I, JOHN FRANCIS McCORMICK, Director of Aviation Safety, on behalf of CASA, make this instrument under paragraph 28BA (1) (b) and subsection 98 (4A) of the Civil Aviation Act 1988 and subregulations 5 (1), 207 (2), 215 (3), 217 (1) and 308 (1) of the Civil Aviation Regulations 1988.

John F. McCormick
Director of Aviation Safety
5 March 2010

Civil Aviation Order 82.6 Amendment Order (No. 1) 2010

1 Name of instrument
This instrument is the Civil Aviation Order 82.6 Amendment Order (No. 1) 2010 (the Amendment Order).

2 Commencement
This instrument commences on 5 March 2010.

3 Amendment of Civil Aviation Order 82.6 Instrument 2007
Schedule 1 amends Civil Aviation Order 82.6 Instrument 2007 (CAO 82.6).

4 Revocation and revival
(1) Schedule 1 of this instrument is revoked on 1 July 2010.
(2) The definition of aerial fire fighting in CAO 82.6, and subparagraph 6 (a) (i) of CAO 82.6, as in force immediately before the commencement of this instrument, revive on 1 July 2010 as if the definition and the subparagraph had not been affected by the amendments in Schedule 1.

Note: This provision allows the definition of aerial fire fighting, and the provision extending the exemption from LSALT limitation under subregulation 174B (1) of CAR 1988 to aerial fire fighting support, to return to their previous form and content as soon as the Schedule 1 amendments cease. Without this provision, the previous position would not revive when the trial ends. However, if the trial is successful, a further CAO amendment made before 1 July 2010 may prevent the revival of the previous provisions and entrench the new provisions.
Schedule 1 Amendments

[1] Subsection 1, definition of aerial fire fighting

 substitute

aerial fire fighting means an operation, in an operational area for a fire, to fight the fire from the air using:

(a) a flight crew of at least 1 pilot and 1 aircrew member; and
(b) either:

(i) incendiaries for controlled burning dropped from the helicopter by a person specifically carried for that purpose, provided that the operation is supported by an operational safety case approved in writing by CASA; or

Note If acceptable to CASA, an operational safety case may be in the form of, or include, relevant additions or supplements to the operator’s operations manual for the aerial fire fighting.

(ii) a helicopter equipped with a belly tank that is filled and refilled with water, fire retardant or similar substance taken from:

(A) a source on the ground while the helicopter is on the ground; or

(B) a portable tank at a standard HLS with ground lighting while the helicopter is in the hover using the helicopter’s on-board pump; or

Note For standard HLS, see CAAP 92-2. This is not a HLS-NVG standard.

[2] Sub-subparagraph 6 (a) (i)

 substitute

(i) search and rescue, law enforcement, emergency medical services, aerial fire fighting, or, for an operation that is supported by an operational safety case approved in writing by CASA, aerial fire fighting support limited to the carriage of persons to map fires;

Note If acceptable to CASA, an operational safety case may be in the form of, or include, relevant additions or supplements to the operator’s operations manual for the aerial fire fighting support.
Explanatory Statement

Civil Aviation Act 1988

Civil Aviation Order 82.6 Amendment Order (No. 1) 2010

Purpose
The purpose of this Civil Aviation Order amendment instrument (CAO amendment) is to amend Civil Aviation Order 82.6 (CAO 82.6) to permit a trial use of night vision goggles in redefined aerial fire fighting activities involving incendiary dropping.

Background
Night vision goggles (NVG) are a head mounted night vision enhancement device. They use image intensifying technology to amplify the available ambient light sufficiently for images to be seen through the NVG eyepieces as a monochromatic green image.

NVG technology evolved mainly in advanced military forces, including in Australia. In certain strictly controlled circumstances, the use of NVG can enhance crew situational awareness and decrease operational risk under night visual flight rules (NVFR). As a result of helicopter industry interest, and overseas developments, in the use of NVG for civilian helicopter operations, CASA established an assessment trial to facilitate the use of NVG in certain public interest helicopter operations.

