|  |  |  |  |
| --- | --- | --- | --- |
|  | Helicopter operations with night vision imaging systems (NVIS) *Ver. 2024-12-09* | |  |
|  | | | |
| Operatör: | | | |
|  | | | |
| Tillståndsnummer: | | Ifylld EASA Form 2 | |
|  | |  | |

|  |  |
| --- | --- |
|  | Attachment number: |
| Relevant elements defined in the mandatory part of the Operational Suitiability Data (OSD) established in accordance with Regulation (EU) No 748/2012 are taken into account |  |

|  |  |
| --- | --- |
| Transportstyrelsen | |
| Ärendenummer: | Handläggare: |
|  |  |
| Berörda sektioner/samråd: | |
|  | |
| Information | |
|  | |
| Denna checklista är avsedd som stöd vid ansökan om flygning med Night Vision Imaging Systems (NVIS). Checklistan innehåller både regler och tillhörande AMC och GM. All text är inte utskriven i checklistan, i de fallen hänvisas till texten i förordning (EU) nr 965/2012. *Observera att om det skulle finnas olikheter mellan denna checklista och aktuell regel på EUR LEX alternativt mellan checklistan och av EASA presenterat AMC och GM så gäller originaltexterna.*   |  | | --- | | Där grönmarkerade rutor förekommer ska relevanta bilagor sändas in.  Bilagans nummer ska anges i checklistan. |   Relevanta regelparagrafer i detta dokument följs av en ruta där operatören anger var i manualverket paragrafen omhändertagits och detta ska skrivas på detaljnivå för att underlätta och påskynda granskning och handläggning; att endast ange OM-A kap 8 är inte acceptabelt, var så precisa ni kan och hänvisa till flera paragrafer om detta behövs.  I de fall att det finns olika alternativ för regeluppfyllnad – markera alternativ som ni inte har valt med N/A.   |  | | --- | |  | | |

|  |
| --- |
| **SPA.GEN.100** |
|  |
| (a) The competent authority for issuing a specific approval shall be:  (1) for the commercial operator the authority of the Member State in which the operator has its principal place of business;  (2) for the non-commercial operator the authority of the State in which the operator is established or residing.  b) Notwithstanding (a)(2), for the non-commercial operator using aircraft registered in a third country, the applicable requirements under this Annex for the approval of the following operations shall not apply if these approvals are issued by a third country State of Registry:  (1) Performance-based navigation (PBN);  (2) Minimum operational performance specifications (MNPS);  (3) Reduced vertical separation minima (RVSM) airspace |

|  |  |  |
| --- | --- | --- |
| SPA.GEN.105 Application for a specific approval | | |
|  | | |
| (a) The operator applying for the initial issue of a specific approval shall provide to the competent authority the documentation required in the applicable Subpart, together with the following information: | | |
|  |  | TS notes: |
| (1) the name, address and mailing address of the applicant; | Ref EASA Form 2 |  |
|  | Bilaga nr: | TS notes: |
| (2) a description of the intended operation. |  |  |
|  | | |
| (b) The operator shall provide the following evidence to the competent authority: | | |
|  |  | TS notes: |
| (1) compliance with the requirements of the applicable Subpart; | This compliance checklist |  |
|  |  | TS notes: |
| (2) that the relevant elements defined in the mandatory part of the operational suitability data established in accordance with Regulation (EU) No 748/2012 are taken into account. | Ref. header of this CCL |  |
|  | Ref. in manual | TS notes: |
| (c) The operator shall retain records relating to (a) and (b) at least for the duration of the operation requiring a specific approval, or, if applicable, in accordance with Annex III (Part-ORO). |  |  |

|  |
| --- |
| **AMC1 SPA.GEN.105(a)** |
| DOCUMENTATION |
|  |
| (a) Operating procedures should be documented in the operations manual.  (b) If an operations manual is not required, operating procedures may be described in a manual specifying procedures (procedures manual). If the aircraft flight manual (AFM) or the pilot operating handbook (POH) contains such procedures, they should be considered as acceptable means to document the procedures. |
