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1.0 INTRODUCTION

(1) This Advisory Circular (AC) is provided for information and guidance purposes. It describes an example of an acceptable means, but not the only means, of demonstrating compliance with regulations and standards. This AC on its own does not change, create, amend or permit deviations from regulatory requirements, nor does it establish minimum standards.

1.1 Purpose

(1) The use of Night Vision Imaging Systems (NVIS) such as Night Vision Goggles (NVG) and Enhanced Vision Systems (EVS) are being incorporated into, or considered by organizations such as Helicopter Emergency Medical Services (HEMS), Search and Rescue (SAR), police services and provincial forestry and wildlife agencies. It is expected that the use of NVIS will increase in popularity as a result of the increased safety these technologies can provide for night Visual Flight Rules (VFR) operations.

1.2 Applicability

(1) This AC applies to all aircraft operators, as per Section 101.01 of the Canadian Aviation Regulations (CARs) wishing to utilize NVIS in their operations.

1.3 Description of Changes

(1) The following items were added:
   (a) Reference for Public Works Government Services of Canada - Controlled Goods Program;
   (b) Company NVIS Instructors and Check Pilots Qualifications and Proficiency Requirements;
   (c) NVIS Program Validation Requirements and Validity Periods;
   (d) Pilots Competency Check Requirements and Validity Periods; and
   (e) Appendixes attached.

2.0 REFERENCES AND REQUIREMENTS

2.1 Reference Documents

(1) It is intended that the following reference materials be used in conjunction with this document:
   (a) Aeronautics Act (R.S., 1985, c. A-2);
   (b) Canadian Aviation Regulations (CARs);
   (c) Staff Instruction (SI) 513-011 — Certification of Night Vision Imaging Systems;
   (d) Operations Specification 603 — Use of Night Vision Imaging Systems;
   (e) Civil Aviation Directive (CAD) REG-003 — Exemptions from Regulatory Requirements;
   (f) Transport Canada Publication, TP 11957 — Aircraft Registration Procedures Manual Appendix C — Authorizations and Exemptions
   (g) NAV CANADA TP 1820E — Designated Airspace Handbook;
   (h) TP 1102 — Flight Training Manual;
Use of Night Vision Imaging Systems

2.2 Cancelled Documents

(1) The following documents are cancelled:

(a) Commercial and Business Aviation Advisory Circular 0251, 2005-12-30 – Use of Night Vision Imaging Systems in Helicopter Operations; and

(b) Commercial and Business Aviation Policy Letter 0176, 2005-12-30 — Approval of Night Vision Imaging Systems Programs Utilizing Night Vision Goggles.

(2) By default, it is understood that the publication of a new issue of a document automatically renders any earlier issues of the same document null and void.

2.3 Definitions and Abbreviations

(1) The following definitions are used in this document:

(a) Class B: A class of Night Vision Goggles that contains an objective filter that prevents light waves measuring below 665 nanometres from entering the image intensifier;

(b) Night Vision Goggles: Goggles that picks up any light in the immediate area and amplifies it several thousand times using an image intensifier. This works by the photoelectric effect. As a photon collides with a detector plate, the metal ejects several electrons that are then amplified into a cascade of electrons that light up a phosphor screen;

(c) Night Vision Imaging System: A system which uses image intensifier tubes to produce an enhanced image of a scene in light conditions too low for normal navigation and pilotage;

(d) Night Vision Imaging Systems Radiance: The amount of energy emitted by a light source that is visible through Night Vision Imaging Systems;

(e) Transparencies: Window, windscreen, chin bubbles and overhead windows installed on the aircraft that the crew uses to look outside the aircraft; and
(f) **Event:** An event is considered a take-off to hover, transition to forward flight, cruise, approach, hover and landing while not in an airport circuit. Training circuits at the same airfield should be avoided and may not constitute an ‘event’. A fixed wing event must consist of taxi, takeoff, climb, cruise, descent, approach and landing to at least one other aerodrome than the departure aerodrome. **If a suitable airport is not available fixed wing training may be conducted at one airport however the airplane must be flown out of the circuit to at least 3 miles and rejoin the pattern for the landing.**

(g) **Transport Canada Civil Aviation (TCCA) Approved Night Vision Imaging System (NVIS) Expert:** Highly trained and experienced NVIS Instructor and Check pilots screened and registered with TCCA Commercial Flight Standards will be accredited to conduct NVIS **Program Validations** and NVIS **Competency Check flights** of company NVIS Instructors and Check Pilots. TCCA Commercial Flight Standards will maintain a list of approved NVIS Experts and ensure they receive letters attesting to their accreditation to be carried in the course of their duties. These experts may conduct the **validations** and **competency checks** in cooperation with Regional inspectors or independently as deemed appropriate by TCCA.

(2) The following **abbreviations** are used in this document:

(a) **AC:** Advisory Circular;

(b) **CARs:** Canadian Aviation Regulations;

(c) **CFS:** Canada Flight Supplement;

(d) **COM:** Company Operations Manual;

(e) **DMR:** Designated Mountainous regions;

(f) **EVS:** Enhanced Vision System;

(g) **FAA:** Federal Aviation Administration;

(h) **FOV:** Field of View;

(i) **HEMS:** Helicopter Emergency Medical Service;

(j) **IMC:** Instrument Meteorological Conditions;

(k) **NVG:** Night Vision Goggles;

(l) **NVIS:** Night Vision Imaging Systems;

(m) **PIC:** Pilot in Command;

(n) **POI:** Principle Operations Inspector;

(o) **RADALT:** Radio Altimeter, measures height above ground;

(p) **RTCA:** Radio Technical Commission for Aeronautics;

(q) **SAR:** Search and Rescue;

(r) **SI:** Staff Instruction;

(s) **SOP:** Standard Operating Procedures;

(t) **TCCA:** Transport Canada Civil Aviation;

(u) **TSO:** Technical Standard Order; and

(v) **VFR:** Visual Flight Rules.
3.0 BACKGROUND

(1) Night Vision Imaging Systems (NVIS) programs utilizing Night Vision Goggles (NVG) and Enhanced Vision Systems (EVS) utilizing infrared imagery are being incorporated into, or considered by organizations such as Helicopter Emergency Medical Services (HEMS), Search and Rescue (SAR), police services, provincial Forestry and Wildlife organizations and aerial work companies. Transport Canada Civil Aviation (TCCA) has worked with the Industry and the Federal Aviation Administration (FAA) in the development of the documents referenced in this Advisory Circular (AC). These documents should be used as the background material for the development, and will be used for the assessment of an NVIS program submitted by air operators for approval. The aspects of an NVIS program consists of the following elements: an acceptable NVG appliance meeting Technical Standard Order (TSO) C164, NVG compatible interior and exterior aircraft lighting, assessment of cockpit windows (windshield, windows, chin bubbles etc.) or any other applicable equipment as per section 6.0 of this AC, and an approved ground and flight training programs. Obtaining approval to conduct NVIS operations will be achieved in 2 parts:

(a) Aircraft Modification if required:
   (i) Installation design approval by Aircraft Certification personnel consisting of:
      (A) Obtaining a Supplement Type Certificate for installation of NVG compatible lighting;
      (B) Flight test for NVIS compatibility; and
      (C) Inclusion of the Flight Manual Supplement.

