that does not conflict with any existing FAR part.

The FAR has been used as the start point for the development of many of the CAR, but there are likely to be significant differences in the content of each Part of the Rules. In this case the structure and content of Subpart 121K is based on the content of United Kingdom Air Navigation Order, Articles 57, 58, 59,60 and 63. Changes have been made to conform to New Zealand legal practices and terminology.

The Swedavia - McGregor Report concluded that the objective of the new rules system must be to strike a balance of responsibility between the state authority and those who provide services and who exercise privileges in the civil aviation system. This balance must enable the State Authority to maintain continuing regulatory control and supervision whilst providing the maximum flexibility for participants to develop their own means of compliance.

Section 7 of the Civil Aviation Act 1990 (the Act) provides for the requirement to hold an aviation document to carry out particular civil aviation activities. Section 12 of the Act requires the holders of such documents to carry out their activities safely and in accordance with the relevant prescribed safety standards and practices.

Notice of proposed Rule making

The Air Transport Division, on July 10 1991, issued Notice of Proposed Rule Making 91-4 under Docket Number 1002 NR. This was done to provide public notice of, and opportunity for comment on, the proposed new rules. The notice proposed the introduction of Civil Aviation Rules Subpart 121Q to provide a regulatory boundary for the application of flight and duty time limitations to organisations wishing to operate aircraft on air transport operations.

In addition to some substantive changes, the proposed rules have undergone several organisational and structural changes. The Subpart letter 'Q' selected for this subpart at the NPRM stage (for reasons of compatibility with the numbering of American FAR Flight Time Limitations and Rest Requirements) has been changed to 'K'. This is to conform with an updated plan for subpart organisation in Part 121 to enable a logical presentation of the subject matter currently contemplated for that Part. In addition, the application of the subpart has been confined to aeroplanes, since Part 121 will not concern air transport operations of other aircraft. A similar subpart K has been created for Part 123 helicopter air transport operations. This latter division involves no substantive changes to the subpart which originally applied singularly to both aeroplanes and helicopters. The title of the Subpart has been changed from *Flight and Duty Time Limitations* to *Fatigue of Flight Crew* as the subject matter of the Subpart includes rules in addition to such limitations. The broader title better describes the content. The numbering within Part 121 Subpart K has been altered to conform with the conventional method selected for the CAR Parts. Text changes to the Subpart are described further below.

Supplementary information

All comments made on the Notice of Proposed Rule Making are available in the rules docket for examination by interested persons.

Availability of the document

Any person may obtain a copy of these rules by submitting a request to the Air Transport Division, PO Box 31-441, Lower Hutt 6300, Attn. Docket Clerk, by phone to 0-4-560 0410 or by Fax to 0-4-569 3256.

Communications must identify the Docket Number of these rules.

Summary of comments to Docket Number 1002 NPRM

The proposed subpart has been amended taking into consideration the submissions received during the formal consultation period following the publishing of NPRM Subpart 121K and is now published as a Final Rule.

In some cases it was difficult to clearly identify the issues that were being raised in the submissions made against 121Q NPRM. The response to the comments that were received are based upon the Authority's understanding of the text in the submission. It is possible that the commenters may disagree with this interpretation. However the Authority has attempted to be fair in its understanding of the proposed comment.

A summary of major issues identified by industry is as follows:

General

Seventeen written submissions were received in response to the NPRM. During the formal consultation period several meetings took place at Aviation House with six major commenters. A large number of issues were raised through both written and oral comment.

1. Five commenters believe that the Objective of the NPRM has not been met in that the proposed rule fails to establish a safety regulatory boundary for flight crew in the area of flight and duty time limitations.

The Authority believes that the objective of the NPRM has been met and that the proposed rule establishes the regulatory safety boundary by prescribing:

- (a) the requirement for an aircraft operator engaged in air transport operations to establish a scheme as part of its exposition (suite of manuals) to control the flight and duty times of its flight crew; and
- (b) the factors that must be addressed by the operator in establishing its scheme; and
- (c) the responsibilities for both the operator and the flight crew in operating the scheme; and
- (d) the maximum limits for the cumulative flight time of flight crew.

