REPUBLIC OF THE PHILIPPINES

CIVIL AVIATION REGULATIONS (CAR)

PART 2

PERSONNEL LICENSING

23 June 2008

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Introduction

CAR Part 2 addresses the licensing of personnel. Article 32 of the Chicago Convention requires Republic of the Philippines to issue certificates of competency and licenses or validate such certificates or licenses issued by other Contracting States to the pilot of every aircraft and to other members of the operating crew of every aircraft engaged in international navigation.

The basis of this obligation is the goal of promoting and conducting safe and regular aircraft operations through the development and implementation of internationally acceptable certification and licensing processes. If the same process is extended to domestic operations, Republic of the Philippines can ensure the overall safety of aircraft operation through unification of licensing requirements.

ICAO Annex 1, Personnel Licensing, presents the broad international specifications for personnel licensing agreed upon by Contracting States. Most of the specifications in ICAO Annex 1 are not given in enough detail to satisfy the day-to-day management of a country's personnel licensing activities.

Part 2 of the Civil Aviation Regulations presents detailed requirements for the general rules of licensing and detailed requirements for the certification of airmen, pilots, non-pilot flight crew members, and airmen, such as mechanics, who are not flight crew.

Part 2 also presents medical standards for the granting of licenses and certification, and for the administration of medical examinations. The licensing and medical standards are based upon ICAO Annex 1.

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2.1 GENERAL

2.1.1 Applicability

Part 2.prescribes:

(a) The+ requirements for issuing, renewal and re-issue of aviation personnel licenses,ratings, Authorizations and certificates:

(b) the conditions under which those licenses, ratings, Authorizations and certificates arenecessary; and

(c) the privileges and limitations granted to the holders of those licenses, ratings,Authorizations and certificates.

2.1.2 Definitions

(a) For the purpose of Part 2, the definitions in the Law, in Part 1 and the followingdefinitions shall apply:

(1) **Aircraft certificated for single-pilot operation.** A type of aircraft which the Stateof Registry has determined, during the certification process, can be operatedsafely with a minimum crew of one pilot.

(2) **Aircraft certificated for multi-pilot operation.** A type of aircraft which the Stateof Registry has determined, during the certification process, can be operatedsafely with a minimum crew of two pilots.

Note: During the certification process, the State of Registry may issue a certificateof airworthiness designating an aircraft for single-pilot operation based upon theType Certificate issued by the State of Design, but might also require that thesame aircraft be operated by more than one pilot under certain conditions, suchas use in air transportation. (See Part 8 paragraph 8.4.1.1)

(3) **Aircraft required to be operated with a co-pilot**. A type of aircraft that isrequired to be operated with a co-pilot as specified in the flight manual or by theair operator certificate.

(4) **Airmanship**. The consistent use of good judgment and well-developedknowledge, skills and attitudes to accomplish flight objectives.

(5) **Airship**. A power-driven lighter than air aircraft.

(6) **Calendar month.** A period of a month beginning and ending with the dates thatare conventionally accepted as marking the beginning and end of a numberedyear (as January 1 through January 31 in the Gregorian calendar).

(7) **Calendar year.** A period of a year beginning and ending with the dates that areconventionally accepted as marking the beginning and end of a numbered year(as January 1 through December 31 in the Gregorian calendar).

(8) **Commercial air transport operation**. An aircraft operation involving thetransport of passengers, cargo or mail for remuneration or hire.

(9) **Competency.** A combination of skills, knowledge and attitudes required toperform a task to the prescribed standard.

(10) **Competency element**. An action that constitutes a task that has a triggeringevent and a terminating event that clearly defines its limits, and an observableoutcome.

(11) **Competency unit**. A discrete function consisting of a number of competencyelements.

(12)**Complex airplane**. An airplane that has retractable landing gear, flaps, and acontrollable pitch propeller; or in the case of a seaplane, flaps and a controllablepitch propeller.

(13)**Conversion.** Conversion is the action taken by the Republic of the Philippines inissuing its own license on the basis of a license issued by another ContractingState for use on aircraft registered in the Republic of the Philippines.

(14)**Credit**. Recognition of alternative means or prior qualifications.

(15)**Cross country.** A flight between a point of departure and a point of arrivalfollowing a pre-planned route using standard navigation procedures.

(16)**Error**. An action or inaction by the flight crew that leads to deviations fromorganizational or flight crew intentions or expectations.

(17)**Error management**. The process of detecting and responding to errors withcountermeasures that reduce or eliminate the consequences of errors, andmitigate the probability of errors or undesired aircraft state.

(18)**Flight plan.** Specified information provided to air traffic services units, relative toan intended flight or portion of a flight of an aircraft.

(19)**Flight simulation training device**. Also known as synthetic flight trainer. Anyone of the following three types of apparatus in which flight conditions aresimulated on the ground:

(i) **Flight simulator.** Provides an accurate representation of the flight deck of a particular aircraft type to the extent that the mechanical, electrical, electronic,etc. aircraft systems control functions, the normal environment of flight crewmembers, and the performance and flight characteristics of that type of aircraftare realistically simulated.

(ii) **Flight procedures trainer.** Provides a realistic flight deck environment, andsimulates instrument responses, simple control functions of mechanical,electrical, electronic, etc. aircraft systems, and the performance and flightcharacteristics of aircraft of a particular class.

(iii) **Basic instrument flight trainer.** Equipped with appropriate instruments andsimulates the flight deck environment of an aircraft in flight in instrument flightconditions.

(20)**Human performance.** Human capabilities and limitations which have an impact on the safety and efficiency of aeronautical operations.

(21)**Instrument flight time.** Time during which a pilot is piloting an aircraft solely byreference to instruments and without external reference points.

(22)**Instrument ground time.** Time during which a pilot is practicing, on the ground,simulated instrument flight in a synthetic flight trainer approved by the Authority.

(23)**Instrument time.** Instrument flight time or instrument ground time.

(24)**Licensing Authority.** The authority designated by the Contracting State asresponsible for the licensing of personnel.

(25)**Medical certificate.** The evidence issued by the Authority that the license holdermeets specific requirements of medical fitness. It is issued following an evaluationby the Licensing Authority of the report submitted by the designated medicalexaminer who conducted the examination of the applicant for the license.

(26)**Performance criteria**. A simple, evaluative statement on the required outcome ofthe competency element and a description of the criteria used to judge if therequired level of performance has been achieved.

(27)**Pilot (to).** To manipulate the flight controls of an aircraft during flight time.

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(28) **PIC under supervision.** Co-pilot performing, under the supervision of the PIC,the duties and functions of a PIC, provided that the method of supervisionemployed is acceptable to the (Licensing) Authority.

(29) **Powered-lift**. A heavier than air aircraft capable of vertical take-off, verticallanding, and low speed flight that depends principally on engine driven lift devicesor engine thrust for the lift during these regimes and on non-rotating aerofoil(s) forlift during horizontal flight.

(30) **Problematic use of substances.** The use of one or more psychoactivesubstances by aviation personnel in a way that:

(i) Constitutes a direct hazard to the user or endangers the lives, health or welfare of others: and/or

(ii) Causes or worsens an occupational, social, mental or physical problem ordisorder.

(31) **Psychoactive substances.** Alcohol, opioids, cannabinoids, sedatives and hypnotics, cocaine, other psychostimulants, hallucinogens, and volatile solvents,whereas coffee and tobacco are excluded.

(32) **Quality system**. Documented organizational procedures and policies; internalaudit of those policies procedures; management review and recommendation forquality improvements.

(33) **Rated air traffic controller.** An air traffic controller holding a license and validratings appropriate to the privileges to be exercised.

(34) **Renewal of license, rating, Authorization or certificate.** The administrativeaction taken within the period of validity of a license, rating, Authorization orcertificate that allows the holder to continue to exercise the privileges of a license,rating, Authorization or certificate for a further specified period consequent uponthe fulfillment of specified requirements.

(35) **Re-issue of a license, rating, Authorization or certificate.** The administrativeaction taken after a license, rating, Authorization or certificate has lapsed that reissuesthe privileges of the license, rating, Authorization or certificate for a furtherspecified period consequent upon the fulfillment of specified requirements.

(36) **Route sector.** A flight comprising take off, departure, cruise of not less than 15minutes, arrival, approach and landing phases.

(37) **Synthetic flight trainer.** See flight simulation training device.

(38) **Threat**. Events or errors that occur beyond the influence of the flight crew,increase operational complexity and which must be managed to maintain themargin of safety.

(39) **Threat management.** The process of detecting and responding to the threatswith countermeasures that reduce or eliminate the consequences of threats, andmitigate the probability of errors or undesired aircraft.

(40) **Undesired aircraft state**. Occurs when the flight crew places the aircraft in asituation of unnecessary risk.

(41) **Validation.** The action taken by the Republic of the Philippines as an alternativeto issuing its own license, in accepting a license issued by another ContractingState as the equivalent of its own for use on aircraft registered in the Republic ofthe Philippines.

2.1.3 Abbreviations

(a) The following abbreviations are used in Part 2:

(1) A – Airplane

(2) AIP - Aeronautical Information Publication

(3) AME - Aviation Medical Examiner
(4) AMS - Aviation Maintenance Specialist
(5) AMT - Aviation Maintenance Technician
(6) AS – Airship
(7) ATCO - Air Traffic Controller
(8) ATS - Air Traffic Control Service
(9) ATPL - Airline Transport Pilot License
(10) B – Balloon
(11) CAT II/III - Category II/III
(12) CPL - Commercial Pilot License
(13) CRM - Crew Resource Management
(14) DFEE - Designated Flight Engineer Examiner
(15) DFNE - Designated Flight Navigator Examiner
(16) FE - Flight Engineer
(17) FI - Flight Instructor
(18) FN - Flight Navigator
(19) FOO - Flight Operations Officer
(20) G – Glider
(21) IA - Inspection Authorization
(22) IFR - Instrument Flight Rules
(23) ILS - Instrument Landing System
(24) H – Helicopter
(25) ICAO - International Civil Aviation Organization
(26) MPA - Multi-pilot Airplane
(27) MPH - Multi-pilot Helicopter
(28) MPL - Multi-crew Pilot License
(29) NOTAM - Notice to airmen
(30) PIC - Pilot-in-Command
(31) PL - Powered-lift
(32) PPL - Private Pilot License
(33) RT – Radiotelephony
(34) SIC - Second-in-Command
(35) SPA - Single-pilot Airplane
(36) SPH - Single-pilot Helicopter
(37) VFR - Visual Flight Rules

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2.2 GENERAL LICENSING REQUIREMENTS

2.2.1 GENERAL

(a) A license, rating, Authorization and/or certificate will be issued, renewed or re-issued when the applicant complies with the requirements of Part 2.

(b) *Privileges.* A license and/or certificate holder is not permitted to exercise privilegesother than those granted by the license and/or certificate.

(c) *Medical fitness.* An applicant for a flight crew or air traffic controller license shall hold amedical certificate issued in accordance with the provisions of this Part.

Implementing Standard: See IS 2.2.1 for detailed requirements for application for theissue, renewal and re-issue of licenses, ratings, authorizations and certificates.

2.2.2 LICENSES, RATINGS, AUTHORIZATIONS AND CERTIFICATES

2.2.2.1 LICENSES

The following licenses are issued under this Part to an applicant who satisfactorily accomplishes the requirements in this Part for the license sought:

(a) Pilot licenses:

(1) Private pilot license (PPL);

(2) Commercial pilot license (CPL);

(3) Airline Transport pilot license (ATPL);

(4) Multi-crew Pilot License (MPL);

(5) Glider pilot license; and

(6) Free balloon pilot license.

(b) Flight engineer license.

(c) Flight navigator license.

(d) Aviation maintenance technician license (AMT).

(e) Aviation maintenance specialist license (AMS).

(f) Air traffic controller license (ATCO).

(g) Flight operations officer (Flight Dispatcher) license;

(h) Aeronautical station operator.

Note: Flight radiotelephone operator

(1) *Where the knowledge and skill of an applicant have been established as satisfactory in respect of the certification requirements for the radiotelephoneoperator's restricted certificate specified in the general radio regulations annexedto the International Telecommunication Convention and the applicant has met therequirements that are pertinent to the operation of the radiotelephone on board anaircraft, a Contracting State may endorse a license already held by the applicantor issue a separate license as appropriate*

(2) *Skill and knowledge requirements on radiotelephony procedures and phraseologyhave been developed as an integral part of all pilot airplane and helicopterlicenses.*

2.2.2.2 RATINGS

(a) The following ratings are placed on a pilot license when an applicant satisfactorily accomplishes the requirements in this Part for the rating sought:

(1) Category ratings in the following aircraft:

(i) Airplane

(ii) (ii) Helicopter

(iii) Glider

(iv) Free Balloon

(2) Class ratings in the following aircraft:

(i) Single-engine land - airplane

(ii) (ii) Single-engine sea - airplane

(iii) Multi-engine land - airplane

(iv) Multi-engine sea- airplane

(v) A class rating may be issued for those helicopters certificated for single-pilot

(vi) operations and which have comparable handling, performance and other characteristics.

Note: A class rating or endorsement for High Performance Airplanes (HPA) requires additional knowledge, if the applicant has not completed the ATPL (A) knowledge requirements.

(3) Type ratings in the following aircraft:

(i) Each type of aircraft certificated for operation with a minimum crew of at least two pilots;

(ii) Each type of helicopter certificated for single-pilot except where a class rating has been established under (a)(2)(v); and

(iii) Any aircraft considered necessary by the Authority.

Note: A type rating for High Performance Airplanes (HPA) requires additional knowledge, if the applicant has not completed the ATPL(A) knowledge requirements.

(4) Instrument ratings in the following aircraft:

(i) Instrument — Airplane

(ii) (ii) Instrument — Helicopter

(5) Instructor ratings:

(i) Flight instructors

(ii) Instructors for additional class/type/instrument ratings

(iii) Ground Instructor

(b) The following ratings are placed on a flight engineer's license when an applicant satisfactorily accomplishes the requirements in this Part for the rating sought:

(1) Type rating

(2) Instructor rating

(c) The following ratings are placed on an air traffic controller license when an applicant satisfactorily accomplishes the requirements in this Part for the rating sought:

(1) Aerodrome control rating;

(2) Approach control rating;

(3) Approach radar control rating;

(4) Approach precision radar control rating;

(5) Area control rating; and

(6) Area radar control rating.

(d) The following ratings are placed on an aviation maintenance technician license when an applicant satisfactorily accomplishes the requirements in this Part for the ratingsought:

(1) Airframe

(2) Power-plant

(3) Airframe and Power-plant

2.2.2.3 AUTHORIZATIONS

(a) The following Authorizations are issued when an applicant satisfactorily accomplishes the requirements in this Part for the Authorization sought:

(1) Student pilot Authorization

Note: if the State prefers, a license or certificate can be issued.

(2) Examiner Authorization

(b) The following Authorizations are placed on a license when an applicant satisfactorily accomplishes the requirements in this Part for the Authorization sought:

(1) Category II pilot Authorization

(2) Category III pilot Authorization

(3) Inspection Authorization

2.2.2.4 CERTIFICATES

(a) The following certificates are issued when an applicant satisfactorily accomplishes the requirements in this Part for the certificate sought:

(1) Medical certificate Class 1 for CPL, ATPL, Flight engineer and Flight navigator license

(2) Medical certificate Class 2 for PPL, Glider and Free balloon pilot license

(3) Medical certificate Class 3 for Air traffic controller license

(4) Validation certificates

2.2.3 VALIDITY OF LICENSES, RATINGS, AUTHORIZATIONS AND CERTIFICATES

(a) The privileges granted by a license, or by related ratings, may not be exercised unless the holder maintains competency and meets the requirements for recent experience ofthis Part.

(b) (1) Maintenance of competency and recent experience requirements for pilot licensesand ratings shall be base on a systematic approach to accident prevention andshould include a risk assessment process and analysis

(2) Maintenance of competency shall be indicated in the airman's personal license or record (e.g. logbook).

(c) The maintenance of competency of flight crew members, engaged in commercial air transport operations, may be satisfactorily established by demonstration of skill duringproficiency flight checks completed in accordance with Part 8.

(d) The validity period of a license varies by the type of license. The date of validity of alicense shall be endorsed on each license, so as to be easily identified by aninspecting authority.

(e) The validity period of the ratings, Authorizations and medical certificates and therenewal/re-issue conditions are indicated in the relevant Subparts of Part 2.

(f) Renewal of a license will take place within the validity period after initial issue of arating, provided the ratings related to the license and the medical certificate are valid.

2.2.4 VALIDATION AND CONVERSION OF FOREIGN LICENSES AND RATINGS

2.2.4.1 VALIDATION OF FLIGHT CREW LICENSES

(a) A person who holds a current and valid pilot license issued by another Contracting State in accordance with ICAO Annex 1 may apply for a validation of such license foruse on aircraft registered in the Republic of the Philippines.

(b) The Republic of the Philippines will verify the authenticity of the license, ratingsAuthorizations and the medical certificate with the state of license issue.

(c) A validation certificate with PPL privileges, based upon at least a PPL, will be issuedprovided:

(1) The applicant for the validation certificate shall present to the Authority the foreign license.

(2) The applicant for the validation certificate shall hold a current medical certificateissued under Part 2 or a current medical certificate issued by the ContractingState that issued the applicant's pilot license provided that the foreign medicalcertificate meets the requirements of Part 2, relevant to the license held.

(3) The validation certificate will be valid provided the foreign license or in the case ofa continuing license, the rating/medical certificate remains valid.

(d) A validation certificate with PPL/IR. CPL. CPL/IR. ATPL or FE privileges, based upon the relevant license, will be issued provided the following requirements are met.

(1) The applicant for the validation certificate shall present to the Authority the foreign license and evidence of the experience required by presenting the record (e.g.logbook).

(2) The validation certificate will be valid for one year, provided the foreign license orin the case of a continuing license the rating/medical certificate remains valid.

(3) Ratings will only be validated together with the validation of a license.

(4) The applicant for the validation certificate shall:

(i) hold a current medical certificate issued under Part 2 or a current medical certificate issued by the Contracting State that issued the applicant's pilotlicense provided that the foreign medical certificate meets the requirements ofPart 2, relevant to the license held;

(ii) complete a skill test for the relevant ratings in the license that he or she wantsto be validated relevant to the privileges of the license held;

(iii) demonstrate to the satisfaction of the Authority the knowledge relevant to thelicense to be validated of:

(A) Air Law;

(B) Aeronautical Weather codes;

(C) Flight Performance and Planning; and

(D) Human Performance.

(e) Demonstrate a knowledge and comprehension of the English language as required by subpart 2.3.7 (21 March 2011).