CAO 82.6 supported the trial by providing for operational and airworthiness standards and approval requirements for the use of NVG in specialised helicopter aerial work operations, namely, search and rescue, law enforcement, aerial fire fighting, aerial fire fighting support, emergency medical services, marine pilot transfers, training for any of these, and demonstration and positioning flights.

Instrument CASA 288/07 also supported the trial by directing that night vision devices must not be used in private operations as the primary means of terrain avoidance for safe air navigation by means of visual surface reference external to an aircraft.

Thus together, CAO 8.6 and the Direction make unlawful any non-approved use of NVG as a primary means of terrain avoidance when using external visual surface reference.

Trial and Group
For the purposes of the NVG trial, CASA established the joint CASA/industry NVG Trial Monitoring and Evaluation Group (the Group). The Group was comprehensively representative of the relevant helicopter industry involved with NVG, and was established by CASA to oversee various aspects of the NVG trial. An important part of its role was to suggest for consideration amendments to CAO 82.6 to ensure that the trial was as effective and as safe as possible so that it could be relied upon to guide future developments in the use of NVG.

CASA regarded the trial as a successful testing environment for CAO 82.6. The trial concluded at the end of January 2009. However, CASA has continued to consider suggestions made by the Group and the CAO amendment contains amendments largely from that source.

Proposed new trial
In association with the Victorian Country Fire Authority (VCFA) and Skyplan Australia Pty Ltd (trading as Rotor-Lift Aviation) (the operator), it is now proposed to conduct a second, smaller, trial of aerial fire fighting operations using incendiaries for controlled burning. For this purpose, it is necessary to amend CAO 82.6 to modify the definition of aerial fire fighting to include incendiary dropping.

The opportunity is also being taken to amend subsection 6 of CAO 82.6 to enable certain limited aerial fire fighting support operations (namely, carriage of persons to map fires) to obtain the benefit of exemption from subregulation 174B (1) of CAR 1988 and, thereby, to fly below the lowest safe altitude (LSALT) during permitted NVG operations.
Both activities (incendiary dropping and aerial fire fighting support below the LSALT limited to the carriage of persons to map fires) involve increased risks for those aboard the helicopter. For this reason, these activities are being subjected to a trial, subject to safety conditions.

Thus, neither incendiary dropping, nor this limited category of aerial fire fighting support below the LSALT, may be carried out unless the operation is supported by an operational safety case, approved in writing by CASA. Relevant additions or supplements to the operator’s operations manual for these kinds of operations may constitute a valid safety case if CASA is satisfied that the material is adequate.

The trial involving the operator will be conducted during March 2010, and will be followed by assessment and subsequent phases of the trial. A conditional aerial fire fighting and aerial fire fighting support approval under clause 2 of Appendix 1 of CAO 82.6 will be issued to the operator for the initial period of the trial, namely, 7 March 2010 to 31 March 2010. This approval is needed to authorise the relevant NVG operations.

It is inherent in the nature of a trial that the regulatory provisions required to support it be subject to sunsetting, pending evaluation of the outcome of the trial. For this reason, the amendments made to CAO 82.6 by the CAO amendment are expressed to be revoked on and from 1 July 2010. If the trial is a success, then depending on timing, a further CAO amendment will remake the CAO amendments, or remove the sunsetting provision before 1 July 2010.

The CAO amendment
CAO 82.6 must be amended to accommodate the changes required by the trial because that CAO constitutes a set of AOC conditions made under paragraph 28BA (1) (b) of the *Civil Aviation Act 1988* (the *Act*) and it is not legally possible under regulation 308 of CAR 1988 to merely conditionally exempt an operator from Act-based conditions in order to facilitate a trial at variance with the requirements of CAO 82.6.

Details of the CAO amendment are set out in Attachment A.

Legislation
The legislative basis for the CAO amendment is set out in Attachment B.

**Legislative Instruments Act 2003 (the LIA)**
CAO 82.6, and amendments to it, take effect as conditions on Air Operator Certificates (*AOCs*). Paragraph 28BA (1) (b) of the Act provides that an AOC has effect subject to any conditions “specified in the regulations or Civil Aviation Orders”.

By providing that an AOC has effect subject to any conditions specified in the CAOs, paragraph 28BA (1) (b) unilaterally empowers the making of relevant CAOs. For section 5 of the LIA, such a CAO, imposing conditions on AOCs, is legislative in character and, therefore, a legislative instrument subject to tabling and disallowance in the Parliament under sections 38 and 42 of the LIA.