(b) Operational Approval Consisting of:
   (i) Evaluation of NVIS ground and flight training programs by the Principle Operations Inspector (POI) for all operators, Flight Training Standards for Flight Training Schools;
   (ii) Amendments to the Company Operations Manual (COM) including NVIS Standard Operational Procedures (SOP) as appropriate to subparts 604, 702, 703, 704 and 705 operators of the Canadian Aviation Regulations (CARs) and Maintenance Control Manual (MCM) with any relevant maintenance schedule amendments;
   (iii) Monitoring of the training program as appropriate to subparts 604, 702, 703, 704 and 705 operators of the CARs; and
   (iv) Observing training and operational flights utilizing NVIS as appropriate to subparts 604, 702, 703, 704, 705 and 706 operators of the CARs.
   (v) In the past most civil aircraft have been certificated for unaided night flight. All aircraft certificated for NVIS operations have explicit statements that NVIS or NVG operations are approved, and this information is contained in the “limitations” section of the applicable Aircraft Flight Manual or Aircraft Flight Manual Supplement.

4.0 NIGHT VISION IMAGING SYSTEM TECHNOLOGIES

4.1 Night Vision Goggles

(1) FAA, through the Radio Technical Commission for Aeronautics (RTCA) consultation process, has developed the TSO C164 to describe an acceptable standard for NVG performance and
functionality. This TSO should be used as the minimum standard for NVG. Regardless, the
goggles must be as a minimum Generation III and must meet the requirements stipulated in
RTCA DO-275 and TSO C164. The importance of this minimum standard is that it ensures
sufficient visual acuity, low light capability, ease of use and operation, and acceptable electronic
performance. NVG must be maintained, at least once every six calendar months, in accordance
with the applicable instructions of continued airworthiness and with RTCA DO-275 / TSO C164.

4.2 Enhanced Vision Systems

(1) TCCA is leading the industry in setting operational standards for certification and acceptable
standards for EVS performance and functionality and no existing TSO specifications currently
exists. There are, however, specific minimum standards in performance that should be
recognized as a baseline requirement for operations. EVS is a peripheral technology and does
not immediately augment the naked eye for resolved imagery, the training and certification
standards for EVS use are not as demanding as those associated with a NVG NVIS program.
EVS performance should, at a minimum, include the following:

(a) DO-160D (or higher) qualification for the EVS imaging component(s);
(b) Field of View (FOV) – 30 degrees lateral is the minimum primary FOV acceptable for
aviation operations. Higher FOV up to 55 degrees lateral provide significantly higher
levels of overall situational awareness, anything higher than 55 degrees would present
optical distortion (fish eye lens) and be an unsuitable characteristic;
(c) Resolution - 320 x 240 resolution;
(d) Refresh rate – 30Hz is the minimum standard to be acceptable for aviation flight
operations. 30Hz is half real-time imagery, a system with a 60Hz refresh rate would be
highly recommended and react much more favourably to attitude / flight path changes of
an aircraft;
(e) Integral window or front frame heating of EVS camera/sensor housing;
(f) Auto camera/sensor stow position on tilt control switch for landing / take-off. Systems with
tilt / pan control must have a position indicator on the display / screen which clearly
shows to the pilot where his optical sensor is aimed;
(g) Installations must be performed under provisions of a Supplement Type Certificate or
Limited Supplement Type Certificate; and
(h) EVS installations on NVG equipped aircraft must ensure that display and annunciated
switches are modified according to provisions described in Aircraft Certification Policy
Letter 29 and RTCA DO 275 to ensure overall NVIS compatibility within the cockpit.

5.0 AIRCRAFT LIGHTING

(1) Aircraft lighting, both interior and exterior must be modified and maintained for NVG use in order
to avoid degradation of NVG performance. This is considered a major modification and each
installation must be approved. The safety issue is to prevent unacceptable levels of near infrared
and red visible light emissions created by unmodified aircraft lighting. These emissions will
decrease the performance of the NVG appliance to the point where it will be difficult or impossible
to observe and discern external visual cues while using the goggles. Acceptable aircraft lighting is
described in RCTA document DO 275, Minimum Operational Performance Standards for
compatible aircraft is provided in Staff Instruction (SI) 513-011.
6.0 ADDITIONAL AIRCRAFT EQUIPMENT

(1) In addition to the requirement for an NVG compatible lighting system, aircraft that are to be used for any NVIS operation shall have the following serviceable equipment:

(a) Equipped as per section 605.16 of the CARs plus an Attitude Indicator and a Vertical Speed Indicator and a searchlight, steerable from the flight controls for each crew member, if night operations are to be conducted anywhere other than night certified aerodrome. This light need not be NVG compatible and may be a non-steerable floodlight capable of illuminating the manoeuvring area;

(b) A Radio Altimeter (RADALT) which for NVG operations should be mounted low on the instrument panel in order to be easily viewable under the NVG if night operations are to be conducted anywhere other than a night certified aerodrome or a Global Positioning System with current terrain database viewed on a multifunction Display or Primary Flight Display mounted as per RADALT for use with NVG; and

(c) Exterior lighting such as position and anti-collision lights must be modified to minimize the NVIS order to minimize the effect they have on the performance of the NVG as per paragraph 5.0 of this AC.

7.0 TRAINING

(1) Approved training programs shall consist of both ground and flight training programs for flight crew members and the appropriate maintenance training program for NVIS equipment or modifications.