(f) While exercising the privileges of his license, a valid medical certificate, the license on which the validation is based and the certificate of validation shall be carried; and

(g) Comply with the experience requirements set out in the table below:

License	Experience	Validation privileges
ATPL(A)	> 1 500 hours as PIC in multi-pilot * certificated airplanes	Commercial air transport in multi-pilot airplanes as PIC
ATPL(H)	>1 000 hours as PIC on multi-pilot helicopters	Commercial air transport multi-pilot helicopters as PIC
ATPL(A) or CPL(A)/IR with ATPL(A) *knowledge*	> 500 hours as PIC or co-pilot on multi-pilot airplanes	Commercial air transport in multi-pilot airplanes as co-pilot
ATPL(H) or CPL(H)/IR with ATPL(H) knowledge	> 500 hours as PIC or co-pilot on multi-pilot helicopters	Commercial air transport in multi-pilot helicopters as co-pilot
CPL(A)/IR	> 1 000 hours as PIC in commercial air transport since gaining an IR	Commercial air transport in single-pilot airplanes as PIC
CPL(H)/IR	> 1 000 hours as PIC in commercial air transport since gaining an IR	Commercial air transport in single-pilot helicopters as PIC
CPL(A)	> 700 hours in airplanes other than gliders, including 200 hours in the activity role for which validation is sought, and 50 hours in that role in the last 12 months	Activities in airplanes other than commercial air transport
CPL(H)	> 700 hours in helicopters including 200 hours in the activity role for which validation is sought, and 50 hours in that role in the 12 months	Activities in helicopters other than commercial air transport
PPL A /IR	> 100 hours PIC instrument flight time	Private flights under IFR
Flight engineer	> 1 500 hours as flight engineer on airplanes in commercial air transport	Commercial air transport in airplanes as flight engineer
Flight engineer	> 1 000 hours as flight engineer on airplanes in other than commercial air transport	Other than commercial air transport in airplanes as flight engineer

*Note: The term multi-pilot is used to indicate experience in an aircraft required to be operatedwith a co-pilot. (For example, see ICAO Annex 1, paragraph 2.5.1.5).

> = greater than

2.2.4.2 CONVERSION OF FLIGHT CREW LICENSES

(a) Conversion of a foreign pilot license for issuance of a PPL by Republic of thePhilippines. A person who holds a current and valid pilot license with at least PPLprivileges issued by another Contracting State in accordance with ICAO Annex 1, mayapply for a conversion and be issued with a PPL for use on aircraft registered inRepublic of the Philippines provided the following requirements are met.

(1) The holder shall:

(i) present to the Authority the foreign license, evidence of experience requiredby presenting the record (e.g. logbook) and current medical certificate;

(ii) present to the Authority evidence of language proficiency in English asspecified in Subpart 2.2.7 or shall demonstrate the language proficiency skillsas specified in Subpart 2.2.7;

(iii) present to the Authority a Class 2 medical certificate issued under this Part;

(iv) demonstrate to the satisfaction of the Authority the knowledge of Air Law; and

(v) complete a PPL skill test.

(2) The Republic of the Philippines will verify the authenticity license, ratings, Authorizations and the medical certificate with the State of license issue.

(b) Conversion of PPL/IR. CPL; CPL/IR, ATPL and Flight Engineer licenses, which have been validated in accordance with Subpart 2.2.4.1: The holder of a current and validforeign PPL/IR, CPL, CPL/IR, ATPL or Flight Engineer license issued by anotherContracting State in accordance with ICAO Annex 1, and appropriate medicalcertificate, may apply for conversion to the appropriate license and ratings issued byRepublic of the Philippines, provided the following requirements are met:

(1) The applicant is the holder of a current validation certificate issued under Subpart 2.2.4.1;

(2) The applicant has completed 200 flight hours in a Republic of the Philippinesregistered aircraft which are operated by an operator established in Republic ofthe Philippines exercising the privileges granted by the validation certificate;

(3) The applicant for the conversion shall present to the Authority the foreign licenseand evidence of the 200 flight hours by presenting the record (e.g. logbook); and

(4) The applicant shall hold a medical certificate issued under this Part, appropriate tothe level of license to be converted.

(5) Ratings listed on a person's foreign pilot license that have been validated inaccordance with Subpart 2.2.4.1, may be placed on that person's convertedlicense.

2.2.4.3 VALIDATION AND CONVERSION OF FLIGHT CREW LICENSES BYRELIANCE UPON THE LICENSING SYSTEM OF ANOTHER CONTRACTING STATE

(a) Notwithstanding Subparts 2.2.4.1 and 2.2.4.2, the Authority may issue a validation certificate or a license with the applicable ratings to the holder of a current and validforeign license, provided:

(1) The license is issued by another Contracting State;

(2) The Authority is convinced that the license has been issued on the basis of atleast Part 2; and

(3) There is an agreement between the Authority and the other Contracting Stateabout recognition of licenses and, if applicable, keeping the licenses and ratingscurrent and valid.

(b) The applicant for the validation certificate or conversion shall present to the Authority the foreign license and evidence of the currency of the license by presenting therecord (e.g. logbook).

(c) The applicant shall hold a medical certificate relevant to the license to be converted orvalidated, provided that the foreign medical certificate meets the requirements of Part2, which medical certificate shall be issued under Part 2, medical requirements.

(d) If applicable, the applicant shall pass a knowledge test on Air Law.

Note: See ICAO Document 9379 for procedures related to validation or conversion. Implementing Standard: See IS 2.2.4.3 Appendices A, B and C for procedures for validation or conversion of flight crew licenses.

2.2.4.4 VALIDATION IN CASE OF LEASED, CHARTERED OR INTERCHANGED AIRCRAFT

(a) The requirements stated in Subpart 2.2.4.1 shall not apply where aircraft, registered in Republic of the Philippines, are leased to, chartered by or interchanged by an operatorof another Contracting State, provided that during the term of the lease the State ofthe Operator has accepted the responsibility for the technical and/or operationssupervision in accordance with Article *83-bis* of the ICAO Convention.

(b) The licenses of the flight crew of the other Contracting State may be validated,provided that the privileges of the flight crew license validation are restricted for useduring the lease, charter or interchange period only on nominated aircraft in specifiedoperations not involving a Republic of the Philippines operator, directly or indirectlythrough a wet lease or other commercial arrangement.

Note: See ICAO Document 9379 for procedures related to validation.

2.2.4.5 VALIDATION OF FOREIGN MECHANICS LICENSES

(a) The Authority may render valid a license issued by a foreign country on a reciprocal basis as an alternative to the issuance of its own license. It shall establish validity bysuitable authorization to be carried with the former license accepting it as theequivalent of the latter. The validity of the authorization shall not extend beyond theperiod of validity of his foreign license.

2.2.5 Military Competence Special Rules

2.2.5.1 MILITARY PILOTS

The holder of a military pilot license (or certificate) who meets the requirements of IS 2.2.5 may apply, on the basis of his or her military training, for:

(a) a CPL;

(b) a rating in the category and class of aircraft for which that military pilot is qualified;

(c) an instrument rating with the appropriate category rating for which that military pilot is qualified; and a type rating, if appropriate.

2.2.5.2 MILITARY FLIGHT ENGINEERS

(a) A rated military aircraft flight engineer, or a former rated military aircraft flight engineer, who meets the requirements of knowledge, skill and experience as required bySubpart 2.4 will be eligible for a flight engineer license, based on his/her militarycompetency.

(b) An aircraft type rating shall be placed on the flight engineer license, for which he/sheis qualified.

2.2.5.3 MILITARY MECHANICS

(a) General

A rated military aircraft mechanic or former rated military aircraft mechanic who applies for an Aviation Maintenance license is entitled to that license based on military competence in accordance with the provisions of this section.

(b) To be eligible for the provisions of this section, the applicant must provide evidence that he is or was, within the preceding twelve-month period from the date ofapplication, a member of the military and for aircraft mechanics, on active military dutyas an aircraft mechanic.

(c) An eligible military or former military applicant for an Aviation Maintenance licensewho has been appropriately trained and has at least 4 years practical experience inaircraft repair, alteration and inspection shall be issued that license if he satisfactorilypasses the theoretical examinations for an Aviation Maintenance license and apractical examination administered by the Authority.

(d) An eligible military or former military applicant for an Aviation Maintenance licensewho has been appropriately trained and has at least 10 years practical experience inaircraft repair, alteration and inspection shall be issued that license if he satisfactorilypasses the CAR examinations and a practical examination administered by theAuthority.

2.2.5.4 EVIDENTIARY DOCUMENTS

The following documents are satisfactory evidence for the purposes indicated -

(a) To show that an applicant is a member of the armed forces, an official identificationcard issued to him by an armed force may be used.

(b) To show the applicant's discharge or release from the armed forces, or his formermembership therein, an original or certified true copy of a license of discharge orrelease may be used.

(c) To show current or previous status as a rated military pilot on flying status with aPhilippine Armed Force, one of the following may be used:

(1) An official Armed Force order to flight duty as a military pilot.

(2) An official Armed Force form or logbook showing military pilot status.

(3) An official order showing that the applicant graduated from an accredited pilotschool and is or was rated as a military pilot.

(d) To show practical experience as a military aircraft mechanic, applicable servicerecords; and

(e) To show appropriate training as a military aircraft mechanic, the certificates of training.

2.2.6 TRAINING AND TESTING REQUIREMENTS

2.2.6.1 APPROVED TRAINING

(a) The Authority may provide for some reduction in the experience requirements for theissue of certain licenses and ratings prescribed in this Part when training is conductedwithin an Approved Training Organization under special curricula approved by theAuthority.

(b) Approved training shall provide a level of competency at least equal to that providedby the minimum experience requirements for personnel not receiving such approvedtraining.

(c) CAR Part 3 prescribes the requirements for certifying and administering ApprovedTraining Organizations for conducting approved training.

(d) The approval of a training organization by the Authority shall be dependent upon theapplicant demonstrating compliance with the requirements of CAR Part 3.

Note: See ICAO Document 7192 Part B-5 and Doc 9379 for details on training

2.2.6.2 USE OF SYNTHETIC FLIGHT TRAINERS

The use of a synthetic flight trainer for performing training, testing and checking for whicha flight crew member is to receive credit, shall be approved by the Authority, which shallensure that the synthetic flight trainer is appropriate to the task.

Note: See the Manual of Criteria for the Qualification of Flight Simulators (ICAO Doc 9625).

2.2.6.3 KNOWLEDGE AND SKILL TESTS AND CHECKS: TIME, PLACE, DESIGNATED PERSONS AND FORMAT

(a) Knowledge and Skill Tests and Checks prescribed by or under Part 2 are given attimes and places and by persons authorized and designated by the Authority.

(b) The knowledge test will be performed in written or computer format, except for theknowledge test for an instructor rating or an additional instructor rating within the sameaircraft category, which may be performed orally. In addition to the written knowledgetest, candidates may be questioned orally during the skill test, as appropriate.

2.2.6.4 KNOWLEDGE AND SKILL TESTS AND CHECKS: PREREQUISITES AND PASSING GRADES

(a) An applicant for a knowledge test or a skill test shall have received any requiredendorsement as specified in this part.

Note: The endorsement requirements may differ between licenses and will appear ineach license section as applicable.

(b) An applicant for a knowledge or skill test must receive written Authorization from theAuthority to take the test.

(c) An applicant shall show proper identification in the form of a Government issuedidentification document at the time of application that contains the applicant's:photograph, signature and date of birth.

(d) The Authority will specify the minimum passing grades.

(e) An applicant for a knowledge or skill test who fails that test may reapply for the testonly after the applicant has received:

(1) The necessary training from an authorized instructor who has determined that theapplicant is proficient to pass the test; and

(2) An endorsement from an authorized instructor who gave the applicant theadditional training.

2.2.6.5 RELIANCE ON TRAINING AND TESTING IN ANOTHER CONTRACTING STATE

(a) The Authority may rely on the training and/or testing system administered by anotherContracting State as the basis for its own written or practical test requirement forairman licenses provided that the Authority has an agreement with the otherContracting State whose training and/or testing system is used.

(b) The applicant shall apply for and receive written approval from the Authority prior toreceiving training and/or testing in a system administered by another Contracting State.

2.2.7 LANGUAGE PROFICIENCY

(a) Airplane and helicopter pilots, flight engineers, or flight navigators required to use theradio telephone aboard an aircraft, air traffic controllers and aeronautical stationoperators shall demonstrate the ability to speak, read and understand the Englishlanguage used for radio telephony communications.

(b) Airplane and helicopter pilots, air traffic controllers and aeronautical station operatorsshall demonstrate the ability to speak and understand the English language used forradiotelephony communications to the level specified in the language proficiencyrequirements.

(c) As of 5 March 2008, airplane, airship, helicopter and powered-lift pilots, air trafficcontrollers and aeronautical station operators shall demonstrate the ability to speakand understand the language used for radiotelephony communications to the levelspecified in the language proficiency requirements as follows:

(1) those demonstrating language proficiency at the Operational Level (Level 4)should be evaluated at intervals not greater than 3 years;

(2) those demonstrating language proficiency at the Extended Level (Level 5) shouldbe evaluated at intervals not greater than 6 years; and

(3) those demonstrating language proficiency at the Expert Level (Level 6) should beexempt from further language evaluation.

(d) Flight engineers, and glider and free balloon pilots should have the ability to speakand understand the language used for radiotelephony communications.

(e) Implementing Standard IS 2.2.7 contains the detailed requirements for languageproficiency.

Note: ICAO DOC 9835 Manual on the Implementation of ICAO Language ProficiencyRequirements is a guide to the implementation of the ICAO Language ProficiencyRequirements.

2.2.8 RECORDING OF FLIGHT TIME

(a) Each person shall document and record the following time in a manner acceptable tothe Authority:

(1) training and experience used to meet the requirements for a license, rating andAuthorization of Part 2; and

(2) the experience required to show recent flight experience according to therequirements of Part 2.

Implementing Standard: see IS 2.2.8 for detailed recording requirements.

2.2.9 FORMAT OF THE LICENSE

(a) The license format shall be in a form and manner prescribed by the Authority. Theitems required on the license are indicated in IS 2.2.9.

2.2.10 SUSPENSION OR REVOCATION OF A LICENSE, RATING, AUTHORIZATION/CERTIFICATE

Note: See also Subpart 1.2.1.7.

2.2.10.1 SUSPENSION OF A LICENSE, RATING AUTHORIZATION ORVALIDATION CERTIFICATE

If, in accordance with the Civil Aviation Law the Authority determines that the interests ofsafety require that a license, rating, Authorization or certificate must be suspended, theAuthority may act as follows:

(a) If the Authority discovers facts indicating either a lack of competency or lack ofqualification, the Authority may, require an applicant for or the holder of any license,rating, Authorization, or validation certificate to retake all or part of the knowledge orpractical tests required for any license, rating, Authorization, or validation certificate atissue, renewal or re-issue. The Authority may suspend the validity of any such license,rating, Authorization and/or validation certificate pending the results of such re-testing.

(b) A person whose license, rating, Authorization, or certificate has been amended,modified, suspended, or revoked shall be provided with notice and an opportunity tobe heard in accordance with Subpart 1.2.1.7.3.

(c) After notifying the person involved, in writing, stating the reasons for such action, theAuthority may also suspend the validity of any license, rating, Authorization and/orvalidation certificate in the following cases:

(1) during the investigation of an aircraft disaster or incident;

(2) in cases of proven misconduct, recklessness or excessive carelessness;

(3) if the holder has acted in contradiction to his or her privileges; and/or

(4) pending the investigation of a suspected violation of these regulations or theaviation law under which these regulations are effected.

(d) Once the suspension is effective, the person involved shall immediately ceaseexercising the privileges of the affected license, certificate, rating, or Authorization. .The person involved shall surrender to the Authority all licenses or validationcertificates in his or her possession that are subject to the suspension within 8 days ofreceiving the notification of the order. If the person fails to surrender the documentsunder suspension, the Authority may revoke all such certificate(s) held by that person.

(e) When a suspension is limited to one or more ratings mentioned on the license orvalidation certificate, the Authority shall provide the person involved with a new licenseor validation certificate omitting all ratings which are subject to the suspension.

(f) The Authority may cancel a suspension in the following cases:

(1) if person under suspension has taken and passed the knowledge or practical testsrequired for any license, rating, or Authorization at issue indicated in (a);

(2) if the person involved has gained the required additional experience; or

(3) by revocation of the license, rating, Authorization and/or validation certificate.

(g) Once the suspension has been cancelled, other than by revocation, the Authority shallissue the person involved a new license or validation certificate.

2.2.10.2 SUSPENSION OF A MEDICAL CERTIFICATE

(a) In case of doubt concerning the medical fitness of the holder of a medical certificatethe Authority may determine that the person involved shall again repeat a complete orpartial medical examination. and may suspend the validity of that medical certificateuntil the repeat examination is completed with favorable results.

(b) The validity of a medical certificate may also be suspended in case of a temporaryrejection on medical grounds.

(c) The person holding the medical certificate will be notified in writing of a suspensionstating the reasons for that suspension.

(d) The person holding the suspended medical certificate shall surrender the medicalcertificate in his or her possession to the Authority within 8 days after the date ofreceiving the notification.

(e) In cases in which the medical fitness of the person involved allows it, the Authoritymay provide the person with a suspended medical certificate of a particular class witha new medical certificate of a lower class.

(f) A suspension may be lifted if the medical examination intended in (a) has beenpassed satisfactorily. If a suspension is lifted, the person involved shall receive a newmedical certificate unless the medical certificate was revoked.

2.2.10.3 REVOCATION OF LICENSES, RATINGS AUTHORIZATIONS OR CERTIFICATES

(a) A license, rating, Authorization or certificate shall be revoked if the holder has lost theskills for exercising the privileges mentioned in the document or fails to meet theappropriate medical standards as shown by the results of a medical examination or atest.

(b) A license, rating, Authorization and/or certificate may be revoked if the holder hasmade a statement contrary to the truth in obtaining or maintaining that license, ratingAuthorization or certificate, or has provided incorrect data at a medical examinationand/or test required for the issue, maintenance or renewal of the license, rating,Authorization and certificate.

(c) A license, rating, Authorization or certificate shall be revoked in case of provenmisconduct, recklessness or excessive carelessness. The holder of the license will benotified in writing of the revocation with the reasons therefore.

(d) A person who has had a license or certificate revoked shall be obliged to hand over tothe Authority all the licenses or certificates in his or her possession applicable to therevocation within 8 days after the date of receiving notification from the Authority.

(e) The person who has been denied the privilege to manipulate the controls of an aircraftby judgment of a court, shall be equally obliged to hand over to the Authority alllicenses and certificates in his or her possession within 8 days after he or she hastaken cognizance of the judgment or after it can be reasonably assumed that he orshe has taken cognizance thereof.

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2.3 PILOT LICENSES, CATEGORIES, RATINGS AND AUTHORIZATIONS

2.3.1 GENERAL

2.3.1.1 APPLICABILITY

This Section prescribes the requirements for the issue, renewal and re-issue, if applicable, of pilot licenses, ratings and Authorizations.

2.3.1.2 GENERAL RULE CONCERNING PILOT LICENSES, RATINGS AND AUTHORIZATIONS

(a) An applicant shall, before being issued with any pilot license, rating or Authorization, meet such requirements in respect of age, knowledge, experience, flight instruction,skill, medical fitness and language proficiency as are specified for that license, ratingor Authorization.

(b) A person shall not act either as pilot-in-command or as co-pilot of an aircraft in any ofthe categories unless that person is the holder of a pilot license issued in accordancewith the provisions of Part 2.

(c) An applicant shall for renewal or re-issue of a license, rating or Authorization meet therequirements as are specified for that license, rating or Authorization.

