



WELLINGTON NEW ZEALAND

PURSUANT to Section 28 of the Civil Aviation Act 1990

I, JENNIFER MARY SHIPLEY, Minister of Transport,

HEREBY MAKE the following ordinary rules.

SIGNED AT Wellington

This *17th* day of *February* 1997
by **JENNIFER MARY SHIPLEY**

Minister of Transport

Civil Aviation Rules

Part 133

Helicopter External Load Operations

Docket Nr. 1114

Civil Aviation Rules

Part 133

Helicopter External Load Operations

RULE OBJECTIVE, EXTENT OF CONSULTATION AND COMMENCEMENT

The objective of Part 133 is to establish —

- (a) flight crew licence requirements for pilots engaged in helicopter external load operations; and
- (b) operating rules and related requirements applicable to each person engaged in helicopter external load operations; and
- (c) airworthiness requirements for helicopters engaged in helicopter external load operations.

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. The Register was identified as the Regulatory Review Consultative Group.

A draft of Part 133 was developed by the rules rewrite team in consultation with members of the consultative group. An informal draft was published and distributed on 10 July 1995 and a period of informal consultation followed. This culminated in the issue of Notice of Proposed Rulemaking 95-9 under Docket 1114 on 20 December 1995.

The publication of this notice was advertised in the daily newspapers in the five main provincial centres on 20 December 1995. The notice was mailed to 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 90 days was allowed for comment on the proposed rules.

The submissions and verbal comments were considered and where appropriate the proposed rules amended to take account of the comments made.

The rules as amended were then referred to and signed by the Minister of Transport.

Part 133 comes into force on 1 April 1997.

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Subpart A — General

133.1 *Applicability*

(a) This Part prescribes rules that are additions to, and exceptions from, the general operating and flight rules contained in Part 91, for persons performing a helicopter external load operation.

(b) This Part does not apply to operations involving the suspension of a person beneath a helicopter, or the towing of a person by a helicopter, for sporting or recreational purposes.

133.3 *Definitions*

In this Part—

Helicopter external load operation means—

- (1) a helicopter external load towing operation; or
- (2) a helicopter sling load operation; or
- (3) a helicopter winching operation; or
- (4) a helicopter rappelling operation:

Helicopter external load towing operation means the towing, lowering, and laying down of external cargo, that remains in contact with the ground during the operation, by a helicopter:

Helicopter sling load operation means the external carriage, lowering, or picking up, of a load, cargo, or passengers by a helicopter by means of a bucket, net, harness, sling, or stretcher, suspended beneath the helicopter:

OGE means out of ground effect.

133.5 *Pilot licence requirements*

(a) Each pilot-in-command performing a helicopter external load operation shall hold—

- (1) a current commercial pilot licence (helicopter); or
- (2) a current private pilot licence (helicopter), if a flight instructor (helicopter) has certified in the holder's logbook that the holder has satisfied the eligibility requirements for a private pilot licence (helicopter) contained in Part 61.

(b) Notwithstanding paragraph (a)(2), each pilot-in-command performing a helicopter winching, rappelling, or human sling load operation shall hold a current commercial pilot licence (helicopter).

(c) Notwithstanding paragraphs (a) and (b), a pilot under training may act as pilot-in-command on a helicopter external load training operation without a current commercial pilot licence (helicopter), or a current private pilot licence (helicopter), when authorised to do so immediately prior to the operation by the holder of a flight instructor rating (helicopter).

133.7 Exemptions

A person may apply to the Director for an exemption from any requirement in this Part in accordance with Part 11 and section 37 of the Act.

Subpart B — Operating Rules and Related Requirements

133.51 Minimum safe height

(a) Notwithstanding 91.311, each pilot-in-command performing a helicopter external load operation may, if necessary for the proper accomplishment of the operation, conduct the operation, including approaches, departures, and load positioning manoeuvres necessary for the operation, below 500 feet above the surface and closer than 500 feet to persons, vessels, vehicles, and structures, if the operation is conducted without creating a hazard to persons or property on the surface.

(b) Each pilot-in-command performing a helicopter external load operation shall ensure that the flight is conducted at an altitude, and on a route, that will allow a jettisonable external load to be released and the helicopter to be landed, in an emergency, without hazard to persons or property on the surface.

133.53 Carriage of persons

(a) A pilot-in-command shall not carry a person inside the helicopter on a helicopter external load towing operation, who is not performing a function essential to the external load towing operation.