The proposed Subpart is in accordance with the standards of Section 4.2.10 of Annex 6 to the Convention on International Civil Aviation (the Chicago Convention). That section requires:

- (1) an operator to maintain current records of the flight time of all flight crew members;
- (2) an operator to formulate rules limiting the flight time and flight duty periods of flight crew members to ensure that cumulative fatigue does not endanger the safety of flight;
- (3) that the operator rules be approved by the Authority; and
- (4) that these rules to be included in the operations manual (exposition).

An ICAO working paper, AN-WP/6601, proposes an amendment to Section 4.2.10 of Annex 6. If this amendment is adopted by the ICAO Council it will prescribe cumulative flight time limitations which are identical to those prescribed by the Authority in Subpart K.

Under the Authority's new rule concept the operator's flight and duty scheme will not be approved as such but will have to be acceptable to the Director of Civil Aviation (the Director). This is discussed at item 4 below.

The requirements for the scheme to be acceptable to the Director, to be incorporated in the operator's exposition, and to be complied with (rule 121.125(a)(2), (4) and (5) in the NPRM) have been deleted from Subpart K. They will now be covered by requirements within the General Certification subpart (Subpart B) and General Operating subpart (Subpart C) of Parts 121 and 123. Subpart B will require the operator's organisation exposition (system of manuals - of which the scheme will form a part) to be acceptable to the Director. Subpart C will require the operator to ensure compliance with the procedures and schemes that make up the exposition. Subpart K of Part 121 and of Part 123 will not come into force until the certification and operating subparts supporting them are also in force. Transitional implications of this are discussed at the end of this summary.

Part 121/123 Subpart K — Fatigue of Flight Crew

In addition to the compliance requirement, the General Operating subparts of Parts 121 and 123 will require that if the scheme, as part of the exposition, is to be amended then the amendment be done in accordance with an amendment procedure detailed in the operator's exposition. Under Subpart C, changes to the scheme during the life of the aviation document will not require the prior consent of the Authority. The operator will, however, be required to provide the Director with copies of any amendments. The Director will be empowered to require scheme changes if this is considered necessary to ensure safety.

Changes that comply with the rule subpart and that are based upon safety criteria as presented in the accompanying Advisory Circular will not require the Director's intervention. This overview process is the process recommended by Swedavia - McGregor at 12.2.3 of the Report.

The scheme will also be subject to safety audit by the Authority during the period for which the organisation has been certificated. The optimum output of the scheme is safe operation of aircraft. Subpart K of Parts 121 and 123 has been written on the assumption, accepted by Swedavia - McGregor and written into the Civil Aviation Act 1990, that licensed individuals and approved organisations will act in a responsible way.

2. Two commenters stated that Advisory Circulars are legally non-mandatory. Also it has been suggested that the subparts are not drafted in a manner that is adequate enough to support the content of the Advisory Circular. One commenter stated that 121Q NPRM should be withdrawn and re-issued in a form which establishes all mandatory elements in the rules and all permissive elements in the Advisory Circular.

The first comment is correct and the comment probably arises from the mandatory style of language used in parts of the original Advisory Circulars. This has been corrected.

Civil Aviation Authority advisory circulars (AC) contain information about standards, practices and procedures that the Authority has found to be acceptable for compliance with the associated rules. In this case, the Authority has accepted that Part A and Part B of the AC, which supported the second NPRM, should be removed and replaced with revised material without mandatory limits. The revised AC supports these Final Rule Subparts and offers ICAO Annex 6, Part I, Attachment A and Part III, Attachment C - Flight Time and Flight Duty Limitations as suitable guidance material for use by operators in the development of rostering schemes and scheme maximum limits.

The AC also makes it clear that the scheme, and any changes to the scheme during the validity period of the operator's aviation document, will be initially assessed and then audited against:

- (1) currently accepted international practices by nations who are members of ICAO, but principally the FAR, UK ANO and CAP 371, and JAR;
- (2) the recommendations contained in ICAO Annex 6, Part I Attachment A, and Part III Attachment C;
- (3) available documented factual data;
- (4) sound documented objective analysis; and
- (5) proven documented historical operating data.

The comment was also made that, with the rule as proposed and without the hard-core limitations along the lines of CASO 3, New Zealand would be breaking new ground; and that

Part 121/123 Subpart K — Fatigue of Flight Crew

New Zealand had neither the experience nor the resources to embark on such experimentation.