2.3.1.3 AUTHORITY TO ACT AS A FLIGHT CREW MEMBER

(a) A person shall not act as a flight crew member of an aircraft registered in the Republic of the Philippines unless a valid license or a validation certificate is held showingcompliance with the specifications of this Part and appropriate to the duties to beperformed by that person.

(b) No person may act as the PIC or co-pilot of an aircraft unless that person holds theappropriate category, class and type rating for the aircraft to be flown.

(c) A person shall not act as a flight crew member of an aircraft in the territory of theRepublic of the Philippines unless a valid license or a validation certificate is held thathas been issued by the State of Registry of that aircraft or by any other ContractingState and rendered valid by the state of registry of that aircraft.

Note: During a skill test, the applicant acts as PIC but the safety pilot will intervene in safety situations.

2.3.1.4 CREDITING OF FLIGHT TIME

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

(b) The holder of a pilot license, when acting as co-pilot at a pilot station of an aircraftcertificated for operation by a single pilot but required by a Contracting State to beoperated with a co-pilot, shall be entitled to be credited with not more than 50 per centof the co-pilot flight time towards the total flight time required for a higher grade of pilotlicense. The Authority may authorize that flight time be credited in full towards the totalflight time required, provided the aircraft is equipped to be operated by a co-pilot andthe aircraft is operated in a multi-pilot crew operation.

(c) The holder of a pilot license, when acting as co-pilot at a pilot station of an aircraftcertificated to be operated with a co-pilot, shall be entitled to be credited in full withthis flight time towards the total flight time required for a higher grade of pilot license.

(d) The holder of a pilot license, when acting as pilot-in-command under supervision, shallbe entitled to be credited in full with this flight time towards the total flight time requiredfor a higher grade of pilot license.

2.3.1.5 LIMITATION OF PRIVILEGES OF PILOTS WHO HAVE ATTAINED THEIR 60TH BIRTHDAY

(a) No person who holds a pilot license under this Part shall serve aspilot-in-command on a Philippine-registered civil aircraft engaged in international commercial air transport in a single pilot operation if that person has reached his or her 60th birthday. (21 March 2011)

(b) No person who holds a pilot license issued under this Part shall serves as a pilot-in-command on a Philippine-registered civil aircraft engaged in international commercial air transport in a multi-crew operation if that person has reached his or her 60th birthday unless the other pilot is younger than 60 years of age. (21 March 2011)

2.3.1.5.1 CURTAILMENT OF PRIVILEGES OF PILOTS WHO HAVE ATTAINEDTHEIR 65TH BIRTHDAY

No person who holds a pilot license issued under this Part shall serve as a pilot on a civil aviation if that person has reached his or her 65th birthday. (21 March 2011)

Except for holders of Private Pilot License, no person who holds a pilot license issued under this Part shall serve as a pilot on civil aviation operation if that person has reached his or her 65th birthday. (21 March 2011)

Note: Refer to Part 8.10.1.1

2.3.1.6 RECENT EXPERIENCE REQUIREMENTS

(a) A pilot shall not operate an aircraft carrying passengers as pilot-in-command or copilot to operate at the flight controls of a type or a variant of a type of aircraft duringtake-off and landing unless that pilot has operated the flight controls during at leastthree take-offs and landings within the preceding 90 days on the same type of aircraftor in the flight simulator approved for the purpose.

(b) The holder of a license that does not include an instrument rating shall not act as PICof an aircraft carrying passengers at night unless he or she has carried out at leastthree take-offs and three landings at night during the previous 90 days.

(c) A pilot shall not act in the capacity of a cruise relief pilot in a type or variant of a type ofaircraft unless, within the preceding 90 days that pilot has either:

(1) Operated as a PIC, CP or cruise relief pilot on the same type of aircraft; or

(2) Carried out flying skill refresher training including normal, abnormal andemergency procedures specific to cruise flight on the same type of aircraft or in aflight simulator approved for the purpose, and has practiced approach and landingprocedures, where the approach and landing procedure practice may beperformed as the pilot who is not flying the aircraft.

(d) Each person shall document and record the experience required, to show the recent flight experience.

2.3.2 CATEGORY, CLASS and TYPE RATINGS AND CATEGORY II / III AUTHORIZATIONS

2.3.2.1 GENERAL

(a) The holder of a pilot license shall not be permitted to act as pilot-in-command or as copilot of an airplane or helicopter unless the holder has received Authorization as follows:

Certified Original: Attested By:

Ramon S. Gutierrez
Director General

Atty. Rodrigo R. Artuz
Acting Corporate Board Secretary

(1) the appropriate class rating specified in this Part, or

(2) a type rating when required in accordance with this Part; and

(3) an authorization when required or permitted in accordance with this Part.

(b) The applicant shall meet the appropriate requirements of this Part for the aircraft rating or authorization sought.

(c) When an applicant demonstrates skill and knowledge for the initial issue or re-issue ofa pilot license, the category and ratings appropriate to the class or type of aircraft usedin the demonstration will be entered on the license.

(d) For the purpose of training, testing or specific special purpose non-revenue, nonpassenger carrying flights, special Authorization may be provided in writing to thelicense holder by the Authority in place of issuing the class or type rating inaccordance with (a). This Authorization shall be limited in validity to the time needed tocomplete the specific flight.

2.3.2.2 CATEGORY RATING

(a) The category of aircraft shall be endorsed on the license as a rating.

(b) Any additional category rating endorsed on a pilot license shall indicate the level oflicensing privileges at which the category rating is granted.

(c) The holder of a pilot license seeking additional category ratings shall meet therequirements of this Part appropriate to the privileges for which the category rating issought.

2.3.2.3 CLASS RATINGS - AIRPLANE AND HELICOPTER AND POWERED-LIFTS

(a) *Flight instruction.*

(1) The applicant for a class rating shall have completed the flight instruction for the class rating on the subjects listed in IS 2.3.3.2 or 2.3.3.3 Appendix B (for airplane)or IS 2.3.3.6 or IS 2.3.3.7 Appendix B (for helicopter), as applicable.

(2) Where applicable the flight instruction shall include instrument procedures, including instrument approach and landing procedures under normal, abnormaland emergency conditions including simulated engine failure.

(b) *Skill.*

(1) The applicant for a class rating shall:

(i) have received an endorsement from an authorized instructor who certifies that the person is prepared for the required skill test;

(ii) pass the required skill test on the subjects listed in IS 2.3.3.2 or 2.3.3.3Appendix B (for airplane) or IS 2.3.3.6 or IS 2.3.3.7 Appendix B (forhelicopter), as applicable.

(2) Where applicable the skill test shall include instrument procedures, including instrument approach and landing procedures under normal, abnormal andemergency conditions including simulated engine failure.

(c) *Privileges.* Subject to compliance with the requirements specified in this Part, the privileges of the holder of a class rating are to act as a pilot on the class of aircraftspecified in the rating.

(d) *Validity:* Subject to compliance with the requirements specified in this Part, the validity period of:

(1) a multi-engine class rating is 1 calendar year;

(2) a single-engine class rating is 2 calendar years.

(e) *Renewal.*

(1) For the renewal of a single-engine class rating the pilot shall:

(i) within the preceding 24 calendar months, complete a proficiency check on areas of operation listed in IS 2.3.3.2, Appendix B for PPL or IS 2.3.3.3Appendix B for CPL (for airplane) or IS 2.3.3.6 Appendix B for PPL or IS2.3.3.7 Appendix B for CPL (for helicopter), as applicable; or

(ii) have completed 12 hours flight time within the 12 months preceding the expirydate.

(2) For the renewal of a multi-engine class rating the pilot shall:

(i) within the preceding 12 calendar months, complete a proficiency check on the subjects listed in IS 2.3.3.2 Appendix B for PPL or IS 2.3.3.3 Appendix B forCPL (for airplane) or IS 2.3.3.6 Appendix B for PPL or IS 2.3.3.7 Appendix Bfor CPL (for helicopter), as applicable; and

(ii) have completed 10 route sectors within the 3 months preceding the expirydate.

(3) Where applicable the proficiency check shall include instrument procedures, including instrument approach and landing procedures under normal, abnormaland emergency conditions, including simulated engine failure.

(4) If a pilot takes the proficiency check required in this section in the calendar monthbefore or the calendar month after the month in which it is due, the pilot isconsidered to have taken it in the month in which it was due for the purpose ofcomputing when the next proficiency check is due.

(f) *Re-issue.* If the class rating has expired the applicant shall:

(1) Have received refresher training from an authorized instructor with an endorsement that the person is prepared for the required skill test; and

(2) Pass the required skill test on the areas of operation listed in IS 2.3.3.2 AppendixB for PPL or IS 2.3.3.3 Appendix B for CPL (for airplane) or IS 2.3.3.6 Appendix Bfor PPL or IS 2.3.3.7 Appendix B for CPL (for helicopter), as applicable.

(3) Where applicable the skill test shall include instrument procedures, includinginstrument approach and landing procedures under normal, abnormal andemergency conditions, including simulated engine failure.

2.3.2.4 TYPE RATINGS - AIRPLANE AND HELICOPTER AND POWERED-LIFTS

(a) *Knowledge.* The applicant for a type rating shall have completed the theoretical knowledge instruction and demonstrated in a test the relevant knowledge subjects aslisted in IS 2.3.2.4 Appendix A.

(b) *Experience.*

(1) An applicant for a type rating shall:

(i) have at least 100 hours as pilot-in-command applicable to the category of aircraft;

(ii) where applicable, have an instrument rating applicable to the category ofaircraft;

(iii) have completed a CRM course as listed in IS 2.3.2.4 Appendix B; and

(iv) have demonstrated in a test, the ATPL knowledge on the basis of therequirements listed in Subpart 2.3.3.4 (b) (for airplane) or Subpart 2.3.3.8 (b)(for helicopter), as applicable.

(c) *Flight instruction.*

(1) The applicant for a type rating shall have completed the flight instruction for the type rating:

(i) for single-pilot aircraft: on the subjects listed in IS 2.3.3.2 or IS 2.3.3.3 Appendix B (for airplane) or IS 2.3.3.6 or IS 2.3.3.7 Appendix B for helicopter,as applicable; and

(ii) for multi-pilot aircraft: on the subjects listed in IS 2.3.3.4 Appendix B (for airplane) or 2.3.3.8 Appendix B (for helicopter), as applicable.

(2) Where applicable the flight instruction shall include instrument procedures, including instrument approach and landing procedures under normal, abnormaland emergency conditions, including simulated engine failure.

(d) *Skill.*

(1) The applicant for a type rating shall:

(i) have received an endorsement from an authorized instructor who certifies that the person is prepared for the required skill test;

(ii) pass the required skill test:

(A) for single pilot aircraft: on the subjects listed in IS 2.3.3.2 or IS 2.3.3.3 Appendix B (for airplane) or IS 2.3.3.6 or IS 2.3.3.7 Appendix B forhelicopter, as applicable; and

(B) for multi-pilot aircraft on the subjects listed in IS 2.3.3.4 (for airplane) or IS2.3.3.8 Appendix B(for helicopter), as applicable.

(2) Where applicable the skill test shall include instrument procedures, including instrument approach and landing procedures under normal, abnormal andemergency conditions, including simulated engine failure.

(e) *Privileges.*

Subject to compliance with the requirements specified in this Part, the privileges of the holder of a type rating are to act as a pilot on the type of aircraft specified in the rating.

(1) When the skill test for a type rating has been performed under VFR the type rating will be issued limiting the privileges to VFR flight and such limitation will beendorsed on the rating.

(f) *Validity.* Subject to compliance with the requirements in this Part, the validity period of a type rating is 1 year.

(g) *Renewal.* For the renewal of a type rating the pilot shall:

(1) within the preceding 12 calendar months, complete a proficiency check:

(i) for single pilot aircraft: on the subjects listed in IS 2.3.3.2 or IS 2.3.3.3 Appendix B (for airplane) or IS 2.3.3.6 or IS 2.3.3.7 Appendix B for helicopter,as applicable: and

(ii) for multi-pilot aircraft on the subjects listed in IS 2.3.3.4 Appendix B (forairplane) or IS 2.3.3.8 Appendix B (for helicopter), as applicable.

(2) have completed 10 route sectors within the 3 months preceding the expiry date.

(3) Where applicable the proficiency check shall include instrument procedures, including instrument approach and landing procedures under normal, abnormaland emergency conditions, including simulated engine failure.

(4) If a pilot takes the proficiency check required in this section in the calendar monthbefore or the calendar month after the month in which it is due, the pilot isconsidered to have taken it in the month in which it was due for the purpose ofcomputing when the next proficiency check is due.

(h) *Re-issue.* If the type rating has been expired the applicant shall:

(1) have received refresher training from an authorized instructor with an endorsement that the person is prepared for the required skill test: and

(2) pass the required skill test:

(i) for single pilot aircraft: on the subjects listed in IS 2.3.3.2 or IS 2.3.3.3 Appendix B (for airplane) or IS 2.3.3.6 or IS 2.3.3.7 Appendix B (forhelicopter), as applicable: and

(ii) for multi-pilot aircraft on the subjects listed in IS 2.3.3.4 Appendix B (forairplane) or IS 2.3.3.8 Appendix B (for helicopter), as applicable.

(3) Where applicable the skill test shall include instrument procedures, including instrument approach and landing procedures under normal, abnormal andemergency conditions, including simulated engine failure.

2.3.2.5 CATEGORY II AND III AUTHORIZATION

(a) *General.*

(1) A person, not flying under Part 8, may not act as pilot of an aircraft during Category II or III operations unless that person holds a Category II or III pilotAuthorization for that category, class or type of aircraft.

(2) The applicant for a Category II or III pilot Authorization shall:

(i) hold a pilot license with an instrument rating or an ATPL; and

(j) hold a category and class or type rating for the aircraft for which theAuthorization is sought.

(b) *Knowledge.* The applicant for a Category II or III pilot Authorization shall have completed the theoretical knowledge instruction and demonstrated in a test theknowledge subjects as listed in IS 2.3.2.4 Appendix A (Section 6).

(c) *Experience.* The applicant for a Category II or III pilot Authorization shall have at least:

(1) 50 hours of night flight time as PIC;

(2) 75 hours of instrument time under actual or simulated instrument conditions; and

(3) 250 hours of cross-country flight time as PIC.

(4) *Flight instruction.* The applicant for a Category II or III pilot Authorization shall havecompleted the flight instruction on the subjects listed in IS 2.3.3.4 Appendix B (Section10) for airplane or IS 2.3.3.8 Appendix B (Section 9) for helicopter, as applicable.

(d) *Skill.* The applicant for a Category II or III pilot Authorization shall pass a skill test including the subjects listed in IS 2.3.3.4 Appendix B (Section 10) for airplane or IS2.3.3.8 Appendix B (Section 9) for helicopter, as applicable.

(e) *Validity.* Subject to compliance with the requirements specified in this Part, the validityperiod of a Category II and III Authorization is 6 months.

(f) *Renewal.* For the renewal of a Category II or III pilot Authorization the pilot shall havecompleted a proficiency check including the subjects listed in IS 2.3.3.4 Appendix B(Section 10) for airplane or IS 2.3.3.8 Appendix B (Section 9) for helicopter, asapplicable.

(g) *Re-issue.* If the Category II or the Category III have been expired the applicant shall:

(1) have received refresher training from an authorized instructor with an endorsement that the person is prepared for the required skill test; and

(2) pass the required skill test on the subjects listed in IS 2.3.3.4 Appendix B (Section10) for airplane or IS 2.3.3.8 Appendix B (Section 9) for helicopter, as applicable.

2.3.3 PILOT LICENSES, INSTRUMENT AND INSTRUCTOR RATINGS

2.3.3.1 STUDENT PILOTS

(a) *Age.* The applicant for a student pilot Authorization shall be not less than 16 years of age.

(b) *Knowledge.* The applicant for a student pilot Authorization shall receive and logground training from an authorized instructor on the following subjects:

(1) applicable sections of Part 2 and Part 8;

(2) airspace rules and procedures for the airport where the student will perform soloflight; and

(3) flight characteristics and operation limitations for the make and model of aircraft tobe flown.

(c) Pre-solo *flight instruction.* Prior to conducting a solo flight, a student pilot shall have:

(1) received and logged flight training for the maneuvers and procedures as listed in IS 2.3.3.1.

(2) demonstrated satisfactory proficiency and safety, as judged by an authorizedinstructor, on the maneuvers and procedures as listed in IS 2.3.3.1.

(d) Solo *flight requirements:* A student pilot shall not fly solo:

(1) unless holding at least a Class 2 Medical Certificate; and

(2) with the authority of an authorized flight instructor.

2.3.3.2 PRIVATE PILOT LICENSE - AIRPLANE

(a) *Age.* The applicant for a PPL(A) shall be not less than 17 years of age.

(b) *Knowledge.* The applicant for a PPL(A) shall:

(1) Receive and log ground training from an authorized instructor on the following subjects:

(i) Air law: rules and regulations relevant to the holder of a PPL(A); rules of the air; appropriate air traffic services practices and procedures

(ii) Aircraft general knowledge:

(A) Principles of operation of airplane power-plants, systems and instruments;

(B) Operating limitations of airplanes and power-plants: relevant operationalinformation from the flight manual or other appropriate document;

(iii) Flight performance and planning:

(A) effects of loading and weight distribution on flight characteristics; weight and balance calculations;

(B) use and practical application of take-off, landing and other performancedata;

(C) pre-flight and en-route flight planning appropriate to private operationsunder 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;

(iv) Human performance: human performance relevant to the PPL(A)

(v) Meteorology: application of elementary aeronautical meteorology; use of, andprocedures for obtaining, meteorological information; altimetry

(vi) Navigation: practical aspects of air navigation and dead-reckoning techniques;use of aeronautical charts:

(vii) Operational procedures:

(A) use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations;

(B) appropriate precautionary and emergency procedures, including action tobe taken to avoid hazardous weather, wake turbulence and otheroperating hazards;

(viii) Principles of flight: principles of flight relating to airplanes;

(ix) Radiotelephony:

(A) radiotelephony procedures and phraseology as applied to VFR operations; action to be taken in case of communication failure;

(B) as listed in IS 2.3.3.2 Appendix A;

(2) have received an endorsement for the knowledge test from an authorized instructor who:

(i) conducted the training on the knowledge subjects;

(ii) certifies that the person is prepared for the required knowledge test; and

(3) pass the required knowledge test on the knowledge areas listed in IS 2.3.3.2 Appendix A.

(c) *Experience*

(1) The applicant for a PPL(A) shall have completed not less than 40 hours of flight time as pilot of airplanes, a total of 5 hours may have been completed in a flightsimulator or flight procedures trainer.

(2) The applicant shall have completed in airplanes not less than 10 hours of soloflight time under the supervision of an authorized flight instructor, including 5hours of solo cross-country flight time with at least one cross-country flight totalingnot less than 270 km (150 nm) in the course of which full-stop landings at twodifference aerodromes shall be made.

(3) The holder of pilot licenses in other categories may be credited with 10 hours ofthe total flight time as pilot-in-command towards a PPL(A).