(b) A pilot-in-command shall not carry a person inside the helicopter on a helicopter sling load operation, who is not performing a function essential to the helicopter sling load operation, unless—

- (1) the operation is not a human sling load operation; and
- (2) the person is necessary to accomplish the on site work activity directly associated with the sling load; and
- (3) the safety of the operation is not compromised.

(c) A pilot-in-command shall not carry a person inside the helicopter on a winching, rappelling, or human sling load operation, who is not performing a function essential to the winching, rappelling, or human sling load operation.

(d) Notwithstanding paragraphs (a), (b), and (c), a pilot-in-command may carry a crew member trainee inside the helicopter, who is not performing an essential function in connection with the operation, provided that—

- (1) the pilot-in-command is qualified to instruct in the type of operation to be carried out; and
- (2) the safety of the operation is not compromised.

133.55 Third party risk

(a) A pilot-in-command shall not carry a load suspended beneath a helicopter—

- (1) in such a manner that causes danger to any person or to any person's property unless the consent of that person has been obtained; or
- (2) over an open air assembly of people.

(b) Except as provided in paragraph (c), each pilot-in-command of a helicopter engaged in an external load operation that is hovering shall ensure that no person is in the area in which the helicopter is hovering unless the person's presence is essential to the operation and they have been briefed, as appropriate, on—

- (1) normal external load procedures; and
- (2) the procedures to be followed by all personnel in the event of an emergency; and
- (3) the nature of the load and any special handling requirements; and
- (4) the lifting capability of the helicopter; and
- (5) hand or radio signals appropriate to the operation.

(c) Compliance with paragraph (b) is not required in the case where assistance is being delivered to injured persons on the ground.

133.57 Weight limitations

Each pilot-in-command of a helicopter performing a helicopter external load operation shall ensure that the weight of the load to be carried does not exceed the weight limitations of the cargo hook or device required by 133.255(1).

133.59 VFR

Each pilot-in-command of a helicopter performing a helicopter external load operation shall ensure that the operation is performed under VFR.

133.61 Night operations

A pilot-in-command shall not perform a helicopter external load operation at night when the flight attitude, height, and position of the helicopter cannot be maintained by reference to external objects adequately illuminated by the helicopter, ground, or celestial lighting.

133.63 Carriage of loads

Each pilot-in-command performing a helicopter external load operation shall ensure that the external load is carried on a hook or device required by 133.255(1).

133.65 Dangerous goods

(a) A pilot-in-command may accept Class 1 dangerous goods for carriage as an underslung load beneath a helicopter without complying with Part 92, if—

- (1) approval is obtained from the Chief Inspector; and
- (2) safety and emergency procedures are established for the carriage of the goods; and
- (3) the goods are—
 - (i) in a proper condition for carriage by air; and
 - (ii) stowed and secured for safe carriage; and
- (4) the operation is performed clear of any congested area of a city, town, or settlement.

(b) In this rule Chief Inspector has the same meaning as in the Explosives Act 1957.

(c) A pilot-in-command may accept Class 2 to Class 9 dangerous goods for carriage as an underslung load beneath a helicopter without complying with Part 92 if—

- (1) the carriage of the dangerous goods are not forbidden by the Technical Instructions; and
- (2) safety and emergency procedures have been established for the carriage of the goods; and
- (3) each item of dangerous goods is identified; and

- (4) the pilot-in command is informed of the hazardous nature of the goods; and
- (5) the dangerous goods are—
 - (i) in a proper condition for carriage by air; and
 - (ii) segregated if they are likely to react dangerously together; and
 - (iii) stowed, secured, and, if necessary, packed, to prevent leakage or damage in flight.

133.67 *Flight characteristics*

- (a) Each pilot-in-command of a helicopter performing a helicopter external load operation shall ensure that the load is adequately rigged and settled before the helicopter leaves the loading zone.
- (b) Each pilot-in-command of a helicopter performing a helicopter external load operation shall fly in conditions and in such a manner as to maintain adequate control of the helicopter and the load.

133.69 *Operations over congested areas*

Each pilot-in-command of a helicopter performing a helicopter external load operation over or adjacent to a congested area of a city, town, or settlement shall—

- (1) prepare a plan of the operation, in conjunction with, and for the briefing of, all personnel and organisations involved in the operation, containing—
 - (i) a chart depicting flight routes and altitudes; and
 - (ii) a means of avoiding obstructions to flight; and
 - (iii) the emergency landing capabilities of the helicopter to be used; and
 - (iv) the measures taken to ensure no exposure to danger of persons or property on the ground at all times including when the load is intentionally released during emergencies and when the load is inadvertently released; and
 - (v) any co-ordination necessary with any air traffic control service; and
- (2) keep the plan, referred to in subparagraph (1), for a period of at least 6 months from the date the operation is performed; and

- (3) give prior written notification to the appropriate territorial authority; and
- (4) comply with any requirements made by the territorial authority; and
- (5) give prior public notice of the operation by an effective means.