| **SPA.GEN.110 Priviliges of an operator holding a specific approval** |
|  |
| The scope of the activity that an operator is approved to conduct shall be documented and specified:  (a) for operators holding an air operator certificate (AOC) in the operations specifications to the AOC;  (b) for all other operators in the list of specific approvals. |
| **SPA GEN.115 Changes to a specific approval** |
|  |
| When the conditions of a specific approval are affected by changes, the operator shall provide the relevant documentation to the competent authority and obtain prior approval for the operation. |
| **SPA.GEN.120 Continued validity of a specific approval** |
|  |
| Specific approvals shall be issued for an unlimited duration and shall remain valid subject to the operator remaining in compliance with the requirements associated with the specific approval and taking into account the relevant elements defined in the mandatory part of the operational suitability data established in accordance with Regulation (EU) No 748/2012. |

|  |  |  |
| --- | --- | --- |
| SPA.NVIS.100 Night vision imaging system (NVIS) operations | | |
|  | | |
| (a) Helicopters shall only be operated under VFR at night with the aid of NVIS if the operator has been approved by the competent authority. | | |
|  | | |
| (b) To obtain such approval by the competent authority, the operator shall:  (1) operate in commercial air transport (CAT) and hold a CAT AOC in accordance with Annex III (Part-ORO);  (2) demonstrate to the competent authority:  (i) compliance with the applicable requirements contained in this Subpart;  (ii) the successful integration of all elements of the NVIS. | | |
| SPA.NVIS.110 Equipment requirements for NVIS operations | | |
|  | Attachment number: | TS note: |
| (a) Before conducting NVIS operations each helicopter and all associated NVIS equipment shall have been issued with the relevant airworthiness approval in accordance with Regulation (EU) No 748/2012. |  |  |
|  | Ref. in manual | TS notes: |
| (b) *Radio altimeter.* The helicopter shall be equipped with a radio altimeter capable of emitting an audio warning below a pre-set height and an audio and visual warning at a height selectable by the pilot, instantly discernible during all phases of NVIS flight. |  |  |
|  | Ref. in manual | TS notes: |
| (c) *Aircraft NVIS compatible lighting*. To mitigate the reduced peripheral vision cues and the need to enhance situational awareness, the following shall be provided:  (1) NVIS-compatible instrument panel flood-lighting, if installed, that can illuminate all essential flight instruments;  (2) NVIS-compatible utility lights;  (3) portable NVIS compatible flashlight; and  (4) a means for removing or extinguishing internal NVIS non-compatible lights. |  |  |
|  | Ref. in manual | TS notes: |
| (d) *Additional NVIS equipment*. The following additional NVIS equipment shall be provided:  (1) a back-up or secondary power source for the night vision goggles (NVG);  (2) a helmet with the appropriate NVG attachment. |  |  |
|  | Ref. in manual | TS notes: |
| (e) All required NVGs on an NVIS flight shall be of the same filter class and shall provide for sufficiently equivalent visual acuity. |  |  |
|  |  |  |
|  |  |  |
|  | Ref. in manual | TS notes: |
| (f) Continuing airworthiness  (1) Procedures for continuing airworthiness shall contain the information necessary for carrying out ongoing maintenance and inspections on NVIS equipment installed in the helicopter and shall cover, as a minimum:  (i) helicopter windscreens and transparencies; |  |  |
|  | Ref. in manual | TS notes: |
| (ii) NVIS lighting; |  |  |
|  | Ref. in manual | TS notes: |
| (iii) NVGs; and |  |  |
|  | Ref. in manual | TS notes: |