(d) *Flight Instruction.*

(1) The applicant for a PPL(A) shall receive and log not less than 20 hours of dual instruction from an authorized instructor on the subjects listed in IS 2.3.3.2Appendix B. These 20 hours may include 5 hours completed in a flight simulatoror flight procedures trainer. The 20 hours of dual instruction shall include at least 5hours of solo cross-country flight time with at least one cross-country flight totalingnot less than 270 km (150 NM) in the course of which full-stop landings at twodifferent aerodromes shall be made.

(2) The instructor shall ensure that the applicant has operational experience in atleast the following areas to the level of performance required for the private pilot:

(i) pre-flight operations, including mass and balance determination, airplane inspection and servicing;

(ii) aerodrome and traffic pattern operations, collision avoidance precautions andprocedures;

(iii) control of the airplane by external visual reference;

(iv) flight at critically slow airspeeds; recognition of, and recovery from, incipientand full stalls;

(v) flight at **c**ritically high airspeeds; recognition of, and recovery from, spiraldives,

(vi) normal and cross-wind take-offs and landings;

(vii) maximum performance (short field and obstacle clearance take-offs, short field landings;

(viii) flight by reference solely to instruments, including the completion of a level180 degrees turn:

(ix) cross-country flying using visual reference, dead reckoning and, whereavailable, radio navigation aids;

(x) emergency operations, including simulated airplane equipment malfunctions;and

(xi) operations to, from and transmitting controlled aerodromes, compliance withair traffic services procedures, radiotelephony procedures and phraseology asfurther specified in IS 2.3.3.2 Appendix B.

(3) If the privileges of the PPL(A) are to be exercised at night, the applicant shall have received 4 hours dual instruction in airplanes in night flying, including take-offs,landings and 1 hour of navigation and that information shall be endorsed on thelicense.

Note 1: Training can be performed by an individually authorized flight instructor, by an authorized flight instructor in a flying club, or in an Aviation Training Organization.

(e) *Skill.* The applicant for a PPL(A) shall:

(1) have received an endorsement from an authorized instructor who certifies that the person is prepared for the required skill test; and

(2) have demonstrated by passing a skill test the ability to perform as pilot in-command of an airplane, the areas of operation described in IS 2.3.3.2 AppendixB, with a degree of competency appropriate to the privileges granted to the holderof a PPL(A), and to

(i) operate the airplane within its limitations;

(ii) complete all maneuvers with smoothness and accuracy;

(iii) exercise good judgment and airmanship;

(iv) apply aeronautical knowledge; and

(v) maintain control of the airplane at all times in a manner such that thesuccessful outcome of a procedure or maneuver is never seriously in doubt.

(f) *Medical fitness.* The applicant for a PPL (A) shall hold a current Class 2 Medical Certificate.

(g) *Privileges.* Subject to compliance with the requirements specified in this Part, theprivileges of the holder of a PPL (A) shall be to act, but not for remuneration, as pilot in-command or co-pilot of any airplane engaged in non-revenue flights.

(h) *Validity.* Subject to compliance with the requirements specified in this Part, the validityperiod of the license is 2 years. For renewal of the license see 2.2.3.

2.3.3.3 COMMERCIAL PILOT LICENSE - AIRPLANE

(i) *Age.* The applicant for a CPL (A) shall be not less than 18 years of age.

(ii) *Knowledge.* The applicant for a CPL (A) shall:

(1) receive and log ground training from an authorized instructor on the following subjects:

(i) Air law: rules and regulations relevant to the holder of a CPL (A); rules of the air; appropriate air traffic services practices and procedures

(ii) Aircraft general knowledge:

(A) principles of operation and functioning of airplane power-plants, systems and instruments:

(B) operating limitations of appropriate airplanes and power-plants; relevantoperational information from the flight manual or other appropriatedocument;

(C) use and serviceability checks of equipment and systems of appropriateairplanes;

(D) maintenance procedures for airframes, systems and power-plants ofappropriate airplanes;

(iii) Flight performance and planning:

(A) effects of loading and mass distribution on airplane handling, flight characteristics and performance; mass and balance calculations;

(B) use and practical application of take-off, landing and other performancedata;

(C) pre-flight and en-route flight planning appropriate to operations underVFR; preparation and filing of air traffic services flight plans; appropriateair traffic services procedures;

(iv) Human performance: human performance relevant to the CPL (A);

(v) Meteorology:

(A) interpretation and application of aeronautical meteorological reports. charts and forecasts; use of, and procedures for obtaining, meteorologicalinformation, pre-flight and in-flight; altimetry;

(B) aeronautical meteorology; climatology of relevant areas in respect of theelements having an effect upon aviation; the moment of pressuresystems. the structure of fronts; and the origin and characteristics ofsignificant weather phenomena which affect take-off, en-route and landingconditions; hazardous weather avoidance;

(vi) Navigation: air navigation. including the use of aeronautical charts, instruments and navigation aids; understanding of the principles andcharacteristics of appropriate navigation systems; operation of air borneequipment

(vii) Operation procedures:

(A) use of aeronautical documentation such as AIR; NOTAM, aeronautical codes and abbreviations:

(B) appropriate precautionary and emergency procedures;

(C) operational procedures for carriage of freight; potential hazardsassociated with dangerous goods;

(D) requirements and practices for safety briefing to passengers, includingprecautions to be observed when embarking and disembarking fromairplanes;

(viii) Principles of flight: principles of flight relating to airplanes;

(ix) Radiotelephony:

(A) radiotelephony procedures and phraseology as applied to VFR operations; action to be taken in case of communication failure:

(B) as further specified in IS 2.3.3.3 Appendix A.

(2) Have received an endorsement for the knowledge test from an authorized instructor who:

(i) conducted the training on the knowledge subjects:

(ii) certifies that the person is prepared for the required knowledge test: and

(3) Pass the required knowledge test on the knowledge subjects listed in IS 2.3.3.3 Appendix B.

(iii) *Experience.*

(1) The applicant for a CPL(A) shall have completed not less than 200 hours of flight time, or 150 hours if completed during an Authority-approved training courseprovided for in an Approved Training Organization under Part 3, as a pilot ofairplanes, of which 10 hours may have been completed in a flight simulator orflight procedures trainer.

(2) The applicant shall have completed in airplanes not less than:

(i) 100 hours as pilot-in-command or, in the case of a course of approved training, 70 hours as pilot-in-command;

(ii) 20 hours of cross-country flight time as pilot-in-command including a crosscountryflight totaling not less than 540 km (300 NM) in the course of whichfull-stop landings at two different aerodromes shall be made:

(iii) 10 hours of instrument instruction time of which not more than 5 hours may beinstrument ground time;

(iv) if the privileges of the license are to be exercised at night, 5 hours of nightflight time including 5 take-offs and 5 landings as pilot-in-command.

(3) The holder of a pilot license in another category may be credited towards the 200 hours of flight time as follows:

(i) 10 hours as PIC in a category other than helicopters; or

(ii) 30 hours as pilot-in-command holding a PPL(H) on helicopters; or

(iii) 100 hours as pilot-in-command holding a CPL(H) on helicopters.

(4) The applicant for a CPL(A) shall hold a PPL(A) issued under this Part.

(iv) *Flight Instruction.*

(1) The applicant for a CPL(A) shall receive and log not less than 25 hours of dual instruction from an authorized instructor. These 25 hours may include 5 hourscompleted in a flight simulator or flight procedures trainer.

(2) The instructor shall ensure that the applicant has operational experience in atleast the following areas to the level of performance required for the commercialpilot:

(i) pre-flight operations, including mass and balance determination, airplane inspection and servicing; aerodrome and traffic pattern operations, collisionavoidance precautions and procedures;

(ii) control of the airplane by external visual reference;

(iii) flight at critically slow airspeeds; recognition of, and recovery from, incipientand full stalls:

(iv) flight at critically high airspeeds; recognition of, and recovery from, spiraldives;

(v) normal and cross-wind take-offs and landings;

(vi) maximum performance (short field and obstacle clearance take-offs, shortfieldlandings;

(vii) basic flight maneuvers and recovery from unusual attitudes by referencesolely to basic flight instruments;

(viii) cross-country flying using visual reference, dead reckoning and radionavigation aids; diversion procedures

(ix) abnormal and emergency procedures and maneuvers; and

(x) operations to, from and transmitting controlled aerodromes, compliance withair traffic services procedures, radiotelephony procedures and phraseology asfurther specified in IS 2.3.3.3 Appendix B.

(3) If the privileges of the CPL(A) are to be exercised at night, the applicant shall have received 4 hours dual instruction in airplanes in night flying, including take-offs,landings and 1 hour of navigation.

(v) *Skill.* The applicant for a CPL(A) shall:

(1) have received an endorsement from an authorized instructor who certifies that the person is prepared for the required skill test; and

(2) shall have demonstrated by passing a skill test the ability to perform as pilot-incommandof an airplane, the areas of operation described in IS 2.3.3.3 AppendixB, with a degree of competency appropriate to the privileges granted to the holderof a CPL(A), and to

(i) operate the airplane within its limitations;

(ii) complete all maneuvers with smoothness and accuracy;

(iii) exercise good judgment and airmanship;

(iv) apply aeronautical knowledge; and

(v) maintain control of the airplane at all times in a manner such that thesuccessful outcome of a procedure or maneuver is never seriously in doubt.

(vi) *Medical fitness.* The applicant for a CPL (A) shall hold a current Class 1 Medical Certificate.

(vii) *Privileges.* Subject to compliance with the requirements specified in this Part, theprivileges of the holder of a CPL(A) shall be:

(1) to exercise all the privileges of the holder of a PPL(A);

(2) to act as pilot-in-command in any airplane engaged in operations other thancommercial air transportation;

(3) to act as pilot-in-command in commercial air transportation in any airplanecertificated for single-pilot operation; and

(4) to act as co-pilot in commercial air transportation in airplanes required to beoperated with a copilot.

(viii) *Validity.* Subject to compliance with the requirements specified in this Part, the validity period of the license is one (1) year. For renewal of the license see 2.2.3.

2.3.3.4 AIRLINE TRANSPORT PILOT LICENSE - AIRPLANE

(a) *Age.* The applicant for an ATPL (A) shall be not less than 21 years of age.

(b) *Knowledge.* The applicant for an ATPL(A) shall:

(1) receive and log ground training from an authorized instructor on the following subjects:

(i) Air law: rules and regulations relevant to the holder of an ATPL(A); rules of the air, appropriate air traffic services practices and procedures

(ii) Aircraft general knowledge:

(A) general characteristics and limitations of electrical, hydraulic, pressurization and other airplane systems; flight control systems,including autopilot and stability augmentation;

(B) principles of operation, handling procedures and operating limitations ofairplane power-plants; effects of atmospheric conditions on engineperformance; relevant operational information from the flight manual orother appropriate document,

(C) operating procedures and limitations of appropriate airplanes; effects ofatmospheric conditions on airplane performance,

(D) use and serviceability checks of equipment and systems of appropriateairplanes;

(E) flight instruments; compasses, turning and acceleration errors; gyroscopicinstruments, operational limits and precession effects; practices andprocedures in the event of malfunctions of various flight instruments;

(F) (maintenance procedures for airframes, systems and power-plants ofappropriate airplanes;

(iii) Flight performance and planning:

(A) effects of loading and mass distribution on airplane handling, flight characteristics and performance; mass and balance calculations;

(B) use and practical application of take-off, landing and other performancedata, including procedures for cruise control;

(C) pre-flight and en-route operational flight planning; preparation and filing ofair traffic services flight plans; appropriate air traffic services procedures;altimeter setting procedures

(iv) Human performance: human performance relevant to the ATPL(A)

(v) Meteorology:

(A) interpretation and application of aeronautical meteorological reports, charts and forecasts; codes and abbreviations; use of, and procedures forobtaining, meteorological information; pre-flight and in-flight; altimetry;

(B) aeronautical meteorology; climatology of relevant areas in respect of theelements having an effect upon aviation; the moment of pressuresystems; the structure of fronts, and the origin and characteristics ofsignificant weather phenomena which affect take-off, en-route and landingconditions;

(C) causes, recognition and effects of engine and airframe icing; frontal zonepenetration procedures; hazardous weather avoidance;

(vi) Navigation:

(A) air navigation, including the use of aeronautical charts, radio navigation aids and area navigation systems; specific navigation requirements forlong-range flights; use, limitation and serviceability of avionics andinstruments necessary for the control and navigation of airplanes;

(B) use, accuracy and reliability of navigation systems used in departure, enroute, approach and landing phases of flight; identification of radionavigation aids;

(C) principles and characteristics of self-contained and external-referencednavigation systems; operation of airborne equipment;

(vii) Operation procedures:

(A) interpretation and use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations, and instrument procedurecharts for departure, en-route, descent and approach;

(B) precautionary and emergency procedures; safety practices associatedwith flight under IFR

(C) operational procedures for carriage of freight and dangerous goods;

(D) requirements and practices for safety briefing to passengers, includingprecautions to be observed when embarking and disembarking fromairplanes;

(viii) Principles of flight: principles of flight relating to airplanes; subsonic aerodynamics; compressibility effects, maneuver boundary limits, wing designcharacteristics, effects of supplementary lift and drag devices; relationshipsbetween lift, drag and thrust at various airspeeds and in different flightconfiguration;

(ix) Radiotelephony: radiotelephony procedures and phraseology; action to betaken in case of communication failure; as further specified in IS 2.3.3.4Appendix A

(c) *Experience.*

(1) The applicant for an ATPL (A) shall have completed not less than 1,500 hours of flight time as a pilot of airplanes of which a maximum of 100 hours may have beencompleted in a flight simulator. The applicant shall have completed in airplanesnot less than:

(i) 250 hours, either as pilot-in-command, or made up by not less than 100 hours as pilot-in-command and the necessary additional flight time as co-pilotperforming, under the supervision of the pilot-in-command, the duties andfunctions of a pilot-in-command; provided that the method of supervisionemployed is acceptable to the Authority;

(ii) 200 hours of cross-country flight time, of which not less than 100 hours shallbe as pilot-in-command or as co-pilot performing, under the supervision of thepilot-in-command, the duties and functions of a pilot-in-command, providedthat the method of supervision employed is acceptable to the Authority;

(iii) 75 hours of instrument time, of which not more than 30 hours may beinstrument ground time; and

(iv) 100 hours of night flight as pilot-in-command or as co-pilot.

(2) Holders of a CPL(H) will be credited with 50% of their helicopter flight time as pilot-in-command towards the flight time required in paragraph (1) above.

(3) The applicant shall have completed a CRM course on the subjects listed in IS2.3.2.4 Appendix B.

(4) The applicant for an ATPL(A) shall be the holder of a CPL(A) with instrument andmulti-engine rating issued under this Part.

(d) *Flight Instruction.* The applicant for an ATPL(A) shall have received the dual flight instruction required for the issue of the CPL(A) and the IR.

(e) *Skill.* The applicant for an ATPL(A) shall:

(1) have received an endorsement from an authorized instructor who certifies that the person is prepared for the required skill test; and

(2) have demonstrated by passing a skill test the ability to perform, as pilot-incommandof a multi-engine airplane required to be operated with a co-pilot, thefollowing procedures and maneuvers:

(i) pre-flight procedures, including the preparation of the operational flight plan and filing of the air traffic services flight plan;

(ii) normal flight procedures and maneuvers during all phases of flight;

(iii) procedures and maneuvers for IFR operations under normal, abnormal andemergency conditions, including simulated engine failure, and covering atleast the following:

(A) transition to instrument flight on take-off;

(B) standard instrument departures and arrivals;

(C) en-route IFR procedures and navigation;

(D) holding procedures;

(E) instrument approaches to specified minima;

(F) missed approach procedures;

(G) landings from instrument approaches;

(iv) abnormal and emergency procedures and maneuvers related to failures and malfunctions of equipment, such as power-plant, systems and airframe; and

(v) procedures for crew incapacitation and crew coordination, including allocationof pilot tasks, crew cooperation and use of checklists.

(3) have demonstrated by passing a skill test the ability to perform the areas of operation described in IS 2.3.3.4 Appendix B, with a degree of competencyappropriate to the privileges granted to the holder of an ATPL(A), and to:

(i) operate the airplane within its limitations;

(ii) complete all maneuvers with smoothness and accuracy;

(iii) exercise good judgment and airmanship;

(iv) apply aeronautical knowledge; and

(v) maintain control of the airplane at all times in a manner such that thesuccessful outcome of a procedure or maneuver is never in doubt;

(vi) understand and apply crew coordination and incapacitation procedures; and

(vii) communicate effectively with the other flight crew members

(f) *Medical fitness.* The applicant for an ATPL(A) shall hold a current Class 1 Medical Certificate~~.~~,except for:

(i) Check Airman Qualifications for Flight Simulation Training Device as provided for under 8.10.1.39 (b) (1); and

(ii) Check Airmen who have reached their 65th birthday or who do not have an appropriate medical certificate as provided for under 8.10.1.39 (d) and 8.10.1.1 (c). (21 March 2011)

(g) *Privileges.* Subject to compliance with the requirements specified in this Part, theprivileges of the holder of an ATPL(A) shall be:

(1) to exercise all the privileges of the holder of a PPL(A) and CPL(A) and of an IR(A); and

(2) to act as pilot-in-command and co-pilot in airplanes in air transportation.

(3) if authorized under this CAR, holder of an ATPL may instruct other pilots in airtransportation service in aircraft or approved simulator training device of thecategory, class and type for which he is rated. To do so, he must be familiar withthe operating procedures of the company

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Ramon S. Gutierrez
Director General

Atty. Rodrigo R. Artuz
Acting Corporate Board Secretary

for which he is providing pilotinstruction. However, he may not instruct for more than 8 hours in one day, andnot more than 36 hours in any 7-day period. He may instruct under this sectiononly in aircraft with functioning dual controls. Unless he has a valid flight instructorlicense, an airline transport pilot may instruct only as provided in this section.

(h) *Validity.* Subject to compliance with the requirements specified in this Part, the validity period of the license is 6 months. For renewal of the license see Subpart 2.2.3.

2.3.3.5 MULTI-CREW PILOT LICENSE (MPL)

2.3.3.5.1 GENERAL

(a) Applicability

This section prescribes the requirements for the issuance of an MPL and ratings, the conditions under which those license and ratings are necessary, and the limitations upon those license and ratings.

(b) Eligibility requirement:

(1) To be eligible for an MPL in the airplane category, the applicant shall have completed an approved training course. The training shall be competency-basedand conducted in a multi-crew operational environment.

(2) During the training, the applicant shall have acquired the knowledge, skills andattitudes required as the underpinning attributes for performing as a co-pilot of aturbine-powered air transport airplane certificated for operation with a minimumcrew of at least two pilots.

(c) Assessment level:

(1) The applicant for the MPL in the airplane category shall have satisfactorily demonstrated performance in all the nine competency units specified herein at theadvanced level of competency and shall have demonstrated the skill andknowledge required for the safe operation of the applicable type of aircraft,relevant to the licensing requirements and piloting functions of the applicant.

(2) The use of a flight simulation training device for acquiring the experience orperforming any maneuver required during the demonstration of skill for the issueof a license or rating shall be approved by the Authority, which shall ensure thatthe flight simulation training device used is appropriate to the task.

