

## CHAPTER 3 NVIS FLIGHTS

### Division 1 Purpose, application and definitions

#### 3.01 Purpose

For subregulation 91.085 (1), this Chapter prescribes requirements relating to an NVIS flight.

*Note 1* This Chapter applies to all NVIS flights **except** those conducted by an Australian air transport operator in a Part 133 operation, and those conducted by an aerial work certificate holder in an aerial work operation: see item 1 of Table 91.035 which, in effect, applies regulation 91.085 to all other NVIS flights.

*Note 2* This Chapter applies to NVIS flights conducted by a limited aerial work operator mentioned in Part 138: see item 1 of Table 91.035 and regulation 138.350, whose combined effect is to disapply regulation 91.085 from aerial work operations by aerial work certificate holders, but not from limited aerial work operators.

*Note 3* For NVIS equipment requirements: see Division 26.17 of the Part 91 MOS. The effect of item 16 of Table 91.035 is that the Division 26.17 requirements apply to all NVIS flights except NVIS flights conducted as a Part 133 operation. The Part 133 MOS contains the equipment requirements for such flights.

#### 3.01A Application

- (1) This Chapter applies to the use of NVIS by a flight crew member of an aircraft in an NVIS flight.
- (2) This Chapter does not apply to the use of NVIS by a person on an NVIS flight who is not a flight crew member, unless the person is involved in air navigation or terrain avoidance functions.

#### 3.02 Definitions

- (1) In this Chapter and Division 26.17:

***contracted checking*** has the meaning given by regulation 142.020 of CASR.

***contracted recurrent training*** has the meaning given by regulation 142.020 of CASR.

***final approach and take-off area***, or ***FATO***, has the meaning given by the CASR Dictionary.

***HLS*** means helicopter landing site.

***HLS-NVIS basic*** means an HLS that does not conform to the requirement of an HLS-NVIS standard.

***HLS-NVIS standard*** has the meaning given by section 3.04.

***IFR capable***, for an aircraft, describes a circumstance in which:

- (a) the aircraft is equipped for IFR flight in accordance with the regulations; and
- (b) the crew who operate the aircraft meet the relevant requirements for IFR flight under Part 61 of CASR.

***IR*** is short for infra-red.

***NVFR capable***, for an aircraft, describes a circumstance in which:

- (a) the aircraft is equipped for flight by night under the VFR in accordance with the regulations; and
- (b) the crew who operate the aircraft meet the relevant requirements for a VFR flight at night under Part 61 of CASR.

**NVIS air crew member**, for a particular NVIS operation, means an air crew member:

- (a) of an NVIS operator who holds an AOC, a Part 141 certificate, or an aerial work certificate for the NVIS operation; and
- (b) who is qualified (however described) to carry out the person's assigned functions as an air crew member for the operation in accordance with this MOS.

**NVIS crew member** means an NVIS pilot, an NVIS trainee pilot or an NVIS air crew member.

**NVIS endorsement** means an endorsement mentioned in column 2 of item 1 or item 2 in Table 61.1025 of CASR.

**NVIS flight** has the meaning given by the CASR Dictionary.

*Note* NVIS flight means a flight conducted using a night vision imaging system.

**NVIS operation** means an NVIS flight that is any of the following operations using NVIS:

- (a) authorised Part 141 flight training that is for a person to qualify for an NVIS rating or endorsement;
- (b) training and checking for a Part 141 operator in relation to its personnel who carry out the activities mentioned in paragraph (a);
- (c) authorised Part 142 activity that is:
  - (i) authorised Part 142 flight training that is for a person to qualify for an NVIS rating or endorsement; and
  - (ii) contracted recurrent training of personnel holding an NVIS rating or endorsement; and
  - (iii) contracted checking of personnel holding an NVIS rating or endorsement;
- (d) training and checking for a Part 142 operator in relation to its personnel who carry out the activities mentioned in paragraph (c);
- (e) a flight test required under Part 61 of CASR;
- (f) an NVIS proficiency check under Part 61 of CASR;
- (g) a flight, conducted by a Part 141 operator or a Part 142 operator, for the purpose of ensuring the proficiency of an NVIS pilot;
- (h) training or checking for a Part 133 operator in relation to its crew members who conduct NVIS flights during the operator's medical transport operations;
- (i) a maintenance flight of an aircraft for the purpose of ensuring the serviceability of the aircraft, or the NVIS, for NVIS operations mentioned in any other paragraph of this definition;
- (j) a test flight of an aircraft for the purpose of certifying the aircraft, or the NVIS, for NVIS operations mentioned in any other paragraph of this definition.