133.71 Suspension of persons beneath helicopters

(a) Each pilot-in-command performing an operation involving the suspension of a person beneath a helicopter shall ensure that—

- (1) the helicopter is not operated at a weight in excess of 90 percent of its OGE hover weight; and
- (2) the distance the person is carried is the minimum distance necessary to achieve the objective of the operation; and
- (3) the equipment on which the person is suspended is capable of release from the helicopter by the crew, and that the release system is so arranged that two separate actions must be taken to effect release; and
- (4) the equipment on which the person is suspended is such that the possibility of inadvertent release is eliminated; and
- (5) the helicopter is operated in a safe manoeuvring area that has—
 - (i) a diameter not less than twice the overall length of the helicopter; and
 - (ii) no obstructions within one metre vertically below the lowest fixed part of the helicopter; and
 - (iii) a clear zone for winching, rappelling, or human sling loads.

(b) Each pilot-in-command of a helicopter shall ensure that, where a person is raised or lowered by winch beneath the helicopter—

- (1) the person to be lowered is attached to the cable before being released from the seat harness; and
- (2) the person who has been raised is secured by means of a safety strap or seat belt before being released from the cable; and
- (3) unless the person is unconscious or unable to understand, that person has been briefed, by a crew member of the helicopter, on normal and emergency procedures appropriate to the operation.

(c) Each pilot-in-command of a helicopter shall ensure that, when an injured person is carried beneath the helicopter in a harness or stretcher—

- (1) the distance the person is carried is the minimum distance necessary—
 - (i) to transfer the person to a more suitable means of transport; or
 - (ii) to safely land and transfer the suspended person inside the helicopter; and
 - (2) unless the person is unconscious or unable to understand, that person has been briefed, by a crew member of the helicopter, on normal and emergency procedures appropriate to the operation.
- (d) Each pilot-in-command of a helicopter shall ensure that, when a rappelling operation is performed, the person to be rappelled—
- (1) has successfully completed a course of training appropriate to the rappelling operation being conducted; and
 - (2) has been adequately briefed by a crew member on normal and emergency procedures appropriate to the operation; and
 - (3) is attached to the rope before being released from the seat harness.

133.73 Supplementary crew member

- (a) Each pilot-in-command of a helicopter performing a helicopter external load operation shall ensure that a supplementary crew member—
- (1) is carried when the pilot-in-command is unable to—
 - (i) operate the winch; or
 - (ii) observe the load; or
 - (iii) release the load; or
 - (iv) observe clearances; or
 - (v) emplane and deplane persons; and
 - (2) has been fully briefed on the operation, and specific tasks to be carried out, prior to take-off; and
 - (3) is secured by a harness that can readily be released in the event of an emergency but that cannot be inadvertently released; and
 - (4) is provided with a system that enables two way communication with the pilot.

133.75 Crew member competency

(a) No operator shall permit any winching, rappelling, or human sling load operation to be performed unless all crew members have successfully completed a check or flight review to demonstrate their technical knowledge, competence, and ability to execute normal and emergency manoeuvres appropriate to the operation and the aircraft and equipment concerned.

(b) Every check or flight review referred to in paragraph (a) shall be carried out—

(1) by the holder of an—

(i) air operator certificate issued under Part 119 that authorises the holder to conduct the check or flight review; or

(ii) aviation training organisation certificate issued under Part 141 that authorises the holder to conduct the check or flight review; and

(2) in an aircraft, in which the member's ability to perform the required manoeuvres can be adequately assessed; and

(3) within the period of 24 months prior to the flight.

(c) The check or flight review referred to in paragraph (a) shall include all normal and emergency situations that might arise in the operation and shall include—

(1) preparation for flight; and

(2) crew team management; and

(3) target identification and positioning; and

(4) communications failure; and

(5) procedures for assisting personnel in distress; and

(6) helicopter caution lights; and

(7) power loss; and

(8) electrical failure.

(d) Each helicopter external load operator shall retain records of all checks and flight reviews for a period of at least 4 years.

(e) Each pilot-in-command performing a helicopter external load operation for the purpose of training, shall ensure that the operation is not performed over or adjacent to a city, town, or settlement.

Subpart C — Reserved

Subpart D — Reserved

Subpart E — Reserved

Subpart F — Instruments and Equipment

133.251 *Applicability*

This Subpart prescribes the instruments and equipment required, in addition to Part 91, for helicopters carrying an external load.