(d) Competency units:

The nine competency units that an applicant has to demonstrate are as follows: The applicant shall:

(1) Apply threat and error management (TEM) principles;

(2) Perform airplane 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 airplane post-flight operations.

(e) Nationality:

Be a citizen of the Philippines or a citizen of a foreign country granting similar rights and privileges to citizens of the Philippines subject, however, to existing treaty or treaties and agreements entered into by the Philippine Government with foreign countries and subject further to security measures adopted by the Philippine Government.

2.3.3.5.2 REQUIREMENTS

(a) *Age.* The applicant for a MPL shall be not less than 18 years of age.

(b) *Language proficiency*. Be able to pass the ICAO English Proficiency Test at level 4 orabove.

(c) *Knowledge*. The applicant shall have demonstrated a level of knowledge appropriateto the privileges granted to the holder of an ATPL (A) and appropriate to the categoryof aircraft intended to be included in the license, in at least the following subjects (seeIS: 2.3.3.5 Appendix A). The applicant for an MPL shall:

(1) Receive and log ground training from an authorized instructor on the following subjects:

(i) Air Law: Rules and regulations relevant to the holder of an airline transport pilot license; rules of the air; appropriate air traffic services practices andprocedures.

(ii) Aircraft General Knowledge:

(A) General characteristics and limitations of electrical, hydraulic, pressurization and other aircraft systems; flight control systems, includingautopilot and stability augmentation.

(B) Principles of operation, handling procedures and operating limitations ofaircraft power-plants; effects of atmospheric conditions on engineperformance; relevant operational information from the flight manual orother appropriate document.

(C) Operating procedures and limitations of the relevant category of aircraft;effects of atmospheric conditions on aircraft performance in accordance tothe relevant operational information from the flight manual.

(D) Use and serviceability checks of equipment and systems of appropriateaircraft.

(E) Flight instruments, compasses, turning and acceleration errors;gyroscopic instruments, operational limits and precession effects;practices and procedures in the event of malfunctions of various flightinstruments and electronic display units.

(F) Maintenance procedures for airframes, systems and power-plants ofappropriate aircraft.

(G) For helicopter and powered-lift, transmission (power-trains) whereapplicable;

(iii) Flight Performance and Planning:

(A) Effects of loading and mass distribution on aircraft handling.

(iv) Human Performance:

(A) Human performance including principles of threat and error management.

(v) Meteorology:

(A) Interpretation and application of aeronautical meteorological reports, charts and forecasts; codes and abbreviations; use of, and procedures forobtaining, meteorological information, pre-flight and in-flight altimetry.

(B) Aeronautical meteorology; climatology of relevant areas in respect of theelements having an effect upon aviation; the movement of pressuresystems; the structure of fronts, and the origin and characteristics ofsignificant weather phenomena which affect take-off, en-route and landingconditions.

(C) Causes, recognition and effects of icing; frontal zone penetrationprocedures; hazardous weather avoidance.

(D) In the case of airplane and powered-lift, practical high altitudemeteorology, including interpretation and use of weather reports, chartsand forecasts, and jet-streams.

(vi) Navigation:

(A) Air navigation, including the use of aeronautical charts, radio navigation aids and area navigation systems; specific navigation requirements forlong-range flights.

(B) Use, limitation and serviceability of avionics and instruments necessaryfor the control and navigation of aircraft.

(C) Use, accuracy and reliability of navigation systems used in departure, enroute, approach and landing phases of flight; identification of radionavigation aids.

(D) Principles and characteristics of self-contained and external-referencednavigation systems; operation of airborne equipment.

(vii) Operational Procedures:

(A) Application of threat and error management to operational performance;

(B) Interpretation and use of aeronautical documentation such as AIP,NOTAM, aeronautical codes and abbreviations;

(C) Precautionary and emergency procedures; safety practices;

(D) Operational procedures for carriage of freight and dangerous goods;

(E) Requirements and practices for safety briefing to passengers, includingprecautions to be observed when embarking and disembarking fromaircraft;

(F) In the case of the helicopter, and if applicable, powered-lift, settling withpower; ground resonance; retreating blade stall; dynamic roll-over andother operation hazards; safety procedures, associated with flight underVFR;

(viii) Principles of flight

(ix) Radiotelephony

(A) Procedures and phraseology; action to be taken in case of communication failure.

(d) *Skill.* The applicant for an MPL shall have demonstrated the skills:

(1) Required for fulfilling all the competency units specified in this part as pilot flying and pilot not flying, to the level required to perform as a co-pilot of turbinepowered airplanes certificated for operation with a minimum crew of at least twopilots under VFR and IFR, and to:

(2) Recognize and manage threats and errors;

(3) Smoothly and accurately manually control the airplane within its limitations at alltimes, such that the successful outcome of a procedure or maneuver is assured;

(4) Operate the airplane in the mode of automation appropriate to the phase of flightand to maintain awareness of the active mode of automation;

(5) Perform, in an accurate manner, normal, abnormal and emergency procedures inall phases of flight; and

(6) Communicate effectively with other flight crew members and demonstrate theability to effectively perform procedures for crew incapacitation, crew coordination,including allocation of pilot tasks, crew cooperation, adherence to standardoperating procedures (SOPs) and use of checklists.

(7) Progress in acquiring the skills above shall be continuously assessed.

Note: See IS: 2.3.3.5 Appendix B for MPL Skills requirements.

(e) *Medical fitness.* The applicant for an MPL shall hold a current Class 1 Medical Certificate.

(f) *Ratings.* Comply with the sections of this regulation that apply to the rating he seeks.

(1) Airplane rating: Aeronautical experience.

(i) An applicant for a Multi-crew pilot license with an airplane rating shall have ompleted an approved training course and shall have not less than 240hours as pilot flying and pilot not flying of actual and simulated flight.

(ii) Flight experience in actual flight shall include not less than 40 hours of flighttime, or 35 hours if completed during a course of approved training, as a pilotof airplanes appropriate to the class rating sought and shall include upsetrecovery training, night flying, cross-country and flight by reference solely toinstruments.

(iii) The Licensing Authority shall determine whether experience as a pilot underinstruction in a flight simulation training device is acceptable as part of thetotal flight time of 40 hours or 35 hours, as the case may be. Credit for suchexperience shall be limited to a maximum of 5 hours.

(iv) When the applicant has flight time as a pilot of aircraft in other categories, theLicensing Authority shall determine whether such experience is acceptableand, if so, the extent to which the flight time requirements of sub-paragraph

(v) above can be reduced accordingly.

(vi) In addition to meeting the above provisions, the applicant shall have gained,in a turbine-powered airplane certificated for operation with a minimum crewof at least two pilots, or in a flight simulation training device approved for thatpurpose by the Licensing Authority the experience necessary to achieve theadvanced level of competency defined listed in Subpart 2.3.3.5.1 (c) and (d)above.

(g) *Privileges.* Subject to compliance with the requirements specified in this Part, the privileges of the holder of an MPL shall be:

(1) (i) to exercise all the privileges of the holder of a private pilot license in the appropriate airplane category provided the requirements have been met;

(ii) to exercise the privileges of the instrument rating in a multi-crew operation; and

(iii) To act as co-pilot in an airplane required to be operated with a co-pilot.

(2) Before exercising the privileges of the instrument rating in a single pilot operation, the license holder shall have demonstrated an ability to act as pilot-in-command ina single pilot operation exercised solely by reference to instruments.

(3) Before exercising the privileges of a commercial pilot license in a single pilotoperation, the license holder shall have:

(i) completed 70 hours, either as pilot-in-command, or made up by not less than 10 hours as pilot-in-command and the necessary additional flight time as pilotin-command under supervision;

(ii) meet the requirements for the commercial pilot license.

(4) Act as second-in-command/co-pilot in commercial air transportation in airplanes required to be operated with a co-pilot by the type certificate of the aircraft or theregulations under which the aircraft will be operated; and

(5) When the holder of an airline transport pilot license in the airplane category hasonly previously held a MPL, the privileges of the license shall be limited to multicrewperations unless the holder has met the requirements established. Anylimitation of privileges shall be endorsed on the license.

(h) *Validity.* Subject to compliance with the requirements specified in this Part, the validity\ period of the license is one (1) year. For renewal of the license see Subpart 2.2.3.

2.3.3.6 INSTRUMENT RATING - AIRPLANE

(a) *General.* The holder of a pilot license shall not act either as pilot-in-command or as copilot of an aircraft under instrument flight rules (IFR) unless such holder has receivedproper Authorization from the Authority. Proper Authorization shall comprise aninstrument rating appropriate to the aircraft category.

(b) *Knowledge.* The applicant for an IR (A) shall:

(1) receive and log ground training from an authorized instructor on the following subjects

(i) Air law: rules and regulations relevant to flight under IFR: related air traffic services practices and procedures;

(ii) Aircraft general knowledge:

(A) use, limitation and serviceability of avionics and instruments necessary for the control and navigation of airplanes under IFR and in instrumentmeteorological conditions; use and limitations of autopilot;

(B) compasses, turning and acceleration errors; gyroscopic instruments,operational limits and precession effects; practices and procedures in theevent of malfunctions of various flight instruments;

(iii) Flight performance and planning

(A) pre-flight preparations and checks appropriate to flight under IFR;

(B) operational flight planning; preparation and filing of air traffic servicesflight plans under IFR; altimeter setting procedures;

(iv) Human performance: human performance relevant to instrument flight in airplanes;

(v) Meteorology:

(A) application of aeronautical meteorology; interpretation and use of reports, charts and forecasts; codes and abbreviations; use of, and procedures forobtaining, meteorological information; altimetry;

(B) causes. recognition and effects of engine and airframe icing; frontal zonepenetration procedures; hazardous weather avoidance;

(vi) Navigation:

(A) practical air navigation using radio navigation aids;

(B) use. accuracy and reliability of navigation systems used in departure, enroute,approach and landing phases of flight; identification of radionavigation aids;

(vii) Operation procedures

(A) interpretation and use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations, and instrument procedurecharts for departure, en-route; descent and approach;

(B) precautionary and emergency procedures; safety practices associatedwith flight under IFR

(viii) Radiotelephony:

(A) radiotelephony procedures and phraseology as applied to aircraft operations under IFR, action to be taken in case of communication failure;

(B) as listed in IS 2.3.3.6 Appendix A.

(2) have received an endorsement for the knowledge test from an authorized instructor who:

(i) conducted the training on the knowledge subjects;

(ii) certifies that the person is prepared for the required knowledge test; and

(3) pass the required knowledge test on the knowledge subjects listed in IS 2.3.3.6 Appendix A.

(c) *Experience.*

(1) The applicant for an IR (A) shall hold at least a PPL (A).

(2) The applicant shall have completed not less than:

(i) 50 hours of cross-country flight time as pilot-in-command of aircraft in categories acceptable to the Authority, of which not less than 10 hours shallbe in airplanes; and

(ii) 40 hours of instrument time in airplanes or helicopters of which not more than20 hours, or 30 hours where a flight simulator is used, may be instrumentground time. The ground time shall be under the supervision of an authorizedinstructor.

(d) *Flight Instruction.*

(1) The applicant for an IR (A) shall have not less than 10 hours of the instrument flight time required in (c)(2)(ii) while receiving and logging dual instruction inairplanes from an authorized flight instructor, on the subjects listed in IS 2.3.3.6Appendix B.

(2) The instructor shall ensure that the applicant has operational experience in atleast the following areas to the level of performance required for the holder of aninstrument rating:

(i) pre-flight procedures, including the use of the flight manual or equivalent document, and appropriate air traffic services documents in the preparation ofan IFR flight plan;

(ii) pre-flight inspection, use of checklists, taxiing and pre-take-off checks;

(iii) procedures and maneuvers for IFR operation under normal, abnormal andemergency conditions covering at least:

(A) transition to instrument flight on take-off;

(B) standard instrument departures and arrivals;

(C) en-route IFR procedures and navigation;

(D) holding procedures;

(E) instrument approaches to specified minima;

(F) missed approach procedures;

(G) landings from instrument approaches;

(iv) in flight maneuvers and particular flight characteristics.

(3) If the privileges of the instrument rating are to be exercised on multi-engine airplanes, the applicant shall have received dual instrument flight instruction insuch an airplane from an authorized flight instructor. The instructor shall ensurethat the applicant has operational experience in the operation of the airplanesolely by reference to instruments with one engine inoperative or simulatedinoperative.

(e) *Skill.* The applicant for an IR (A) shall:

(1) have received an endorsement from an authorized instructor who certifies that the person is prepared for the required skill test; and

(2) have demonstrated by passing a skill test the ability to perform the areas ofoperation described in IS 2.3.3.6 Appendix B, with a degree of competencyappropriate to the privileges granted to the holder of an IR (A), and to:

(i) operate the airplane within its limitations;

(ii) complete all maneuvers with smoothness and accuracy;

(iii) exercise good judgment and airmanship;

(iv) apply aeronautical knowledge; and

(v) maintain control of the airplane at all times in a manner such that the successful outcome of a procedure or maneuver is never seriously in doubt,

(vi) understand and apply crew coordination and incapacitation procedures, and

(vii) communicate effectively with the other flight crew members

(3) have demonstrated by passing a skill test the ability to operate multi-engine airplanes solely by reference to instruments with one engine inoperative, orsimulated inoperative, described in IS 2.3.3.6 Appendix B, if the privileges of theinstrument rating are to be exercised on such airplanes.

(f) *Medical fitness.* Applicants who hold a PPL shall have established their hearing acuity on the basis of compliance with the hearing requirements for the issue of a Class 1Medical Certificate.

(g) *Privileges.* Subject to compliance with the requirements specified in this Part, theprivileges of the holder of an IR(A) shall be to pilot airplanes under IFR.

(1) Before exercising the privileges on multi-engine airplanes the holder of the rating shall have complied with the requirements of (e) (3).

(h) *Validity.* Subject to compliance with the requirements specified in this Part, the validity period of an IR (A) is 1 year.

(i) *Renewal:*

(1) For the renewal of a single-engine instrument rating the applicant shall within the preceding 12 calendar months, complete proficiency check on the subjects listedin IS 2.3.3.6 Appendix B.

(2) For the renewal of a multi-engine instrument rating the applicant shall within thepreceding 12 calendar months, complete proficiency check on the subjects listedin IS 2.3.3.6 Appendix B.

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(3) If a pilot takes the proficiency check required in this section in the calendar monthbefore or the calendar month after the month in which it is due; the pilot isconsidered to have taken it in the month in which it was due for the purpose ofcomputing when the next proficiency check is due.

(j) *Re-issue.* If the instrument rating has been expired the applicant shall:

(1) have received refresher training from an authorized instructor with anendorsement that the person is prepared for the required skill test; and

(2) pass the required skill test on the subjects listed in IS 2.3.3.6 Appendix B.

2.3.3.7 PRIVATE PILOT LICENSE - HELICOPTER

(a) *Age.* The applicant for a PPL (H) shall be not less than 17 years of age.

(b) *Knowledge.* The applicant for an PPL(H) shall

(1) receive and log ground training from an authorized instructor on the followingsubjects:

(i) Air law: rules and regulations relevant to the holder of a PPL (H); rules of theair; appropriate air traffic services practices and procedures

(ii) Aircraft general knowledge:

(A) principles of operation of helicopter power-plants, transmission (powertrains),systems and instruments;

(B) operating limitations of helicopters and power-plants: relevant operationalinformation from the flight manual;

(iii) Flight performance and planning:

(A) effects of loading and mass distribution on flight characteristics; mass andbalance calculations;

(B) use and practical application of take-off, landing and other performancedata;

(C) pre-flight and en-route flight planning appropriate to private operationsunder 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;

(iv) Human performance: human performance relevant to the PPL(H)

(v) Meteorology: application of elementary aeronautical meteorology; use of, andprocedures for obtaining, meteorological information; altimetry

(vi) Navigation: practical aspects of air navigation and dead reckoning techniques;use of aeronautical charts:

(vii) Operational procedures:

(A) use of aeronautical documentation such as AIP, NOTAM, aeronauticalcodes and abbreviations:

(B) appropriate precautionary and emergency procedures, including action tobe taken to avoid hazardous weather and wake turbulence; settling withpower, ground resonance, rollover and other operating hazards;

(viii) Principles of flight: principles of flight relating to helicopters;

(ix) Radiotelephony:

(A) radiotelephony procedures and phraseology as applied to VFROperations; action to be taken in case of communication failure;

(B) as further specified in IS 2.3.3.6 Appendix A.

(2) have received an endorsement for the knowledge test from an authorized instructor who:

(i) conducted the training on the knowledge subjects

(ii) certifies that the person is prepared for the required knowledge test; and

(3) pass the required knowledge test on the knowledge areas listed in IS 2.3.3.6 Appendix A

(c) *Experience.*

(1) The applicant for a PPL (H) shall have completed not less than 40 hours of flight time as pilot of airplanes, a total of 5 hours may have been completed in a flightsimulator or flight procedures trainer.

(2) The applicant shall have completed in helicopter not less than 10 hours of solo flight time under the supervision of an authorized flight instructor, including 5hours of solo cross-country flight time with at least one cross-country flight totalingnot less than 180 km (100 nm) in the course of which landings at two differentpoints shall be made.

(3) The holder of pilot licenses in other categories may be credited with 10 hours ofthe total flight time as pilot-in-command towards a PPL (H).

(d) *Flight Instruction.*

(1) The applicant for a PPL(H) shall receive and log not less than 20 hours of dual instruction from an authorized instructor on the subjects listed in IS 2.3.3.6Appendix B. These 20 hours may include 5 hours completed in a flight simulatoror flight procedures trainer. The 20 hours of dual instruction shall include at least 5hours of solo cross-country flight time with at least one cross-country flight totalingnot less than 180 km (100 NM) in the course of which landings at two differentpoints shall be made.

(2) The instructor shall ensure that the applicant has operational experience in atleast the following areas to the level of performance required for the private pilot:

(i) pre-flight operations. including mass and balance determination, helicopter inspection and servicing;

(ii) aerodrome and traffic pattern operations, collision avoidance precautions andprocedures;

(iii) control of the helicopter by external visual reference;

(iv) recovery at the incipient stage from settling with power; recovery techniquesfrom low-rotor rpm within the normal range of engine rpm; groundmaneuvering and run-ups; hovering; take-offs and landings — normal, out ofwind and sloping ground;

(v) take-offs and landings with minimum necessary power; maximumperformance take-off and landing techniques; restricted site operations; quickstops;

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

(vii) emergency operations, including simulated helicopter equipment malfunctions; autorotative approach and landing; and

(viii) operations to, from and transmitting controlled aerodromes, compliance withair traffic services procedures, radiotelephony procedures and phraseology

(ix) as further specified in IS 2.3.3.6 Appendix B.

(3) If the privileges of the PPL (H) are to be exercised at night, the applicant shall have received 4 hours dual instruction in helicopters in night flying, including takeoffs,landings and 1 hour of navigation.