*Note 1* Unless otherwise expressly permitted (for example, under this Chapter, or under the Part 133 or Part 138 MOS), NVIS must not be used in any other operations for safe air navigation by means of visual surface reference external to the aircraft conducting the operation.

*Note 2* This Chapter does not apply to the use of NVIS by any crew member who is not directly involved in air navigation or terrain avoidance functions, and who uses NVIS solely for observation or surveillance.

**NVIS operator** means the operator for an NVIS operation.

**NVIS pilot**, for an NVIS flight, means a pilot who:

- (a) holds each of the licences, ratings and endorsements required for the NVIS flight by Part 61 of CASR; or

- (b) if the aircraft is a foreign-registered aircraft — is authorised by the aircraft’s State of registry to pilot the aircraft for the NVIS flight.

**NVIS proficiency check** has the meaning given by regulation 61.010 for night vision imagining system proficiency check.

**NVIS rating** means a rating mentioned in column 2 of item 4 in Table 61.375 of CASR.

**NVIS trainee pilot** means a pilot who:

- (a) does not hold an initial NVIS rating under CASR Part 61; and
- (b) is undergoing:
- (i) an approved course of training by a Part 141 or Part 142 operator, for the issue of such a rating; or
- (ii) a flight test.

**operator** has the meaning given by the CASR Dictionary.

*Note* Operator, of an aircraft, means:

- (a) if the operation of the aircraft is authorised by an AOC, a Part 141 certificate or an aerial work certificate — the holder of the AOC or the certificate; or
- (b) otherwise — the person, organisation or enterprise engaged in aircraft operations involving the aircraft.

**Part 141** means Part 141 of CASR.

**Part 141 operator** has the meaning given by the CASR Dictionary.

**Part 142** means Part 142 of CASR.

**Part 142 operator** has the meaning given by the CASR Dictionary.

**safety area** means an area:

- (a) that is free of obstacles, other than those:
- (i) with a height not exceeding 25 cm above the surface level of the area; or
- (ii) that are required for air navigation purposes; and
- Note* Obstacles required for air navigation include, for example, a wind direction indicator.
- (b) whose purpose is to reduce the risk of damage to an aircraft accidentally diverging from the load-bearing area primarily intended for landing or take-off.

*Note* The safety area does not need to be a solid surface. For example, a perforated metal deck may constitute part, or all, of a safety area.

**TLOF** is short for touchdown and lift-off area.

**used, using or uses**, in relation to the use of NVIS, means used for safe air navigation by means of visual surface reference external to the aircraft conducting the operation.

- (2) Subject to subsection (1), in this instrument words and phrases have the same meaning as in CASR.

## **Division 2 Requirements for an NVIS flight**

### **3.03 General requirements for NVIS flights**

- (1) A rotorcraft in an NVIS flight may only take off from and land on:
- (a) an HLS-NVIS standard; or
- (b) subject to section 3.05 — an HLS-NVIS basic.
- (2) A pilot in an NVIS flight must be:
- (a) an NVIS pilot; or

- (b) in an NVIS flight that is an NVIS operation for the purpose of flight training or flight testing a pilot (the *NVIS trainee pilot*) for an NVIS rating or endorsement — the NVIS trainee pilot accompanied by an NVIS pilot mentioned in paragraph (a).
- (3) A trainee pilot must not conduct a solo NVIS flight.
- (4) Each air crew member who uses NVIS in an NVIS flight must be:
  - (a) an NVIS air crew member in an NVIS operation; or
  - (b) a person, otherwise qualified for the NVIS flight, who is under flight training or flight testing to become an NVIS air crew member.

*Note* Air crew members may only be carried in accordance with the requirements for NVIS operations.