7.1 Night Vision Goggles Ground Training

(1) Ground training should consist of classroom lectures, practical training and written exams with records of initial and recurrent training. Ground training can be accomplished using approved electronic media such as computer-based training or its equivalent. Students must be exposed to the impact of various light levels, contrast, weather conditions, environmental factors and various terrain types. To achieve the use of a terrain board model, that includes actual modeled terrain and lighting board, or a synthetic simulated environment that is a high definition, true physics-based NVG representation, to simulate light levels and contrast is highly recommended. As a minimum, the ground based terrain board, or synthetic equivalent, must be capable of demonstrating the following:

(a) Illumination and Contrast;

(b) Lighting Effects;

(c) Shadow Effects;

(d) Operating Environments;

(e) Misperceptions and Illusions;

(f) Affects of LED lights and scan technique;

(g) The following topics should also be covered:

(i) Theory of Operation;

(ii) NVIS Physiology;

(iii) NVIS Human Factors;

(iv) Terrain Interpretation and Environmental Factors;
(v) NVIS related SOP;
(vi) NVIS Systems emergency procedures;
(vii) Pre and post flight procedures;
(viii) Flight profiles and weather considerations; and
(ix) Egress training must include NVG and or any equipment connected to the airframe such as NVG Heads Up Display system EVS or EVS screen mounted to instrument panel. This must also be conducted for underwater egress training. All egress training can of course be conducted with “fake-for training only” NVG and simulated cables.

7.2 Enhanced Vision System Ground Training

(1) Because EVS technology is not replacing the image from the naked eye, the same level of training that might be necessary with NVG is not required. EVS, however, has operational capabilities and limitations that are particular to the infrared spectrum and are important to understand and recognize.

(2) The following topics should be covered:
   (a) Infrared Theory;
   (b) Infrared Image Interpretation;
   (c) Infrared Attenuation;
   (d) Infrared System Operations;
   (e) EVS Aided Operations;
   (f) EVS / NVG Synergistic Operations (if necessary); and
   (g) EVS Limitations.

7.3 Night Vision Goggles Flight Training

(1) The aim of NVG training should be to “train to proficiency”. At a minimum, this training should consist of 5 separate flights of at least 1-hour duration to establish basic NVG proficiency. If a TCCA approved flight simulator, with an NVG compatible visual system, capable of correctly stimulating the NVG is available, a minimum of 3 separate flights of at least 1-hour duration to establish basic NVG proficiency is required. The other 2 flights of at least 1-hour duration cannot be conducted in the simulator. Previously demonstrated NVG experience, such as recent military NVG experience, may be considered an acceptable alternative. Pilots with previous experience must demonstrate the required level of proficiency in accordance with currency requirements and familiarity with COM and SOP. Private pilots must demonstrate NVG proficiency during any desired type rating. During the last NVG training flight the candidate’s proficiency should be assessed in a manner similar to the pilot competency check for Part VII operators of the CARs with the candidates training file should be annotated accordingly or as per section 401.42 of the CARs for private operators. NVG flight training should include the following items:
   (a) Pre-flight fitting, testing and adjustment;
   (b) Rehearsal of company NVIS SOP;
   (c) Line / route / mission indoctrination as appropriate;
   (d) En-route procedures;
(e) Aircraft normal procedures including scanning techniques and cockpit drills while using NVG;
(f) Aircraft emergency procedures and NVG failure procedures; and
(g) Post flight removal, safe storage and maintenance considerations.

7.4 Enhanced Vision System Flight Training

(1) Because EVS technology does not replace the imagery presented by the naked eye, the level of training and currency requirements are not to the same level as NVG. EVS is intended to be a specific aid in orientation and situational awareness. Flight training differs from NVG training in that it is completed to a level of comfort and understanding rather to proficiency and currency using existing day / night environmental conditions to assess infrared imaging performance. Normally a single day and night orientation / training sortie of 1.0 to 1.5 flight hours is sufficient for understanding and composite inclusion of EVS imagery into the pilots overall scan. Since infrared technology is affected by the environment (much like NVG are directly affected by available ambient light) two identical training scenarios conducted at different times may present significantly different imagery. The pilot should be able to understand and discuss / demonstrate the following:

(a) Pre-flight weather / environmental assessment to assess imaging expectations;
(b) Review of route planning and terrain / hazard assessment;
(c) Adjustment of EVS during pre-taxi checklist (brightness and contrast if applicable to resident EVS display);
(d) Early assessment of EVS performance, additional fine tuning of brightness / contrast if desired to optimize imagery for personal preferences;
(e) Inclusion of EVS in overall scan (interior / exterior) to incorporate imagery in continual go / no-go decision review process;
(f) Affects of LED lights and scan technique;
(g) Weather / environmental / terrain assessment for avoidance / abort assessment throughout the en-route phase of flight;
(h) Arrival / landing zone obstruction and safety assessment to aid both visual and NVG (if utilized) scanning of the landing topography; and
(i) Overall inclusion of EVS imagery from pre-taxi to engine shutdown phase of flight.

8.0 FLIGHT CREW REQUIREMENTS

8.1 Minimum Requirements for Night Vision Goggles Operations

(1) Pilots who achieve the following criteria may request or be selected for Basic NVG training:

(a) Recommended by chief pilot for Part VII operators of the CARs or Flight Instructor for private pilots;
(b) Hold a minimum of 300 hours flight time in appropriate aircraft category;
(c) Hold a minimum of 20 hours night unaided flight time;
(d) Hold a valid Pilots Licence;
(e) One of the following:
(f) Hold a valid and current Instrument Rating for aircraft category;

(g) Hold a Night Rating and have completed at least 10 hours of dedicated dual instrument training of which:

(i) not more than 5 hours may be in a synthetic flight trainer;

(ii) at least 1.5 hours must be completed in the aircraft in the 3 months immediately before commencing NVG training or during the NVG course, to a degree which ensures proficiency in the following Instrument Meteorological Conditions (IMC) training requirements;

(iii) Manually performing the following manoeuvres solely by reference to the instruments:

(A) recovery from unusual attitudes (not required for airships);

(B) normal turns of at least 180 degrees left and right;

(C) climbing turns to a pre-determined altitude at a constant speed;

(D) descending turns to a pre-determined altitude at a constant speed;

(E) straight and level flight;

(F) climbing and descending;

(G) in the case of single-engine helicopters, autorotative flight with power recovery;

(H) inadvertent IMC procedures;

(I) correctly manipulating the radio navigation aid or aids for which endorsement is desired and demonstrate proficiency in:

(I) interception and maintenance of a designated track to and from a station for Commercial pilots and to and from a waypoint along a safe route for Private pilots; and

(iv) IMC orientation problems with unusual attitude recovery training. Some time must be spent to ensure proficiency in recovery to Visual Meteorological Conditions flight after inadvertent IMC penetration.

(2) Once qualified these pilots may act as Pilot in Command (PIC) during night VFR flights to Basic NVIS Capability levels.