(e) *Skill.* The applicant for a PPL (H) shall:

(1) have received an endorsement from an authorized instructor who certifies that the person is prepared for the required skill test; and

(2) have demonstrated by passing a skill test the ability to perform as pilot-incommandof a helicopter, the areas of operation described in IS 2.3.3.6 AppendixB, with a degree of competency appropriate to the privileges granted to the holderof a PPL(A), and to

(i) operate the helicopter within its limitations;

(ii) complete all maneuvers with smoothness and accuracy;

(iii) exercise good judgment and airmanship;

(iv) apply aeronautical knowledge; and

(v) maintain control of the helicopter at all times in a manner such that the successful outcome of a procedure or maneuver is never seriously in doubt.

(f) *Medical fitness.* The applicant for a PPL(H) shall hold a current Class 2 MedicalCertificate.

(g) *Privileges.* Subject to compliance with the requirements specified in this Part, the privileges of the holder of a PPL(H) shall be to act, but not for remuneration, as pilotin-command or co-pilot of any helicopter engaged in non-revenue flights.

(h) *Validity.* Subject to compliance with the requirements specified in this Part, the validityperiod of the license is 2 years. For renewal of the license see 2.2.3.

2.3.3.8 COMMERCIAL PILOT LICENSE - HELICOPTER

(a) *Age.* The applicant for a CPL(H) shall be not less than 18 years of age.

(b) *Knowledge.* The applicant for an CPL(H) shall:

(1) receive and log ground training from an authorized instructor on the following subjects:

(i) Air law: rules and regulations relevant to the holder of a CPL (H); rules of the air; appropriate air traffic services practices and procedures

(ii) Aircraft general knowledge

(A) principles of operation and functioning of helicopter power-plants, transmission (power-trains) systems and instruments;

(B) operating limitations of appropriate helicopters and power-plants; relevantoperational information from the flight manual;

(C) use and serviceability checks of equipment and systems of appropriatehelicopters;

(D) maintenance procedures for airframes, systems and power-plants ofappropriate helicopters;

(iii) Flight performance and planning:

(A) effects of loading and mass distribution, including external loads, on helicopter handling, flight characteristics and performance; mass andbalance calculations;

(B) use and practical application of take-off, landing and other performancedata;

(C) pre-flight and en-route flight planning appropriate to operations underVFR; preparation and filing of air traffic services flight plans; appropriateair traffic services procedures;

(iv) Human performance: human performance relevant to the CPL (H);

(v) Meteorology:

(A) interpretation and application of aeronautical meteorological reports, charts and forecasts; use of, and procedures for obtaining, meteorologicalinformation, pre-flight and in-flight; altimetry;

(B) aeronautical meteorology; climatology of relevant areas in respect of theelements having an effect upon aviation; the moment of pressuresystems, the structure of fronts, and the origin and characteristics ofsignificant weather phenomena which affect take-off, en-route and landingconditions, hazardous weather avoidance;

(vi) Navigation: air navigation, including the use of aeronautical charts, instruments and navigation aids; understanding of the principles andcharacteristics of appropriate navigation systems; operation of air borneequipment.

(vii) Operation procedures

(A) use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations;

(B) appropriate precautionary and emergency procedures; settling withpower, ground resonance, roll-over and other operating hazards;

(C) operational procedures for carriage of freight, including external loads;potential hazards associated with dangerous goods;

(D) requirements and practices for safety briefing to passengers, includingprecautions to be observed when embarking and disembarking fromhelicopters;

(viii) Principles of flight: principles of flight relating to helicopters;

(ix) Radiotelephony:

(A) radiotelephony procedures and phraseology as applied to VFR operations; action to be taken in case of communication failure; and

(B) as further specified in IS 2.3.3.8 Appendix A.

(2) have received an endorsement for the knowledge test from an authorized instructor who:

(i) conducted the training on the knowledge subjects;

(ii) certifies that the person is prepared for the required knowledge test; and

(3) pass the required knowledge test on the knowledge subjects listed in IS 2.3.3.8 Appendix A.

(c) *Experience.*

(1) The applicant for a CPL(H) license shall have completed not less than 150 hours of flight time, or 100 hours if completed during an integrated course of approvedtraining provided for in an Aviation Training Organization Part 3, as a pilot ofhelicopters, of which 10 hours may have been completed in a flight simulator orflight procedures trainer.

(2) The applicant shall have completed in helicopters not less than:

(i) 35 hours as pilot-in-command;

(ii) 10 hours of cross-country flight time as pilot-in-command including a crosscountryflight in the course of which full-stop landings at two different pointsshall be made;

(iii) 10 hours of instrument instruction time of which not more than 5 hours may beinstrument ground time;

(iv) if the privileges of the license are to be exercised at night, 5 hours of nightflight time including 5 take-offs and 5 landings as pilot-in-command.

(3) The holder of a pilot license in the helicopter category may be credited towards the 150 hours of flight time as follows:

(i) 20 hours as pilot-in-command holding a PPL(A) in airplanes; or

(ii) 50 hours as pilot-in-command holding a CPL(A) in airplanes.

(4) The applicant for a CPL (H) shall hold a PPL(H) under this Part.

(d) *Flight Instruction.*

(1) The applicant for a CPL (H) shall have received and log not less than 30 hours of dual instruction in helicopters from an authorized flight instructor under Part 3 onthe subjects listed in IS 2.3.3.8 Appendix B.

(2) The instructor shall ensure that the applicant has operational experience in atleast the following areas to the level of performance required for the commercialpilot:

(i) Pre-flight operations. including mass and balance determination, helicopter inspection and servicing;

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

(iii) control of the helicopter by external visual reference;

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

(v) ground maneuvering and run-ups; hovering; take-offs and landings - normal, out of wind and sloping ground; steep approaches;

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

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

(viii) basic flight maneuvers and recovery from unusual attitudes by reference solely to basic flight instruments;

(ix) cross-country flying using visual reference, dead reckoning and radio navigation aids; diversion procedures

(x) abnormal and emergency procedures. including simulated helicopter equipment malfunctions; autorotative approach and landing; and

(xi) operations to, from and transmitting controlled aerodromes, compliance with air traffic services procedures, radiotelephony procedures and phraseology

(xii) as further specified in IS 2.3.3.8 Appendix B.

(3) If the privileges of the license are to be exercised at night, the applicant shall have received dual instruction in helicopters in night flying, including take-offs, landingsand navigation.

(e) *Skill.* The applicant for a CPL (H) shall:

(1) have received an endorsement from an authorized instructor who certifies that the person is prepared for the required skill test; and

(2) have demonstrated by passing a skill test the ability to perform as pilot-incommandof an helicopter, the areas of operation described in IS 2.3.3.7Appendix B, with a degree of competency appropriate to the privileges granted tothe holder of a CPL(H), and to

(i) operate the helicopter within its limitations;

(ii) complete all maneuvers with smoothness and accuracy;

(iii) exercise good judgment and airmanship;

(iv) apply aeronautical knowledge; and

(v) maintain control of the helicopter at all times in a manner such that thesuccessful outcome of a procedure or maneuver is never seriously in doubt.

(f) *Medical fitness.* The applicant for a CPL(H) shall hold a current Class 1 Medical Certificate.

(g) *Privileges.* Subject to compliance with the requirements specified in this Part, theprivileges of the holder of a CPL(H) shall be:

(1) to exercise all the privileges of the holder of a PPL(H);

(2) to act as pilot-in-command in any helicopter engaged in operations other than commercial air transportation;

(3) to act as pilot-in-command in commercial air transportation in any helicopter certificated for single-pilot operation; and

(4) to act as co-pilot in commercial air transportation in helicopters required to be operated with a copilot.

(h) *Validity.* Subject to compliance with the requirements specified in this Part, the validity period of the license is 1 year. For renewal of the license see Subpart 2.2.3.

2.3.3.9 AIRLINE TRANSPORT PILOT LICENSE - HELICOPTER

(a) *Age.* The applicant for an ATPL (H) shall be not less than 21 years of age.

(b) *Knowledge.* The applicant for an ATPL(H) shall:

(1) receive and log ground training from an authorized instructor on the following subjects

(i) Air law: rules and regulations relevant to the holder of an ATPL(H); rules of the air; appropriate air traffic services practices and procedures

(ii) Aircraft general knowledge:

(A) general characteristics and limitations of electrical, hydraulic and other helicopter systems; flight control systems, including autopilot and stability augmentation;

(B) principles of operation, handling procedures and operating limitations of helicopter power-plants; transmission (power-trains); effects of atmospheric conditions on helicopter performance; relevant operational information from the flight manual;

(C) operating procedures and limitations of appropriate helicopters; effects of atmospheric conditions on helicopter performance; relevant operational information from the flight manual:

(D) use and serviceability checks of equipment and systems of appropriate helicopters 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;

(E) maintenance procedures for airframes, systems and power-plants of appropriate helicopters;

(iii) Flight performance and planning:

(A) effects of loading and mass distribution, including external loads, on helicopter handling, flight characteristics and performance; mass andbalance calculations;

(B) use and practical application of take-off, landing and other performancedata, including procedures for cruise control;

(C) pre-flight and en-route operational flight planning; preparation and filing ofair traffic services flight plans; appropriate air traffic services procedures;altimeter setting procedures

(iv) Human performance: human performance relevant to the ATPL(H)

(v) Meteorology:

(A) interpretation and application of aeronautical meteorological reports. charts and forecasts; codes and abbreviations; use of, and procedures forobtaining, meteorological information, pre-flight and in-flight; altimetry;

(B) aeronautical meteorology; climatology of relevant areas in respect of theelements having an effect upon aviation; the moment of pressuresystems; the structure of fronts, and the origin and characteristics ofsignificant weather phenomena which affect take-off, en-route and landingconditions;

(C) causes, recognition and effects of engine, airframe and rotor icing;hazardous weather avoidance;

(vi) Navigation:

(A) Air navigation, including the use of aeronautical charts. radio navigation aids and area navigation systems; specific navigation requirements forlong-range flights;

(B) use. limitation and serviceability of avionics and instruments necessary forthe control and navigation of helicopters;

(C) use, accuracy and reliability of navigation systems; identification of radionavigation aids:

(D) principles and characteristics of self-contained and external-referencednavigation systems; operation of airborne equipment;

(vii) Operation procedures:

(A) Interpretation and use of aeronautical documentation such as AIP. NOTAM, aeronautical codes and abbreviations;

(B) precautionary and emergency procedures; settling with power. Groundresonance, retreating blade stall. dynamic roll-over and other operatinghazards; safety practices associated with flight under VFR;

(C) operational procedures for carriage of freight, including external load, anddangerous goods;

(D) requirements and practices for safety briefing to passengers, includingprecautions to be observed when embarking and disembarking fromhelicopters;

(viii) Principles of flight: principles of flight relating to helicopters;

(ix) Radiotelephony:

(A) radiotelephony procedures and phraseology as applied to VFR operations; action to be taken in case of communication failure

(B) as further specified in IS 2.3.3.9 Appendix A.

(2) have received an endorsement for the knowledge test from an authorized instructor who:

(i) conducted the training on the knowledge subjects;

(ii) certifies that the person is prepared for the required knowledge test; and

(3) pass the required knowledge test on the knowledge subjects listed in IS 2.3.3.9 Appendix A.

(c) *Experience.*

(1) The applicant for an ATPL (H) shall have completed not less than 1000 hours of flight time as a pilot of helicopters of which a maximum of 100 hours may havebeen completed in a flight simulator. The applicant shall have completed inhelicopters not less than:

(i) 250 hours. either as pilot-in-command, or made up by not less than 100 hours as pilot-in-command and the necessary additional flight time as co-pilotperforming, under the supervision of the pilot-in-command, the duties andfunctions of a pilot-in-command; provided that the method of supervisionemployed is acceptable to the Authority;

(ii) 200 hours of cross-country flight time, of which not less than 100 hours shallbe as pilot-in-command or as co-pilot performing, under the supervision of thepilot-in-command, the duties and functions of a pilot-in-command, providedthat the method of supervision employed is acceptable to the Authority;

(iii) 30 hours of instrument time, of which not more than 10 hours may beinstrument ground time; and

(iv) 50 hours of night flight as pilot-in-command or as co-pilot.

(2) Holders of a CPL (A) will be credited with 50% of their airplane flight time as pilotin-command towards the flight time required in (1).

(3) The applicant shall have completed a CRM course on the subjects listed in IS2.3.2.4 Appendix B.

(4) The applicant for an ATPL (H) shall be the holder of a CPL (H) issued under thisPart.

(d) *Flight Instruction.* The applicant for an ATPL (H) shall have received the dual flight instruction required for the issue of the CPL (H).

(e) *Skill.* The applicant for a ATPL (H) shall:

(1) have received an endorsement from an authorized instructor who certifies that the person is prepared for the required skill test; and

(2) have demonstrated by passing a skill test the ability to perform, as pilot-incommandof a helicopter required to be operated with a co-pilot, the followingprocedures and maneuvers:

(i) pre-flight procedures, including the preparation of the operational flight plan and filing of the air traffic services flight plan;

(ii) normal flight procedures and maneuvers during all phases of flight;

(iii) if the IR is going to be part of the ATPL(H): procedures and maneuvers for IFR operations under normal, abnormal and emergency conditions, including simulated engine failure, and covering at least the following:

(A) transition to instrument flight on take-off;

(B) standard instrument departures and arrivals;

(C) en-route IFR procedures and navigation;

(D) holding procedures;

(E) instrument approaches to specified minima;

(F) missed approach procedures;

(G) landings from instrument approaches;

(iv) abnormal and emergency procedures and maneuvers related to failures and malfunctions of equipment. such as power-plant, systems and airframe; and

(v) procedures for crew incapacitation and crew coordination, including allocation of pilot tasks, crew cooperation and use of checklists.

(3) have demonstrated by passing a skill test the ability to perform the areas of operation described in IS 2.3.3.9 Appendix B, with a degree of competencyappropriate to the privileges granted to the holder of an ATPL(H), and to:

(i) operate the helicopter within its limitations;

(ii) complete all maneuvers with smoothness and accuracy;

(iii) exercise good judgment and airmanship;

(iv) apply aeronautical knowledge;

(v) maintain control of the helicopter at all times in a manner such that the successful outcome of a procedure or maneuver is never seriously in doubt;

(vi) understand and apply crew coordination and incapacitation procedures; and

(vii) communicate effectively with the other flight crew members

(f) *Medical fitness.* The applicant for an ATPL (H) shall hold a current Class 1 Medical Certificate,except for:

(i) Check Airman Qualifications for Flight Simulation Training Device as provided for under 8.10.1.39 (b) (1); and

(ii) Check Airmen who have reached their 65th birthday or who do not have an appropriate medical certificate as provided for under 8.10.1.39 (d) and 8.10.1.1 (c). (21 March 2011)

(g) *Privileges.* Subject to compliance with the requirements specified in this Part, theprivileges of the holder of an ATPL (H) shall be:

(1) to exercise all the privileges of the holder of a PPL (H) and CPL (H); and

(2) to act as pilot-in-command and co-pilot in helicopters in air transportation.

(h) *Validity.* Subject to compliance with the requirements specified in this Part, the validity period of the license is 1 year. For renewal of the license see Subpart 2.2.3.

2.3.3.10 INSTRUMENT RATING – HELICOPTER

(a) *General.* The holder of a pilot license shall not act either as pilot-in-command or as copilot of an aircraft under instrument flight rules (IFR) unless such holder has receivedproper Authorization

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from the Authority. Proper Authorization shall comprise aninstrument rating appropriate to the aircraft category.

(b) *Knowledge.* The applicant for an IR (H) shall:

(1) receive and log ground training from an authorized instructor on the following subjects:

(i) Air law: rules and regulations relevant to flight under IFR; related air traffic services practices and procedures;

(ii) Aircraft general knowledge:

(A) use, limitation and serviceability of avionics and instruments necessary for the control and navigation of helicopters under IFR and in instrumentmeteorological conditions; use and limitations of autopilot;

(B) compasses, turning and acceleration errors; gyroscopic instruments,operational limits and precession effects; practices and procedures in theevent of malfunctions of various flight instruments;

(iii) Flight performance and planning:

(A) pre-flight preparations and checks appropriate to flight under IFR;

(B) operational flight planning; preparation and filing of air traffic servicesflight plans under IFR; altimeter setting procedures;

(iv) Human performance: human performance relevant to instrument flight in helicopters;

(v) Meteorology:

(A) application of aeronautical meteorology; interpretation and use of reports, charts and forecasts; codes and abbreviations: use of, and procedures for obtaining, meteorological information; altimetry;

(B) causes, recognition and effects of engine and airframe icing; frontal zonepenetration procedures; hazardous weather avoidance;

(vi) Navigation:

(A) practical air navigation using radio navigation aids,

(B) use; accuracy and reliability of navigation systems used in departure, enroute, approach and landing phases of flight; identification of radio navigation aids;

(vii) Operation procedures:

(A) interpretation and use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations, and instrument procedurecharts for departure, en-route, descent and approach;

(B) precautionary and emergency procedures; safety practices associatedwith flight under IFR:

(viii) Radiotelephony:

(A) radiotelephony procedures and phraseology as applied to aircraft operations under IFR; action to be taken in case of communication failure;

(B) as further specified in IS 2.3.3.5 Appendix A.

(2) have received an endorsement for the knowledge test from an authorized instructor who:

(i) conducted the training on the knowledge subjects;

(ii) certifies that the person is prepared for the required knowledge test; and

(3) pass the required knowledge test on the knowledge subjects listed in IS 2.3.3.5 Appendix A.

(c) *Experience.*

(1) The applicant for an IR (H) shall hold a PPL (H), a CPL (H) or an ATPL (H).

(2) The applicant shall have completed not less than:

(i) 50 hours of cross-country flight time as pilot-in-command of aircraft in categories acceptable to the Authority, of which not less than 10 hours shall be in helicopters; and

(ii) 40 hours of instrument time in helicopters or airplanes 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.

(d) *Flight Instruction.*

(1) The applicant for an IR(H) shall have gained not less than 10 hours of the instrument flight time required in (c)(2)(ii) while receiving and logging dual instruction in helicopters from an authorized flight instructor, on the subjects listed in IS 2.3.3.5 Appendix B.

(2) 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:

(i) 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;

(ii) pre-flight inspection, use of checklists, taxiing and pre-take-off checks;

(iii) procedures and maneuvers for IFR operation under normal, abnormal andemergency conditions covering at least:

(A) transition to instrument flight on take-off:

(B) standard instrument departures and arrivals;

(C) en-route IFR procedures and navigation:

(D) holding procedures:

(E) instrument approaches to specified minima;

(F) missed approach procedures:

(G) landings from instrument approaches:

(iv) in flight maneuvers and particular flight characteristics.

(3) If the privileges of the instrument rating are to be exercised on multi-engine helicopters, the applicant shall have received dual instrument flight instruction insuch an helicopter from an authorized flight instructor. The instructor shall ensurethat the applicant has operational experience in the operation of the helicoptersolely by reference to instruments with one engine inoperative or simulatedinoperative.

(e) *Skill.* The applicant for an IR(H) shall:

(1) have received an endorsement from an authorized instructor who certifies that the person is prepared for the required skill test; and

(2) have demonstrated by passing a skill test the ability to perform the areas of operation described in IS: 2.3.3.5 Appendix B, with a degree of competency appropriate to the privileges granted to the holder of an IR(H), and to:

(i) operate the helicopter within its limitations:

(ii) complete all maneuvers with smoothness and accuracy:

(iii) exercise good judgment and airmanship;

(iv) apply aeronautical knowledge; and

(v) maintain control of the helicopter at all times in a manner such that the successful outcome of a procedure or maneuver is never seriously in doubt.