### 3.04 HLS-NVIS standard

- (1) Subject to subsection (2), an HLS-NVIS standard is an HLS that meets all of the following requirements:
  - (a) the FATO must at least:
    - (i) be capable of enclosing a circle with a diameter equal to one and a half times the D-Value ( $1.5 \times D$ ) of the rotorcraft; and
    - (ii) be free of obstacles likely to interfere with the manoeuvring of the rotorcraft; and
    - (iii) incorporate a safety area of  $0.25 \times D$ , or 3 m around the FATO, whichever is larger;
  - (b) a TLOF must be at least:
    - (i) a cleared and, as far as practicable, stable area capable of bearing the dynamic loads which may be imposed by the rotorcraft; and
    - (ii) an area of  $0.83 \times D$ .
- (2) For an NVIS operation only, an HLS-NVIS standard also includes an HLS that meets the FATO and TLOF criteria determined by the NVIS operator through a risk assessment, provided that the FATO and the TLOF so determined will deliver a level of safety that is at least equivalent to that which would otherwise arise from compliance with paragraphs (1) (a) and (b).

### 3.05 HLS-NVIS basic

- (1) A rotorcraft for an NVIS flight must not land on or take off from an HLS-NVIS basic unless it is conducting an NVIS operation.
- (2) For subsection (1), the NVIS crew must consist of:
  - (a) at least 2 NVIS pilots; or
  - (b) 1 NVIS pilot and at least 1 NVIS air crew member; or
  - (c) 1 NVIS pilot and 1 NVIS trainee pilot; or
  - (d) 1 NVIS pilot, but only if the flight is conducted by an operator who holds a CASA approval under regulation 91.045 that is based on the applicant's detailed risk assessment.

### 3.06 No formation flights for NVIS flight

The pilot in command of an aircraft for an NVIS flight must not engage in formation flight with another aircraft.

### 3.07 Alternate lighting requirements

- (1) Subject to subsection (2), if an NVIS flight is conducted to a planned destination aerodrome that does not have runway or HLS lighting, then the pilot must nominate a destination alternate aerodrome with lighting for the runway or HLS.
- (2) Subsection (1) does not apply if the NVIS flight is:
  - (a) an NVIS operation; and
  - (b) conducted by:
    - (i) at least 2 NVIS pilots; or
    - (ii) 1 NVIS pilot and 1 NVIS trainee pilot; or
    - (iii) 1 NVIS pilot and at least 1 NVIS air crew member.

## Division 3 Additional requirements for NVIS operations

### 3.08 Aircraft lighting

Despite any other provision of this MOS, if, in an NVIS operation, the optimum performance of the NVIS is affected, or is likely to be affected, by the aircraft's exterior lighting, the pilot in command must:

- (a) if satisfied that there is no risk of collision with another aircraft — turn off the exterior lighting; or
- (b) if satisfied that there is such a risk — immediately cease the NVIS operation.

*Note 1* On ceasing the relevant NVIS operation, the pilot in command, if at a lower altitude, must immediately climb to at least the minimum altitude for a VFR flight at night, or an IFR flight, conducted without the use of NVIS.

*Note 2* Division 26.7 contains requirements for the fitment and use of aircraft exterior lighting.

### 3.09 Minimum height under the NVFR or the IFR for NVIS operations

- (1) The pilot in command of an aircraft for an NVIS operation may, if it is operationally necessary, fly below:
  - (a) for a VFR flight at night — the minimum height prescribed under regulation 91.277; and
  - (b) for an IFR flight — the minimum height prescribed under regulation 91.305.
- (2) Under regulation 11.160 of CASR, the pilot in command of an aircraft for an NVIS operation is exempted from the requirements of regulation 91.277 or 91.305 (as the case requires):
  - (a) on condition that the requirements of this section are complied with; and
  - (b) on condition that the pilot in command makes no request to ATC for any clearance inconsistent with the requirements of this section; and
  - (c) on condition that an NVIS operation conducted under the IFR maintains VMC during flight below the minimum heights referred to in subsection (1); and
  - (d) only insofar as compliance with this section would otherwise be an offence under subregulation 91.277 (4) or 91.305 (4) (as applicable).

*Note 1* It is not an offence to fly below the prescribed minimum heights in the circumstances mentioned in subregulation 91.277 (4) or 91.305 (4).