| (iv) any additional equipment that supports NVIS operations. |  |  |
|  | Ref. in manual | TS notes: |
| (2) Any subsequent modification or maintenance to the aircraft shall be in compliance with the NVIS airworthiness approval. |  |  |
| AMC1 SPA.NVIS.110(b) Equipment requirements for NVIS operations | | |
| RADIO ALTIMETER | | |
|  | | |
| (a) The radio altimeter should: | | |
|  | Ref. in manual | TS notes: |
| (1) be of an analogue type display presentation that requires minimal interpretation for both an instantaneous impression of absolute height and rate of change of height;  (2) be positioned to be instantly visible and discernable from each cockpit crew station;  (3) have an integral audio and visual low height warning that operates at a height selectable by the pilot; and  (4) provide unambiguous warning to the crew of radio altimeter failure. |  |  |
|  | | |
| (b) The visual warning should provide: | | |
|  | Ref. in manual | TS notes: |
| (1) clear visual warning at each cockpit crew station of height below the pilot-selectable height; and  (2) adequate attention-getting-capability for typical NVIS operations. |  |  |
|  |  |  |
|  |  |  |
|  | | |
| (c) The audio warning should: | | |
|  | Ref. in manual | TS notes: |
| (1) be unambiguous and readily cancellable;  (2) not extinguish any visual low height warnings when cancelled; and  (3) operate at the same pilot-selectable height as the visual warning. |  |  |
| GM1 SPA.NVIS.110(b) Equipment requirements for NVIS operations | | |
| RADIO ALTIMETER | | |
|  | | |
| An analogue type display presentation may be, for example, a representation of a dial, ribbon or bar, but not a display that provides numbers only. An analogue type display may be embedded into an electronic flight instrumentation system (EFIS). | | |
| |  |  |  | | --- | --- | --- | | AMC1 SPA.NVIS.110(e) Equipment requirements for NVIS operations | | | | DEMONSTARTION OF EQUIVALENT VISUAL ACUITY | | | |  | Ref. in manual, state which conditions you meet. | TS notes: | | (a) When demonstrating the equivalent visual acuity of the required NVG, the operator should ensure that one of the following conditions are met:  *(see rulebook for full text: (a)(1) – (a)(3)(iii))* |  |  | |  | Ref. in manual | TS notes: | | (b) The operational demonstration referred to in (a)(3)(ii) above should include the following:  *(see rulebook for full text: (b)(1) – (b)(5))* |  |  | |  | Ref. in manual | TS notes: | | (c) The risk assessment referred to in (a)(3)(iii) above should consider the following:  *(see rulebook for full text: (c)(1) – (c)(3)(iii))* |  |  | |  | Ref. in manual | TS notes: | | (d) SOPs. The operator should develop SOPs to comply with any restrictions established in its risk assessment. |  |  | | DEMONSTRATION THAT DIFFERENT NVG ARE OF THE SAME FILTER CLASS | | | |  | Ref. in manual | TS notes: | | (e) The operator should demonstrate that NVG of different models have the same filter class, in  order to ensure that they will not filter out different external lights. This might be possible  despite both NVG models being compatible with the helicopter as determined in the flight  manual. |  |  | | GM1 SPA.NVIS.110(e) Equipment requirements for NVIS operations | | | | DEMONSTARTION OF EQUIVALENT VISUAL ACUITY – SET OF SPECIFICATIONS AND GENERATIONS | | | |  | Ref. in manual | TS notes: | | (a) When assessing whether different NVG meet the same set of specifications for the purpose of demonstrating equivalent visual acuity, as described in point (a)(2)(ii) of AMC1 SPA.NVIS.110(e), generations may be defined as per US military specifications or using the following criteria:  *(see rulebook for full text: (a)(1) – (a)(4))* |  |  | |  | Ref. in manual | TS notes: | | (b) NVG of ‘generation 3 autogated’ or ‘generation 3+’ as defined by the US military are sometimes called ‘generation 4’ commercially. The differences with generation 3 are limited to the following and are therefore considered not to be significant. Generations 3 to 4 as mentioned above may be considered to be the same generation.  *(see rulebook for full text: (b)(1) – (b)(2))* |  |  | |  | Ref. in manual | TS notes: | | (c) A non-civilian set of specifications — other than generations — that ensures sufficient equivalent visual acuity may also be used. For example, OMNI specifications from the US military may be used. |  |  | |  | Ref. in manual | TS notes: | | (d) The figure of merit is resolution \* signal to noise ratio. |  |  |  GM1 SPA.NVIS.110(f) Equipment requirements for NVIS operations | | |
| MODIFICATION OR MAINTENANCE TO THE HELICOPTER | | |
|  | Ref. in manual | TS notes: |
| It is important that the operator reviews and considers all modifications or maintenance to the helicopter with regard to the NVIS airworthiness approval. Special emphasis needs to be paid to modification and maintenance of equipment such as light emitting or reflecting devices, transparencies and avionics equipment, as the function of this equipment may interfere with the NVGs. |  |  |
| SPA.NVIS.120 NVIS operating minima | | |
|  | Ref. in manual | TS notes: |
| (a) Operations shall not be conducted below the weather minima for the type of night operations being conducted. |  |  |
|  | Ref. in manual | TS notes: |
| (b) The operator shall establish the minimum transition height from where a change to/from aided flight may be continued. |  |  |
| |  |  |  | | --- | --- | --- | | AMC1 SPA.NVIS.120 NVIS operating minima NVIS OPERATIONS UNDER IFR | | | |  | Ref. in manual | TS notes: | | (a) Any limitation in the rotorcraft flight manual should be complied with. |  |  | |  | Ref. in manual | TS notes: | | (b) Night-vision goggles may be used in a flipped-down position during a flight under IFR:  (1) under VMC;  (2) under IMC:  (i) in preparation of the visual segment of an instrument approach or a visual approach;  (ii) during the visual segment of an instrument approach or departure;  (iii) during a visual approach;  (iv) in preparation of a transition to VFR. |  |  | |  | Ref. in manual | TS notes: | | (c) The pilot-in-command/commander should not proceed on a visual segment of an IFR flight unless the visual cues required for the visual segment are visible using unaided vision. |  |  | |  | Ref. in manual | TS notes: | | (d) The pilot-in-command/commander should not proceed VFR unless the VFR weather minima are assessed without using unaided vision. |  |  | | GM1 SPA.NVIS.120 NVIS operating minima NVIS OPERATION UNDER IFR | | | |  | Ref. in manual | TS notes: | | The use of night-vision goggles in a flipped-down position does not prevent the use of unaided vision, by looking out below the goggles or to the sides. |  |  |  SPA.NVIS.130 Crew requirements for NVIS operations | | |
|  | Ref. in manual | TS notes: |
| (a) *Selection*. The operator shall establish criteria for the selection of crew members for the NVIS task. |  |  |
|  | Ref. in manual | TS notes: |
| (b) *Experience*. The minimum experience for the commander shall not be less than 20 hours VFR at night as pilot-in-command/commander of a helicopter before commencing training. |  |  |
|  | Ref. in manual | TS notes: |
| (c) *Operational training*. All pilots shall have completed the operational training in accordance with the NVIS procedures contained in the operations manual. |  |  |
|  | Ref. in manual | TS notes: |
| (d) *Recency*. All pilots and NVIS technical crew members conducting NVIS operations shall have completed three NVIS flights in the last 90 days. Recency may be re-established on a training flight in the helicopter or an approved full flight simulator (FFS), which shall include the elements of (f)(1). |  |  |
|  | Ref. in manual | TS notes: |
| (e) *Crew composition*. The minimum crew shall be the greater of that specified:  (1) in the aircraft flight manual (AFM);  (2) for the underlying activity; or  (3) in the operational approval for the NVIS operations. |  |  |