133.253 *General*

(a) Each operator performing a helicopter external load operation shall ensure that a flight does not commence unless the instruments and equipment, required by this Subpart—

- (1) comply with the specifications and airworthiness design standards listed in—
 - (i) this Subpart; or
 - (ii) alternative specifications or standards approved by the Director for the operation; and
- (2) are installed in accordance with the requirements applicable to them, including operational and airworthiness requirements; and
- (3) are in operable condition and in the numbers required for the kind of operation being conducted.

133.255 *External load equipment*

Each operator performing a helicopter external load operation shall ensure that the helicopter is equipped with—

- (1) a cargo hook, or similar device, approved by the helicopter manufacturer for use on the helicopter; and
- (2) external load equipment that—
 - (i) is appropriate and of a standard that will prevent breakage to it or damage to the helicopter; and

- (ii) when human loads are carried using the equipment, can withstand a loading of 3.75 times the weight of the load.

133.257 Quick release devices

- (a) Each operator performing a helicopter external load operation shall ensure the helicopter has—
 - (1) an electrical quick release device; and
 - (2) a mechanical or independent electrical quick release device.
- (b) The operator shall ensure that the quick release devices required by paragraph (a) functions properly with all external loads up to and including the helicopter's maximum external load.
- (c) The operator shall ensure that the quick release system—
 - (1) has a primary control—
 - (i) installed on one of the pilot's primary flight controls; and
 - (ii) designed and located so that it may be operated by the pilot without limiting the pilot's ability to control the helicopter during an emergency situation; and
 - (2) has a secondary control readily accessible to a crew member.

Subpart G — Maintenance

133.301 Applicability

This Subpart prescribes rules specifying the maintenance requirements for New Zealand registered helicopters carrying an external load.

133.303 Maintenance requirements

Each operator shall ensure that the helicopter, including the cargo hook or other similar device required by 133.255(1), is maintained in accordance with Part 91 and this Part.

133.305 Persons certifying maintenance

Each operator shall ensure that each person certifying a release to service is properly trained and qualified to do so.

133.307 External load equipment

- (a) Each operator shall ensure that external load equipment is—

-
- (1) visually inspected, for signs of distress, within the preceding 50 hours time in service; and
 - (2) proof loaded to 1.25 times its rated strength within the preceding 12 months or 500 hours time in service, whichever is the sooner.
- (b) As an alternative to paragraph (a), an operator may maintain external load equipment in accordance with—
- (1) the mandatory replacement times, inspection intervals, and related procedures specified in the manufacturer's maintenance manual or instructions for continued airworthiness; or
 - (2) a maintenance programme approved under Part 91 or 119.

CONSULTATION DETAILS

(This statement does not form part of the rules contained in Part 133.
It provides details of the consultation undertaken in making the rules.)

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 Civil Aviation Authority (CAA) (formerly the Air Transport Division of the Ministry of Transport) commenced a complete review of all existing civil aviation legislation. The existing legislation that is still appropriate is being rewritten into the new *Rules* format. New legislation is being generated where necessary for the areas not presently covered.

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

The new rules are structured in a manner similar to the Federal Aviation Regulations (FAR) of the FAA, and aim to achieve maximum harmonisation whilst allowing for national variations. Close co-operation is also being maintained with the Civil Aviation Safety Authority of Australia to ensure maximum harmonisation with their regulatory code.

New Zealand's revised legislation is published as Civil Aviation Rules (CAR) which is divided into Parts. Each Part contains a series of individual rules which relate to a particular aviation activity.

Accompanying most Parts will be at least one associated Advisory Circular (AC) which will expand, in an informative way, specific requirements of the Part and acceptable means of compliance. For instance an AC may contain examples of acceptable practices or procedures which would meet the requirements of a particular 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 Part does not readily equate with a FAR number code, a number has been selected that does not conflict with any existing FAR Part.

The objective of the new rules system is to strike a balance of responsibility between the State authority and those who provide services and exercise privileges in the civil aviation system. This balance must enable the State

authority to set standards for, and monitor performance of, aviation participants whilst providing the maximum flexibility for the participants to develop their own means of compliance.

Section 12 of the Civil Aviation Act 1990 requires participants in the aviation system to carry out their activities safely and in accordance with the relevant prescribed safety standards and practices. Section 29(c) of the Act allows the Minister to make ordinary rules prescribing the conditions under which aircraft may be used or operated, or under which any act may be performed in or from an aircraft, and for the prevention of aircraft endangering persons or property.