This is not the case. To be acceptable to the Director, a scheme will have to be based on an international practice that is itself acceptable to the Director. Those practices that are acceptable are ones that have been developed over a period of time with considerable research and the experience of many large aircraft fleets in all types of operations. Subpart K is giving the New Zealand industry the opportunity in the development of their individual schemes to draw upon the wealth of experience that is available in these international practices.

As the overall intent of Subpart K is not being changed the Authority does not consider that there is a need to withdraw the NPRM.

3. One commenter stated that a rule Part on the Procedures for Rule Making ought to be the first rule Part made under the 1990 Act and that no rule ought to be made nor new NPRM promulgated until a rule Part on rule making is made. The Authority does not accept this comment. The Act does not require the making of such a rule Part as a prerequisite for making other rules. However, the Authority has released Part 11 - General Rule Making Procedures to industry for formal consultation as an NPRM in order to promote transparency and efficiency in rule making. The publication of Part 11 will not affect the processing of Subpart K as the procedures followed for the draft, the NPRM, and the Final Rule have been in accordance with the proposed requirements and with administration procedures of the Air Transport Division laid down in *Civil Aviation Regulatory System - Basic Production and Amendment Procedures*.

4. One commenter stated that any scheme should be approved by the Authority rather than being acceptable to the Authority.

The Swedavia - McGregor Report at 12.2.3 recommended that the responsibility to ensure that operations are carried out according to the defined performance standards must rest with the approved organisation. In the past, manuals were approved by the Authority as a control measure. Swedavia recognised that this procedure did not allow full recognition of the responsibility the organisation should assume in carrying out its functions. They also recognised that this procedure is time-consuming and a bottleneck in responding to operator's need for change. Swedavia recommended that, as part of the overview procedure described in paragraph 1 above, the exposition be *accepted* not *approved* as a basis for issuing the certificate in order to fully recognise the responsibility of the organisation.

In line with this recommendation the Authority is no longer going to approve an operator's system of manuals. The exposition, which must include the scheme, will be accepted by the Authority once it has achieved the required standard. In the first instance acceptance of an operator exposition will be indicated by the issue of an operating certificate. The operator and the flight crew will be required to comply with the limitations contained in the scheme. In the second instance the operator will be audited against the exposition.

5. One commenter stated that no exemptions from the requirements of the rule should be granted.

Although section 37(4) of the Act allows rules to provide that no exemptions are to be granted in respect of those rules, this is not considered necessary in the context of Subpart K. The Director does not anticipate the granting of any exemption to the rules specifying maximum flight time figures or the rules requiring operator and flight crew alike to identify

fatigue and take preventative steps. However, the Director will retain the right to grant an exemption in extraordinary circumstances. The area in which discretion and flexibility will be exercised is in assessing the initial and continued acceptability of a scheme.

6. A number of commenters felt that the Authority was attempting to renege on regulatory responsibilities in the area of Flight and Duty Time Limitations. The basis for this argument would appear to be that the rule subpart is not as prescriptive as CASO 3 or, for example, the USA FAR. Another argument would appear to be that operators would develop schemes that could coerce their crews into unsafe practices.

Conversely one operator felt that industrial strength could seriously jeopardise the commercial viability of their operation.

The Civil Aviation Act 1990 sets in place a major recommendation as stated in the Swedavia - McGregor Report 12.2.1. The division of responsibilities for safety between the State authority and the participants in the system have now been clearly defined. Subpart K will change the Authority's role to an overview rather than being involved in day to day operating details which should be resolved by the operators. The rules for the organisation (in subparts A, B and C) will require that the organisation has a quality assurance system to ensure the safety of the operations by identification and correction of aberrations in the system.

7. One commenter did not accept that an operator should be permitted to vary a scheme during the life of an aviation document as advocated in the NPRM.

It would be impractical to tie an operator to a flight and duty scheme for a period of up to five years (the maximum life of an aviation document) and not allow them to make changes that may be required to suit changed operating requirements, types of aircraft and so on. Such a restriction would not recognise the division of responsibility recommended by Swedavia. Provided the changes stay within the overall regulatory boundary, the scheme remains acceptable.

Applicability

One commenter challenged the content of the applicability paragraph as it refers to air transport operations rather than air or cabin crew. Another commenter believed that cabin crew duty limits should only apply to operators who use the minimum number of crew members prescribed.