(3) As per Appendix B operators who are required to work beyond the existing Night Visual Flight Rules (VFR) regulations these will be considered Advanced NVIS Capability operations and will require an exemption or Special Flight Operations Certificate request stating the type of operation desired and training curriculum to safely conduct said operations as well as proposed currency requirements. The operators who have achieved the above plus the following may conduct the approved operations in accordance with their COM and SOP:

(a) Have completed the Basic NVG Course; and

(b) Hold a minimum of 50 events on NVG. A proficiency check by an approved NVG check pilot will qualify the pilot for an NVG advanced qualification. With 50 events pilots may act as PIC for NVG missions and may conduct advanced operations as per COM and SOP. Pilots conducting NVIS operations must hold a current Instrument Rating or achieve the proficiency described in paragraph 8.1 of this AC. Successful NVIS flying requires a high degree of instrument scanning proficiency and understanding.

NOTE: Pilots / Operators must document NVIS events to ensure proper credit of experience.
8.2 Minimum Requirements for Enhanced Vision System Operations – Basic and Advanced NVIS Capability

(1) Pilots who achieve the following criteria may request or be selected for Basic EVS ground / flight training:
   (a) Recommended by chief pilot for Part VII operations of the CARs or Flight Instructor for private pilots;
   (b) Hold a minimum of 200 hours flight time in the appropriate aircraft category;
   (c) Hold a minimum of 10 hours night unaided flight time;
   (d) Hold a valid Pilots license;
   (e) One of the following if night operational EVS usage is desired / anticipated;
   (f) Hold a valid and current Instrument Rating for appropriate aircraft category; or
   (g) Hold a night rating and have completed at least 10 hours of dedicated dual instrument instruction in the appropriate aircraft category of which:
      (i) Not more than 5 hours may be in a synthetic flight trainer, and
      (ii) At least 1.5 hours must be completed in the appropriate category within the previous 3 months.

(2) During the flight training portion of EVS qualification the pilot should demonstrate proficiency in the following by performing the following solely by reference to instruments / EVS display imagery:
   (a) Recovery from unusual attitudes;
   (b) Standard rate turns in both straight and level and climbing / descending profiles;
   (c) Orientation and identification of possible suitable forced landing areas;
   (d) Assessment of EVS imagery from varied altitudes to show higher resolution contrast at lower altitudes;
   (e) Terrain avoidance (Controlled Flight Into Terrain (CFIT) awareness) in real time approach / descent to landing configurations;
   (f) Inadvertent IMC avoidance (weather permitting) to differentiate between Marginal Visual Flight Rules and Instrument Flight Rules areas of environmental obscuration.

(3) As per Appendix B Advanced NVIS Capability operations will require an exemption or Special Flight Operations Certificate request stating the type of operation desired and training curriculum to safely conduct said operations as well as proposed currency requirements. The operators who have achieved the above plus the following may conduct the approved operations in accordance with their COM and SOP:
   (a) Have completed the Basic EVS Course; and
   (b) Hold a minimum of 50 events using EVS. A proficiency check by an approved NVIS EVS qualified check pilot will qualify the pilot for an Advanced NVIS qualification. With 50 events pilots may act as PIC for NVIS missions and may conduct advanced operations as per COM and SOP. Pilots conducting NVIS operations must hold a current Instrument Rating or achieve the proficiency described in paragraph 8.1 of this AC. Successful NVIS flying requires a high degree of instrument scanning proficiency and understanding.

NOTE: Pilots / Operators must document NVIS events to ensure proper credit of experience.
8.3 Minimum Crew for Night Vision Goggles Operations

(1) Pilot workload during aided NVG Operations can be higher than for an unaided flight. This is due to a number of factors such as:

(a) Increased fatigue due to additional weight of the goggles;
(b) Increased vigilance required while scanning aircraft instruments looking under the goggles;
(c) Reduced field of view (40 degrees). This requires additional head movement to maintain situational awareness; and
(d) Reduced field of regard. This is the area that you can see while scanning left and right while wearing the appliance.

(2) Minimum crew while engaged in NVG operations:

(a) For operations where the aircraft is equipped with a steerable searchlight controlled from the pilot’s flight controls or equivalent floodlighting, one pilot;
(b) For aircraft equipped with non-steerable lights or without adequate floodlighting, two-crew with NVG qualifications, one of which may be a trained observer (e.g., operations such as Police Air Unit or Natural Resources); and
(c) For all other operations, 2 pilots.

NOTE: Additional restrictions may be applicable as per Appendix B of this AC.

8.4 Minimum Crew for Enhanced Vision System Operations in Designated Mountainous Regions and to/from Unlit Aerodromes at Night

(1) Pilot workload during EVS aided operations is significantly reduced from unaided flight with proper training and understanding of EVS. Because the EVS imagery presents a video appearing black/white image, the interpretation and assimilation of the imagery is relatively immediate and transparent (without processing). Because of this, there are no limitations or recommended crew fatigue considerations beyond those within current regulations.

(2) For night specific operations where the aircraft is equipped with a steerable searchlight controlled from the pilot’s flight control position or equivalent floodlighting, single pilot EVS operations are authorized.

(3) For aircraft equipped with a non-steerable searchlight or without adequate floodlighting, the minimum crew is one qualified EVS trained pilot and an observer with an appropriate level of understanding of EVS imagery through participation in an EVS ground school curriculum course.

NOTE: Additional restrictions may be applicable as per Appendix B of this AC.

8.5 Company NVIS Instructors and Check Pilot Qualifications and Proficiency Requirements

(1) A flight instructor or check pilot may conduct pilot or additional personnel training, testing or checking for Night Vision Imaging Systems Operations if that person meets the requirements in paragraph 8.1 or 8.2 of this AC as appropriate and:

(a) Is qualified to act as a pilot in command in NVIS operations.
(b) Is designated by the Company as an Instructor to provide NVIS training.
(c) Is designated by the Company as a Check Pilot to conduct NVIS testing and checking.
(d) Holds the appropriate pilot and flight instructor certificate with the applicable type rating for ab-initio training of student pilots.
(e) Has logged at least 1500 hours total time with a minimum of 500 hours in the appropriate category and no less than 50 hours of NVIS flight conducted under Part VI or VII operations of the CARs.

NOTE: The 50 hours under Part VI or VII operations of the CARs may be reduced or waived for two pilot operations.

(f) Has logged at least 50 NVIS events as the sole manipulator of the controls with a minimum of 10 NVIS hours as the sole manipulator of the controls in the appropriate category of aircraft used for the training. This may be as flying pilot in a crew aircraft.