Notice of Proposed Rule Making

To provide public notice of, and opportunity for comment on the proposed new rules, the Authority issued Notice of Proposed Rule Making 95-9 under Docket Number 1114 on 20 December 1995. This Notice proposed the introduction of Civil Aviation Rules Part 133 to provide a regulatory safety boundary for Helicopter External Load Operations.

Supplementary Information

All comments made on the Notice of Proposed Rule Making are available in the rules docket for examination by interested persons. A report summarising each substantive contact with the Civil Aviation Authority contact person concerning this rule making has been filed in the docket.

Availability of the Document

Any person may view a copy of these rules at Aviation House, 1 Market Grove, Lower Hutt. Copies may be obtained from Publishing Solutions Ltd, PO Box 983, Wellington 6015, Telephone 0800 800 359.

Summary of Comments on Docket Number 1114 NPRM

1. General comments on the NPRM

1.1 From the 38 submissions received, two contained no comment and two stated that they were more than satisfied with the content of the NPRM. One commenter expressed dissatisfaction with the fact that the 'proven' ability of helicopters to tow gliders was not recognised in this rule and requested that it be included as an approved activity.

CAA response: The CAA does not agree that it be included as an approved activity as it is not considered safe. This activity was performed at some point in the past in NZ by a helicopter picking the glider up vertically and then releasing the glider (from the hover) at a certain height. The glider would then fall until it reached flying speed and then carry on gliding down. The glider would be at risk, from ground level up to the height at which it would be safe

to release, in the event of any helicopter emergency. Towing of a glider in the normal manner (by a helicopter) would not be safe either due the possibility of the tow cable becoming entangled with the helicopter skids or the tail rotor.

1.2 Subparts B and C have been combined into a new Subpart B titled Operating Rules and Related Requirements.

2. Specific comments on the NPRM

Specific comments received from the 38 submissions are discussed as follows:

2.1 133.5(b)

The AIA Helicopter Division feels that the holder of a Private Pilot's Licence should be able to do suspended human load operations if they are not for hire or reward.

CAA response: The CAA does not agree. The level of responsibility involved with suspended human load operations is such that it requires the level of knowledge and experience that a Commercial Pilot possesses.

2.2 133.55(b) [Final rule 133.53(b)]

The AIA Helicopter Division stated that operators should be allowed to carry persons in the helicopter during external load operations, not performing an essential function and not necessary to accomplish the work activity directly associated with the operation.

CAA response: The CAA does not agree. Present regulations prohibit the carriage of persons, inside the helicopter, who are not performing an essential function on an external load operation. This rule has relaxed this prohibition to the extent that persons, who are not performing an essential function on an external load operation but who are necessary to accomplish the on site work activity directly associated with the operation, may be carried inside the helicopter on helicopter sling load operations. This was done to make the operation more economical for the operator without compromising safety. A complete relaxation would not be in the interests of safety and would also allow operators, who are not certificated to carry out air transport operations, to carry out air transport operations under this rule. Other Aviation Authorities that have dealt with this matter in a similar fashion are the USA, Australia, and the UK.

One commenter was disappointed that we have allowed the carriage of passengers with external loads in certain instances. He stated that it will further permit the unsatisfactory practise of ferrying hunters/trampers into remote areas in R22 or H300 helicopters with packs attached to the hooks. He added that too many accidents have occurred this way and this will do nothing to prevent further occurrence.

CAA response: The rule has been relaxed to the extent that persons, who are necessary to accomplish the *on site* work activity directly associated with the operation, may be carried inside the helicopter on helicopter sling load operations. This provision will therefore not allow the carriage of hunters or trampers while packs are attached to the cargo hooks.

2.3 133.55(d)(1) [Final rule 133.53(d)(1)]

One commenter stated that the qualification of the person who would instruct on this type of operation needs to be spelt out.

CAA response: The CAA agrees. This will be addressed as part of the amendments to Part 61.

2.4 133.57(b) [Final rule 133.55(b)]

The AIA Helicopter Division stated that 50 metres is an arbitrary value which has dubious safety value and would like the wording changed in such a way that no person is allowed to be in the "immediate vicinity" of a hovering helicopter.

CAA response: The CAA agrees that 50 metres is an arbitrary value which may not necessarily relate to safety. The wording has been revised taking the above suggestion into account as well as the wording in the FAR Part 133 and now states that the pilot-in-command shall ensure that no person is in the area in which the operation will be conducted unless the person's presence is essential to the operation.

2.5 133.103 [Final rule 133.61]

The AIA Helicopter Division fully support this section but would like night vision equipment to be added as a means of complying with this rule.