|  | Attachment number: | TS notes: |
| (f) Crew training and checking  (1) Training and checking shall be conducted in accordance with a detailed syllabus approved by the competent authority and included in the operations manual. |  |  |
|  | | |
| (2) Crew members | | |
|  | Ref. in manual | TS notes: |
| (i) Crew training programmes shall: improve knowledge of the NVIS working environment and equipment; improve crew coordination; and include measures to minimise the risks associated with entry into low visibility conditions and NVIS normal and emergency procedures. |  |  |
|  | Ref. in manual | TS notes: |
| (ii) The measures referred to in (f)(2)(i) shall be assessed during:  (A) night proficiency checks; and  (B) line checks.  *(Note: shall be found in those protocols)* |  |  |
| GM1 SPA.NVIS.130(e) Crew requirements for NVIS operations | | |
| UNDERLYING ACTIVITY | | |
|  | Ref. in manual | TS notes: |
| Examples of an underlying activity are:  (a) commercial air transport (CAT);  (b) helicopter emergency medical service (HEMS); and  (c) helicopter hoist operation (HHO). |  |  |
| GM2 SPA.NVIS.130(e) Crew requirements for NVIS operations | | |
| OPERATIONAL APPROVAL | | |
|  | Ref. in manual | TS notes: |
| (a) When determining the composition of the minimum crew, the competent authority should take account of the type of operation that is to be conducted. The minimum crew should be part of the operational approval. |  |  |
|  | Ref. in manual | TS notes: |
| (b) If the operational use of NVIS is limited to the en-route phase of a CAT flight, a single-pilot operation may be approved. |  |  |
|  | Ref. in manual | TS notes: |
| (c) Where operations to/from a HEMS operating site are to be conducted, a crew of at least one pilot and one NVIS technical crew member would be necessary (this may be the suitably qualified HEMS technical crew member). |  |  |
|  | Ref. in manual | TS notes: |
| (d) A similar assessment may be made for night HHO, when operating to unprepared sites. |  |  |
| AMC1 SPA.NVIS.130(f)(1) Crew requirements for NVIS operations | | |
| TRAINING AND CHECKING SYLLABUS | | |
|  | | |
| (a) The flight crew *training* syllabus should include the following items: | | |
|  | Ref. in manual | TS notes: |
| (1) NVIS working principles, eye physiology, vision at night, limitations and techniques to overcome these limitations; |  |  |
|  | Ref. in manual | TS notes: |
| (2) preparation and testing of NVIS equipment; |  |  |
|  | Ref. in manual | TS notes: |
| (3) preparation of the helicopter for NVIS operations; |  |  |
|  | Ref. in manual | TS notes: |
| (4) normal and emergency procedures including all NVIS failure modes; |  |  |
|  | Ref. in manual | TS notes: |
| (5) maintenance of unaided night flying; |  |  |
|  | Ref. in manual | TS notes: |
| (6) crew coordination concept specific to NVIS operations; |  |  |
|  | Ref. in manual | TS notes: |
| (7) practice of the transition to and from NVG procedures; |  |  |
|  | Ref. in manual | TS notes: |
| (8) awareness of specific dangers relating to the operating environment; and |  |  |
|  | Ref. in manual | TS notes: |
| (9) risk analysis, mitigation and management. |  |  |
|  | | |
| (b) The flight crew *checking* syllabus should include: | | |
|  | Ref. in manual | TS notes: |
| (1) night proficiency checks, including emergency procedures to be used on NVIS operations; and |  |  |
|  | Ref. in manual | TS notes: |
| (2) line checks with special emphasis on the following:  (i) local area meteorology;  (ii) NVIS flight planning;  (iii) NVIS in-flight procedures;  (iv) transitions to and from night vision goggles (NVG);  (v) normal NVIS procedures; and  (vi) crew coordination specific to NVIS operations. |  |  |
|  | | |
| (c) Whenever the crew is required to also consist of an NVIS technical crew member, he/she should be trained and checked in the following items: | | |