(g) Conduct an annual proficiency flight as per Appendix F of this AC with a TCCA or TCCA Approved NVIS qualified Check Pilot.

NOTE: Company NVIS Instructor or Check Pilot qualifications may be granted equivalency based on previous NVIS experience and credentials such as gained from military experience. Based on previous NVIS experience some of the requirements may be waived at the Minister’s discretion.

8.6 Currency

(1) NVIS flying is recognized as a skill that degrades with time and lack of currency. Company training programs must indicate minimum currency requirements to conduct NVIS operations. The accepted interval to retain NVG currency is 90 days. During this time, the pilot must have conducted 3 events, as defined above, using NVG.

(2) If this is not accomplished, the pilot has an additional month to achieve this level of currency but cannot fly with passengers until this is accomplished. If these currency requirements are not met within 120 days, the pilot must conduct a NVG proficiency check with an approved company NVG check pilot. After that time, a pilot may regain currency by conducting a ground briefing and training flight in a NVG modified aircraft or a TCCA approved NVG simulator or aircraft with a qualified NVG pilot to include aerodrome maneuvering and at least two complete events and a review of inadvertent IMC procedures prior to conducting passenger-carrying operations.

(3) EVS operations are recognized as a continual process wherein it is rare that EVS is not utilized during most day / night flight evolutions. Additionally because EVS is integrated into a composite internal / instrument / external scan process, the inclusion of EVS as an additional aide to flight operations is both seamless and transparent. However, any qualified pilot should log at a minimum one EVS aided evolution (day or night) each calendar quarter and EVS proficiency should be evaluated during any approved check flight evolution for any qualified pilot.

(4) If this is not accomplished, the pilot has an additional month to achieve this level of currency but cannot fly to or from unlit aerodromes until this is accomplished. If these currency requirements are not met within 120 days, the pilot must conduct an EVS proficiency check with an EVS qualified approved company check pilot. After that time, a pilot may regain currency by conducting a ground briefing and training flight in an EVS modified aircraft or a TCCA approved EVS equipped simulator with a qualified EVS pilot to include aerodrome maneuvering and at least two complete events and a review of inadvertent IMC procedures prior to conducting unlit aerodrome operations.

(5) Other than flights conducted as per section 602.40 of the CARs, pilots using NVIS should have completed a day sequence of approach, landing, maneuvering and take-off from an aerodrome within 90 days prior to NVIS operations except those operating from familiar bases prior to operating from an unlit aerodrome.

8.7 NVIS Program Validity and Pilot NVIS Competency Check Periods

(1) The validity period for individual pilots and for companies will be as follows:
(a) Pilot NVIS Competency Check:

(i) Newly trained Company NVIS Training Pilots and or Chief Pilots will undergo NVIS Competency Check upon completion of training. Individual pilots will undergo an annual Competency Check. This check will include the same items as required for pilots whose currency lapsed for greater than 120 days including the ground training. The flight portion shall be of no less than 1.0 hour. For company pilots the annual NVIS Competency Checks may be conducted by company NVIS Check Pilots, by TCCA NVIS pilot or TCCA NVIS inspector(s) or TCCA Approved NVIS expert(s). For Company NVIS Training Pilots and or Chief Pilots the annual NVIS Competency Checks must be conducted by TCCA NVIS inspector(s) or TCCA Approved NVIS expert(s) only.

(b) Commercial Operators NVIS Program Validation:

(i) A company without any previous NVIS experience will undergo an NVIS Program Validation review within 6 to 18 months of the initial program approval, the preferred period being 12 months. This first review will include all items of the initial validation. Based on this review TCCA NVIS inspector(s) or TCCA Approved NVIS expert(s) may recommend a 24 to 36 months NVIS Program Validity Period. At no time shall the NVIS Validity Period be less than 24 months.

(ii) Companies with existing NVIS programs prior to the date of this document will need to schedule an NVIS Program Validation review as soon as practicable and schedule subsequent reviews in accordance with the schedule stated above.

8.8 Flight Duty Time Limits

(1) Conducting NVG operations and the wearing of NVG increases fatigue due to the weight of the appliance and the imagery provided to the eyes. Flight and duty times should be reduced for pilots conducting NVG operations. Operators are to set appropriate Flight Duty Time limitations for NVIS Operations in their COM/SOP and have those approved as part of their NVIS Program Validation. No additional limitations are required for EVS operations.

9.0 COMPANY OPERATIONS MANUAL AND MAINTENANCE CONTROL MANUAL AMENDMENTS

(1) Company Operations Manuals are to be amended to include the contents of the Appendixes of this AC. Recommended section titles include but are not limited to:

(a) Pilot/crew NVG currency requirements;
(b) Proficiency check requirements;
(c) Pilot/crew training requirements;
(d) Initial and recurrent flight training;
(e) Company training pilot requirements;
(f) Record keeping requirements to include NVIS events;
(g) Minimum safe altitudes;
(h) Company approved routes in mountainous regions;
(i) Company weather considerations;
(j) NVIS Risk Matrix and Dispatch authority procedures.
(2) Maintenance Control Manuals are to reflect the appropriate STC requirements and any corresponding maintenance schedules.

10.0 PROGRAM VALIDATION AND COMPETENCY CHECK FLIGHT REQUIREMENT

(1) Program Validation and NVIS Competency Checks are to be conducted on all new and current NVIS programs and pilots as per the effective date of this document and in accordance with the schedule described in paragraph 8.7 of this AC.

(2) These Program Validations and NVIS Competency Check flights are to be conducted by TCCA NVIS inspector(s) or TCCA approved NVIS expert(s).

11.0 POLICY DEVELOPMENT

(1) This AC describes guidelines for the development and approval of an air operator’s NVIS ground and flight training program. The purpose of an integrated NVIS is to enhance situational awareness during night VFR operations. Companies or individuals wishing to conduct NVIS operations must conform to the guidelines of this AC.

(2) Companies wishing to develop an NVIS program should contact their POI.

(3) Used correctly, NVIS operations can provide an increased level of safety over unaided night VFR operations due to the increased situational awareness that the use of this equipment can provide. Safe and effective use of NVIS technology is dependent upon the development of an integrated ground and flight training program, safe operational practices, the use of properly approved NVG, and approved aircraft lighting modifications.

12.0 INFORMATION MANAGEMENT

(1) Not applicable.