Additionally, subsection 98 (4A) of the Act provides that CASA may issue Civil Aviation Orders (the *CAOs*) with respect to any matter in relation to which regulations may be made for the purposes of section 28BA. Under subsection 98 (4B) of the Act, a CAO issued under subsection 98 (4A) is stated to be a legislative instrument and is, therefore, subject to tabling and disallowance in the Parliament under sections 38 and 42 of the LIA.

The CAO amendment is made under both paragraph 28BA (1) (b) of the Act and subsection 98 (4A) of the Act and is a legislative instrument.

Consultation
Consultation under section 17 of the LIA has been undertaken as follows. The CASA/Industry NVG Trial Monitoring Group (the *Group*) met in Hobart on 19-20 November 2008 and recommended amendments to CAO 82.6. The majority of those amendments were implemented in *Civil Aviation*
Order 82.6 Amendment Order (No. 1) 2009. However, although amendments generally along the lines of those now contained in the CAO amendment were considered, discussed and agreed to by the Group in November 2008, they were not implemented as other amendments took priority in circumstances in which operators were not ready to undertake aerial fire fighting operations using NVG. That is no longer the case in view of the proposed trial with the operator and the VCFA.

Regulation Impact Statement (RIS)
OBPR does not require a RIS for the CAO amendment because a preliminary assessment of the business compliance costs indicates that the CAO amendment will have only a nil to low impact on business.

Commencement and making
The instrument comes into effect on 5 March 2010.

The instrument has been made by the Director of Aviation Safety, on behalf of CASA, in accordance with subsection 73 (2) of the Act.

[Civil Aviation Order 82.6 Amendment Order (No. 1) 2010]
Details of the CAO amendment

1 Name of instrument
This section names the CAO amendment as the Civil Aviation Order 82.6 Amendment Order (No. 1) 2010.

2 Commencement
Under this section, the instrument commences on 5 March 2010.

3 Amendment of Civil Aviation Order 82.6 Instrument 2007
Under this section, Schedule 1 amends Civil Aviation Order 82.6 Instrument 2007 (CAO 82.6).

4 Revocation and revival
(1) Under this subsection, Schedule 1 of the instrument is revoked on 1 July 2010.
(2) Under this subsection, the definition of aerial fire fighting in CAO 82.6, and subparagraph 6 (a) (i) of CAO 82.6, as in force immediately before the commencement of this instrument, each revives on 1 July 2010 as if the definition and the subparagraph had not been affected by the amendments in Schedule 1.

A Note explains that this provision allows the definition of aerial fire fighting, and the provision extending the exemption from LSALT limitation under subregulation 174B (1) of CAR 1988 to aerial fire fighting support, to return to their previous form and content as soon as the Schedule 1 amendments cease. Without this provision, the previous position would not revive when the trial ends. However, if the trial is successful, a further CAO amendment made before 1 July 2010 would prevent the revival of the previous provisions and entrench the new provisions, if appropriate.

Schedule 1 Amendments

[1] Subsection 1, definition of aerial fire fighting
Under this amendment, a new definition of aerial fire fighting is provided, based on the existing definition but adding as a new element the activity of approved incendiary dropping, subject to safety conditions. The new definition reads:

aerial fire fighting means an operation, in an operational area for a fire, to fight the fire from the air using:
(a) a flight crew of at least 1 pilot and 1 aircrew member; and
(b) either:
   (i) incendiaries for controlled burning dropped from the helicopter by a person specifically carried for that purpose, provided that the operation is supported by an operational safety case approved in writing by CASA; or
   Note If acceptable to CASA, an operational safety case may be in the form of, or include, relevant additions or supplements to the operator’s operations manual for the aerial fire fighting.
   (ii) a helicopter equipped with a belly tank that is filled and refilled with water, fire retardant or similar substance taken from:
      (A) a source on the ground while the helicopter is on the ground; or
      (B) a portable tank at a standard HLS with ground lighting while the helicopter is in the hover using the helicopter’s on-board pump; or
   Note For standard HLS, see CAAP 92-2. This is not a HLS-NVG standard.
[2] **Sub-subparagraph 6 (a) (i)**

