

Democratic Socialist Republic of Sri Lanka



Civil Aviation Authority of Sri Lanka

Implementing Standards

(Issued under Sec. 120, Civil Aviation Act No. 14 of 2010)

Title: Personnel Licensing Requirements - Licence and Rating for Pilots

Reference No: CA-IS-2015-PEL-003

S.N: SLCAIS 051

Date: 29th September 2015

Pursuant to Sec. 120 of the Civil Aviation Act No.14 of 2010, Director General of Civil Aviation shall have the power to issue, whenever he considers it necessary or appropriate to do so, such Implementing Standards for the purpose of giving effect to any of the provisions of the Civil Aviation Act, any regulations or rules made thereunder including the Articles of the Convention on International Civil Aviation which are specified in the Schedule to the Act.

Accordingly, the undersigned being the Director General of Civil Aviation do hereby issue the Implementing Standards as mentioned in the Attachment hereto (Ref: CA-IS-2015-PEL-003), for the purpose of giving effect to the provisions in the aforementioned Act and Standards & Procedures described under Article 37 of the Convention, which are specified in the Attachment.

These Implementing Standards shall come into force with immediate effect and remain in force unless revoked.

Attention is also drawn to sec. 103 of the Act, which states inter alia that failure to comply with Implementing Standard is an offence.

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Enclosure: Attachment No. CA-IS-2015-PEL-003-Att-01

Implementing Standards

SLCAIS-051: Personnel Licensing Requirements – Licences and Rating for Pilots.

GENERAL:

- i.** Requirements contained in this document are based on the ICAO annex 1-“Personnel Licensing” Chapter 2 – Licences and Ratings for Pilots.
- ii.** The requirements contained in this document are applicable to
 - 1.** Holders of a licence for flying training.
 - 2.** Holders of pilot licences.
 - 3.** Holders of a licence for Air Transport Operations.
- iii.** This document supersedes the Aviation Safety Notice (ASN) 055 issued by the DGCA and ASN 055 shall be treated as null and void.
- iv.** The document may be amended from time to time and the amendments will be Reflected with the vertical line on the right side of the text.

1 General rules concerning pilot licences and ratings

1.1 General licensing specifications

1.1.1 A person shall not act either as pilot-in-command or as co-pilot of an aircraft in any of the following categories unless that person is the holder of a pilot licence issued in accordance with the provisions of this IS:

- aeroplane
- airship of a volume of more than 4 600 cubic metres -
- free balloon
- glider
- helicopter
- powered-lift.

1.1.2 The category of aircraft shall be included in the title of the licence itself,

1.1.2.1 When the holder of a pilot licence seeks a licence for an additional category of aircraft, DGCA Sri Lanka shall issue the licence holder with an additional pilot licence for that category of aircraft.

Note The requirements for any category rating are given in terms of licensing specifications for pilots and at levels appropriate to the privileges to be granted to the licence holder.

1.1.3 An applicant shall, before being issued with any pilot licence or rating, meet such requirements in respect of age, knowledge, experience, flight instruction, skill and medical fitness, as are specified for that licence or rating.

1.1.3.1 An applicant for any pilot licence or rating shall demonstrate, in a manner determined by DGCA Sri Lanka, such requirements for knowledge , skill as are specified for that licence or rating.

1.1.4 Transitional measures related to the powered-lift category

Until 5 March 2022, DGCA Sri Lanka will endorse a type rating for aircraft of the powered-lift category on an aeroplane or helicopter pilot licence. The endorsement of the rating on the licence shall indicate that the aircraft is part of the powered-lift category. The training for the type rating in the powered-lift category shall be completed during a course of approved training, shall take into account the previous experience of the applicant in an aeroplane or a helicopter as appropriate and incorporate all relevant aspects of operating an aircraft of the powered-lift category.

1.2 Category ratings

1.2.1 When established, category ratings shall be for categories of aircraft listed in 1.1.1.

- 1.2.2** Category ratings shall not be endorsed on a licence when the category is included in the title of the licence itself.
- 1.2.3** Any additional category rating endorsed on a pilot licence shall indicate the level of licensing privileges at which the category rating is granted.
- 1.2.4** The holder of a pilot licence seeking additional category rating shall meet the requirements of this IS appropriate to the privileges for which the category rating is sought.

1.3 Class and type ratings

- 1.3.1** Class ratings shall be established for aeroplanes certificated for single-pilot operation and shall comprise:
- (a) single-engine, land;
 - (b) single-engine, sea;
 - (c) multi-engine, land;
 - (d) multi-engine, sea;

Note The provisions of this paragraph do not preclude the establishment of other class ratings within this basic structure.

1.3.1.1 DGCA Sri Lanka shall establish a class rating for those helicopters and powered-lifts certificated for single-pilot operations and which have comparable handling, performance and other characteristics.

1.3.1.2 Type ratings shall be established for:

- (a) aircraft certificated for operation with a minimum crew of at least two pilots;
- (b) helicopters and powered-lifts certificated for single-pilot operation except where a class rating has been issued under 1.3.1.1;
- (c) any aircraft whenever considered necessary by DGCA Sri Lanka.

Note 1 Where a common type rating is established, it shall be only for aircraft with similar characteristics in terms of operating procedures, systems and handling.

Note 2 Requirements for class and type ratings for gliders and free balloons have not been determined.

1.3.1.3 When an applicant demonstrates skill and knowledge for the initial issue of a pilot licence, the ratings appropriate to the class or type of aircraft used in the demonstration shall be entered on the licence.

1.4 Circumstances in which class and type ratings are required

1.4.1 The holder of a pilot licence issued by DGCA Sri Lanka shall not act either as pilot-in-command or as co-pilot of an aeroplane, an airship, a helicopter or a powered-lift unless the holder has received authorization as follows:

- (a) the appropriate class rating specified in 1.3.1; and
- (b) a type rating when required in accordance with the provisions of 1.3.1.2.

1.4.1.1 When a type rating is issued limiting the privileges to act as co-pilot, or limiting the privileges to act as pilot only during the cruise phase of the flight, such limitation shall be endorsed on the rating.

1.4.1.2 For the purpose of training, testing, or specific special purpose non-revenue, non-passenger carrying flights, special authorization may be provided in writing to the licence holder by the DGCA Sri Lanka in place of issuing the class or type rating in accordance with 1.3.1. This authorization shall be limited in validity to the time needed to complete the specific flight.

1.5 Requirements for the issue of class and type ratings

1.5.1 Class rating

The applicant shall have demonstrated a degree of skill appropriate to the licence in an aircraft of the class for which the rating is sought.

1.5.2 Type rating as required by 1.3.1.2 a)

The applicant shall have:

- (a) gained, under appropriate supervision, experience in the applicable type of aircraft and/or flight simulator in the following:
 - normal flight procedures and manoeuvres during all phases of flight;
 - abnormal and emergency procedures and manoeuvres in the event of failures and malfunctions of equipment, such as powerplant, systems and airframe;
 - where applicable, instrument procedures, including instrument approach, missed approach and landing procedures under normal, abnormal and emergency conditions, including simulated engine failure;
 - for the issue of an aeroplane category type rating, upset prevention and recovery training; and

Note 1 Procedures for upset prevention and recovery training are contained in the procedures for Air Navigation Services - Training (PANS TRG,Doc 9868).

Note 2 Guidance on upset prevention and recovery training is contained in the Manual on Aeroplane Upset Prevention and Recovery Training (Doc 10011).

Note 3 The Manual of Criteria for the Qualification of Flight Simulation Training Devices (Doc 9625) provides guidance on the approval of flight simulation training devices for upset prevention and recovery training.

Note 4 The aeroplane upset prevention and recovery training may be integrated in the type rating programme or be conducted immediately after, as an additional module.

- Procedures for crew incapacitation and crew coordination including allocation of pilot tasks; crew cooperation and use of checklists;

Note Attention is called to 1.8.1 on the qualifications required for pilot giving flight training.

(b) demonstrated the skill and knowledge required for the safe operation of the applicable type of aircraft, relevant to the duties of a pilot-in-command or a copilot as applicable; and

(c) demonstrated, at the airline transport pilot licence level, an extent of knowledge determined by DGCA Sri Lanka on the basis of the requirements specified in 6.1.2.

Note See the Manual of Procedures for Establishment and Management of a State's Personnel Licensing System (Doc 9379) for guidance of a general nature on cross-crew qualification and cross-credit.

1.5.3 Type rating as required by 1.3.1.2 (b) & (c)

The applicant shall have demonstrated the skill and knowledge required for the safe operation of the applicable type of aircraft, relevant to the licensing requirements and piloting functions of the applicant.

1.6 Use of a flight simulation training device for acquisition of experience and demonstration of skill.

The use of a flight simulation training device for acquiring the experience or performing any manoeuvre required during the demonstration of skill for the issue of a licence or rating shall be approved by DGCA Sri Lanka who, shall ensure that the flight simulation training device used is appropriate to the task.

1.7 Circumstances in which an instrument rating is required

The holder of a pilot licence, issued by DGCA Sri Lanka shall not act either as pilot-in-command or as co-pilot of an aircraft under instrument flight rules (IFR) unless such holder has received proper authorization from DGCA Sri Lanka. Proper authorization shall comprise an instrument rating appropriate to the aircraft category.

Note The instrument rating is included in the airline transport pilot licence — aeroplane or powered-lift category, multi-crew pilot licence, and commercial pilot licence — airship category. The provisions of 1.6 do not preclude the issue of a licence having the instrument rating as an integral part thereof.

1.8 Circumstances in which authorization to conduct instruction is required

1.8.1 The holder of a pilot licence, issued by DGCA Sri Lanka shall not carry out flight instruction required for the issue of a pilot licence or rating, unless such holder has received proper authorization from DGCA Sri Lanka. Proper authorization shall comprise:

- a) a flight instructor rating on the holder's licence; or
- b) the authority to act as an agent of an approved organization authorized by DGCA Sri Lanka to carry out flight instruction; or
- c) a specific authorization granted by DGCA Sri Lanka

1.8.2 A person shall not be permitted to carry out instruction on a flight simulation training device required for the issue of a pilot licence or rating unless such person holds or has held an appropriate licence or has appropriate flight training and flight experience and has received proper authorization from DGCA Sri Lanka.

1.9 Crediting of flight time

1.9.1 A student pilot or the holder of a pilot licence shall be entitled to be credited in full with all solo, dual instruction and pilot-in-command flight time towards the total flight time required for the initial issue of a pilot licence or the issue of a higher grade of pilot licence.

1.9.2 The holder of a pilot licence, when acting as co-pilot at a pilot station of an aircraft certificated for operation by a single pilot but required by DGCA Sri Lanka to be operated with a co-pilot, shall be entitled to be credited with not more than 50 per cent of the co-pilot flight time towards the total flight time required for a higher grade of pilot licence. DGCA Sri Lanka may authorize that flight time be credited in full towards the total flight time required if the aircraft is equipped to be operated by a copilot and the aircraft is operated in a multi-crew operation.