CAA response: The use of night vision equipment will be looked at as part of the ongoing rules process but at the present moment the view of the CAA is that night helicopter external load operations should not be carried out when the flight attitude, height and position of the helicopter cannot be maintained by reference to external objects adequately illuminated by the helicopter, ground, or celestial lighting. The wording of this rule has therefore not changed.

2.6 133.105 [Final rule 133.65]

One commenter stated that this section is too simplistic and hopes that the Land Transport Safety Authority will recognise existing or foreign dangerous goods qualifications in this regard.

CAA response: The CAA sees no need to make the dangerous goods requirements complicated, and prefers a simple, clear, understandable, message.

The AIA Helicopter Division disagrees with the requirement for anyone associated with the underslung carriage of dangerous goods having to do the dangerous goods course as required by the Land Transport Safety Authority under NZS 5433.

CAA response: The CAA agrees that it is impractical to expect everyone associated with the underslung carriage of dangerous goods having to do a dangerous goods course. Provided all the requirements of 133.105 (a), (b), and (c) are met when carrying dangerous goods underslung beneath a helicopter, there is no need for a dangerous goods course. The requirement to do a dangerous goods course has been removed from this rule.

2.7 133.109 [Final rule 133.69]

One commenter expressed dissatisfaction with the change in terminology to *congested areas* and feels we should keep the term *cities, towns, or populous areas*.

CAA response: In order to clarify the situation, the CAA has defined the term congested area in relation to a city, town, or settlement. The definition will be included in Part 1 when the operating rules come into force.

2.8 133.109(1)(i) [Final rule 133.69(1)(i)]

The AIA Helicopter Division stated that the requirement for a chart of the flight route and altitude should only be necessary when deemed appropriate by the pilot-in-command.

CAA response: The CAA is in favour of a chart, depicting flight routes and altitudes, being prepared prior to all operations over any congested area of a city, town, or settlement. This should not only be done when deemed appropriate by the pilot-in-command. The purpose of the plan is to ensure that the safest routes and altitudes are used.

2.9 133.109(2) [Final rule 133.69(2)]

The AIA Helicopter Division stated that the requirement to keep the plan for 6 months is not a safety issue and will simply create more paperwork.

CAA response: The CAA feels that it is necessary for the plan to be kept in case of any queries or complaints. Keeping the plan for a period of 6 months will also be of benefit from an auditing point of view.

2.10 133.109(3) and (4) [Final rule 133.69(3) and (4)]

The AIA Helicopter Division stated that written notification to, and the imposition of requirements by, the territorial authority should not be required. The only authority responsible for imposing safety conditions should be the CAA.

CAA response: The local council has to be notified so that they can coordinate the helicopter work with any other activity. They might request that the helicopter be kept away from a particular area because of a street parade or they might want the helicopter work to be delayed by a day for some reason. It could well be necessary for the police to exercise crowd control but if they are not aware of the helicopter operation that is being planned this will not be possible.

2.11 133.109(5) [Final rule 133.69(5)]

One commenter stated that 'affected public' is a fairly broad statement, and it may need to be refined to 'persons directly affected.'

CAA response: The CAA agrees that 'affected public' is a broad statement and has reworded this section to read: *give prior public notice of the operation by an effective means.*

2.12 133.109(6) [see Final rule 133.55(a)(2)]

One commenter questioned the need for this requirement as we had already covered open air assemblies of people at the beginning of 133.109.

CAA response: This section has been deleted as it is now covered under 133.55(a)(2).

2.13 133.111 [Final rule 133.71]

One commenter noted our concern about the carriage of "human sling loads" and suggested that we use words to the effect that *these occasions be reduced to the absolute minimum.*

CAA response: The CAA has amended the wording so that all persons suspended beneath a helicopter are carried for the minimum distance necessary.

2.14 133.111(a) [Final rule 133.1(b)]

One commenter (supported by the Helicopter Division of the AIA) stated that it is not the function of the CAA to ban particular applications within the scope of a helicopters ability, but to ensure that those applications are made safe through the regulation of the operational procedure of an application.

CAA response: The CAA feels that, because of the increased risk involved when suspending persons beneath a helicopter or towing persons behind a helicopter for sporting or recreational purposes, these operations should be considered under the adventure aviation review and not under Part 133. The applicability section of Part 133 has been amended to state that Part 133 does not apply to operations for sporting or recreational purposes. 133.111(a) has

been deleted and the only reference to operations for sporting or recreational purposes is now in the applicability section.