Under this amendment, the exemption of permitted NVG operations from compliance with LSALT limitations is extended to include aerial fire fighting support operations, subject to safety conditions. The new subsection reads (only sub-subparagraph (i) and its Note are new):

Under subregulation 308 (1) of CAR 1988, the pilot in command of a helicopter is exempt from compliance with subregulation 174B (1) of CAR 1988 if:

(a) he or she is engaged in conducting an operation that is 1 of the following permitted NVG operations:

(i) search and rescue, law enforcement, emergency medical services, aerial fire fighting, or, for an operation that is supported by an operational safety case approved in writing by CASA, aerial fire fighting support limited to the carriage of persons to map fires;

*Note*  If acceptable to CASA, an operational safety case may be in the form of, or include, relevant additions or supplements to the operator’s operations manual for the aerial fire fighting support.
Legislative basis for CAO amendment

Section 98 of the Civil Aviation Act 1988 (the Act) empowers the Governor-General to make regulations for the Act and the safety of air navigation.

CAR 1988
Under subregulation 5 (1) of the Civil Aviation Regulations 1988 (CAR 1988), where CASA is empowered to issue certain instruments, it may do so in a CAO.

Under subregulation 157 (1) of CAR 1988, the pilot in command of an aircraft must not fly over a city, town or populous area at a height lower than 1 000 feet, or over any area at a height lower than 500 feet.

Under subregulation 174B (1) of CAR 1988, except for take-off and landing, the pilot in command of an aircraft must not fly it at night under the visual flight rules (V.F.R.) at a height of less than 1 000 feet above the highest obstacle within 10 miles.

Under subregulation 195 (1) of CAR 1988, at night and in conditions of poor visibility, the operator and pilot in command of an aircraft must comply with the rules in Part 13 of CAR 1988 about the lights to be displayed for the aircraft.

Under subregulation 207 (2) of CAR 1988, a person must not use an Australian aircraft in a class of operation if the aircraft is not fitted with the instruments and equipment approved and directed by CASA. In approving or directing, CASA may have regard only to the safety of air navigation.

Under subregulation 215 (3) of CAR 1988, CASA may give directions requiring an operator to include, revise or vary information, procedures or instructions in the operations manual (operating procedures).

Under subregulations 217 (1) and (3) of CAR 1988, CASA may specify operators who must provide an approved training and checking organisation (a TCO) to ensure that members of the operator’s operating crews maintain their competency.

Under subregulation 308 (1) of CAR 1988, in relation to particular aircraft or categories of aircraft, CASA may exempt the aircraft, or persons in, on, or otherwise associated with the operation of, the aircraft, from compliance with specified provisions of CAR 1988. Under subregulation 308 (2), before making an exemption, CASA must take relevant safety considerations into account. Under subregulation 308 (3), CASA may make an exemption subject to necessary safety conditions.

Under section 27 of the Act, CASA may issue Air Operators’ Certificates (AOCs) for its functions. Under subsections 27 (2) and (9) of the Act, an aircraft operator must hold an AOC in order to operate for certain prescribed purposes. Paragraph 206 (1) (a) of CAR 1988, prescribes aerial work purposes of various kinds, including aerial spotting, flying training, ambulance functions, and purposes that are substantially similar to these. Substantially similar purposes are generally taken to include search and rescue, law enforcement, aerial fire fighting and marine pilot transfers.

The heads of power for making relevant CAOs are twofold. Under paragraph 28BA (1) (b) of the Act, an AOC has effect subject to, among other things, conditions specified in Civil Aviation Orders (CAOs). For section 5 of the Legislative Instruments Act 2003, CAOs imposing conditions on AOCs would be legislative instruments.
Under subsection 98 (4A) of the Act, CASA may issue CAOs not inconsistent with the Act or the Regulations, and not prescribing any pecuniary penalty, with respect to any matter in relation to which regulations may be made for the purposes of, among other things, section 28BA of the Act. Under subsection 98 (4B) of the Act, a CAO issued under subsection 98 (4A) of the Act is a legislative instrument.