1.9.3 The holder of a pilot licence, when acting as co-pilot at a pilot station of an aircraft certificated to be operated with a co-pilot, shall be entitled to be credited in full with this flight time towards the total flight time required for a higher grade of pilot licence.

1.9.4 The holder of a pilot licence, when acting as pilot-in-command under supervision, shall be entitled to be credited in full with this flight time towards the total flight time required for a higher grade of pilot licence.

1.10 Limitation of privileges of pilot who have attained their 60th birthday and curtailment of privileges of pilots who have attained their 65th birthday

1.10.1 The holder of a pilot licence, issued by DGCA Sri Lanka shall not act as pilot-in-command of an aircraft engaged in international commercial air transport operations if the licence holder has attained his/her 60th birthday or, in the case of operations with more than one pilot his/her 65th birthday.

Note Attention is drawn to ASN 054 on the validity period of Medical Assessments for pilots over the age of 60 who are engaged in commercial air transport operations.

2 Student pilot

2.1 Requirement for the issue of the licence

2.1.1 Age

The applicant shall not be less than 16 years.

2.1.2 Knowledge

The applicant shall have demonstrated a good level of proficiency in English Language to meet at least English Language Proficiency Level IV as per para 9.0 of ASN 054.

2.1.3 Security Clearance

All applicants for flying training shall be subjected to security screening and shall obtain Security Clearance.

2.2 Solo Flying

2.2.1 A student pilot shall not fly solo unless under the supervision of, or with the authority of, an authorized flight instructor.

2.2.2 A student pilot shall not fly solo in an aircraft on an international flight unless by special or general arrangement between DGCA Sri Lanka and the ICAO state concerned.

2.3 Medical fitness

DGCA Sri Lanka shall not permit a student pilot to fly solo in an aircraft unless that student pilot holds a current Class 2 Medical Assessment.

3 Private pilot licence

3.1 General requirements for the issue of the licence appropriate to the aeroplane, airship, helicopter and powered-lift categories

3.1.1 Age

The applicant shall be not less than 17 years of age.

3.1.2 Knowledge

The applicant shall have demonstrated a level of knowledge appropriate to the privileges granted to the holder of a private pilot licence and appropriate to the category of aircraft intended to be included in the licence, in at least the following subjects:

Air law

- a) rules and regulations relevant to the holder of a private pilot licence; rules of the air; altimeter setting procedures; appropriate air traffic services practices and procedures;

Aircraft general knowledge for aeroplanes, airships, helicopters and powered-lifts

- b) principles of operation and functioning of engines, systems and instruments;
- c) operating limitations of the relevant category of aircraft and engines; relevant operational information from the flight manual or other appropriate document;
- d) for helicopters and powered-lifts, transmission (power trains) where applicable;
- e) for airships, physical properties and practical application of gases;

Flight performance, planning and loading

- f) effects of loading and mass distribution on flight characteristics; mass and balance calculations
- g) use and practical application of take-off, landing and other performance data;
- h) pre-flight and en-route flight planning appropriate to private operations under VFR; preparation and filing of air traffic services flight plans; appropriate air traffic services procedures; position reporting procedures; altimeter setting procedures; operations in areas of high-density traffic;

Human performance

- i) Human performance including principles of threat and error management;

Note Guidance material to design training programmes on human performance, including threat and error management, can be found in the Human Factors Training Manual (ICAO Doc 9683).

Meteorology

- j) application of elementary aeronautical meteorology; use of, and procedures for obtaining, meteorological information; altimetry; hazardous weather conditions;

Navigation

- k) practical aspects of air navigation and dead-reckoning techniques; use of aeronautical charts;

Operational procedures

- l) application of threat and error management to operational performance;

Note Guidance material on the application of threat and error management is found in the Procedures for Air Navigation Services — Training (PANS-TRG, ICAO Doc 9868), Chapter 3, Attachment C, and in Part II, Chapter 2, of the Human Factors Training Manual (ICAO Doc 9683).

- m) altimeter setting procedures;
- n) use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations
- o) appropriate precautionary and emergency procedures, including action to be taken to avoid hazardous weather, wake turbulence and other operating hazards;
- p) in the case of helicopters, and if applicable, powered-lifts, settling with power; ground resonance; retreating blade stall; dynamic rollover and other operating hazards; safety procedures, associated with flight in VMC;

Principles of flight

- q) principles of flight;

Radiotelephony

- r) communication procedures and phraseology as applied to VFR operations; action to be taken in case of communication failure.

3.1.3 Skill

The applicant shall have demonstrated the ability to perform as pilot-in-command of an aircraft within the appropriate category of aircraft, the procedures and maneuvers described in 3.3.2 or 3.4.2.1 or 3.5.2 or 3.6.2 with a degree of competency appropriate to the privileges granted to the holder of a private pilot licence, and to:

- a) recognize and manage threats and errors;

Note Guidance material on the application of threat and error management is found in the Procedures for Air Navigation Services — Training (PANS-TRG, ICAO Doc 9868), Chapter 3, Attachment C, and in Part II, Chapter 2, of the Human Factors Training Manual (ICAO Doc 9683).

- b) operate the aircraft within its limitations;
- c) complete all manoeuvres with smoothness and accuracy;
- d) exercise good judgement and airmanship;
- e) apply aeronautical knowledge; and
- f) maintain control of the aircraft at all times in a manner such that the successful outcome of a procedure or manoeuvre is assured.

3.1.4 Medical fitness

The applicant shall hold a current Class 2 Medical Assessment.

Note Attention is called to 7.1.3 on the medical fitness requirements for private pilot licence holders seeking an instrument rating.

3.2 Privileges of the holder of the licence and the conditions to be observed in exercising such privileges

3.2.1 Subject to compliance with the requirements specified in 5, 6, 7.1, 9 of ASN 054 and 1.1 of this ASN, the privileges of the holder of a private pilot licence shall be to act, but not for remuneration, as pilot-in-command or co-pilot of aircraft within the appropriate aircraft category engaged in non-revenue flights.

3.2.2 Before exercising the privileges at night, the licence holder shall have received dual instruction in aircraft within the appropriate category of aircraft in night flying, including take-off, landing and navigation.

3.3 Specific requirements for the issue of the aeroplane category licences

3.3.1 Experience

3.3.1.1 The applicant shall have completed not less than 40 hours of flight time, or 35 hours if completed during a course of approved training, as a pilot of aeroplanes appropriate to the class rating sought. DGCA Sri Lanka shall determine whether experience as a pilot under instruction in a flight simulation training device is acceptable as part of the total flight time of 40 hours or 35 hours, as the case may be. Credit for such experience shall be limited to a maximum of 5 hours.

3.3.1.1.1 When the applicant has flight time as a pilot of aircraft in other categories, DGCA Sri Lanka shall determine whether such experience is acceptable and, if so, the extent to which the flight time requirements of 3.3.1.1 can be reduced accordingly.

3.3.1.2 The applicant shall have completed in aeroplanes not less than 10 hours of solo flight time appropriate to the class rating sought, under the supervision of an authorized flight instructor, including 5 hours of solo cross-country flight time with at least one cross country flight totaling not less than 270 km (150 NM) in the course of which full-stop landings at two different aerodromes shall be made.

3.3.2 Flight instruction

The applicant shall have received dual instruction in aeroplanes appropriate to the class rating sought, from an authorized flight instructor. The instructor shall ensure that the applicant has operational experience in at least the following areas to the level of performance required for the private pilot:

a) recognize and manage threats and errors;

Note *Guidance material on the application of threat and error management if found in the Procedure for Air Navigation Services — Training (PANS-TRG, ICAO Doc 9868), Chapter 3, Attachment C, and in Part II, Chapter 2, of the Human Factors Training Manual (ICAO Doc 9683).*

b) pre-flight operations, including mass and balance determination, aeroplane inspection and servicing;

- c) aerodrome and traffic pattern operations, collision avoidance precautions and procedures;
- d) control of the aeroplane by external visual reference;
- e) flight at critically slow airspeeds; recognition of, and recovery from, incipient and full stalls;
- f) flight at critically high airspeeds; recognition of, and recovery from, spiral dives;
- g) normal and crosswind take-offs and landings;
- h) maximum performance (short field and obstacle clearance) take-offs; short-field landings;
- i) flight by reference solely to instruments, including the completion of a level 180° turn;
- j) cross-country flying using visual reference, dead reckoning and, where available, radio navigation aids;
- k) emergency operations, including simulated aeroplane equipment malfunctions;
- l) operations to, from and transiting controlled aerodromes, compliance with air traffic services procedures; and
- m) communication procedures and phraseology.

Note The instrument experience specified in 3.3.2 i) and the night flying dual instruction in 3.2.2 do not entitle the holder of a private pilot licence to pilot aeroplanes under IFR.

3.4 Specific requirements for the issue of the helicopter category licence

3.4.1 Experience

3.4.1.1 The applicant shall have completed not less than 40 hours of flight time, or 35 hours if completed during a course of approved training, a pilot of helicopters. DGCA Sri Lanka shall determine whether experience as a pilot under instruction in a flight simulation training device is acceptable as part of the total flight time of 40 hours or 35 hours, as the case may be. Credit for such experience shall be limited to a maximum of 5 hours.

3.4.1.1.1 When the applicant has flight time as a pilot of aircraft in other categories, DGCA Sri Lanka shall determine whether such experience is acceptable and, if so, the extent to which the flight time requirements of 3.4.1.1 can be reduced accordingly.

3.4.1.2 The applicant shall have completed in helicopters not less than 10 hours of solo flight time under the supervision of an authorized flight instructor, including 5 hours of solo cross-country flight time with at least one cross-country flight totaling not less than 180 km (100 NM) in the course of which landings at two different points shall be made.

3.4.2 Flight instruction

3.4.2.1 The applicant shall have received not less than 20 hours of dual instruction time in helicopters from an authorized flight instructor. The instructor shall ensure that the applicant has operational experience in at least the following areas to the level of performance required for the private pilot:

a) recognize and manage threats and errors;

Note Guidance material on the application of threat and error management is found in the Procedures for Air Navigation Services — Training (PANS-TRG, ICAO Doc 9868), Chapter 3, Attachment C, and in Part II, Chapter 2, of the Human Factors Training Manual (ICAO Doc 9683).

a) pre-flight operations, including mass and balance determination, helicopter inspection and servicing;

b) aerodrome and traffic pattern operations, collision avoidance precautions and procedures;

c) control of the helicopter by external visual reference;

d) recovery at the incipient stage from settling with power; recovery techniques from low-rotor rpm within the normal range of engine rpm;

f) ground manoeuvring and run-ups; hovering; take-offs and landings — normal, out of wind and sloping ground;

g) take-offs and landings with minimum necessary power; maximum performance take-off and landing techniques; restricted site operations; quick stops;

h) cross-country flying using visual reference, dead reckoning and, where available, radio navigation aids, including a flight of at least one hour;

i) emergency operations, including simulated helicopter equipment malfunctions; autorotative approach;

j) operations to, from and transiting controlled aerodromes, compliance with air traffic services procedures; and

k) communication procedures and phraseology

3.4.2.1.1 The applicant shall have received dual instrument flight instruction from an authorized flight instructor. The instructor shall ensure that the applicant has operational experience in flight solely by reference to instruments, including the completion of a level 180° turn, in a suitably instrumented helicopter.