|  | Ref. in manual | TS notes: |
| (1) NVIS working principles, eye physiology, vision at night, limitations, and techniques to overcome these limitations; |  |  |
|  | Ref. in manual | TS notes: |
| (2) duties in the NVIS role, with and without NVGs; |  |  |
|  | Ref. in manual | TS notes: |
| (3) the NVIS installation; |  |  |
|  | Ref. in manual | TS notes: |
| (4) operation and use of the NVIS equipment; |  |  |
|  | Ref. in manual | TS notes: |
| (5) preparing the helicopter and specialist equipment for NVIS operations; |  |  |
|  | Ref. in manual | TS notes: |
| (6) normal and emergency procedures; |  |  |
|  | Ref. in manual | TS notes: |
| (7) crew coordination concepts specific to NVIS operations; |  |  |
|  | Ref. in manual | TS notes: |
| (8) awareness of specific dangers relating to the operating environment; and |  |  |
|  | Ref. in manual | TS notes: |
| (9) risk analysis, mitigation and management. |  |  |
| AMC1 SPA.NVIS.130(f) Crew requirements | | |
| CHECKING OF NVIS CREW MEMBERS | | |
|  | Ref. in manual | TS notes: |
| (a) The operator proficiency check and line check required in SPA.NVIS.130(f)should have a validity of 12 calendar months. The validity period should be counted from the end of the month when the training was taken. When the check is undertaken within the last 3 months of the validity period, the new validity period should be counted from the previous expiry date. |  |  |
|  | Ref. in manual | TS notes: |
| (b) These checks may be combined with those checks required for the underlying activity. |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  | | --- | --- | --- | | AMC2 SPA.NVIS.130(f) Crew requirements | | | | CREW TRAINING AND CHECKING - NVIS OPERATIONS UNDER IFR | | | |  | Ref. in manual | TS notes: | | (a) The minimum crew should be two pilots, or one pilot and one NVIS technical crew member |  |  | |  | Ref. in manual | TS notes: | | (b) The crew training and experience should ensure:  *(see rulebook for full text: (b)(1) – (b)(4))* |  |  | |  | Ref. in manual | TS notes: | | (c) A crew member that is involved in NVIS operations under IFR should undergo initial and recurrent training using a suitable FSTD as part of the normal crew complement. The training should cover at least the following items under a variety of weather conditions and cultural lighting:  *(see rulebook for full text: (c)(1) – (c)(2))* |  |  | |  | Ref. in manual | TS notes: | | (d) In addition to (b) and (c), a technical crew member that is involved in NVIS operations under IFR should be trained to perform navigation and monitoring functions under IFR, as described under AMC3 SPA.NVIS.130(f). The training should include all of the following on the given helicopter type:  *(see rulebook for full text: (d)(1) – (d)(5))* |  |  | |  | Ref. in manual | TS notes: | | (e) An FSTD suitable for the NVIS training described in (c) should meet all of the following criteria:  *(see rulebook for full text: (e)(1) – (e)(5))* |  |  | |  | Ref. in manual | TS notes: | | (f) The person conducting the training defined in (c) above should be a NVIS instructor and should hold an instrument rating in accordance with Regulation (EU) No 1178/2011. |  |  | |  | Ref. in manual | TS notes: | | (g) The training should have a validity of 12 calendar months. The validity period should be counted from the end of the month when the training was taken. When the training is undertaken within the last 3 months of the validity period, the new validity period should be counted from the previous expiry date. |  |  | |  |  |  | |  |  |  | |  | Ref. in manual | TS notes: | | (h) The flight crew operator proficiency check should include one transition from instrument to visual flight during the final approach, using NVIS. This manoeuvre may be combined with a 2D or 3D approach to minima. |  |  | |  | Ref. in manual | TS notes: | | (i) NVIS operations under IFR on more