The applicability paragraph has been amended to provide a more general description stating who the subpart is directed at and on what type of operation. The phrase *to which this subpart applies* used in the subpart text has been replaced with *engaged in air transport operations*. The former phrase, which is used in the UK ANO to avoid repetition, is unnecessary in New Zealand's CAR because the CAR application is less specific.

In relation to the application of duty time limitations and other fatigue rules to cabin crew, further research indicates that such rules cannot be justified at the present time. Neither ICAO standards and recommended practices nor the Swedavia - McGregor Report include such a regulatory approach. Recently the House of Representatives in the USA passed a bill which required the Federal Aviation Administration to act on the matter within a certain timeframe, failing which limitations in the bill would come into force. The FAA has yet to respond to this requirement and introduce regulations that would be applicable to these

crew members. The subpart has therefore been amended to confine its application to flight crew members. Furthermore, ICAO is at present proposing an amendment to Annex 6, Part 1, 4.2.10.3 which would require the state of the operator to formulate rules limiting all crew duty and allow for the provision of adequate rest periods. Should such a standard or recommendation be introduced by ICAO, the Authority will naturally review its position.

As mentioned earlier Part 121K now applies only in respect of aeroplanes. A similar subpart has been created in respect of helicopters — Part 123K.

It is the decision of the Authority to adopt the appropriate ICAO standards and recommendations and regulate for fatigue of flight crew members on air transport operations only. The limitations and requirements of the subpart reflect the dual responsibilities of the operator and the flight crew member in respect of fatigue on air transport operations.

Definitions

Six commenters recommended changes to a number of areas of the definitions section. Advice included the general comment that the definitions generally were different from those contained in other regulatory systems. Changes were also suggested to the definitions of aircraft, crew member, flight crew member and flight time.

In addition, a request to define flight duty period, duty period and a cabin crew member was recommended. The definition of active flight deck duty has been deleted as the discounting of flight time provision has been removed from the rule.

All remaining definitions are either identical to the ICAO definition or worded in a manner that is identical in intent. These have been transferred to CAR Part 1.

The AC supporting this subpart contains a description of each of the factors to be considered by rules 121.903 and 123.903. This eliminates the need for additional definitions. Any definitions that are necessary for the subpart will appear in Part 1, Definitions and Abbreviations.

Operator Responsibilities

1. Some sixteen topics were commented on under this subheading including the general opinion that the containment of mandatory requirements in the AC would not provide the legal standing necessary to protect the crew member.

The new AC does not contain any mandatory requirements, only general descriptions of operator and flight crew member responsibilities and factors to be considered in the development of an operator's scheme if it is to be acceptable and remain acceptable to the Authority.

2. One commenter pointed out that the scheme criteria in the subpart are not covered in all the acceptable regulatory documents contained in AC 121 Part B.

The scheme criteria were inserted in the subpart to ensure that operators gave appropriate consideration to necessary factors in the development of rostering schemes and scheme rules. The text in relation to regulatory systems contained in AC Part B has been withdrawn because the guidance material contained in ICAO Annex 6, Part I Attachments A, and Part III Attachment C is considered a starting point for operators for scheme development. Refer also to the previous comment regarding acceptable criteria under *General - 2*.

Part 121/123 Subpart K — Fatigue of Flight Crew

3. Rule 121.5(2) in the NPRM covering scheme acceptability was challenged by three commenters who felt that the phrase *as it thinks fit* was too open ended and should be removed. The Authority considers that in the context of *accepting* a scheme such a qualification is unnecessary. If the scheme requires such conditions it is unlikely that it will be *acceptable*. However, operators should be aware that under the Civil Aviation Act 1990 aviation documents may be subject to such conditions as the Director considers appropriate in each particular case. In any event, as previously explained, this *acceptability* requirement is to appear in an earlier subpart applying to all manuals which make up the operators exposition.

4. The concept of *rest prior to flight* was not accepted by one commenter. The concept of considering rest prior to flight is based on the logic that a crew member should be adequately rested prior to beginning a duty or flight duty period. Minimum rest prior to flight duty is a concept that is used by other states with acceptable regulatory methods on this general subject.

5. One commenter believed that sector limits were an industrial issue and not related to fatigue.

However, it is reasonable to accept that with an increasing number of sectors there is consequently an increase in human effort required which increases the effects of fatigue.