Note The instrument experience specified in 3.4.2.1.1 and the night flying dual instruction in 3.2.2 do not entitle the holder of a private pilot licence to pilot helicopter under IFR

3.5 Specific requirements for the issue of the powered-lift category licence

3.5.1 Experience

3.5.1.1 The applicant shall have completed not less than 40 hours of flight time as a pilot of powered lifts. DGCA Sri Lanka shall determine whether experience as a pilot under instruction in a flight simulation training device is acceptable as part of the total flight time of 40 hours.

3.5.1.2 When the applicant has flight time as a pilot of aircraft in other categories, DGCA Sri Lanka shall determine whether such experience is acceptable and, if so, the extent to which the flight time requirements of 3.5.1.1 could be reduced accordingly.

3.5.1.3 The applicant shall have completed in powered-lifts not less than 10 hours of solo flight time under the supervision of an authorized flight instructor, including 5 hours of solo cross-country flight time with at least one cross-country flight totaling not less than 270 km (150 NM) in the course of which full-stop landings at two different aerodromes shall be made.

3.5.2 Flight instruction

The applicant shall have received not less than 20 hours of dual instruction time in powered-lifts from an authorized flight instructor. The instructor shall ensure that the applicant has operational experience in at least the following areas to the level of performance required for the private pilot:

a) recognize and manage threats and errors;

Note Guidance material on the application of threat and error management is found in the Procedures for Air Navigation Services — Training (PANS-TRG, ICAO Doc 9868), Chapter 3, Attachment C, and in Part II, Chapter 2, of the Human Factors Training Manual (ICAO Doc 9683).

b) pre-flight operations, including mass and balance determination, powered-lift inspection and servicing;

c) aerodrome and traffic pattern operations, collision avoidance precautions and procedures;

d) control of the powered-lift by external visual reference;

e) ground manoeuvring and run-ups; hover and rolling take-offs and climb-out; hover and rolling approach and landings — normal, out of wind and sloping ground

f) take-offs and landings with minimum necessary power; maximum performance take-off and landing techniques; restricted site operations; quick stops;

g) flight by reference solely to instruments, including the completion of a level 180° turn;

h) recovery at the incipient stage from settling with power; recovery techniques from low-rotor rpm within the normal range of engine rpm;

i) cross-country flying using visual reference, dead reckoning and, where available, radio navigation aids, including a flight of at least one hour;

- j) emergency operations, including simulated powered-lift equipment malfunctions; power of recon version to auto-rotation and authoritative approach, where applicable; transmission and interconnect driveshaft failure, where applicable;
- k) operations to, from and transiting controlled aerodromes, compliance with air traffic services procedures; and
- l) communication procedures and phraseology.

Note The instrument experience specified in 3.5.2 g) and the night flying dual instruction specified in 3.2.2 do not entitle the holder of a private pilot licence to pilot powered-lifts under IFR. 3.6 Specific requirements for the issue of the airship category licence

3.6.1 Experience

The applicant shall have completed not less than 25 hours of flight time as a pilot of airships, including at least

- a) 3 hours of cross-country flight training in an airship with a cross-country flight totaling not less than 45 km (25 NM);
- b) 5 take-offs and 5 landings to a full stop at an aerodrome with each landing involving a flight in the traffic pattern at an aerodrome;
- c) 3 hours of instrument time; and
- d) 5 hours as pilot assuming the duties of the pilot-in-command under the supervision of the pilot-in-command.

3.6.2 Flight instruction

The applicant shall have received dual instruction in airships from an authorized flight instructor. The instructor shall ensure that the applicant has received instruction in at least the following areas:

- a) recognize and manage threats and errors;

Note Guidance material on the application of threat and error management is found in the Procedures for Air Navigation Services — Training (PANS-TRG, ICAO Doc 9868), Chapter 3, Attachment C, and in Part II, Chapter 2, of the Human Factors Training Manual (ICAO Doc 9683).

- b) pre-flight operations, including mass and balance determination, airship inspection and servicing;
- c) ground reference maneuvers;
- d) aerodrome and traffic pattern operations, collision avoidance precautions and procedures;

- e) techniques and procedures for the take-off, including appropriate limitations, emergency procedures and signals used;
- f) control of the airship by external visual reference;
- g) take-offs, landings and go-arounds;
- h) maximum performance (obstacle clearance) take-offs;
- i) flight by reference solely to instruments, including the completion of a level 180° turn;
- j) navigation, cross-country flying using visual reference, dead reckoning and radio navigation aids;
- k) emergency operations (recognition of leaks), including simulated airship equipment malfunctions; and
- l) communication procedures and phraseology.

Note The instrument experience specified in 3.6.2 i) and the night flying dual instruction specified in 3.2.2 do not entitle the holder of a private pilot licence to pilot airships under IFR.

3.6 Specific requirements for the issue of the airship category licence

3.6.1 Experience

The applicant shall have completed not less than 25 hours of flight time as a pilot of airships, including at least

- a) 3 hours of cross-country flight training in an airship with a cross-country flight totaling not less than 45 km (25 NM);
- b) 5 take-offs and 5 landings to a full stop at an aerodrome with each landing involving a flight in the traffic pattern at an aerodrome;
- c) 3 hours of instrument time; and
- d) 5 hours as pilot assuming the duties of the pilot-in-command under the supervision of the pilot-in-command.

3.6.2 Flight instruction

The applicant shall have received dual instruction in airships from an authorized flight instructor. The instructor shall ensure that the applicant has received instruction in at least the following areas:

- a) recognize and manage threats and errors;

Note Guidance material on the application of threat and error management is found in the Procedures for Air Navigation Services — Training (PANS-TRG, ICAO Doc 9868), Chapter 3, Attachment C, and in Part II, Chapter 2, of the Human Factors Training Manual (ICAO Doc 9683).

- b) pre-flight operations, including mass and balance determination, airship inspection and servicing;
- c) ground reference maneuvers;
- d) aerodrome and traffic pattern operations, collision avoidance precautions and procedures;
- e) techniques and procedures for the take-off, including appropriate limitations, emergency procedures and signals used;
- f) control of the airship by external visual reference;
- g) take-offs, landings and go-arounds;
- h) maximum performance (obstacle clearance) take-offs;
- i) flight by reference solely to instruments, including the completion of a level 180° turn;
- j) navigation, cross-country flying using visual reference, dead reckoning and radio navigation aids;
- k) emergency operations (recognition of leaks), including simulated airship equipment malfunctions; and
- l) communication procedures and phraseology.

Note The instrument experience specified in 3.6.2 i) and the night flying dual instruction specified in 3.2.2 do not entitle the holder of a private pilot licence to pilot airships under IFR.

4 Commercial pilot licence

4.1 General requirements for the issue of the licence appropriate to the aeroplane, airship, helicopter and powered-lift categories

4.1.1 Age

The applicant shall be not less than 18 years of age.

4.1.2 Knowledge

The applicant shall have demonstrated a level of knowledge appropriate to the privileges granted to the holder of a commercial pilot licence and appropriate to the category of aircraft intended to be included in the licence, in at least the following subjects:

Air law

- a) rules and regulations relevant to the holder of a commercial pilot licence; rules of the air; appropriate air traffic services practices and procedures;

Aircraft general knowledge for aeroplanes, airships, helicopters and powered-lifts

- b) principles of operation and functioning of engines, systems and instruments;
- c) operating limitations of the relevant category of aircraft and engines; relevant operational information from the flight manual or other appropriate document;
- d) use and serviceability checks of equipment and systems of appropriate aircraft;
- e) maintenance procedures for airframes, systems and power plants of appropriate aircraft;
- f) for helicopters and powered-lifts, transmission (power trains) where applicable;
- g) for airships, physical properties and practical application of gases;

Flight performance, planning and loading

- h) effects of loading and mass distribution on aircraft handling, flight characteristics and performance; mass and balance calculations;
- i) use and practical application of take-off, landing and other performance data;
- j) pre-flight and en-route flight planning appropriate to commercial operations under VFR; preparation and filing of air traffic services flight plans; appropriate air traffic services procedures; altimeter setting procedures;
- k) in the case of airships, helicopters and powered-lifts, effects of external loading on handling;

Human performance

- l) human performance including principles of threat and error management;

Note

Guidance material to design training programmes on human performance, including threat and error management, can be found in the Human Factors Training Manual (ICAO Doc 9683).

Meteorology

- m) interpretation and application of aeronautical meteorological reports, charts and forecasts; use of, and procedures for obtaining, meteorological information, pre-flight and in-flight; altimetry;
- n) aeronautical meteorology; climatology of relevant areas in respect of the elements having an effect upon aviation; the movement of pressure systems, the structure of fronts, and the origin and characteristics of significant weather phenomena which affect take-off, en-route and landing conditions;
- o) causes, recognition and effects of icing; frontal zone penetration procedures; hazardous weather avoidance;

Navigation

- p) air navigation, including the use of aeronautical charts, instruments and navigation aids; an understanding of the principles and characteristics of appropriate navigation systems; operation of airborne equipment;
- q) in the case of airships:
 - i) use, limitation and serviceability of avionics and instruments necessary for control and navigation;
 - ii) use, accuracy and reliability of navigation systems used in departure, en-route, approach and landing phases of flight, identification of radio navigation aids;
 - iii) principles and characteristics of self-contained and external referenced navigation systems, operation of airborne equipment;

Operational procedures

- r) application of threat and error management to operational performance;

Note

Guidance material on the application of threat and error management is found in Procedures for Air Navigation Services — Training (PANS-TRG, ICAO Doc 9868), Chapter 3, Attachment C, and in Part II, Chapter 2, of the Human Factors Training Manual (ICAO Doc 9683).

- s) use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations;
- t) altimeter setting procedures;
- u) appropriate precautionary and emergency procedures;
- v) operational procedures for carriage of freight; potential hazards associated with dangerous goods;
- w) requirements and practices for safety briefing to passengers, including precautions to be observed when embarking and disembarking from aircraft;
- x) in the case of helicopters, and if applicable, powered-lifts, settling with power; ground resonance; retreating blade stall; dynamic rollover and other operating hazards; safety procedures, associated with flight in VMC;

Principles of flight

- y) principles of flight;

Radiotelephony

- z) communication procedures and phraseology as applied to VFR operations; action to be taken in case of communication failure.