2.15 133.111(b)(1) [Final rule 133.71(a)(3)]

One commenter stated that he agrees with the requirement for 2 separate actions to effect release of a human load but would like us to give guidelines as to what constitutes the double action.

CAA response: The CAA does not consider the rule to be the correct place for these guidelines. These guidelines will be given in an Advisory Circular.

2.16 133.113(a)(4) [Final rule 133.73(a)(4)]

The AIA Helicopter Division stated that hands free communication was not always possible or beneficial; it is more practical to use a push to talk button. They requested that the hands free component be removed.

CAA response: The CAA agrees and has reworded this section to read: *is provided with a system that enables two way communication with the pilot.*

2.17 133.115 [Final rule 133.75]

One commenter questioned whether it was the "Operator" that "carries out" the operation? This commenter suggested that the wording be changed to "No operator shall permit....."

CAA response: The CAA agrees and has changed the wording as suggested.

2.18 133.115 [Final rule 133.75]

One commenter stated his dissatisfaction with the fact that the present CASO 20 requirement for an "approved course of training" for supplementary crew members has not been carried over into this rule.

CAA response: The wording in (a) has been altered to read.....*have successfully completed a check or flight review.....* (b) states that each check or flight review referred to in paragraph (a) shall be carried out by the holder of a Part 119 certificate or the holder of a Part 141 certificate. These organisations will conduct these checks or flight reviews according to syllabi approved through the certification process. If these checks or flight reviews are not successfully completed by a crewmember during the period of 24 months prior to the planned flight, that crewmember will not be permitted to carry out any winching, rappelling, or human sling load operations. The CAA prefers this system to the 'approved course of training' that was referred to in CASO 20 Part 10.6.3.

2.19 133.115 [Final rule 133.75]

The AIA Helicopter Division stated that they support the requirement for a competency check but would like us to amend this requirement to harmonise with FAR 133.37.

CAA response: The CAA prefers the wording that is presently used in Part 133 to that used in FAR 133.37.

2.20 133.115(b)(3) [Final rule 133.75(b)(3)]

The AIA Helicopter Division stated that they feel that the requirement in paragraph (b)(3) should be amended to 12 months, and that if a person has performed such an operation in the past 12 months in the same type of aircraft then that person does not require recurrent training.

CAA response: The CAA does not agree with this suggestion as a person who does one human sling load operation every year will never be required to do a competency check. The CAA prefers that these checks or flight reviews are successfully completed by a crewmember during the period of 24 months prior to the planned flight.

2.21 133.115(c) [Final rule 133.75(c)]

One commenter stated that *"and may be demonstrated without compromising safety"* should be added after the word 'operation'.

CAA response: The CAA does not agree. As the Part 119 or 141 organisation conducting the check or flight review will do so without compromising safety, there is no need to state this in a rule.

2.22 133.115(d) [Final rule 133.75(d)]

The AIA Helicopter Division stated that the requirement to retain records for 4 years has no safety benefit and should be removed. Another commenter stated that the record only needs to cover the most recent check.

CAA response: The CAA does not agree. The 4 year period will assist auditors in establishing whether checks or flight reviews have been carried out successfully.

2.23 133.115(e) [Final rule 133.75(e)]

The AIA Helicopter Division questions the need for 115(e). They feel that operations should be conducted in accordance with all relevant rules, at locations decided upon by the crew.

CAA response: The CAA believes that the AIA Helicopter Division misunderstands this requirement - 115(e) states that an operation to which this Part applies, **for the purpose of training**, shall not be performed over cities, towns, settlements etc. There is, however, nothing wrong with taking a crew

member trainee along on an actual helicopter external load operation over a city, town, or settlement.

Note— Subparts C, D, and E are now reserved Subparts and the old Subpart D has been renamed *Subpart F - Instruments and Equipment* in order to be consistent with the other operational rule subparts. The maintenance requirements of the old Subpart D are now contained in *Subpart G - Maintenance* which has been written to be consistent with the maintenance requirements of the other operational rules.

2.24 133.151(a)(1) [Final rule 133.255(2)(ii)]

One commenter stated that the numbers just don't add up here and that the 5 times rating could exceed the maximum capacity of the hook.

CAA response: Due to other changes that have affected numbering, as well as reserving Subparts, the rule governing external load equipment is now numbered 133.255. The wording of the old 151(a)(1) has, in the new 255(2)(ii), been amended to read as follows: *when human loads are carried using the equipment, can withstand a loading of 3.75 times the weight of the load.* This is to bring this requirement into line with the strength requirements of winch cables.