6. Another commenter was of the impression that the rule subpart gave extreme latitude and that because of this, discretionary increases in flight time or flight duty periods should not be permitted.

The Authority cannot accept that extreme latitude has been given in the rule. The rule requires conformance with internationally recognised practices and standards for scheme development and continued operation. Where an overseas equivalent makes provision for discretionary increases, then such will be acceptable here. Where no such provision is made overseas, then none will be permitted here. Discretionary increases may be advisable to cope with operational situations that could preclude the completion of the flight sequence. Alternatively, the operator may choose to plan all operations to be rostered for completion well within their scheme limitations and use the built-in margin as a buffer that eliminates the need for discretionary increases.

7. The topic of split duty was raised by two commenters.

Schemes are required to be acceptable to the Director; any split duty proposals would be assessed on their merit and relevance to other international practices.

8. The requirement to ensure the scheme is incorporated in the operator's *operations manual* was further discussed by one commenter who stated that such a manual should be made available to all crew members. Presently, regulation 141 of the Civil Aviation Regulations 1953 requires an operator to provide an operations manual for compliance by its operations personnel. This requirement, but more clearly worded, will be contained in the General Operating subpart of Parts 121 and 123 and will apply in respect of all the appropriate contents of the operator exposition. Since an operator will be free to determine the format of its exposition there will be no specific requirement to include the scheme within an *operations manual* as such. However, the scheme will be required to form part of the exposition and the exposition will also detail how flight crew are to be made aware of the provisions applicable to them.

9. With the requirement that the operator must take reasonable steps to ensure compliance with an accepted scheme, one commenter believed that guidelines should be produced to more accurately define the meaning of *reasonably practicable*.

The compliance requirements will now appear in an earlier subpart as part of a more general compliance requirement relating to all components of the exposition. This aside, the Authority does not believe this phrase requires definition at rule level since it is clearly an objective test that recognises there are limits to what can be ensured. Guidelines as to what the Authority considers to be *reasonably practicable* may be appropriate at advisory circular level. Further opportunity to comment on this requirement will arise in the development of Subparts A, B, and C.

10. Three commenters stated that the operator responsibility in rule 121.5(c) of the NPRM to maintain a record to the level of accuracy specified therein, was virtually impossible to comply with in practice. The requirement has therefore been relaxed and stated in general terms to make the rule more realistic. The requirement in the next paragraph (121.5(d)) has been amalgamated with paragraph (c).

11. Two commenters claimed that either the monitoring text or the whole paragraph in 121.5 (e) of the NPRM ought to be removed as the text was basically stating the obvious. Rule 121.5(e) has been deleted from the final rule subpart since its purpose will now be met by the general requirement for internal Quality Assurance. This requirement will appear in the subpart dealing with operator certification. It will implement the Swedavia - Mcgregor recommendation that an approved organisation should maintain internal Quality Assurance to provide confidence, to its management, that the intended quality is being achieved.

Other commenters stated that in the present industrial climate some form of regulatory protection for any reporting mechanism is necessary to protect the crew member against reprisal. The Authority will encourage the use of a confidential reporting system but cannot justify such a requirement in the rules. Such a requirement could be totally impractical for a small air transport operator. The Quality Assurance system requirement should provide the operator and the crews with the overall assurance that a level of safety is being achieved in line with its stated safety goals and objectives. The operator has a direct interest in doing this in order to meet its responsibilities.

12. Two of the commenters were of the firm opinion that rule 121.7(b) of the NPRM would be totally unworkable and impossible to comply with as the flight crew member would need to inform the operator of the flight time of each individual sector prior to commencing the next sector in a duty period.

The paragraph has been rewritten to make it more workable in practice and to reflect the flight crew member's general responsibility to comply with the scheme.

Flight crew responsibilities - flight time

1. One commenter advocated that there needs to be a single day limit for domestic air transport operation and that it should be 11 hours duty extendible to 12 hours. Another felt that rule 121.909 of the NPRM is inadequate as it does not cover duty time limitations and such limitations should be the same for both flight and cabin crew.