4.1.3 Skill

The applicant shall have demonstrated the ability to perform as pilot-in-command of an aircraft within the appropriate category of aircraft, the procedures and manoeuvres described in 4.3.2 or 4.4.2 or 4.5.2 or 4.6.2 with a degree of competency appropriate to the privileges granted to the holder of a commercial pilot licence, and to:

a) recognize and manage threats and errors;

Note

Guidance material on the application of threat and error management is found in the Procedures for Air Navigation Services — Training (PANS-TRG, ICAO Doc 9868), Chapter 3, Attachment C, and in Part II, Chapter 2, of the Human Factors Training Manual (ICAO Doc 9683)

b) operate the aircraft within its limitations;

c) complete all manoeuvres with smoothness and accuracy;

d) exercise good judgement and airmanship;

e) apply aeronautical knowledge; and

f) maintain control of the aircraft at all times in a manner such that the successful outcome of a procedure or manoeuvre is assured.

4.1.4 Medical fitness

The applicant shall hold a current Class 1 Medical Assessment.

4.2 Privileges of the holder of the licence and the conditions to be observed in exercising such privileges

4.2.1 Subject to compliance with the requirements specified in 5.0, 6.0, 7.1, 9.0 of ASN 054 and 1.1 of this IS, the privileges of the holder of a commercial pilot licence shall be:

a) to exercise all the privileges of the holder of a private pilot licence in an aircraft within the appropriate aircraft category;

b) to act as pilot-in-command of an aircraft within the appropriate aircraft category engaged in operations other than commercial air transportation;

c) to act as pilot-in-command, in commercial air transportation, of an aircraft within the appropriate aircraft category and certificated for single-pilot operation;

d) to act as co-pilot of an aircraft within the appropriate aircraft category required to be operated with a co-pilot; and

e) for the airship category, to pilot an airship under IFR.

4.2.2 Before exercising the privileges at night, the licence holder shall have received dual instruction in aircraft within the appropriate category of aircraft in night flying, including take-off, landing and navigation.

Note Certain privileges of the licence are curtailed by 1.10 for licence holders when they attain their 60th and 65th birthdays.

4.3 Specific requirements for the issue of the aeroplane category licence

4.3.1 Experience

4.3.1.1 The applicant shall have completed not less than 200 hours of flight time, or 150 hours if completed during a course of approved training, as a pilot of aeroplanes. DGCA Sri Lanka shall determine whether experience as a pilot under instruction in a flight simulation training device is acceptable as part of the total flight time of 200 hours or 150 hours, as the case may be. Credit for such experience shall be limited to a maximum of 10 hours.

4.3.1.1.1 The applicant shall have completed in aeroplanes not less than:

- a) 100 hours as pilot-in-command or, in the case of a course of approved training, 70 hours as pilot-in-command;
- b) 20 hours of cross-country flight time as pilot-in-command including a cross-country flight totaling not less than 540 km (300 NM) in the course of which full-stop landings at two different aerodromes shall be made;
- c) 10 hours of instrument instruction time of which not more than 5 hours may be instrument ground time; and
- d) if the privileges of the licence are to be exercised at night, 5 hours of night flight time including 5 take-offs and 5 landings as pilot-in-command.

4.3.1.2 When the applicant has flight time as a pilot of aircraft in other categories, DGCA Sri Lanka shall determine whether such experience is acceptable and, if so, the extent to which the flight time requirements of 4.3.1.1 can be reduced accordingly.

4.3.2 Flight instruction

4.3.2.1 The applicant shall have received dual instruction in aeroplanes appropriate to the class and/or type rating, sought from an authorized flight instructor. The instructor shall ensure that the applicant has operational experience in at least the following areas to the level of performance required for the commercial pilot:

- a) recognize and manage threats and errors;

Note Guidance material on the application of threat and error management is found in the Procedures for Air Navigation Services — Training (PANS-TRG, ICAO Doc 9868), Chapter 3, Attachment C, and in Part II, Chapter 2, of the Human Factors Training Manual (ICAO Doc 9683).

- b) pre-flight operations, including mass and balance determination, aeroplane inspection and servicing;
- c) aerodrome and traffic pattern operations, collision avoidance precautions and procedures;
- d) control of the aeroplane by external visual reference;
- e) flight at critically slow airspeeds; spin avoidance; recognition of, and recovery from, incipient and full stalls;
- f) flight with asymmetrical power for multi-engine class or type ratings;
- g) flight at critically high airspeeds; recognition of, and recovery from, spiral dives;
- h) normal and cross-wind take-offs and landings;
- i) maximum performance (short field and obstacle clearance) take-offs; short-field landings;
- j) basic flight manoeuvres and recovery from unusual attitudes by reference solely to basic flight instruments;
- k) cross-country flying using visual reference, dead reckoning and radio navigation aids; diversion procedures;
- l) abnormal and emergency procedures and manoeuvres including simulated aeroplane equipment malfunctions;
- m) operations to, from and transiting controlled aerodromes, compliance with air traffic services procedures; and
- n) communication procedures and phraseology.

Note The instrument experience specified in 4.3.1.1.1 c) and 4.3.2 j) and the night flying experience and dual instruction specified in 4.3.1.1.1 d) and 4.2.2 do not entitle the holder of a commercial pilot licence to pilot aeroplanes under IFR.

4.3.2.2 The applicant should have received, in actual flight, upset prevention and recovery training approved by the DGCA Sri Lanka.

Note 1 Procedures for upset prevention and recovery training in actual flight are contained in the procedures for Air Navigation services — training (PANS-TRG, Doc 9868).

Note 2 Guidance on upset prevention and recovery training in actual flight is contained in the Manual on Aeroplane Upset Prevention and Recovery Training (Doc 10011).

4.4 Specific requirements for the issue of the helicopter category licence

4.4.1 Experience

4.4.1.1 The applicant shall have completed not less than 150 hours of flight time, or 100 hours if completed during a course of approved training, as a pilot of helicopters. DGCA Sri Lanka shall determine whether experience as a pilot under instruction in a flight simulation training device is acceptable as part of the total flight time of 150 hours or 100 hours, as the case may be. Credit for such experience shall be limited to a maximum of 10 hours.

4.4.1.1.1 The applicant shall have completed in helicopters not less than:

- a) 35 hours as pilot-in-command;
- b) 10 hours of cross-country flight time as pilot-in-command including a cross-country flight in the course of which landings at two different points shall be made;
- c) 10 hours of instrument instruction time of which not more than 5 hours may be instrument ground time; and
- d) if the privileges of the licence are to be exercised at night, 5 hours of night flight time including 5 take-offs and 5 landing patterns as pilot-in-command.

4.4.1.2 When the applicant has flight time as a pilot of aircraft in other categories, DGCA Sri Lanka shall determine whether such experience is acceptable and, if so, the extent to which the flight time requirements of 4.4.1.1 can be reduced accordingly.

4.4.2 Flight instruction

The applicant shall have received dual instruction in helicopters from an authorized flight instructor. The instructor shall ensure that the applicant has operational experience in at least the following areas to the level of performance required for the commercial pilot:

- a) recognize and manage threats and errors;

Note Guidance material on the application of threat and error management is found in the Procedures for Air Navigation Services — Training (PANS-TRG, ICAO Doc 9868), Chapter 3, Attachment C, and in Part II, Chapter 2, of the Human Factors Training Manual (ICAO Doc 9683).

- b) pre-flight operations, including mass and balance determination, helicopter inspection and servicing;
- c) aerodrome and traffic pattern operations, collision avoidance precautions and procedures;
- d) control of the helicopter by external visual reference;
- e) recovery at the incipient stage from settling with power; recovery techniques from low-rotor rpm within the normal range of engine rpm;
- f) ground manoeuvring and run-ups; hovering; take-offs and landings — normal, out of wind and sloping ground; steep approaches;

- g) take-offs and landings with minimum necessary power; maximum performance take-off and landing techniques; restricted site operations; quick stops;
- h) hovering out of ground effect; operations with external load, if applicable; flight at high altitude;
- i) basic flight manoeuvres and recovery from unusual attitudes by reference solely to basic flight instruments;
- j) cross-country flying using visual reference, dead reckoning and radio navigation aids; diversion procedures;
- k) abnormal and emergency procedures, including simulated helicopter equipment malfunctions, autorotative approach and landing;
- l) operations to, from and transiting controlled aerodromes, compliance with air traffic services procedures; and
- m) communication procedures and phraseology.

Note The instrument experience specified in 4.4.1.1.1 c) and 4.4.2 i) and the night flying experience and dual instruction specified in 4.4.1.1.1 d) and 4.2.2 do not entitle the holder of a commercial pilot licence to pilot helicopters under IFR.

4.5 Specific requirements for the issue of the powered-lift category licence

4.5.1 Experience

4.5.1.1 The applicant shall have completed not less than 200 hours of flight time in a poweredlift, or 150 hours if completed during a course of approved training, as a pilot of aircraft. DGCA Sri Lanka shall determine whether experience as a pilot under instruction in a flight simulation training device is acceptable as part of the total flight time of 200 hours or 150 hours, as the case may be.

4.5.1.2 The applicant shall have completed in a powered-lift not less than:

- a) 50 hours as pilot-in-command;
- b) 10 hours of cross-country flying as pilot-in-command including a cross-country flight totaling not less than 540 km (300 NM) in the course of which full-stop landings at two different aerodromes should be made;
- c) 10 hours of instrument instruction of which not more than 5 hours may be instrument ground time; and
- d) if the privileges of the licence are to be exercised at night, 5 hours of night flight time including 5 take-offs and landings as pilot-in-command.

4.5.1.3 When the applicant has flight time as a pilot of aircraft in other categories, DGCA Sri Lanka determine whether such experience is acceptable and, if so, the extent to which the flight time requirements of 4.5.1.1 could be reduced accordingly.

4.5.2 Flight instruction

The applicant shall have received dual instruction time in a powered-lift from an authorized flight instructor. The instructor shall ensure that the applicant has operational experience in at least the following areas to the level of performance required for the commercial pilot:

a) recognize and manage threats and errors;

Note

Guidance material on the application of threat and error management is found in the Procedures for Air Navigation Services — Training (PANS-TRG, ICAO Doc 9868), Chapter 3, Attachment C, and in Part II, Chapter 2, of the Human Factors Training Manual (ICAO Doc 9683).

b) pre-flight operations, including mass and balance determination, powered-lift inspection and servicing;

c) aerodrome and traffic pattern operations, collision avoidance precautions and procedures;

d) control of the powered-lift by external visual reference;

e) recovery at the incipient stage from settling with power; recovery techniques from low-rotor rpm within the normal range of engine rpm;

f) ground manoeuvring and run-ups; hover and rolling take-offs and climb-out; hover and rolling approach and landings — normal, out of wind and sloping ground; steep approaches;

g) take-offs and landings with minimum necessary power; maximum performance take-off and landing techniques; restricted site operations; quick stops;

h) hovering out of ground effect; operations with external load, if applicable; flight at high altitude;

i) basic flight manoeuvres and recovery from unusual attitudes by reference solely to basic flight instruments;

j) cross-country flying using visual reference, dead reckoning and, where available, radio navigation aids, including a flight of at least one hour;

k) emergency operations, including simulated powered-lift equipment malfunctions; power of reconversion to autorotation and autorotative approach, where applicable; transmission and interconnect driveshaft failure, where applicable;

l) operations to, from and transiting controlled aerodromes, compliance with air traffic services procedures; and

m) communication procedures and phraseology.