(f) *Medical fitness.* Applicants who hold a PPL shall have established their hearing acuity on the basis of compliance with the hearing requirements for the issue of a Class 1 Medical Certificate.

(g) *Privileges.* Subject to compliance with the requirements specified **in** this Part, the privileges of the holder of an IR(H) shall be to pilot helicopters under IFR.

(h) *Validity.* Subject to compliance with the requirements specified in this Part, the validity period of the instrument rating is 1 year.

(i) *Renewal.*

(1) For the renewal of an IR(H) the applicant shall within the preceding 12 calendar months, complete a proficiency check on the subjects listed in IS 2.3.3.5 AppendixB.

(2) If a pilot takes the proficiency check required in this section in the calendar monthbefore or the calendar month after the month in which it is due, the pilot isconsidered to have taken it in the month in which it was due for the purpose ofcomputing when the next proficiency check is due.

(j) *Re-issue.* If the instrument rating has been expired the applicant shall:

(1) have received refresher training from an authorized instructor with an endorsement that the person is prepared for the required skill test; and

(2) pass the required skill test on the subjects listed in IS: 2.3.3.5 Appendix B.

2.3.3.11 INSTRUCTOR RATINGS - AIRPLANE AND HELICOPTER

(a) *General.* The applicant for an instructor rating or Authorization - airplane or helicopter, shall

(1) hold at least the license and rating for which instruction is being given, in the appropriate category; and

(2) hold the license and rating necessary to act as the pilot-in-command of the aircraft on which the instruction is given; or

(3) hold a specific Authorization granted by the Authority.

(b) *Flight Instructors*

(1) *Age.* The applicant for a flight instructor rating (FI) shall be not less than 18 years of age.

(2) *Knowledge:*

(i) The applicant for an Fl rating shall have met the knowledge requirements for the issue of a CPL as specified in Subparts 2.3.3.3 and 2.3.3.7, as applicable.

(ii) In addition, the applicant for an FI rating shall receive and log ground training from an authorized instructor on the following subjects:

(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 program development;

(G) lesson planning

(H) classroom instructional techniques;

(I) use of training aids;

(J) analysis and correction of student errors;

(K) human performance relevant to flight instruction; and

(L) hazards involved in simulating system failures and malfunctions in the aircraft

(iii) Have received an endorsement for the knowledge test from an authorized instructor who:

(A) conducted the training on the knowledge subjects;

(B) certifies that the person is prepared for the required knowledge test; and

(iv) pass the required knowledge test on the knowledge subjects listed in (2).

(A) This test may be combined with the test under (5).

(v) The holder of an FI rating, issued under this Part, applying for an additional Flrating is exempted from this paragraph (2).

(3) *Experience.* The applicant for an Fl rating shall have completed not less than 200 hours of flight time on single-pilot aircraft of the appropriate category.

(4) *Flight Instruction.* The applicant for an FI rating shall, under the supervision of an instructor accepted by the Authority for that purpose

(i) have received instruction in flight instructional techniques including demonstration, student practices, recognition and correction of commonstudent errors; and

(ii) have practiced instructional techniques in those flight maneuvers and procedures in which it is intended to provide flight instruction listed in IS: 2.3.3.11 Appendix A or B, as applicable.

(5) *Skill.* The applicant for an FI rating shall:

(i) have received an endorsement from an authorized instructor who certifies that the person is prepared for the required skill test; and

(ii) pass the required skill test on the subjects listed in IS: 2.3.3.11 Appendix A or B, as applicable.

(c) *Privileges.* Subject to compliance with the requirements specified in this Part,

(1) the privileges for the holder of an Fl rating shall be:

(i) to supervise solo flights by student pilots;

(ii) to carry out flight instruction for the issue of a PPL;

(iii) to carry out flight instruction for the issue of a CPL if he or she has completed 500 hrs of flight time and 200 hours of flight instruction;

(iv) to carry out flight instruction for the issue of a single-engine class rating if he or she has 15 hrs on the applicable type in the preceding 12 months;

(v) to carry out flight instruction for the issue of a multi-engine class rating if he or she has 500 hrs flight time and 15 hours on the applicable type in the preceding 12 months; and

(vi) to carry out flight instruction for the issue of an instructor rating, if he or she has completed 500 hours of instruction in the appropriate category.

(2) the privileges of the holder of a Fl instrument rating shall be to carry out flight instruction for the issue of an IR, if he or she has completed 200 hours flight inaccordance with instrument flight rules and passed the test on the subjects listedin IS 2.3.3.11 Appendix B.

(d) *Instructor rating for additional type ratings:*

(1) Subject to compliance with this Subpart, pilots having experience in accordance with paragraph (3) below, may apply for an instructors rating for additional typeratings.

(2) Knowledge.

(i) The applicant for an instructor rating for additional type ratings shall receive and log ground training from an authorized instructor on the followingsubjects:

(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 program development;

(G) lesson planning;

(H) classroom instructional techniques;

(I) use of training aids;

(J) analysis and correction of student errors;

(K) human performance relevant to flight instruction; and

(L) hazards involved in simulating system failures and malfunctions in the aircraft;

(ii) shall have received an endorsement for the knowledge test from an authorized instructor who

(A) conducted the training on the knowledge subjects;

(B) certifies that the person is prepared for the required knowledge test; and

(iii) pass the required knowledge test on the subjects listed in (2) (i).

(A) The test may be combined with the test under (5).

(iv) The holder of an instructor rating for additional type ratings is exempted from this paragraph.

(3) Experience:

(i) The applicant for an instructor rating for additional type ratings shall have completed:

(A) for single-pilot type rating instruction 500 hours of flight time as pilot-incommand

(B) for multi-pilot type rating instruction 500 hours of flight time as pilot-incommandon multi-pilot aircraft of the appropriate category including 30route sectors in the preceding 12 months of which 15 sectors may havebeen completed in a flight simulator.

(4) *Flight Instruction:* The applicant for an instructor rating for additional type ratings shall, under the supervision of an instructor accepted by the Authority for thatpurpose:

(i) have received instruction in instructional techniques including demonstration, student practices, recognition and correction of common student errors; and

(ii) have practiced instructional techniques in those flight maneuvers and procedures in which it is intended to provide instruction on the subjects listed in Appendix C for type rating instructor.

(5) *Skill.* The applicant shall have demonstrated in a skill test, in the category and in type of aircraft for which instructor privileges are sought, the ability to instruct inthose areas in which instruction is to be given, including pre-flight, post-flight andground instruction as appropriate on the subjects listed in IS: 2.3.3.11 Appendix Cfor type rating instructor.

(6) *Privileges.* Subject to compliance with the requirements specified in this Part, theprivileges of the holder of a instructor rating are to carry out flight instruction forthe issue of an additional type rating including CRM training in the appropriatecategory.

(e) *Instructor Authorization for synthetic flight training.*

(1) Notwithstanding Subpart 2.3.3.11 (a), former holders of professional pilot licenses, having instructional experience can apply for an Authorization to provide flight instruction in a synthetic flight trainer, provided the applicant has at least two (2) years experience as instructor in synthetic flight trainers.

(2) *Skill.* The applicant shall have demonstrated in a skill test, in the category and in the class or type of aircraft for which instructor Authorization privileges are sought, the ability to instruct in those areas in which ground instruction is to be given.

(3) *Privileges.* Subject to compliance with the requirements specified in this Part, the privileges of the holder of an Authorization are to carry out synthetic flight training instruction for the issue of a class or type rating in the appropriate category.

(f) *Validity.* Subject to compliance with the requirements specified **in** this Part, the validity period of instructor ratings and Authorization is two (2) years.

(g) Renewal.

(1) For the renewal of an Fl rating the applicant shall:

(i) have conducted at least 30 hours of flight instruction within the 12 months preceding the expiry date; or

(ii) within the preceding 24 calendar months complete a proficiency check on the subjects listed in IS: 2.3.3.11 Appendix A or B, as applicable.

(2) For the renewal of an instructor rating for additional class ratings the applicant shall:

(i) have conducted at least 30 hours of flight instruction within the 12 months preceding the expiry date; or

(ii) within the preceding 24 calendar months complete a proficiency check on the subjects listed in IS: 2.3.3.11 Appendix A.

(3) For the renewal of an instructor rating for additional type ratings the applicant shall:

(i) have conducted one simulator session of at least 3 hours or one air exercise of at least 1 hour of a type rating course in the preceding 12 months; and

(ii) within the preceding 24 calendar months complete a proficiency check on the subjects listed in IS: 2.3.3.11 Appendix C.

(4) For the renewal of an instructor Authorization for synthetic flight training the applicant shall:

(i) have conducted one simulator session of at least 3 hours of a type rating course in the preceding 12 months.

(5) If an instructor takes the proficiency check required in this section in the calendar month before or the calendar month after the month in which it is due, the instructor is considered to have taken it in the month in which it was due for the purpose of computing when the next proficiency check is due

(h) *Re-issue.* If the instructor rating or Authorization has been expired the applicant shall:

(1) have received refresher training from an authorized instructor with an endorsement that the person is prepared for the required skill test; and

(2) pass the required skill test on the subjects listed in IS 2.3.3.11 Appendix A, B or C, as applicable.

2.3.3.12 EXAMINERS

(a) *General.* Examiners shall hold at least the license and the rating for which they are authorized to conduct skill tests or proficiency checks and shall hold the privilege to instruct for this license or rating.

(b) *Experience.* The applicant for the examiner's Authorization shall have 1,000 hours of flight time and 200 hours of flight instruction.

(c) *Training.* The ground, flight and simulator training for Examiners shall include the subjects listed in IS: 2.3.3.12.

(d) *Skill test.* The applicant for an examiner Authorization shall have conducted at least one skill test in the role of an examiner for which Authorization is sought, including briefing, conduct of the skill test, assessment of the applicant to whom the skill test is given, debriefing and recording/documentation. This skill test shall be supervised by an inspector of the Authority or by a senior examiner specifically authorized by the Authority for this purpose.

(e) *Privileges.* Subject to compliance with the requirements specified in this Part, the privileges of the examiner's Authorization are to conduct skill tests and proficiency checks for a license and rating(s).

(f) *Validity.* Subject to compliance with the requirements specified in this Part, the validity period of an examiner's Authorization is three (3) years. Re-Authorization will be at the discretion of the Authority.

2.3.3.13 GLIDER PILOT LICENSE

(a) *Age.* The applicant for a glider pilot license shall be not less than 16 years of age.

(b) *Knowledge.* The applicant for a glider pilot license shall:

(1) receive training on the knowledge subjects:

(i) Air law: rules and regulations relevant to the holder of a glider pilot license; rules of the air; appropriate air traffic services practices and procedures;

(ii) Aircraft general knowledge:

(A) principles of operation of glider systems and instruments;

(B) operating limitations of gliders; relevant operational information from the flight manual or other appropriate document;

(iii) Flight performance and planning:

(A) effects of loading and mass distribution on flight characteristics; mass and balance considerations:

(B) use and practical application of launching, landing and other performance data;

(C) 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:

(iv) Human performance: human performance relevant to the glider pilot;

(v) Meteorology: application of elementary aeronautical meteorology; use of, and procedures for obtaining, meteorological information; altimetry;

(vi) Navigation: practical aspects of air navigation and dead-reckoning techniques, use of aeronautical charts;

(vii) Operation procedures:

(A) use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations;

(B) different launch methods and associated procedures;

(C) appropriate precautionary and emergency procedures, including action to be taken to avoid hazardous weather and wake turbulence and other operating hazards;

(viii) Principles of flight: principles of flight relating to gliders

(2) pass the required knowledge test.

(c) Experience.

(1) The applicant shall have completed not less than 6 hours of flight time as a pilot of gliders including 2 hours' solo flight time during which not less than 20 launches and landings have been performed.

(2) The applicant for a glider pilot license shall have gained, under appropriate supervision, Operational experience in a glider in at least the following areas:

(i) pre-flight operations, including glider assembly and inspection;

(ii) techniques and procedures for the launching method used, including appropriate airspeed limitations, emergency procedures and signals used;

(iii) traffic pattern operations, collision avoidance precautions and procedures;

(iv) control of the glider by external visual reference;

(v) flight throughout the flight envelope;

(vi) recognition of, and recovery from, incipient and full stalls and spiral dives;

(vii) normal and cross-wind launches, approaches and landings;

(viii) cross-country flying using visual reference and dead reckoning;

(ix) emergency procedures.

(3) The holder of a pilot license in the airplane category may be credited with three (3) hours towards the six (6) hours of flight time required for the glider license.

(d) *Skill.* The applicant for a glider pilot license shall have demonstrated by passing the required skill test the ability to perform as pilot-in-command of a glider, the proceduresand maneuvers described in (c) with a degree of competency appropriate to theprivileges granted to the holder of a glider pilot license, and to:

(1) operate the glider within its limitations;

(2) complete all maneuvers with smoothness and accuracy;

(3) exercise good judgment and airmanship;

(4) apply aeronautical knowledge; and

(5) Maintain control of the glider at all times in a manner such that the successful outcome of a procedure or maneuver is never seriously in doubt.

(e) *Medical fitness.* The applicant of a glider pilot license shall holder a current Class 2 Medical Certificate.

(f) *Privileges.* Subject to compliance with the requirements specified **in** this Part, the privileges of the holder of a glider pilot license shall be to act as pilot-in-command of any glider provided that the license holder has operational experience in the launching method used.

(g) *Validity of the license.* Subject to compliance with the requirements specified in this Part, the validity period of the license is 2 years. For renewal of the license see Subpart 2.2.3.

2.3.3.14 FREE BALLOON PILOT LICENSE

(a) *Age.* The applicant for a free balloon pilot license shall be not less than 16 years of age.

(b) *Knowledge.* The applicant for a free balloon pilot license shall:

(1) receive training on the following knowledge subjects:

(i) Air law: rules and regulations relevant to the holder of a free balloon pilot license; rules of the air; appropriate air traffic services practices and procedures;

(ii) Aircraft general knowledge:

(A) principles of operation of free balloon systems and instruments;

(B) operating limitations of free balloons; relevant operational information from the flight manual or other appropriate document;

(C) physical properties and practical application of gases used in free balloons;

(iii) Flight performance and planning:

(A) effects of loading and mass distribution on flight characteristics; mass calculations;

(B) use and practical application of launching, landing and other performance data. including the effect of temperature;

(C) pre-flight and en-route flight planning appropriate to operations underVFR; appropriate air traffic services procedures; altimeter settingprocedures; operations in areas of high-density traffic;

(iv) Human performance: human performance relevant to the free balloon pilot;

(v) Meteorology: application of elementary aeronautical meteorology; use of. And procedures for obtaining, meteorological information; altimetry;

(vi) Navigation: practical aspects of air navigation and dead-reckoning techniques; use of aeronautical charts;

(vii) Operation procedures:

(A) use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations:

(B) appropriate precautionary and emergency procedures, including action to be taken to avoid hazardous weather and wake turbulence and other operating hazards;

(viii) Principles of flight: principles of flight relating to gliders

(ix) Radiotelephony: the applicant should have demonstrated a level of knowledge appropriate to the privileges to be granted to the holder of a free balloon pilot license, in radiotelephony procedures and phraseology as appropriate to VFR operations and on action to be taken in case of communication failure;

(2) pass the required knowledge test.

(c) *Experience.*

(1) The applicant shall have completed not less than 16 hours of flight time as a pilot of free balloons including at least 8 launches and ascents of which one must be solo.

(2) The applicant for a free balloon pilot license shall have gained in free balloons under appropriate supervision operational experience.

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

(d) *Skill.* The applicant for a free balloon pilot license shall have demonstrated by passing the required skill test the ability to perform as pilot-in-command of a free balloon, theprocedures and maneuvers described in (c) with a degree of competency appropriateto the privileges granted to the holder of a free balloon pilot license, and to:

(1) operate the free balloon within its limitations;

(2) complete all maneuvers with smoothness and accuracy;

(3) exercise good judgment and airmanship;

(4) apply aeronautical knowledge; and

(5) Maintain control of the free balloon at all times in a manner such that the successful outcome of a procedure or maneuver is never seriously in doubt.

(e) *Medical fitness.* The applicant for a free balloon pilot license shall hold a current Class 2 Medical Certificate.

(f) *Privileges.*

(1) Subject to compliance with the requirements specified in this Part, the privileges of the holder of a free balloon pilot license shall be to act as a pilot-in-command of any free balloon provided that the license holder has operational experience in hot air or gas balloons, as appropriate.

(2) Before exercising the privileges at night, the license holder shall have complied with the requirements as specified in (c) (3).

(g) *Validity of the license.* Subject to compliance with the requirements specified in this Part, the validity period of the license is 2 years. For renewal of the license seeSubpart 2.2.3.

2.4 FLIGHT ENGINEER LICENSE AND RATINGS

2.4.1 APPLICABILITY

This section prescribes the requirements for the issue, renewal and re-issue of a flight engineers license and ratings.

2.4.2 GENERAL

(a) A person shall not act as a flight engineer of an aircraft registered in Republic of the Philippines unless a valid license or a validation certificate is held showing compliance with the specifications of this Part and appropriate to the duties to be performed by that person.

(b) For the purpose of training, testing or specific special purpose non-revenue, nonpassenger carrying flights, special Authorization may be provided in writing to the license holder by the Authority in place of issuing the class or type rating in accordance with this Part. This Authorization will be limited in validity to the time needed to complete the specific flight.

(c) An applicant shall, before being issued with a flight engineer license, meet such requirements in respect of age, knowledge, experience, skill, medical fitness and language proficiency as are specified for that license or rating.

(d) An applicant shall for renewal or re-issue of a license, rating or Authorization meet the requirements as are specified for that license, rating or Authorization.

2.4.3 TYPE RATING - FLIGHT ENGINEER

(a) *Knowledge.* The applicant for a type rating shall have completed the theoretical knowledge instruction and demonstrated by passing a knowledge test the knowledge subjects as listed in IS: 2.3.2.4 Appendix A.

(b) *Experience.* The applicant for a type rating shall:

(1) have at least 100 hours flight time in the performance of the duties of a flight engineer; and

(2) have completed a CRM course as listed in IS: 2.3.2.4 Appendix B.

(c) *Flight instruction.* The applicant for a type rating shall have completed the flight instruction for the type rating on the subjects listed in IS: 2.4.3.

(d) *Skill.* The applicant for a type rating shall:

(1) have received an endorsement from an authorized instructor who certifies that the person is prepared for the required skill test; and

(2) pass the required skill test on the subjects listed in IS: 2.4.3.

(e) *Privileges.* Subject to compliance with the requirements specified **in** this Part, the privileges of the holder of a type rating are to act as flight engineer on the type of aircraft specified in the rating.

(f) *Validity.* Subject to compliance with the requirements specified in this Part, the validity period of a type rating is 1 year.