13.0 DOCUMENT HISTORY

(1) Advisory Circular (AC) 603-001 Issue 02, RDIMS 8122327 (E), 8125071 (F), dated 2013-09-06 — Use of Night Vision Imaging Systems;

(2) Advisory Circular (AC) 603-001 Issue 01, RDIMS 4744688 (E), 6836933 (F), dated 2012-02-03 — Use of Night Vision Imaging Systems.
14.0 CONTACT OFFICE

For more information, please contact the:

Inspector, Airline Standards, Commercial Flight Standards - AARTF

Phone: 613-979-5220
Fax: 613-990-6215
E-mail: stephane.demers@tc.gc.ca or stephane.demers@canada.ca

Suggestions for amendment to this document are invited, and should be submitted via: AARTInfoDoc@tc.gc.ca

Original signed by

Robert Sincennes
Director, Standards
Civil Aviation
Transport Canada
APPENDIX A — OPERATOR PREPARATION AND VALIDATION FOR NVIS OPERATIONS

(1) Individuals or operators wishing to use NVIS technologies should be ready to provide the following information. While this list will cover most items there may other requirements requested based on pilot(s), aircraft type and type of operation.

(2) Alert your Regional TCCA inspector or office that you plan to introduce NVIS operations and provide the following information:
   (a) Estimate of when you wish to begin using NVIS;
   (b) Type and number of NVIS equipment considered;
   (c) Aircraft to be equipped and flown with NVIS;
   (d) Number of pilots to be qualified with detailed descriptions of previous NVIS qualification:
      (i) when and where they were trained;
      (ii) type of NVIS equipment they were trained on;
      (iii) number of hours of NVIS experience;
      (iv) month and year of last NVIS flight experience.

(3) Type of operations considered with NVIS. At this phase you should consider what exemptions you may require for Advanced NVIS operations;

(4) This document makes reference to the Aeronautics Act paragraph 5.9 (2) which you can view on this link:

(5) Area and or routes of operation with NVIS:
   (a) You should develop a complete list of forecast landing sites and routes, include aerial photos if possible, lat/long and any satellite imagery you may have. Prepare and maintain an obstructions database and map for flight planning. You will need to complete an annual overflight of your operations area to verify this information. This map is to be available to pilots prior to departure and kept up to date as new obstructions are located as after annual review.

NOTE: For the purposes of gaining NVIS experience operators without any previous NVIS time may submit one or several unlit aerodromes for approval. For operators without any previous NVIS trained pilots you will be restricted to these locations for NVIS training until experience is gained.

(6) Training provider to be contracted and dates of training.

(7) Conduct approved pilot training.

(8) Pilots meeting the requirements of Appendix D of this AC may conduct NVIS training to other licenced pilots.

(9) NVIS training to Canadians by FAA pilots:
   (a) For single-engine aircraft the Canadian pilot is PIC so an FAA licenced pilot does not require a type rating.
(b) For multi-engine aircraft restricted to 2 pilot flights then the FAA licenced pilot must have the appropriate type rating and acquire FLVC (Foreign Licence Validation Certificate) to act as crew.

NOTE: NVIS instructors must occupy a pilot seat with flight controls.

(10) Request Operations Specification 603 for Part VII operators of the CARs.


(11) Develop suitable COM, Company Maintenance Manual (CMM) and or SOP for NVIS.

(12) These will need to be approved prior to commercial operations and must include details of maintaining the integrity of NVG modified components on the aircraft. With NVG approved cockpits / cabins procedures must be followed to ensure the lighting is not compromised during repairs and maintenance of components.

(13) Coordinate and receive approval from any land owners or aerodrome owners for take-off and landing at unlit sites.

(14) This is particularly important as owners/operators of unlit aerodromes must be made aware of possible activity outside of their published hours. This may affect the aerodrome’s emergency services capabilities or liability.

NOTE: Remember to plan as a good neighbour minimizing noise and exposure over built up areas as much as possible. It is also advisable to inform local law enforcement agencies of your added capability should there be calls about aircraft overflights at night.

(15) Schedule appropriate validation of any NVIS (NVG) lighting.

(16) In accordance with reference 2.1 (c) Staff Instruction (SI) 513-011 — Certification of Night Vision Imaging Systems, TCCA Flight Test must validate the modifications to your aircraft(s). Typically this will be done by the maintenance organization conducting the modifications. You should plan for a minimum of 90 to 60 days notice to have this validation completed. The aircraft cannot be flown using NVIS prior to this.

(17) NVIS Program Validation by TCCA NVIS inspector(s) or TCCA Approved NVIS expert(s).

(18) This will be the final approval step to validate your NVIS program. TCCA NVIS inspector(s) or TCCA Approved NVIS expert(s) will conduct an onsite review of the NVIS training course content, SOPs and conduct Competency Check flights with Chief Pilot and or NVG training pilot as applicable prior to commencement of NVIS operations. The Competency flight(s) is NOT to be conducted by the same pilot contracted to provide the NVIS training. TCCA NVIS inspector(s) or TCCA Approved NVIS expert(s) must occupy a pilot seat with flight controls.
APPENDIX B — NVIS CAPABILITY LEVELS

Basic NVIS Capability – Allows for use of NVIS equipment during normal operations with limited training site exemptions and or outside of Designated Mountainous regions (DMR) as applicable. This level can be assigned to either an individual pilot or an entire company. If none of the pilots have any previous NVIS experience then the company will be deemed as a Basic NVIS operator and thus restricted to the approved training sites. Altitudes and lateral separation requirements remain as required in CARs and the DMR Handbook.

Advanced NVIS Capability – Use of NVIS equipment, during normal operations with possible exemptions. This level can be achieved by gaining the appropriate NVIS experience as described in paragraphs 8.1 and 8.2 of this AC. Alternately it may be granted based on previous NVIS qualifications such as military or police NVIS training. Operators graduating from a Basic to an Advanced NVIS Capability will normally do so by requesting the desired exemptions and TCCA will conduct Program Validation accordingly.

An Advanced NVIS Capability can be used to conduct the following operations but is not limited to:

602.40 - Take-off and or land at unlit aerodromes
Exemption required for all NVIS operators with only a Basic NVIS Capability for training sites. HEMS or Law Enforcement operators do not require an exemption as this is allowed in the regulation and is understood that it includes their training. Non HEMS or Law Enforcement operators will be limited to approved training sites until they reach Advanced NVIS Capability.

703.27(a) - VFR Flight Obstacle Clearance Requirements: exemption required to allow altitudes lower than 1000’ and lesser lateral distances.

Exemptions may read as follows:
- at night where the aircraft is equipped with NVIS 500 feet above highest obstacle located within a horizontal distance of 500 feet from the route to be flown.