Note The instrument experience specified in 4.5.1.2 c) and 4.5.2 i) and the night flying experience and dual instruction specified in 4.5.1.2 d) and 4.2.2 do not entitle the holder of a commercial pilot licence to pilot powered-lifts under IFR.

4.6 Specific requirements for the issue of the airship category licence

4.6.1 Experience

4.6.1.1 The applicant shall have completed not less than 200 hours of flight time as a pilot.

4.6.1.1.1 The applicant shall have completed not less than:

- a) 50 hours as a pilot of airships;
- b) 30 hours in airships as pilot-in-command or pilot-in-command under supervision, to include not less than:
 - 10 hours of cross-country flight time; and
 - 10 hours of night flight;
- c) 40 hours of instrument time, of which 20 hours shall be in flight and 10 hours in flight in airships; and
- d) 20 hours of flight training in airships in the areas of operation listed in 4.6.2.

4.6.2 Flight instruction

The applicant shall have received dual instruction in airships from an authorized flight instructor. The instructor shall ensure that the applicant has operational experience in at least the following areas to the level of performance required for the commercial pilot:

- a) recognize and manage threats and errors;

Note Guidance material on the application of threat and error management is found in the Procedures for Air Navigation Services — Training (PANS-TRG, ICAO Doc 9868), Chapter 3, Attachment C, and in Part II, Chapter 2, of the Human Factors Training Manual (ICAO Doc 9683).

- b) pre-flight operations, including mass and balance determination, airship inspection and servicing;
- c) aerodrome and traffic pattern operations, collision avoidance precautions and procedures;
- d) techniques and procedures for the take-off, including appropriate limitations, emergency procedures and signals used;
- e) control of the airship by external visual reference;
- f) recognition of leaks;

- g) normal take-offs and landings;
- h) maximum performance (short field and obstacle clearance) take-offs; short-field landings;
- i) flight under IFR;
- j) cross-country flying using visual reference, dead reckoning and, where available, radio navigation aids;
- k) emergency operations, including simulated airship equipment malfunctions;
- l) operations to, from and transiting controlled aerodromes, compliance with air traffic services procedures; and
- m) communication procedures and phraseology.

5 Multi-crew pilot licence appropriate to the aeroplane category

5.1 General requirements for the issue of the licence

5.1.1 Age

The applicant shall be not less than 18 years of age.

5.1.2 Knowledge

The applicant shall have met the requirements specified in 6.1.2 for the airline transport pilot licence appropriate to the aeroplane category in an approved training course.

5.1.3 Skill

5.1.3.1 The applicant shall have demonstrated the skills required for fulfilling all the competency units specified in Appendix 1 as pilot flying and pilot not flying, to the level required to perform as a co-pilot of turbine-powered aeroplanes certificated for operation with a minimum crew of at least two pilots under VFR and IFR, and to:

- a) recognize and manage threats and errors;

Note Guidance material on the application of threat and error management is found in the Procedures for Air Navigation Services — Training (PANS-TRG ICAO Doc 9868), Chapter 3, Attachment C, and in Part II, Chapter 2, of the Human Factors Training Manual (ICAO Doc 9683).

- b) smoothly and accurately, manually control the aeroplane within its limitations at all times, such that the successful outcome of a procedure or manoeuvre is assured;
- c) operate the aeroplane in the mode of automation appropriate to the phase of flight and to maintain awareness of the active mode of automation;

- d) perform, in an accurate manner, normal, abnormal and emergency procedures in all phases of flight; and
- e) communicate effectively with other flight crew members and demonstrate the ability to effectively perform procedures for crew incapacitation, crew coordination, including allocation of pilot tasks, crew cooperation, adherence to standard operating procedures (SOPs) and use of check lists.

5.1.3.2 Progress in acquiring the skills specified in 5.1.3.1 shall be continuously assessed.

5.1.4 Medical fitness

The applicant shall hold a current Class 1 medical assessment.

5.2 Privileges of the holder of the licence and the conditions to be observed in exercising such privileges

5.2.1 Subject to compliance with the requirements specified in 5.0, 6.0, 7.1, 9.0 of ASN 054 and 1.1 of this IS, the privileges of the holder of a multi-crew pilot licence shall be:

- a) to exercise all the privileges of the holder of a private pilot licence in the aeroplane category provided the requirements of paragraph 3.3 have been met;
- b) to exercise the privileges of the instrument rating in a multi-crew operation; and
- c) to act as co-pilot of an aeroplane required to be operated with a co-pilot.

5.2.2 Before exercising the privileges of the instrument rating in a single-pilot operation in aeroplanes, the licence holder shall have demonstrated an ability to act as pilot-in-command in a single-pilot operation exercised by reference solely to instruments and shall have met the skill requirement specified in 7.1.2 appropriate to the aeroplane category.

5.2.3 Before exercising the privileges of a commercial pilot licence in a single-pilot operation in aeroplanes, the licence holder shall have:

- a) completed in aeroplanes 70 hours, either as pilot-in-command, or made up of not less than 10 hours as pilot-in-command and the necessary additional flight time as pilot-in-command under supervision;
- b) completed 20 hours of cross-country flight time as pilot-in-command, or made up of not less than 10 hours as pilot-in-command and 10 hours as pilot-in-command under supervision, including a cross-country flight totaling not less than 540 km (300 NM) in the course of which full-stop landings at two different aerodromes shall be made; and
- c) met the requirements for the commercial pilot licence specified in 4.1.2, 4.1.3, and 4.3.1.1 (with the exception of 4.3.1.1.1 a)) and 4.3.2 appropriate to the aeroplane category.

Note 1 When DGCA Sri Lanka grants single-pilot operation privileges to the holder of a multi-crew pilot licence, he will document the privileges through an endorsement of the multi-

crew pilot licence or through the issuance of a commercial pilot licence in the aeroplane category.

Note 2 Certain privileges of the licence are curtailed by 1.10 for licence holders when they attain their 65th birthday.

5.3 Experience

5.3.1 The applicant shall have completed in an approved training course not less than 240 hours as pilot flying and pilot not flying of actual and simulated flight.

5.3.2 Flight experience in actual flight shall include at least the experience requirements at 3.3.1, upset recovery training, night flying and flight by reference solely to instruments.

Note 1 Procedures for upset prevention and recovery training in actual flight are contained in the Procedures for Air Navigation Services—Training (PANS-TRG, Doc 9868).

Note 2 Guidance on upset prevention and recovery training in actual flight is contained in the Manual on Aeroplane Upset Prevention and Recovery Training (Doc 10011).

5.3.3 In addition to meeting the provisions of 5.3.2, the applicant shall have gained, in a turbine-powered aeroplane certificated for operation with a minimum crew of at least two pilots, or in a flight simulation training device approved for that purpose by DGCA Sri Lanka in accordance with Appendix 1, paragraph 4, the experience necessary to achieve the advanced level of competency defined in Appendix 1.

5.4 Flight instruction

5.4.1 The applicant shall have completed a course of approved training covering the experience requirements specified in 5.3.

5.4.2 The applicant shall have received dual flight instruction in all the competency units specified in Appendix 1, to the level required for the issue of the multi-crew pilot licence, to include the competency units required to pilot under instrument flight rules.

6 Airline transport pilot licence

6.1 General requirements for the issue of the licence appropriate to the aeroplane, helicopter and powered-lift categories

6.1.1 Age

The applicant shall be not less than 21 years of age.

6.1.2 Knowledge

6.1.2.1 The applicant shall have demonstrated a level of knowledge appropriate to the privileges granted to the holder of an airline transport pilot licence and appropriate to the category of aircraft intended to be included in the licence, in at least the following subjects:

Air law

- a) rules and regulations relevant to the holder of an airline transport pilot licence; rules of the air; appropriate air traffic services practices and procedures;

Aircraft general knowledge for aeroplanes, helicopters and powered-lifts

- b) general characteristics and limitations of electrical, hydraulic, pressurization and other aircraft systems; flight control systems, including autopilot and stability augmentation;
- c) principles of operation, handling procedures and operating limitations of aircraft engines; effects of atmospheric conditions on engine performance; relevant operational information from the flight manual or other appropriate document;
- d) operating procedures and limitations of the relevant category of aircraft; effects of atmospheric conditions on aircraft performance in accordance with the relevant operational information from the flight manual;
- e) use and serviceability checks of equipment and systems of appropriate aircraft;
- f) flight instruments; compasses, turning and acceleration errors; gyroscopic instruments, operational limits and precession effects; practices and procedures in the event of malfunctions of various flight instruments and electronic display units;
- g) maintenance procedures for airframes, systems and powerplants of appropriate aircraft;
- h) for helicopters and powered-lifts, transmission (power trains) where applicable;

Flight performance, planning and loading

- i) effects of loading and mass distribution on aircraft handling, flight characteristics and performance; mass and balance calculations;
- j) use and practical application of take-off, landing and other performance data, including procedures for cruise control;
- k) pre-flight and en-route operational flight planning; preparation and filing of air traffic services flight plans; appropriate air traffic services procedures; altimeter setting procedures;
- l) in the case of helicopters and powered-lifts, effects of external loading on handling;

Human performance

- m) human performance including principles of threat and error management;

Note

Guidance material to design training programmes on human performance, including threat and error management, can be found in the Human Factors Training Manual (ICAO Doc 9683).

Meteorology

- n) interpretation and application of aeronautical meteorological reports, charts and forecasts; codes and abbreviations; use of, and procedures for obtaining, meteorological information, pre-flight and in-flight; altimetry;
- o) aeronautical meteorology; climatology of relevant areas in respect of the elements having an effect upon aviation; the movement of pressure systems; the structure of fronts, and the origin and characteristics of significant weather phenomena which affect take-off, en-route and landing conditions;
- p) causes, recognition and effects of icing; frontal zone penetration procedures; hazardous weather avoidance;
- q) in the case of aeroplanes and powered-lifts, practical high altitude meteorology, including interpretation and use of weather reports, charts and forecasts; jetstreams;

Navigation

- r) air navigation, including the use of aeronautical charts, radio navigation aids and area navigation systems; specific navigation requirements for long-range flights;
- s) use, limitation and serviceability of avionics and instruments necessary for the control and navigation of aircraft;
- t) use, accuracy and reliability of navigation systems used in departure, en-route, approach and landing phases of flight; identification of radio navigation aids;
- u) principles and characteristics of self-contained and external-referenced navigation systems; operation of airborne equipment;

Operational procedures

- v) application of threat and error management to operational performance;

Note

Guidance material on the application of threat and error management is found in the Procedures for Air Navigation Services — Training (PANS-TRG, ICAO Doc 9868), Chapter 3, Attachment C, and in Part II, Chapter 2, of the Human Factors Training Manual (ICAO Doc 9683).