2.25 133.151(a)(2) [Final rule 133.255(2)(i)]

One commenter was surprised that we have a breaking strain for live loads but not for normal loads.

CAA response: The CAA feels that, in the case of normal loads, it is quite sufficient to say that the equipment should be appropriate and of a standard that will prevent breakage to it or damage to the helicopter.

2.26 133.151(a)(3) [Final rule 133.307(a)(1) and (2)]

One commenter stated that there was no logic in having to inspect and proof load suspended cargo hooks but not human sling equipment.

CAA response: The CAA agrees. This has been amended to read as follows—

(a) Each operator shall ensure that external load equipment is—

(1) visually inspected, for signs of distress, within the preceding 50 hours time in service; and

(2) proof loaded to 1.25 times its rated strength within the preceding 12 months or 500 hours time in service, whichever is the sooner.

CAA comment: The proof loading to 50%, as stated in the NPRM, provided no assurance of cable serviceability and has been changed to a universally accepted requirement of 1.25 times the rated strength.

One commenter suggested that an approved maintenance programme would cover the required equipment testing.

CAA response: The CAA agrees and has amended the rule by adding 133.307(b).

2.27 133.151(b) [Final rule 133.257(a)]

One commenter expressed dissatisfaction with the wording of this section.

CAA response: The CAA agrees that rewording is warranted. This section has been reworded as follows—

(a) Each operator performing a helicopter external load operation shall ensure the helicopter has—

- (1) an electrical quick release device; and
- (2) a mechanical or independent electrical quick release device.

2.28 133.151(c)(2) [Final rule 133.257(a)]

The AIA Helicopter Division requested that this section be amended to permit the acceptance of an additional independent electrical control for the quick release device. Some larger helicopters have dual electric releases and no manual release.

CAA response: The CAA agrees. This section has been amended to allow for this.

2.29 133.151(d) [see Final rule 133.253(a)(3)]

One commenter stated that because this paragraph specifies actions to prevent inadvertent release (albeit not identified), it could be further interpreted as being sufficient to meet the requirements of 133.111(b)(2).

CAA response: The CAA agrees. The wording in the new 133.253(a)(3) is such that it will prevent the interpretation problem referred to.

2.30 133.153 [Final rule 133.57]

One commenter requested that we refer to load measuring cells, Health and Usage monitoring systems, and line of sight engine performance instruments for regular or heavy lifters.

CAA response: The CAA does not agree that this equipment be referred to in the rule.

2.31 133.153(2) [Final rule 133.71(a)(1)]

One commenter stated that the 90% OGE hover weight is impractical and suggested wording on these lines—

when determining the maximum OGE hover weight, 50% of the forecast wind or 80% of the measured wind at the operating site shall be used. If such information is not available, the maximum OGE hover weight shall be determined using nil wind.

The maximum wind figure so derived, using forecast or measured wind velocity at the site, shall not exceed 20 knots

CAA response: The CAA does not agree. This suggestion is very good for an accurate calculation of OGE hover weight. However, this section states that when operations involve the suspension of people beneath the helicopter the pilot in command shall ensure that the helicopter is not operated in excess of 90% of the calculated OGE hover weight. The intention here is not to get involved in how to calculate the OGE hover weight but to limit the helicopter's weight to 90% of that figure when people are suspended beneath the helicopter. This requirement has not been amended but has been moved to a more appropriate position in the rule, 133.71(a)(1).

2.32 133.153(1) and (2) [see Final rule 133.57 and 133.71(a)(1)]

One commenter stated that these requirements should not form part of the Airworthiness Requirements but should rather be part of Subpart C - Operating Requirements.

CAA response: The CAA agrees and has moved 133.153(1) to Subpart B new paragraph 133.57. Paragraph 133.153(2) has been moved to Subpart B new paragraph 133.71(a)(1).

Conclusion

The Authority concludes from this consultation that the majority of the aviation industry participants favour the direction of the new rules. Specific issues that were identified in the comments received from the consultative group have been addressed. The comments and all the background material used in developing 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 1114.

Regulatory activities

Part 133 will replace existing requirements in the Civil Aviation Regulation 1953 relating to helicopter external load operations.

Specific amendments to the Regulations will not be necessary. Section 14(2) of the Civil Aviation Amendment Act 1991 (as amended by section 34 of 1996 No. 91) deems the Civil Aviation Regulations 1953 that are continued in force by section 8 of that Act to be revoked on the close of 31 March 1997.

Section 14(3) states that any order, notice, requirement, circular, or other publication continued in force by section 8 shall expire on the close of 31 March 1997.

Commencement

Part 133 comes into force on 1 April 1997.