Duty time limits should be developed by the operator as part of the scheme which is presented to the Authority. Cabin crew limitations are not being considered at the present time. It should be noted that because the application of 121.7(a) of the NPRM does now not include cabin crew, the requirements in 121.7 and 121.9 have been combined into one rule (121.905 and 123.905) covering all flight crew responsibilities concerning fatigue.

2. Three commenters advocated that the use of *active flight deck duty* times was irrelevant to the calculation of flight times and difficult to determine from a rostering point of view.

One commenter further challenged the use of *discounted* flight time and further stated that present international usage of the general definition did not support that approach. Flight crew members would be permitted to substantially exceed present flight time limits. The provision for the discounting of flight time has been deleted from the rule. The definition of *active flight deck duty* becomes redundant and has also been deleted.

15. Five commenters stated that duty time limits should be regulated and a flight duty period be defined and become part of the rule. It was also stated that the rule should include additional provisions for periodic limitations to flight and duty times. The Authority does not agree that periodic limitations, other than those already contained in the rules, should be required for this subpart. Duty time limits are required to be a consideration in the development of the scheme and will be considered in any scheme submitted to the Authority.

Conclusion

The Authority believes that the rule subpart meets New Zealand's international obligations and is implementing the recommendations of the Swedavia - McGregor Report of 1988. Specific issues which have been identified in the comments have been addressed and, where appropriate, changes have been made to meet the concerns raised. The comments and all background material used in formulating the rules are held on the docket file and are available for public scrutiny. Persons wishing to view the docket file should call at Aviation House, 1 Market Grove, Lower Hutt and ask for Docket file No: 1002 NR.

Implementation:

Subparts K of Parts 121 and 123 will not come into force until notified in the Gazette. The subpart implementation is being delayed to enable the development and completion of the general Subparts A, B, and C governing the certification and continued operation of air transport operators. Subparts A, B, and C will contain requirements that are necessary to support and complement the scheme requirement in Subpart K; in particular:

- the requirement for internal quality assurance procedures to ensure compliance with, and the adequacy of, the procedures, plans and schemes (Subpart K scheme included) that make up the operator's exposition;
- the corporate statement from the Chief Executive of an air transport operator's organisation declaring that the operator's exposition defines the organisation's activities and that it will be complied with;
- the requirement for the operator's exposition to include the Subpart K scheme;
- the requirement for the operator's exposition to be acceptable to the Director;
- the requirement for the operator to comply with the procedures, plans and schemes (Subpart K scheme included) that make up the operator's exposition; and
- the procedural requirements applying to changes to the procedures, plans and schemes (Subpart K scheme included) that make up the organisation exposition.

Despite the implementation delay, the Director will allow operators to take advantage of the intent and philosophy behind Subpart K. Operators who submit a scheme that the Director finds to be acceptable will be authorised to operate to the scheme under regulation 34D(2) of the Civil Aviation Regulations 1953 as *approved variations* (dispensations) from Civil Aviation Safety Order Nr 3.

Part 121/123 Subpart K — Fatigue of Flight Crew

However, the grant of a dispensation will be subject to two conditions in order to ensure the scheme satisfies the intent and philosophy of Subpart K.

Firstly, the operator must demonstrate that it has internal quality assurance procedures to ensure compliance with, and the adequacy of, the scheme.

Secondly, the Chief Executive will be required to provide a statement on behalf of the operator declaring that the scheme is the tool the organisation will use to regulate flight times and that it will be complied with. Prior approval will be required for any changes to a scheme.

Until Subpart K and the general subparts of Parts 121 and 123 are in force and the operator is certificated under those provisions, any changes to a scheme will still require prior approval under regulation 34D(2).

Transitional information

As Subpart K will be activated concurrently with those other subparts introducing Parts 121 and 123, transitional information for operators required to be certificated under those Parts will be provided when these Subparts are implemented collectively as a rule Part.

Regulatory Evaluation

The following items of New Zealand Civil Aviation Legislation will be cancelled at the end of the implementation period that follows the commencement of Parts 121 and 123:

1. Civil Aviation Regulations 1953 - regulations 34C, 34D and 78; and
2. CAIC GEN A49 paragraph 3; and
3. Civil Aviation Safety Order Number 3; and
4. Civil Aviation Safety Order Number 20 Part 8.

At the same time, any variations approved under regulations 34C(2) or 34D(2) of the Civil Aviation Regulations 1953 as operational specifications or in any other form will become invalid.