- w) interpretation and use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations;
- x) precautionary and emergency procedures; safety practices;
- y) operational procedures for carriage of freight and dangerous goods;
- z) requirements and practices for safety briefing to passengers, including precautions to be observed when embarking and disembarking from aircraft;
- aa) in the case of helicopters, and if applicable, powered-lifts, settling with power; ground resonance; retreating blade stall; dynamic rollover and other operating hazards; safety procedures, associated with flight in VMC;

Principles of flight

bb) principles of flight;

Radiotelephony

cc) communication procedures and phraseology; action to be taken in case of communication failure.

6.1.2.2 In addition to the above subjects, the applicant for an airline transport pilot licence applicable to the aeroplane or powered-lift category shall have met the knowledge requirements for the instrument rating at 7.1.1.

6.1.3 Skill

6.1.3.1 The applicant shall have demonstrated the ability to perform, as pilot-in-command of an aircraft within the appropriate category required to be operated with a co-pilot, the following procedures and manoeuvres:

- a) pre-flight procedures, including the preparation of the operational flight plan and filing of the air traffic services flight plan;
- b) normal flight procedures and manoeuvres during all phases of flight;
- c) abnormal and emergency procedures and manoeuvres related to failures and malfunctions of equipment, such as powerplant, systems and airframe;
- d) procedures for crew incapacitation and crew coordination, including allocation of pilot tasks, crew cooperation and use of checklists; and
- e) in the case of aeroplanes and powered-lifts, procedures and manoeuvres for instrument flight described in 7.4.1 a) to d), including simulated engine failure.

6.1.3.1.1 In the case of an aeroplane, the applicant shall have demonstrated the ability to perform the procedures and manoeuvres described in 6.1.3.1 as pilot-in-command of a multi-engined aeroplane.

6.1.3.1.2 The applicant shall have demonstrated the ability to perform the procedures and manoeuvres described in 6.1.3 with a degree of competency appropriate to the privileges granted to the holder of an airline transport pilot licence, and to:

- a) recognize and manage threats and errors;

Note Guidance material on the application of threat and error management is found in the Procedures for Air Navigation Services — Training (PANS-TRG, ICAO Doc 9868), Chapter 3, Attachment C, and in Part II, Chapter 2, of the Human Factors Training Manual (ICAO Doc 9683).

- b) smoothly and accurately, manually control the aircraft within its limitations at all times, such that the successful outcome of a procedure or manoeuvre is assured;

- c) operate the aircraft in the mode of automation appropriate to the phase of flight and to maintain awareness of the active mode of automation;
- d) perform, in an accurate manner, normal, abnormal and emergency procedures in all phases of flight;
- e) exercise good judgement and airmanship, to include structured decision making and the maintenance of situational awareness; and
- f) communicate effectively with other flight crew members and demonstrate the ability to effectively perform procedures for crew incapacitation, crew coordination, including allocation of pilot tasks, crew cooperation, adherence to standard operating procedures (SOPs) and use of checklists.

6.1.4 Medical fitness

The applicant shall hold a current Class 1 Medical Assessment.

6.2 Privileges of the holder of the licence and the conditions to be observed in exercising such privileges

6.2.1 Subject to compliance with the requirements specified in 5.0, 6.0, 7.1, 9.0 of ASN 054 and 1.1 of this IS, the privileges of the holder of an airline transport pilot licence shall be:

- a) to exercise all the privileges of the holder of a private and commercial pilot licence in an aircraft within the appropriate aircraft category and, in the case of a licence for the aeroplane and powered-lift categories, of the instrument rating; and
- b) to act as pilot-in-command, in commercial air transportation, of an aircraft within the appropriate category and certificated for operation with more than one pilot.

6.2.2 When the holder of an airline transport pilot licence in the aeroplane category has previously held only a multi-crew pilot licence, the privileges of the licence shall be limited to multi-crew operations unless the holder has met the requirements established in 5.2.1 a), 5.2.2 and 5.2.3 as appropriate. Any limitation of privileges shall be endorsed on the licence.

Note Certain privileges of the licence are curtailed by 1.10 for licence holders when they attain their 60th and 65th birthdays.

6.3 Specific requirements for the issue of the aeroplane category licence

6.3.1 Experience

6.3.1.1 The applicant shall have completed not less than 1 500 hours of flight time as a pilot of aeroplanes. DGCA Sri Lanka shall determine whether experience as a pilot under instruction in a flight simulation training device is acceptable as part of the total flight time of 1 500 hours. Credit for such experience shall be limited to a maximum of 100 hours, of which not more than 25 hours shall have been acquired in a flight procedure trainer or a basic instrument flight trainer.

6.3.1.1.1 The applicant shall have completed in aeroplanes not less than:

- a) 500 hours as pilot-in-command under supervision or 250 hours, either as pilot-in-command, or made up by not less than 70 hours as pilot-in-command and the necessary additional flight time as pilot-in-command under supervision;
- b) 200 hours of cross-country flight time, of which not less than 100 hours shall be as pilot-in-command or as pilot-in-command under supervision;
- c) 75 hours of instrument time, of which not more than 30 hours may be instrument ground time; and
- d) 100 hours of night flight as pilot-in-command or as co-pilot.

6.3.1.2 When the applicant has flight time as a pilot of aircraft in other categories, DGCA Sri Lanka shall determine whether such experience is acceptable and, if so, the extent to which the flight time requirements of 6.3.1.1 can be reduced accordingly.

6.3.2 Flight instruction

The applicant shall have received the dual flight instruction required at 4.3.2 for the issue of the commercial pilot licence and at 7.4 for the issue of the instrument rating or at 5.4 for the issue of the multi-crew pilot licence.

6.4 Specific requirements for the issue of the helicopter category rating

6.4.1 Experience

6.4.1.1 The applicant shall have completed not less than 1 000 hours of flight time as a pilot of helicopters. DGCA shall determine whether experience as a pilot under instruction in a flight simulation training device is acceptable as part of the total flight time of 1 000 hours. Credit for such experience shall be limited to a maximum of 100 hours, of which not more than 25 hours shall have been acquired in a flight procedure trainer or a basic instrument flight trainer.

6.4.1.1.1 The applicant shall have completed in helicopters not less than:

- a) 250 hours, either as pilot-in-command, or made up of not less than 70 hours as pilot-in-command and the necessary additional flight time as pilot-in-command under supervision;
- b) 200 hours of cross-country flight time, of which not less than 100 hours shall be as pilot-in-command or as pilot-in-command under supervision;
- c) 30 hours of instrument time, of which not more than 10 hours may be instrument ground time; and
- d) 50 hours of night flight as pilot-in-command or as co-pilot.

6.4.1.2 When the applicant has flight time as a pilot of aircraft in other categories, the DGCA shall determine whether such experience is acceptable and, if so, the extent to which the flight time requirements of 6.4.1.1 can be reduced accordingly.

6.4.2 Flight instruction

The applicant shall have received the dual flight instruction required at 4.4.2 for the issue of the commercial pilot licence.

Note The instrument time specified in 6.4.1.1.1 c) and the night flying time specified in 6.4.1.1.1 d) do not entitle the holder of the airline transport pilot licence — helicopter to pilot helicopters under IFR

6.5 Specific requirements for the issue of the powered-lift category rating

6.5.1 Experience

6.5.1.1 The applicant shall have completed not less than 1500 hours of flight time as a pilot of powered-lifts. The DGCA Sri Lanka should determine whether experience as a pilot under instruction in a flight simulation training device is acceptable as part of the total flight time of 1 500 hours.

6.5.1.2 The applicant shall have completed in powered-lifts not less than:

- a) 250 hours, either as pilot-in-command, or made up of not less than 70 hours as pilot-in-command and the necessary additional flight time as pilot-in-command under supervision;
- b) 100 hours of cross-country flight time, of which not less than 50 hours should be as pilot-in-command or as pilot-in-command under supervision;
- c) 75 hours of instrument time, of which not more than 30 hours may be instrument ground time; and
- d) 25 hours of night flight as pilot-in-command or as co-pilot.

6.5.1.3 When the applicant has flight time as a pilot of aircraft in other categories, the DGCA Sri Lanka shall determine whether such experience is acceptable and, if so, the extent to which the flight time requirements of 6.5.1.1 could be reduced accordingly.

6.5.2 Flight instruction

The applicant shall have received the dual flight instruction required at 4.5.2 for the issue of the commercial pilot licence and at 7.4 for the issue of the instrument rating.

7 Instrument rating

7.1 Requirements for the issue of the rating for aeroplane, airship, helicopter and powered lift categories

7.1.1 Knowledge

The applicant shall have demonstrated a level of knowledge appropriate to the privileges granted to the holder of an instrument rating, in at least the following subjects:

Air law

- a) rules and regulations relevant to flight under IFR; related air traffic services practices and procedures;

Aircraft general knowledge for the aircraft category being sought

- b) use, limitation and serviceability of avionics, electronic devices and instruments necessary for the control and navigation of aircraft under IFR and in instrument meteorological conditions; use and limitations of autopilot;
- c) compasses, turning and acceleration errors; gyroscopic instruments, operational limits and precession effects; practices and procedures in the event of malfunctions of various flight instruments;

Flight performance and planning for the aircraft category being sought

- d) pre-flight preparations and checks appropriate to flight under IFR;
- e) operational flight planning; preparation and filing of air traffic services flight plans under IFR; altimeter setting procedures;

Human performance for the aircraft category being sought

- f) human performance relevant to instrument flight in aircraft including principles of threat and error management;

Note

Guidance material to design training programmes on human performance, including threat and error management, can be found in the Human Factors Training Manual (ICAO Doc 9683).

Meteorology for the aircraft category being sought

- g) application of aeronautical meteorology; interpretation and use of reports, charts and forecasts; codes and abbreviations; use of, and procedures for obtaining, meteorological information; altimetry;
- h) causes, recognition and effects of icing; frontal zone penetration procedures; hazardous weather avoidance;
- i) in the case of helicopters and powered-lifts, effects of rotor icing;

Navigation for the aircraft category being sought

- j) practical air navigation using radio navigation aids;
- k) use, accuracy and reliability of navigation systems used in departure, en-route, approach and landing phases of flight; identification of radio navigation aids;

Operational procedures for the aircraft category being sought

- l) application of threat and error management to operational performance;

- m) interpretation and use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations, and instrument procedure charts for departure, enroute, descent and approach;
- n) precautionary and emergency procedures; safety practices associated with flight under IFR; obstacle clearance criteria;

Note

Information for pilots and flight operations personnel on flight procedure parameters and operational procedures is contained in the Procedures for Air Navigation Services (PANS-OPS, ICAO Doc 8168), Volume I — Flight Procedures. Procedures used in certain States may differ from PANS-OPS, and knowledge of these differences is important for safety reasons.

Radiotelephony

- o) communication procedures and phraseology as applied to aircraft operations under IFR; action to be taken in case of communication failure.