722.19(a) – Entering or Leaving a Helicopter in Flight: exemption required to conduct this type of operation at night.

723.34(1)(b) – Routes in Uncontrolled Airspace (aeroplane or helicopter): exemption required to allow altitudes lower than 1000’ and lesser lateral distances.

Exemptions may read as follows:
- at night where the aircraft is equipped with NVIS 500 feet above highest obstacle located within a horizontal distance of 500 feet from the route to be flown.

724.29(1)(b) - Routes in Uncontrolled Airspace (aeroplane or helicopter): exemption required to allow altitudes lower than 1000’ and lesser lateral distances.

Exemptions may read as follows:
- at night where the aircraft is equipped with NVIS 500 feet above highest obstacle located within a horizontal distance of 500 feet from the route to be flown.

Use of NVIS equipment within DMR below minimum altitudes described in DMR Handbook.
Exemptions may read as follows:

- at night where the aircraft is equipped with NVIS 500 feet above highest obstacle located within a horizontal distance of 500 feet from the route to be flown.

**Single-Pilot operations** – Pilots must reach the Advanced NVIS Capability within the preceding 12 month period and conduct an NVIS (Single-Pilot) Competency Check flight. Single-pilot operations will have the following restriction:

Flights into confined areas will require a minimum of 2 crew, both of which must be NVIS qualified. This can be 2 pilots or a PIC and crew member to assist with aircraft clearances.

**Helicopter external load operations** – External load operations will have the following restrictions:

For cargo hook underslung loads the aircraft is to be operated with a minimum of 2 crew, both of which must be NVIS qualified. This can be 2 pilots or a PIC and technical crew member to assist with aircraft clearances and load management during pick up and drop off.

For external hoist operations the aircraft is to be operated with 2 pilots and a hoist operator all of which must be NVIS qualified.
APPENDIX C — APPROVED TRAINING SITES - BASIC NVIS CAPABILITY

(1) Single-pilot operators or two-pilot operators without any previous NVIS experience wishing to operate from unlit aerodromes will be required to submit their training site(s) for approval prior to NVIS operations. Operators may submit one or several locations.

(2) Suitable training locations include but are not limited to large confined areas, unlit aerodromes or lit aerodromes with pilot activated lighting. In all cases the operator must first seek approval of the land owner or aerodrome operator as applicable.

(3) Sites which are not published in the Canada Flight Supplement (CFS) are to be assessed for safe approach and departure paths and confined areas for helicopters should provide a minimum of one rotor diameter from the helicopter in all directions and be as level as possible.

(4) Fixed wing operators using unlit aerodromes will need to ensure adequate runway distances with pre-flight calculations to consider runway surface and weather.

NOTE 1: All pilots shall fly into and out of the proposed training site(s) within 30 days prior to conducting NVIS training. All normal procedures are to be followed including mandatory radio calls and use of external aircraft lighting. Routes to and from these training locations are to meet regulatory requirements for night VFR.

NOTE 2: Those restricted to a Basic NVIS Capability may only train at these approved locations until they meet the requirements set out for Advanced NVIS Capability. An operator may request a review of this limitation as detailed in Appendix B of this AC if they hire pilots with Advanced NVIS background and experience and once they can document that they have met the requirements for Advanced NVIS Capability.
APPENDIX D — COMPANY NVIS INSTRUCTORS AND CHECK PILOT

(1) A flight instructor or check pilot may conduct pilot or additional personnel training, testing or checking for NVG Operations if that person meets the requirements in paragraph 8.1 or 8.2 of this AC as appropriate and:

(a) Is qualified to act as a pilot in command in NVIS operations.
(b) Is designated by the Company as an Instructor to provide NVIS training.
(c) Is designated by the Company as a Check Pilot to conduct NVIS testing and checking.
(d) Holds the appropriate pilot and flight instructor certificate with the applicable type rating for ab-initio training of student pilots.
(e) Has logged at least 1500 hours total time with a minimum of 500 hours in the appropriate category and no less than 50 hours of NVIS flight conducted under Part VI or VII operations of the CARs.

NOTE: The 50 hours under Part VI or VII operations of the CARs may be reduced or waived for two pilot operations.

(f) Has logged at least 50 NVIS events as the sole manipulator of the controls with a minimum of 10 NVIS hours as the sole manipulator of the controls in the appropriate category of aircraft used for the training. This may be as flying pilot in a crew aircraft.

NOTE: For aircraft that are type-certificated for single-pilot operations the pilot conducting the NVIS Competency Check need not hold a type rating under the following restrictions:

(g) The PIC shall have a minimum of 10 hours on type and the PIC and NVIS Check pilot will do a full NVIS training mission profile in day VFR prior to conducting NVIS training at night. This is also applicable if the NVIS Check pilot has not flown that type within 150 days.

(h) Conduct an annual competency flight as per Appendix F of AC with a TCCA or TCCA Approved NVIS qualified Check Pilot.

NOTE: NVIS Flight Instructor or Check Pilot qualifications may be granted equivalency based on previous NVIS experience and credentials such as gained from military experience. Based on previous NVIS experience some of the requirements may be waived at the Minister’s discretion.
APPENDIX E — NVIS RISK ASSESSMENT AND DISPATCH AUTHORITY PROCEDURES MATRIX

The risk assessment matrix follows. It should be copied double sided with the matrix on the front and the instruction au verso.

**Block 1. Weather:** Select the appropriate value for the worst weather reported along the planned route and AO from departure time + 4hrs. Enter the value in total of block 1.

**Block 2. Illumination Level:** Select the appropriate value for the worst forecast illumination condition during the planned mission. Enter the value in total of block 2.

**Block 3. Moon Angle:** Select the appropriate value derived from the proposed take off time and the forecast moon rise/set times; given that the moon travels 15° per hour. Enter the calculated worst case value as the total in the total of block 3.

**Block 4. Crew Experience:** This section compares the crew members total time (expressed in hours) and their time in the Area of Operation (AO). Select the appropriate value that applies from the matrix and enter the value for the appropriate position. Add the total value for each crew member and enter in the total of block 4. NOTE: Numbers inside parentheses refer to non-pilot crew members.

**Block 5. NVG Experience:** This section compares the NVG experience of each crew member expressed in hours, to their most recent NVG experience expressed in days. Enter the value for each crew member, add and insert in the total of block 5.

**Block 6. Additional Factors:** Select the appropriate considerations for each box and enter the sum in total of block 6.