*Note 2* **This exemption expires 3 years after commencement:** see paragraph 11.230 (1) (b) of CASR. Before it expires, Part 91 will be amended to accommodate the rules in this section without recourse to an exemption.

*Note 3* The VMC criteria are contained in section 2.07.

- (3) If an NVIS operation is conducted:
  - (a) below the minimum height for a VFR flight at night, as prescribed under regulation 91.277; or
  - (b) below the minimum height for an IFR flight, as prescribed under regulation 91.305;
 then, subject to subsections (6) and (7), NVIS must be used by each NVIS pilot and each NVIS air crew member who is involved in the operation.
- (4) If, for subsection (1), an NVIS operation is conducted by a single NVIS pilot as the only NVIS crew member then, subject to subsection (5), the operation must be conducted at or above 1 000 ft AGL.
- (5) An NVIS operation mentioned in subsection (4) may be conducted below 1 000 ft AGL only if it is:
  - (a) operationally necessary; and
  - (b) conducted at or above 500 ft AGL; and
  - (c) the subject of a detailed risk assessment given to CASA; and
  - (d) conducted by an operator who holds a CASA approval under regulation 91.045.
- (6) If, for subsection (1), an NVIS operation (other than one conducted by a single NVIS pilot as the only NVIS crew member) is conducted below 500 ft AGL in the hover, then, despite any other provision in this Chapter, the pilot in command may do any of the following:
  - (a) degoggle as an individual;
  - (b) permit all or any particular NVIS air crew member to degoggle; but only if, and for so long as, the degoggling enhances operational safety.
- (7) If, for subsection (1), in an NVIS operation (other than one conducted by a single NVIS pilot as the only NVIS crew member):
  - (a) the performance of the NVIS used by an NVIS pilot or NVIS air crew member is degraded because of extensive illumination in the area being overflown; and
  - (b) the continued use of the NVIS in such circumstances is likely to affect operational safety; and
  - (c) terrain and obstacles in the area may be visually identified and avoided; then the pilot in command may do any of the following in accordance with procedures in the operations manual:
    - (d) degoggle as an individual;
    - (e) permit all or any particular NVIS pilot or NVIS air crew member to degoggle; but only if, and for so long as, the degoggling enhances operational safety.

### **3.10 Weather requirements — cloud**

- (1) The pilot in command of an aircraft for an NVIS operation must comply with 1 of the following for the operation:
  - (a) the in-flight cloud requirements set out in Table 3.10 (1) of this MOS;
  - (b) the in-flight cloud requirements approved by CASA under subsection (3).
- (2) For Table 3.10 (1), for an NVIS aircraft and crew mentioned in an item of column 1 of the Table, that is conducting an NVIS operation of a kind mentioned in column 2 of the item, the minimum in-flight cloud requirements are set out in column 3 of the item.

**Table 3.10 (1) — In-flight cloud requirements**

	<b>Column 1</b>	<b>Column 2</b>	<b>Column 3</b>
<b>Item</b>	<b>NVIS aircraft and crew</b>	<b>Kind of NVIS flight for the NVIS operation</b>	<b>Minimum in-flight cloud requirement</b>
1	NVFR capable, with 2 NVIS crew members	Under the VFR	No more than scattered cloud up to 2 000 ft AGL within 2 NM either side of track.
2	IFR capable	Under the VFR	No more than scattered cloud up to 1 000 ft AGL within 2 NM either side of track
3	IFR capable	Under the IFR below LSALT	No more than scattered cloud up to 1 000 ft AGL within 2 NM either side of track.

*Note* **NVFR capable** and **IFR capable** are defined in section 3.02, Definitions.

- (3) An NVIS operation may comply with in-flight cloud requirements lower than those provided for under paragraph (1) (a) (**reduced in-flight cloud requirements**) but only if the lower requirements are:
  - (a) operationally necessary; and
  - (b) the subject of a detailed risk assessment given to CASA; and
  - (c) approved by CASA under regulation 91.045.
- (4) If:
  - (a) an NVIS operation is NVFR capable; but
  - (b) the NVIS crew is only a single NVIS pilot;
 then the NVIS pilot must comply with night VFR weather minima.