7.1.2 Skill

7.1.2.1 The applicant shall have demonstrated in an aircraft of the category for which the instrument rating is being sought the ability to perform the procedures and maneuvers described in 7.4.1 with a degree of competency appropriate to the privileges granted to the holder of an instrument rating, and to:

- a) recognize and manage threats and errors;

Note

Guidance material on the application of threat and error management is found in the Procedures for Air Navigation Services — Training (PANS-TRG, ICAO 9868), Chapter 3, Attachment C, and in Part II, Chapter 2, of the Human Factors Training Manual (ICAO Doc 9683).

- b) operate the aircraft for the category being sought, within its limitations;
- c) complete all manoeuvres with smoothness and accuracy;
- d) exercise good judgement and airmanship;
- e) apply aeronautical knowledge; and
- f) maintain control of the aircraft at all times in a manner such that the successful outcome of a procedure or manoeuvre is assured.

7.1.2.1.1 The applicant shall have demonstrated the ability to operate multi-engine aircraft within the appropriate category by reference solely to instruments with one engine inoperative, or simulated inoperative, if the privileges of the instrument rating are to be exercised on such aircraft.

Note

Attention is called to 1.6 on the use of flight simulation training devices for demonstrations of skill.

7.1.3 Medical fitness

7.1.3.1 Applicants who hold a private pilot licence shall have established their hearing acuity on the basis of compliance with the hearing requirements for the issue of a Class 1 Medical Assessment.

7.1.3.2 DGCA Sri Lanka shall consider requiring the holder of a private pilot licence to comply with the physical and mental, and visual requirements for the issue of a Class 1 Medical Assessment.

7.2 Privileges of the holder of the rating and the conditions to be observed in exercising such privileges

7.2.1 Subject to compliance with the requirements specified in 5.0, 6.0 of ASN 054 and 1.1 of this ASN, the privileges of the holder of an instrument rating with a specific aircraft category shall be to pilot that category of aircraft under IFR.

7.2.2 Before exercising the privileges on multi-engined aircraft, the holder of the rating shall have complied with the requirements of 7.1.2.1.1.

Note Pilots may exercise joint category privileges of the instrument rating on more than one category of aircraft if they have completed the requirements in each category.

7.3 Experience

7.3.1 The applicant shall hold a pilot licence for the aircraft category being sought.

7.3.2 The applicant shall have completed not less than:

- a) 50 hours of cross-country flight time as pilot-in-command of aircraft in categories acceptable to the DGCA Sri Lanka, of which not less than 10 hours shall be in the aircraft category being sought; and
- b) 40 hours of instrument time in aircraft of which not more than 20 hours, or 30 hours where a flight simulator is used, may be instrument ground time. The ground time shall be under the supervision of an authorized instructor.

7.4 Flight instruction

7.4.1 The applicant shall have gained not less than 10 hours of the instrument flight time required in 7.3.2 b) while receiving dual instrument flight instruction in the aircraft category being sought, from an authorized flight instructor. The instructor shall ensure that the applicant has operational experience in at least the following areas to the level of performance required for the holder of an instrument rating:

- a) pre-flight procedures, including the use of the flight manual or equivalent document, and appropriate air traffic services documents in the preparation of an IFR flight plan;
- b) pre-flight inspection, use of checklists, taxiing and pre-take-off checks;

- c) procedures and manoeuvres for IFR operation under normal, abnormal and emergency conditions covering at least:
- transition to instrument flight on take-off;
 - standard instrument departures and arrivals;
 - en-route IFR procedures;
 - holding procedures;
 - instrument approaches to specified minima;
 - missed approach procedures;
 - landings from instrument approaches;
- d) in-flight manoeuvres and particular flight characteristics.

7.4.2 If the privileges of the instrument rating are to be exercised on multi-engined aircraft, the applicant shall have received dual instrument flight instruction in a multi-engined aircraft within the appropriate category from an authorized flight instructor. The instructor shall ensure that the applicant has operational experience in the operation of the aircraft within the appropriate category by reference solely to instruments with one engine inoperative or simulated inoperative.

8 Flight instructor rating appropriate to aeroplanes, airships, helicopters and powered-lifts

8.1 Requirements for the issue of the rating

8.1.1 Knowledge

The applicant shall have met the knowledge requirements for the issue of a commercial pilot licence as appropriate to the category of aircraft Included in the licence. In addition, the applicant shall have demonstrated a level of knowledge appropriate to the privileges granted to the holder of a flight instructor rating, in at least the following areas:

- a) techniques of applied instruction;
- b) assessment of student performance in those subjects in which ground instruction is given;
- c) the learning process;
- d) elements of effective teaching;
- e) student evaluation and testing, training philosophies;
- f) training programme development;
- g) lesson planning;

- h) classroom instructional techniques;
- i) use of training aids, including flight simulation training devices as appropriate;
- j) analysis and correction of student errors;
- k) human performance relevant to flight instruction including principles of threat and error management;

Note Guidance material to design training programmes on human performance, including threat and error management, can be found in the Human Factors Training Manual (ICAO Doc 9683).

- l) hazards involved in simulating system failures and malfunctions in the aircraft.

8.1.2 Skill

The applicant shall have demonstrated, in the category and class of aircraft for which flight instructor privileges are sought, the ability to instruct in those areas in which flight instruction is to be given, including pre-flight, post-flight and ground instruction as appropriate.

8.1.3 Experience

The applicant shall have met the experience requirements for the issue of a commercial pilot licence as specified in 4.3.1, 4.4.1, 4.5.1 and 4.6.1 for each aircraft category, as appropriate.

8.1.4 Flight instruction

The applicant shall, under the supervision of a flight instructor accepted by DGCA Sri Lanka for that purpose:

- a) have received instruction in flight instructional techniques including demonstration, student practices, recognition and correction of common student errors; and
- b) have practised instructional techniques in those flight manoeuvres and procedures in which it is intended to provide flight instruction.

8.2 Privileges of the holder of the rating and the conditions to be observed in exercising such privileges

8.2.1 Subject to compliance with the requirements specified in 5.0 of ASN 054 and 1.1 of this IS, the privileges of the holder of a flight instructor rating shall be:

- a) to supervise solo flights by student pilots; and
- b) to carry out flight instruction for the issue of a private pilot licence, a commercial pilot licence, an instrument rating, and a flight instructor rating

provided that the flight instructor:

- 1) holds at least the licence and rating for which instruction is being given, in the appropriate aircraft category;
- 2) holds the licence and rating necessary to act as the pilot-in-command of the aircraft on which the instruction is given; and
- 3) has the flight instructor privileges granted entered on the licence.

8.2.2 The applicant, in order to carry out instruction for the multi-crew pilot licence, shall have also met all the instructor qualification requirements.

Note Specific provisions for flight instructors carrying out instruction for the multi-crew pilot licence exist in Chapter 4 of the Procedures for Air Navigation Services — Training (PANS-TRG, ICAO Doc 9868).

9 Glider pilot licence

9.1 Requirements for the issue of the licence

9.1.1 Age

The applicant shall be not less than 16 years of age.

9.1.2 Knowledge

9.1.2.1 The applicant shall have demonstrated a level of knowledge appropriate to the privileges granted to the holder of a glider pilot licence, in at least the following subjects:

Air law

- a) rules and regulations relevant to the holder of a glider pilot licence; rules of the air; appropriate air traffic services practices and procedures;

Aircraft general knowledge

- b) principles of operation of glider systems and instruments;
- c) operating limitations of gliders; relevant operational information from the flight manual or other appropriate document;

Flight performance, planning and loading

- d) effects of loading and mass distribution on flight characteristics; mass and balance considerations;
- e) use and practical application of launching, landing and other performance data;
- f) pre-flight and en-route flight planning appropriate to operations under VFR; appropriate air traffic services procedures; altimeter setting procedures; operations in areas of high-density traffic;

Human performance

- g) human performance relevant to the glider pilot including principles of threat and error management;

Note Guidance material to design training programmes on human performance, including threat and error management, can be found in the Human Training Manual (ICAO Doc 9683).

Meteorology

- h) application of elementary aeronautical meteorology; use of, and procedures for obtaining, meteorological information; altimetry;

Navigation

- i) practical aspects of air navigation and dead-reckoning techniques; use of aeronautical charts;

Operational procedures

- j) use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations;
- k) different launch methods and associated procedures;
- l) appropriate precautionary and emergency procedures, including action to be taken to avoid hazardous weather, wake turbulence and other operating hazards;

Principles of flight

- m) principles of flight relating to gliders.

9.1.2.2 The applicant shall have demonstrated a level of knowledge appropriate to the privileges to be granted to the holder of a glider pilot licence, in communication procedures and phraseology as appropriate to VFR operations and on action to be taken in case of communication failure.

9.1.3 Experience

9.1.3.1 The applicant shall have completed not less than six hours of flight time as a pilot of gliders including two hours of solo flight time during which not less than 20 launches and landings have been performed. (Please see 9.2.2 also)

9.1.3.1.1 When the applicant has flight time as a pilot of aero planes, DGCA Sri Lanka shall determine whether such experience is acceptable and, if so, the extent to which the flight time requirements of 9.1.3.1 can be reduced accordingly.

9.1.3.2 The applicant shall have gained, under appropriate supervision, operational experience in gliders in at least the following areas:

- a) pre-flight operations, including glider assembly and inspection;
- b) techniques and procedures for the launching method used, including appropriate airspeed limitations, emergency procedures and signals used;
- c) traffic pattern operations, collision avoidance precautions and procedures;
- d) control of the glider by external visual reference;
- e) flight throughout the flight envelope;
- f) recognition of, and recovery from, incipient and full stalls and spiral dives;
- g) normal and crosswind launches, approaches and landings;
- h) cross-country flying using visual reference and dead reckoning;
- i) emergency procedures.

9.1.4 Skill

The applicant shall have demonstrated the ability to perform as pilot-in-command of a glider, the procedures and manoeuvres described in 9.1.3.2 with a degree of competency appropriate to the privileges granted to the holder of a glider pilot licence, and to:

- a) recognize and manage threats and errors;

Note

Guidance material on the application of threat and error management is found in the Procedures for Air Navigation Services — Training (PANS-TRG, Doc 9868), Chapter 3, Attachment C, and in Part II, Chapter 2, of the Human Factors Training Manual (ICAO Doc 9683).

- b) operate the glider within its limitations;
- c) complete all manoeuvres with smoothness and accuracy;
- d) exercise good judgement and airmanship;
- e) apply aeronautical knowledge; and
- f) maintain control of the glider at all times in a manner such that the successful outcome of a procedure or manoeuvre is assured.

9.1.5 Medical fitness

The applicant shall hold a current Class 2 Medical Assessment.

9.2 Privileges of the holder of the licence and the conditions to be observed in exercising such privileges

9.2.1 Subject to compliance with the requirements specified in 5.0, 6.0, 7.1, 9.0 of ASN 054 and 1.1 of this IS, the privileges of the holder of a glider pilot licence shall be to act as pilot-in-

command of any glider provided the licence holder has operational experience in the launching method used.

9.2.2 If passengers are to be carried, the licence holder shall have completed not less than 10 hours of flight time as a pilot of gliders.