than one type or variant with different levels of automation  *(see rulebook for full text: (i)(1) – (i)(2))* |  |  | | AMC3 SPA.NVIS.130(f) Crew requirements | | | | CREW TRAINING AND CHECKING — TECHNICAL CREW MEMBER TRAINING FOR OPERATIONS UNDER IFR — INITIAL AND RECURRENT GENERAL TRAINING AND CHECKING | | | |  | Ref. in manual | TS notes: | | (a) The technical crew member initial and recurrent training and checking syllabus should include the following items:  *(see rulebook for full text: (a)(1) – (a)(16))* |  |  |  INITIAL AND RECURRENT NAVIGATION TRAINING AND CHECKING  |  |  |  | | --- | --- | --- | |  | Ref. in manual | TS notes: | | (b) The initial and recurrent navigation training and checking syllabus should include the following items:  *(see rulebook for full text: (b)(1) – (b)(5))* |  |  |  INITIAL AND RECURRENT MONITORING TRAINING AND CHECKING  |  |  |  | | --- | --- | --- | |  | Ref. in manual | TS notes: | | (c) The initial and recurrent monitoring training and checking syllabus should include the following items: *(see rulebook for full text: (c)(1) – (c)(5))* |  |  |  INITIAL AIRCRAFT/FSTD TRAINING  |  |  |  | | --- | --- | --- | |  | Ref. in manual | TS notes: | | (d) The technical crew member training syllabus should include aircraft/FSTD training focusing on crew cooperation with the pilot *(see rulebook for full text: (d)(1) – (d)(5))* |  |  |  LINE FLYING UNDER SUPERVISION (LIFUS)  |  |  |  | | --- | --- | --- | |  | Ref. in manual | TS notes: | | (e) LIFUS *(see rulebook for full text: (e)(1) – (e)(4))* |  |  |  RECURRENT AIRCRAFT/FSTD TRAINING  |  |  |  | | --- | --- | --- | |  | Ref. in manual | TS notes: | | (f) Recurrent helicopter/FSTD training *(see rulebook for full text: (f)(1) – (f)(2))* |  |  |  GM1 SPA.NVIS.130(f) Crew requirements for NVIS operations | | |
| TRAINING GUIDELINES AND CONSIDERATIONS | | |
|  | | |
| (a) Purpose  The purpose of this GM is to recommend the minimum training guidelines and any associated considerations necessary for the safe operation of a helicopter while operating with night vision imaging systems (NVISs).  To provide an appropriate level of safety, training procedures should accommodate the capabilities and limitations of the NVIS and associated systems as well as the restraints of the operational environment. | | |
| *For further guidance below, please see actual rule text.* | Ref. in manual | TS notes: |
| (b) Assumptions |  |  |
|  | Ref. in manual | TS notes: |
| (c) Two-tiered approach: basic and advance training |  |  |
|  | Ref. in manual | TS notes: |
| (d) Training requirements  (1) Flight crew ground training |  |  |
|  | Ref. in manual | TS notes: |
| (2) Flight crew flight training |  |  |
|  | Ref. in manual | TS notes: |
| (3) Training crew members other than flight crew |  |  |
|  | Ref. in manual | TS notes: |
| (4) Ground personnel training |  |  |
|  | Ref. in manual | TS notes: |
| (5) Instructor qualifications  An NVIS flight instructor should at least have the following licences and qualifications:  (i) at least flight instructor (FI(H)) or type rating instructor (TRI(H)) with the applicable type rating on which NVIS training will be given; and  (ii) logged at least 100 NVIS flights or 30 hours’ flight time under NVIS as pilot-in-command/commander. |  |  |
|  | Ref. in manual | TS notes: |
| (6) NVIS equipment minimum requirements (training) |  |  |
| GM2 SPA.NVIS.130(f) Crew requirements for NVIS operations | | |
| INSTRUCTION – GROUND TRAINING AREAS OF INSTRUCTION | | |
| *For further guidance, ref. to Table 1 (Ground training areas of instruction) in this GM.* | Ref. in manual | TS notes: |
| A detailed example of possible subjects to be instructed in an NVIS ground instruction is included below. (The exact details may not always be applicable, e.g. due to goggle configuration differences.)  *(Note: 11 items/subject areas and 11 hours)* |  |  |
| GM3 SPA.NVIS.130(f) Crew requirements for NVIS operations | | |