**Block 7. Crew Rest/Health:** This block compares the hours of rest to the quality of rest of each crew member. Hours of rest are defined as the time that elapsed from when the crew member was released from duty to the time they reported for duty. Once the value is determined, each crew member must add additional risk values if the majority of the mission is conducted during the second or last third of the duty day and/or an extension was granted in the last 24 hour. Each crew member must decide if they feel rested enough to safely accomplish the mission. It is their duty to inform the PIC if they do not feel they have had adequate rest regardless of the totals derived from this matrix. Enter the subtotals for each crew member in the appropriate box and then calculate the sum total for the aircrew and place this value in the total of block 7.

**Block 8. Types of Operations:** Select the appropriate value for the mission to be performed. Should multiple values apply, select and calculate the sum of the worst case scenario. **Single-pilot** operations shall add at least one other factor for the sum.

**Dispatch Approval:** Determine the sum total of each individual block to establish the Risk Assessment Value (RAV) for the planned mission. Compare the RAV to the matrix to determine if LOW, MED or HIGH risk is associated with the mission. Seek the appropriate approval authority as per company structure.

**Inspections:** These must be completed prior to each flight. If any of these inspection are marked U/S (unserviceable), the mission will be determined to be HIGH risk regardless of RAV.
### 1. Weather

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<td>59%-40%</td>
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<td>39%-23%</td>
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<td>&lt; 23%</td>
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### 4. Crew Experience

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<tr>
<td>Crew:</td>
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<tr>
<td>Time in AO</td>
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<tr>
<td>&gt; 5000 (500)</td>
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<tr>
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### 5. NVG Experience

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<tr>
<td>CP:</td>
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<tr>
<td>Crew:</td>
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### 6. Additional Factors

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<td>Sand/Dust/Snow</td>
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<tr>
<td>Temp &lt; 0°C or &gt; 40°C</td>
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<tr>
<td>Rain</td>
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<tr>
<td>OGE Power&gt;10% Reserve</td>
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### 7. Crew Rest/Health

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<td>CP:</td>
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<td>Crew:</td>
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#### Quality of Rest

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<td>8 – 10</td>
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<tr>
<td>&lt; 8</td>
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#### Extension in Second Third of the Duty Day

+ 2

#### Extension in Last Third of the Duty Day

+ 4

#### Extension in last 24 hours

+ 4

### 8. Types of Operations

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<td>Single Pilot</td>
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<td>Low Contrast</td>
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<tr>
<td>Mountain Operations</td>
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<tr>
<td>Confined Area Operations</td>
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<tr>
<td>Aerial Work</td>
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<td>Medical Evacuation</td>
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<tr>
<td>Surveillance / Patrol</td>
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### 9. Inspections

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<tr>
<td>Aircraft Interior/Exterior Lighting</td>
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<tr>
<td>180 Day Inspection</td>
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<td>Operational Check</td>
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<tr>
<td>Battery Condition</td>
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### PIC Signature

Date

Med / High Dispatch Authority (if Required) Date
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<tr>
<th>Lic #</th>
<th>Title:</th>
<th>Name:</th>
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<tbody>
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<td>Company Trip #</td>
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### Basic Tasks

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<td>1. Pre-Flight Preparation</td>
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<tr>
<td>2. NVIS Risk Matrix – Dispatch Authority</td>
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<tr>
<td>3. Crew Mission Briefing</td>
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<tr>
<td>4. Pre-Flight/Start/System Checks (RadAlt, etc)</td>
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</tr>
<tr>
<td>5. Hovering Flight (H)</td>
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</tr>
<tr>
<td>6. Taxiing</td>
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<tr>
<td>7. Take-Off</td>
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<tr>
<td>8. Climb/Cruise Flight</td>
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<tr>
<td>9. IF Procedures – as appropriate to ops</td>
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</tr>
<tr>
<td>10. IIMC Procedures</td>
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</tr>
<tr>
<td>11. Landing site / surface assessment</td>
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</tr>
<tr>
<td>12. Approach/Landing</td>
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</tr>
<tr>
<td>13. Use of Landing / Searchlight</td>
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</tr>
<tr>
<td>14. Off level Operations (H)</td>
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<tr>
<td>15. Off Site Operations (H)</td>
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<tr>
<td>16. Confined Area Operations (H)</td>
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<tr>
<td>17. NVG Failures</td>
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### NVG Specific Tasks

<table>
<thead>
<tr>
<th>Level</th>
<th>Observations</th>
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<tbody>
<tr>
<td>18. Goggle/De-Goggle Procedures</td>
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<tr>
<td>19. NVG Focus Procedure</td>
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</table>
20. NVG Scan techniques

21. NVG handling and storage

22.

23.

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<tr>
<th>Miscellaneous Tasks</th>
<th>Level</th>
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<tr>
<td>24. Half Rotor Judgment (H)</td>
<td></td>
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<tr>
<td>25. Wing Clearance (A)</td>
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<tr>
<td>26. Company specific Procedures</td>
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29.

<table>
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<tr>
<th>Emergencies / Malfunctions*</th>
<th>Level</th>
<th>Observations</th>
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31.

32.

33.

34.

(H) denotes helicopter only

(A) denotes airplane only
## Comments (Task, Emergency Response, CRM)

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## Recommendations

Recommend next NVIS trip cover:

### Overall Trip Assessment

- [ ] Unsatisfactory
- [ ] Satisfactory
- [ ] Satisfactory with Briefing

## Signatures

<table>
<thead>
<tr>
<th>Trg / Check Pilot:</th>
<th>Date:</th>
<th>Candidate:</th>
<th>Date:</th>
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## Chief Pilot Comments

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<th>Chief Pilot’s Signature:</th>
<th>Date:</th>
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*LEVEL achieved may be denoted as following:
- S for Satisfactory
- S/B Satisfactory with Briefing
- U/S for Unsatisfactory

**NOTE:** Unsatisfactory items must be debriefed to Satisfactory with Briefing level with guidance during Competency Check. Any remaining unsatisfactory item will result in an unsatisfactory overall rating and a recommendation for additional training and another Competency Check.
APPENDIX G — CONTROLLED GOODS PROGRAM FOR NIGHT VISION GOGGLES (NVG) OR OTHER ITAR RESTRICTED IMAGING TECHNOLOGIES

(1) While this is not a TCCA responsibility operators are encouraged to conduct the following:

(a) Contact and register with Public Works and Government Services Canada (PWGSC) 

(b) Complete Criminal History Checks (CHC) with local police

(c) Develop security plan for NVG equipment & designate Security Officer

(d) Go to the PWGSC Controlled Goods web site and fill out registration form and submit application with CHC reports included.