10 Free balloon pilot licence

Note The provisions of the free balloon pilot licence apply to free balloons using hot air or gas.

10.1 Requirements for the issue of the licence

10.1.1 Age

The applicant shall be not less than 16 years of age.

10.1.2 Knowledge

10.1.2.1 The applicant shall have demonstrated a level of knowledge appropriate to the privileges granted to the holder of a free balloon pilot licence, in at least the following subjects:

Air law

a) rules and regulations relevant to the holder of a free balloon pilot licence; rules of the air; appropriate air traffic services practices and procedures;

Aircraft general knowledge

- b) principles of operation of free balloon systems and instruments;
- c) operating limitations of free balloons; relevant operational information from the flight manual or other appropriate document;
- d) physical properties and practical application of gases used in free balloons;

Flight performance, planning and loading

- e) effects of loading on flight characteristics; mass calculations;
- f) use and practical application of launching, landing and other performance data, including the effect of temperature;
- g) pre-flight and en-route flight planning appropriate to operations under VFR; appropriate air traffic services procedures; altimeter setting procedures; operations in areas of highdensity traffic;

Human performance

h) human performance relevant to the free balloon pilot including principles of threat and error management;

Note Guidance material to design training programmes on human performance, including threat and error management, can be found in the Human Factors Training Manual (ICAO Doc 9683).

Meteorology

- i) application of elementary aeronautical meteorology; use of, and procedures for obtaining, meteorological information; altimetry;

Navigation

- j) practical aspects of air navigation and dead-reckoning techniques; use of aeronautical charts;

Operational procedures

- k) use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations;
- l) appropriate precautionary and emergency procedures, including action to be taken to avoid hazardous weather, wake turbulence and other operating hazards;

Principles of flight

- m) principles of flight relating to free balloons.

10.1.2.2 The applicant shall have demonstrated a level of knowledge appropriate to the privileges to be granted to the holder of a free balloon pilot licence, in communication procedures and phraseology as appropriate to VFR operations and on action to be taken in case of communicational failure.

10.1.3 Experience

10.1.3.1 The applicant shall have completed not less than 16 hours of flight time as a pilot of free balloons including at least eight launches and ascents of which one must be solo. (Please see 10.1.3.4 also)

10.1.3.2 The applicant shall have gained, under appropriate supervision, operational experience in free balloons in at least the following areas:

- a) pre-flight operations, including balloon assembly, rigging, inflation, mooring and inspection;
- b) techniques and procedures for the launching and ascent, including appropriate limitations, emergency procedures and signals used;
- c) collision avoidance precautions;
- d) control of the free balloon by external visual reference;
- e) recognition of, and recovery from, rapid descents;

- f) cross-country flying using visual reference and dead reckoning;
- g) Approaches and landings, including ground handling;
- h) emergency procedures.

10.1.3.3 If the privileges of the licence are to be exercised at night, the applicant shall have gained, under appropriate supervision, operational experience in free balloons in night flying.

10.1.3.4 If passengers are to be carried for remuneration or hire, the licence holder should have completed not less than 35 hours of flight time including 20 hours as a pilot of a free balloon.

10.1.4 Skill

The applicant shall have demonstrated the ability to perform as pilot-in-command of a free balloon, the procedures and maneuvers described in 10.1.3.2 with a degree of competency appropriate to the privileges granted to the holder of a free balloon pilot licence, and to:

- a) recognize and manage threats and errors;

Note Guidance material on the application of threat and error management is found in the Procedures for Air Navigation Services — Training (PANS-TRG, Doc 9868), Chapter 3, Attachment C, and in Part II, Chapter 2, of the Human Factors Training Manual (ICAO 9683).

- b) operate the free balloon within its limitations;
- c) complete all maneuvers with smoothness and accuracy;
- d) exercise good judgment and airmanship;
- e) apply aeronautical knowledge; and
- f) maintain control of the free balloon at all times in a manner such that the successful outcome of a procedure or maneuver is assured.

10.1.5 Medical fitness

The applicant shall hold a current Class 2 Medical Assessment.

10.2 Privileges of the holder of the licence and the conditions to be observed in exercising such privileges

10.2.1 Subject to compliance with the requirements specified in 5.0, 6.0, 7.1, 9.0 of ASN 054 and 1.1 and 10.1.3.4 of this IS, the privileges of the holder of a free balloon pilot licence shall be to act as pilot-in-command of any free balloon provided that the licence holder has operational experience in hot air or gas balloons as appropriate.

10.2.2 Before exercising the privileges at night, the licence holder shall have complied with the requirements specified in 10.1.3.3.

APPENDIX 1. REQUIREMENTS FOR THE ISSUE OF THE MULTI-CREW PILOT LICENCE — AEROPLANE

(Para 5 of this IS refers)

1 Training

1.1 In order to meet the requirements of the multi-crew pilot licence in the aeroplane category, the applicant shall have completed an approved training course. The training shall be competency-based and conducted in a multi-crew operational environment.

1.2 During the training, the applicant shall have acquired the knowledge, skills and attitudes required as the underpinning attributes for performing as a co-pilot of a turbine-powered air transport aeroplane certificated for operation with a minimum crew of at least two pilots.

2 Assessment level

The applicant for the multi-crew pilot licence in the aeroplane category shall have satisfactorily demonstrated performance in all the nine competency units specified in paragraph 3 below, at the advanced level of competency as defined in Attachment A.

Note The training scheme for the multi-crew pilot licence in the aeroplane category, including the various levels of competency are contained in the Procedures for Air Navigation Services — Training (PANS-TRG, ICAO Doc 9868).

3 Competency units

The nine competency units that an applicant has to demonstrate in accordance with 5.1.3 of the ASN 055 are as follows:

- 1) apply threat and error management (TEM) principles;
- 2) perform aeroplane ground operations;
- 3) perform take-off;
- 4) perform climb;
- 5) perform cruise;
- 6) perform descent;
- 7) perform approach;
- 8) perform landing; and
- 9) perform after-landing and aeroplane post-flight operations.

Note 1 Competency units are broken down into their constituent elements, for which specific performance criteria have been defined. Competency elements and performance criteria are contained in the Procedures for Air Navigation Services — Training (PANS-TRG, ICAO Doc 9868).

Note 2 The application of threat and error management principles is a specific competency unit that is to be integrated with each of the other competency units for training and testing purposes.

4 Simulated flight

4.1 The flight simulation training devices used to gain the experience specified in 5.3.3 of this IS, shall have been approved by DGCA Sri Lanka.

4.2 Flight simulation training devices shall be categorized as follows:

Note The manual of criteria for the Qualification of Flight Simulator Training Devices (ICAO Doc 9625), Volume I- Aeroplanes, provides guidance on the qualification of flight simulation training devices used in training programmes. The manual defines seven examples of flight simulation training devices based on the specific training being conducted, including four examples for the four phases of multi-crew licence training defined in Attachment B of Annex 1. The numbering system used in Doc 9625 is different from numbering used in 4.2

- a) Type I . E-training and part tasking devices approved by DGCA Sri Lanka that have the following characteristics:
 - involve accessories beyond those normally associated with desktop computers, such as functional replicas of a throttle quadrant, a sidestick controller, or an FMS keypad; and
 - involve psychomotor activity with appropriate application of force and timing of responses.
- b) Type II . A flight simulation training device that represents a generic turbine-powered aeroplane.

Note This requirement can be met by a flight simulation training device equipped with a daylight visual system and otherwise meeting, at a minimum, the specifications equivalent to FAA FTD Level 5, or JAA FNPT II, MCC.

- c) Type III. A flight simulation training device that represents a multi-engined turbine-powered aeroplane certificated for a crew of two pilots with enhanced daylight visual system and equipped with an autopilot.

Note This requirement can be met by a flight simulation training device equipped with a daylight visual system and otherwise meeting, at a minimum, the specifications equivalent to a Level B simulator as defined in JAR STD 1A, as amended; and in FAA AC 120-40B, as amended, including Alternate Means of Compliance (AMOC), as permitted in AC 120-40B. (Some previously evaluated Level A full flight simulators that have been approved for training and checking required manoeuvres may be used.)

- d) Type IV. Fully equivalent to a Level D flight simulator or to a Level C flight simulator with an enhanced daylight visual system.

Note

This requirement can be met by a flight simulation training device meeting, at a minimum, the specifications equivalent to a Level C and Level D simulator as defined in JAR STD 1A, as amended; and in FAA AC 120-40B, as amended, including Alternate Means of Compliance (AMOC), as permitted in AC 120-40B.

ATTACHMENT A MULTY-CREW PILOT LICENCE – AEROPLANE LEVELS OF COMPETENCY

(IS 051- Appendix 1 – para 2 refers)

1. Core flying skills

The level of competency at which the applicant shall have complied with the requirement for the private pilot licence specified in para 3 of IS 051, including night flight requirements, and, in addition, have completed, smoothly and with accuracy, all procedures and manoeuvres related to upset training and flight with reference solely to instruments. From the outset, all training is conducted in an integrated multi-crew, competency-based and threat and error management (TEM) environment. Initial training and instructional input levels are high as core skills are being embedded in the ab initio application. Assessment at this level confirms that control of the aeroplane is maintained at all times in a manner such that the successful outcome of a procedure or a manoeuvre is assured.

2. Level 1 (Basic)

The level of competency at which assessment confirms that control of the aeroplane or situation is maintained at all times and in such a manner that if the successful outcome of a procedure or manoeuvre is in doubt, corrective action is taken. Performance in the generic cockpit environment does not yet consistently meet the Standards if knowledge, operational skills and level of achievement required in the core competencies. Continual training input is required to meet an acceptable initial operating standard. Specific performance improvement/personal development plans will be agreed and the details recorded. Applications will be continuously assessed as to their suitability to progress to further training and assessment in successive phases.

3. Level 2 (Intermediate)

The level of competency at which assessment confirms that control of the aeroplane or situation is maintained at all times and in such a manner that the successful outcome of a procedure or manoeuvre is assured. The training received at Level 2 shall be conducted under the instrument flight rules, but need not be specific to any one type of aeroplane. On completion of Level 2, the applicant shall demonstrate levels of knowledge and operational skills that are adequate in the environment and achieves the basic standard in the core capability. Training support may be required with a specific development plan to maintain or improve aircraft handling, behavioural performance in leadership or team management. Improvement and development to attain the Standard is the key performance objective. Any core competency assessed as less than satisfactory should include supporting evidence and a remedial plan.

4. Level 3 (Advanced)

The level of competency required to operate and interact as a co-pilot in a turbine-powered aeroplane certificated for operation with a minimum crew of at least two pilots, under visual and instrument conditions. Assessment confirms that control of the aeroplane or situation is maintained at all times in such a manner that the successful outcome of a procedure or manoeuvre is assured. The applicant shall consistently demonstrate the knowledge, skills and attitudes required for the safe operation of an applicable aeroplane type as specified in the performance criteria.

Note Material on the development of performance criteria can be found in the Procedures for Air Navigation Services — Training (PANS-TRG, ICAO Doc 9868).