| FLIGHT TRAINING – AREAS OF INSTRUCTION | | |
| *For further guidance, ref. to Table 1 (Flight training areas of instruction) in this GM.* | Ref. in manual | TS notes: |
| A detailed example of possible subjects to be instructed in a NVIS flight instruction is included below.  *(Note: 5 items/subject areas and 5 hours)* |  |  |
| GM4 SPA.NVIS.130(f) Crew requirements for NVIS operations | | |
| *For further guidance, ref. to Table 1 (NVIS pre-flight briefing/checklist)) in this GM.* | Ref. in manual | TS notes: |
| A detailed example of a pre-flight briefing/checklist is included below.  *(Note: 7 items)* |  |  |
| GM5 SPA.NVIS.130(f) Crew requirements for NVIS operationsCREW TRAINING AND CHECKING – SUITABLE FSTD – NVIS OPERATIONS UNDER IFR  |  | | --- | |  | | The FSTD may be a generic FSTD and may have no motion system. |  SPA.NVIS.140 Information and documentation | | |
|  | Ref. in manual | TS notes: |
| The operator shall ensure that, as part of its risk analysis and management process, risks associated with the NVIS environment are minimised by specifying in the operations manual: selection, composition and training of crews; levels of equipment and dispatch criteria; and operating procedures and minima, such that normal and likely abnormal operations are described and adequately mitigated. |  |  |

|  |  |  |
| --- | --- | --- |
| AMC1 SPA.NVIS.140 Information and documentation | | |
| OPERATIONS MANUAL | | |
|  | | |
| The operations manual should include: | | |
|  | Ref. in manual | TS notes: |
| (a) equipment to be carried and its limitations; |  |  |
|  | Ref. in manual | TS notes: |
| (b) the minimum equipment list (MEL) entry covering the equipment specified; |  |  |
|  | Ref. in manual | TS notes: |
| (c) risk analysis, mitigation and management; |  |  |
|  | Ref. in manual | TS notes: |
| (d) pre- and post-flight procedures and documentation; |  |  |
|  | Ref. in manual | TS notes: |
| (e) selection and composition of crew; |  |  |
|  | Ref. in manual | TS notes: |
| (f) crew coordination procedures, including:  (1) flight briefing; |  |  |
|  | Ref. in manual | TS notes: |
| (2) procedures when one crew member is wearing NVG and/or procedures when two or more crew members are wearing NVGs; |  |  |
|  | Ref. in manual | TS notes: |
| (3) procedures for the transition to and from NVIS flight; |  |  |
|  | Ref. in manual | TS notes: |
| (4) use of the radio altimeter on an NVIS flight; and |  |  |
|  | Ref. in manual | TS notes: |
| (5) inadvertent instrument meteorological conditions (IMC) and helicopter recovery procedures, including unusual attitude recovery procedures; |  |  |
|  | Ref. in manual | TS notes: |
| (g) the NVIS training syllabus; |  |  |
|  | Ref. in manual | TS notes: |
| (h) in-flight procedures for assessing visibility, to ensure that operations are not conducted below the minima stipulated for non-assisted night VFR operations; |  |  |
|  | Ref. in manual | TS notes: |
| (i) weather minima, taking the underlying activity into account; and |  |  |
|  | Ref. in manual | TS notes: |
| (j) the minimum transition heights to/from an NVIS flight. |  |  |

|  |  |  |
| --- | --- | --- |
| GM1 SPA.NVIS.140 Information and documentation | | |
| CONCEPT OF OPERATIONS | | |
| *For further guidance and complete text, ref. to this GM.* | Ref. in manual | TS note: |
| Night Vision Imaging System for Civil Operators  Foreword  Executive summary  Concept of operations – NVIS operations under IFR  2. Terminology  2.1 Night vision goggles  2.2 Aviation night vision imaging system (NVIS)  2.3 NVIS lighting  2.4 NVIS operation  3. System description  3.1 NVIS capabilities  4. Operations  4.1 Pilot eligibility  4.2 Operating environment considerations  4.3 Aircraft considerations  4.4 Generic operating considerations  5. Training  6. Continuing airworthiness  Acronyms used in this GM  Glossary of terms used in this GM  References |  |  |