(g) *Renewal.* For the renewal of a type rating the flight engineer shall:

(1) within the preceding 12 calendar months complete a proficiency check on the subjects as listed in IS: 2.4.3 and

(2) Have completed 10 route sectors.

(3) If a flight engineer takes the proficiency check required in this section in the calendar month before or the calendar month after the month in which it is due, the flight engineer is considered to have taken it in the month in which it was duefor the purpose of computing when the next proficiency check is due.

(h) *Re-issue*. If a type rating has been expired the applicant shall:

(1) have received refresher training from an authorized instructor with an endorsement that the person is prepared for the required skill test; and

(2) pass the required skill test on the subjects listed in IS: 2.4.3.

2.4.4 FLIGHT ENGINEER LICENSE

(a) Age. The applicant for a flight engineer license shall be not less than 18 years of age.

(b) *Knowledge.* The applicant for a flight engineer license shall:

(1) receive and log ground training from an authorized instructor on the following subjects:

(i) Air law: rules and regulations relevant to the holder of a flight engineer license; rules and regulations governing the operation of civil aircraft pertinent to the duties of a flight engineer;

(ii) Aircraft general knowledge:

(A) basic principles of power-plants; gas turbines and/or piston engines; characteristics of fuels; fuel systems including fuel control; lubricants and lubrication systems; afterburners and injection systems, function and operation of engine ignition and starter systems;

(B) principles of operation; handling procedures and operating limitations of aircraft power-plants; effects of atmospheric conditions on engine performance;

(C) airframes; flight controls; structures; wheel assemblies; brakes and antiskid units; corrosion and fatigue life; identification of structural damage and defects;

(D) ice and rain protection systems;

(E) pressurization and air-conditioning systems; oxygen systems;

(F) hydraulic and pneumatic systems;

(G) basic electrical theory, electric systems (AC and DC); aircraft wiring systems; bonding and screening;

(H) principles of operation of instruments, compasses, autopilots, radio communication equipment, radio and radar navigation aids, flight management systems, displays and avionics;

(I) limitations of appropriate aircraft;

(J) fire protection, detection, suppression and extinguishing systems;

(K) use and serviceability checks of equipment and systems of appropriate aircraft;

(iii) Flight performance and planning:

(A) effects of loading and mass distribution on aircraft handling, flight characteristics and performance; mass and balance calculations;

(B) use and practical application of performance data including procedures for cruise control:

(iv) Human performance: human performance relevant to the flight engineer;

(v) Operational procedures:

(A) principles of maintenance; procedures for the maintenance of airworthiness; defect reporting; pre-flight inspections; precautionary procedures for fuelling and use of external power; installed equipment and cabin systems;

(B) normal, abnormal and emergency procedures;

(C) operational procedures for carriage of freight and dangerous goods;

(vi) Principles of flight: fundamentals of aerodynamics;

(vii) Radiotelephony: radiotelephony procedures and phraseology;

(2) have received an endorsement for the knowledge test from an authorized instructor who:

(i) conducted the training on the knowledge subjects;

(ii) certifies that the person is prepared for the required knowledge test; and

(3) pass the required knowledge test.

(c) *Experience.*

(1) The applicant for a flight engineer license shall have completed under the supervision of a person accepted by the Authority for that purpose, not less than 100 hours of flight time in the performance of the duties of a flight engineer, of which 50 hours may have been completed in a flight simulator.

(2) The holder of a pilot license may be credited with 30 hours towards the 100 hours of flight time.

(3) The applicant shall have operational experience in the performance of the duties of a flight engineer, under the supervision of a flight engineer accepted by the Authority for that purpose, in at least the following areas:

(i) Normal procedures:

(A) pre-flight inspections

(B) fuelling procedures, fuel management

(C) inspection of maintenance documents

(D) normal flight deck procedures during all phases of flight

(E) crew coordination and procedures in case of crew incapacitation

(F) defect reporting

(ii) Abnormal and alternate (standby) procedures:

(A) recognition of abnormal functioning of aircraft systems

(B) use of abnormal and alternate (standby) procedures

(iii) Emergency procedures:

(A) recognition of emergency conditions

(B) use of appropriate emergency procedures as further specified in IS: 2.4.3.

(4) The applicant shall have completed a CRM course as listed in IS: 2.3.2.4 Appendix B.

(d) *Flight instruction.* The applicant for a type rating shall have completed the flight instruction for the type rating on the subjects as listed in IS: 2.4.3.

(e) *Skill.* The applicant for a flight engineer license shall:

(1) have received an endorsement from an authorized instructor who certifies that the person is prepared for the required skill test; and

(2) have demonstrated by passing the required skill test, the ability to perform as flight engineer of an aircraft, the duties and procedures described in paragraph (c) (3) above with a degree of competency appropriate to the privileges granted to the holder of a flight engineer license, and to

(i) use aircraft systems within the aircraft's capabilities and limitations;

(ii) exercise good judgment and airmanship;

(iii) apply aeronautical knowledge:

(iv) perform all the duties as part of an integrated crew with the successful outcome never in doubt: and

(v) communicate effectively with the other flight crew members.

(f) *Medical fitness,* The applicant for a flight engineer license shall hold a current Class 1 Medical Certificate~~.~~, except for:

(i) Check Airman Qualifications for Flight Simulation Training Device as provided for under 8.10.1.39 (b) (1); and

(ii) Check Airmen who have reached their 65th birthday or who do not have an appropriate medical certificate as provided for under 8.10.1.39 (d) and 8.10.1.1 (c). (21 March 2011)

(g) *Privileges.* Subject to compliance with the requirements specified in this Part, the privileges of the holder of a flight engineer license shall be to act as flight engineer of any type of aircraft on which the holder has demonstrated a level of knowledge and skill, on the basis of those requirements specified in Subpart 2.4.4 (b) and (d) which are applicable to the safe operation of that type of aircraft.

(h) *Validity.* Subject to compliance with the requirements specified in this Part, the validity period of the license is one (1) year. For renewal of the license see Subpart 2.2.3.

2.5 FLIGHT NAVIGATOR LICENSE

2.5.1 APPLICABILITY

This section prescribes the requirements for the issue, renewal and re-issue of a flight navigator license.

2.5.2 GENERAL

(a) An applicant shall, before being issued with a flight navigator license, meet such requirements in respect of age, knowledge; experience, skill, medical fitness and language proficiency as are specified for that license.

(b) An applicant shall for renewal or re-issue of a license, rating or Authorization meet the requirements as are specified for that license.

2.5.3 FLIGHT NAVIGATOR LICENSE

(a) *Age.* The applicant shall be not less than 18 years of age.

(b) *Knowledge.*

(1) The applicant for a flight navigator license shall receive and log ground training from an authorized instructor on the following subjects:

(i) Air Law: rules and regulations relevant to the holder of a flight navigator license; appropriate air traffic services practices and procedures;

(ii) Flight performance and planning

(A) effects of loading and mass distribution on aircraft performance;

(B) use of take-off, landing and other performance data including procedures for cruise control;

(C) 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;

(iii) Human performance: human performance relevant to the flight navigator;

(iv) Meteorology

(A) Interpretation and practical application of aeronautical meteorological reports. charts and forecasts; codes and abbreviations; use of, and procedures for obtaining, meteorological information; pre-flight and inflight; altimetry;

(B) 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;

(v) Navigation

(A) dead-reckoning; pressure-pattern and celestial navigation procedures, the use of aeronautical charts, radio navigation aids and area navigation systems; specific navigation requirements for long-range flights;

(B) use; limitation and serviceability of avionics and instruments necessary for the navigation of the aircraft,

(C) use, accuracy and reliability of navigation systems used in departure, enroute and approach phases of flight; identification of radio navigation aids;

(D) principles, characteristics and use of self-contained and externalreferenced navigation systems; operation of airborne equipment;

(E) the celestial sphere including the movement of heavenly bodies and their selection and identification for the purpose of observation and reduction of sights; calibration of sextants; the completion of navigation documentation;

(F) definitions, units and formulae used in air navigation;

(vi) Operational procedures: interpretation and use of aeronautical documentation such as AIP, NOTAM, aeronautical codes, abbreviations, and instrument procedure charts for departure, en-route, descent and approach;

(vii) Principles of flight: principles of flight;

(viii) Radiotelephony: radiotelephony procedures and phraseology.

Certified Original: Attested By:

Ramon S. Gutierrez
Director General

Atty. Rodrigo R. Artuz
Acting Corporate Board Secretary

(2) shall have received an endorsement for the knowledge test from an authorized instructor who:

(A) conducted the training on the knowledge subjects,

(B) certifies that the person is prepared for the required knowledge test; and

(3) pass the required knowledge test on the subjects listed in paragraph (b) (1).

(c) *Experience*

(1) The applicant shall have completed in the performance of the duties of a flight navigator, not less than 200 hours of flight time acceptable to the Authority, in aircraft engaged in cross-country flights, including not less than 30 hours by night.

(2) The holder of a pilot license may be credited with 30 hours towards the 200 hours of flight time.

(3) The applicant shall produce evidence of having satisfactorily determined the aircraft's position in flight, and used that information to navigate the aircraft, as follows:

(i) by night - not less than 25 times by celestial observations; and

(ii) by day - not less than 25 times by celestial observations in conjunction with self-contained or external-referenced navigation systems.

(d) *Skill.* The applicant shall have demonstrated by passing the required skill test the ability to perform as flight navigator of an aircraft with a degree of competencyappropriate to the privileges granted to the holder of a flight navigator license, and to:

(1) exercise good judgment and airmanship;

(2) apply aeronautical knowledge;

(3) perform all duties as part of an integrated crew; and

(4) communicate effectively with the other flight crew members.

(e) *Medical fitness.* The applicant shall hold a current Class 1 Medical Certificate, except for:

(i) Check Airman Qualifications for Flight Simulation Training Device as provided for under 8.10.1.39 (b) (1); and

(ii) Check Airmen who have reached their 65th birthday or who do not have an appropriate medical certificate as provided for under 8.10.1.39 (d) and 8.10.1.1 (c). (21 March 2011)

(f) *Privileges.* Subject to compliance with the requirements specified in this Part, the privileges of the holder of a flight navigator license shall be to act as flight navigator of any aircraft.

(g) *Validity.* Subject to compliance with the requirements specified in this Part, the validity period of the license is one (1) year. The license shall become invalid when the flight navigator has ceased to exercise the privileges of the license for a period of 6 months. The license shall remain invalid until the flight navigator's ability to exercise the privileges of the license has been re-established. For renewal of the license see Subpart 2.2.3.

2.6 AVIATION MAINTENANCE LICENSING

2.6.1 GENERAL

2.6.1.1 APPLICABILITY

(a) Subpart 2.6 prescribes the requirements for issuing the following licenses and associated ratings and/or authorizations for:

Certified Original: Attested By:

Ramon S. Gutierrez
Director General

Atty. Rodrigo R. Artuz
Acting Corporate Board Secretary

(2) Aviation Maintenance Specialist (AMS)

2.6.2 AVIATION MAINTENANCE TECHNICIAN (AMT)

2.6.2.1 APPLICABILITY

(a) This Subpart prescribes the requirements for issuance of an Aviation Maintenance Technician (AMT) license and associated ratings the conditions under which thislicense and ratings are necessary and the general operating rules and limitations ofthe holder of this license and ratings.

2.6.2.2 ELIGIBILITY REQUIREMENTS: GENERAL

(a) An applicant for an AMT license and any associated rating shall

(1) Be at least 18 years of age;

(2) Demonstrate the ability to read, write, speak, and understand the English language by reading and explaining appropriate maintenance publications and by writing defect and repair statements;

(3) Comply with the knowledge, experience, and competency requirements prescribed for the license and rating sought; and

(4) Pass all of the prescribed tests for the license and rating sought, within a period of 24 months.

(b) A licensed AMT who applies for an additional rating must meet the requirements of Subpart 2.6.2.6 and, within a period of 24 months, pass the tests prescribed bySubparts 2.6.2.5 and 2.6.2.7 for the additional rating sought.

2.6.2.3 RATINGS

(a) The following ratings are issued under this subpart:

(1) Airframe

(2) Power-plant

(3) Airframe and Power-plant

2.6.2.4 KNOWLEDGE REQUIREMENTS

(a) The applicant for an Aviation Maintenance Technician (AMT) license shall have pass a knowledge test covering at least the following areas:

(1) Air law and airworthiness requirements:

(i) rules and regulations relevant to an Aviation Maintenance Technician (AMT) license holder including applicable airworthiness requirements governing certification and continuing airworthiness of aircraft and approved aircraft maintenance organization procedures;

(2) Natural science and aircraft general knowledge

(i) basic mathematics; units of measurement; fundamental principles and theoryof physics and chemistry applicable to aircraft maintenance;

(3) Aircraft engineering

(i) characteristics and applications of the materials of aircraft construction including principles of construction and functioning of aircraft structures,fastening techniques; power-plants and their associated systems, mechanical,fluid, electrical and electronic

power sources, aircraft instrument and displaysystems, aircraft control systems, and airborne navigation and communicationsystems;

(4) Aircraft maintenance:

(i) tasks required to ensure the continuing airworthiness of an aircraft including methods and procedures for the overhaul, repair, inspection, replacement, modification or defect rectification of aircraft structures, components and systems in accordance with the methods prescribed in the relevant Maintenance Manuals and the applicable requirements of airworthiness;

(5) Human performance:

(i) human performance and limitations relevant to the duties of an aviation maintenance license holder;

2.6.2.5 KNOWLEDGE REQUIREMENTS FOR THE RATINGS

(a) The applicant for an airframe rating shall pass a knowledge test covering at least the following areas:

(1) Airframe Maintenance practices and materials

(2) Airframe systems and structures-fixed wing

(3) Airframe systems and structures-rotary wing

(4) Systems and structures

(b) The applicant for a power-plant rating shall pass a knowledge test covering at least the following areas:

(1) Piston engines

(2) Propellers

(3) Gas turbine engines

(4) Fuel systems

(c) The applicant shall pass each section of the test before applying for the oral and practical tests prescribed by the Authority.

2.6.2.6 SKILL REQUIREMENTS

(a) Each applicant for an AMT license or rating must pass an oral and a skill test on the license or rating he seeks. The tests cover the applicant's basic skill in performingpractical projects on the subjects covered by the written test for the license or rating,and shall contain at least the subjects in the IS 2.6.2.6, appropriate to the license orrating sought.

2.6.2.7 EXPERIENCE REQUIREMENTS

(a) An applicant for an AMT license and associated ratings may qualify by either practical experience or through training in an ATO.

(b) Practical experience only. Each applicant for an AMT license and rating(s) relyingsolely on practical experience shall provide documentary evidence, acceptable to theAuthority, of the following experience in the inspection, servicing and maintenance ofaircraft or its components:

(1) Airframe rating - 30 months,

(2) Power-plant rating - 30 months;

(3) Airframe and Power-plant ratings - 60 months;

(c) Approved Training. Each applicant for an AMT license relying on completion of training in an Approved Training Organization (ATO) shall provide documentaryevidence, acceptable to the Authority, of the following training:

(1) Airframe rating - 24 months

(2) Power-plant rating - 24 months

(3) Airframe and Power-plant ratings - 30 months

2.6.2.8 PRIVILEGES AND LIMITATIONS

(a) Except as specified in paragraphs (d), (e) and (f) of this subsection, a licensed AMT with A&P may perform or supervise the maintenance, preventive maintenance, ormodification of, or after inspection, sign a maintenance release and a return to servicefor any aircraft, airframe aircraft engine, propeller, appliance, component, or partthereof for which he or she is rated, provided the licensed AMT has:

(1) Satisfactorily performed the work at an earlier date;

(2) Demonstrated the ability to perform the work to the satisfaction of the Authority;

(3) Received training acceptable to the Authority on the tasks to be performed; or

(4) Performed the work while working under the direct supervision of a licensed AMT who is appropriately rated and has-

(i) Had previous experience in the specific operation concerned; or

(ii) Received training acceptable to the Authority on the task to be performed.

(b) Except as specified in paragraphs (d), (e) and (f) of this subsection, a licensed AMT with an Airframe rating may after he/she has performed the 100-hour inspectionrequired by Part 8 of this chapter on an airframe, or any related part or appliance, andsign a maintenance release.

(c) Except as specified in paragraphs (d), (e) and (f) of this subsection, a licensed AMTwith a Power-plant rating may perform the 100-hour inspection required by Part 8 ofthis chapter on a power-plant or propeller or any related part or appliance, and sign amaintenance release.

(d) An AMT with an Airframe or Power-plant rating may not

(1) Supervise the maintenance, repair, or modification of, or approve and provide a maintenance release for any aircraft, airframe, aircraft engine, propeller, appliance, component or part thereof, for which he/she is rated unless he/she has satisfactorily performed the work concerned at an earlier date.

(2) Exercise the privileges of the license unless the licensed AMT understands the current instructions for continued airworthiness and the maintenance instructions for the specific operation concerned.

(e) An AMT with an Airframe or Power-plant rating may

(1) Perform or supervise under the direct supervision and control of an AMO, any repair or alteration of instruments.

(2) Sign a Maintenance Release for any aircraft, airframe, engine, propeller, appliance, component, or part thereof after completion of a major alteration or major repair.

(f) A licensed mechanic shall not exercise the privileges of his license and ratings unless he is familiar with the current CAR, manufacturer's instructions and the maintenancemanuals pertinent to the particular aircraft operation to be performed.

2.6.2.9 DURATION OF THE LICENSE

(a) The duration of the AMT license is two years.

(b) The holder of a license with an expiration date may not, after that date, exercise the privileges of that license.

(c) The license shall remain valid as long as the holder thereof maintains his/her competency.

2.6.2.10 RECENT EXPERIENCE REQUIREMENTS

(a) A licensed AMT may not exercise the privileges of his/her license or rating unless, within the preceding 24 months:

(1) The Authority has found that he/she is able to do that work; or

(2) For at least 6 months within the preceding 24 months-

(i) Served as an AMT under his/her license and rating;

(ii) Technically supervised other AMT's;

(iii) Provided aviation maintenance instruction or served as the direct supervisor of persons providing aviation maintenance instruction for an AMT course or program acceptable to the Authority;

(iv) Supervised the maintenance, preventive maintenance, or alteration of any aircraft, airframe, aircraft engine, propeller, appliance, component, or part thereof; or been engaged in any combination of paragraphs (a)(2)(i) through (a)(2)(iii) of this subsection;and

(b) Has received appropriate recurrent training from an AMO within the preceding 24 months and is familiar both with current manufacturers and approved maintenanceorganization's instructions and the maintenance manuals pertinent to the particularaircraft operation to be performed.

(1) The requirements of recurrent training applies to all AME's when certifying aircraft or components used in commercial operations.

2.6.2.11 DISPLAY OF LICENSE

(a) Each person who holds an AMT license shall keep it within the immediate area where he/she normally exercises the privileges of the license and shall present it for inspection upon the request of the Authority or law enforcement officer.

2.6.2.12 APPLICATION FOR ADDITIONAL RATING

(a) An applicant for a rating subsequent to the original issuance of a mechanic license with approved rating shall meet the training, knowledge and experience requirementsfor the rating sought and pass a practical examination established by the Authority.

2.6.2.13 REQUIREMENTS FOR THE RENEWAL OF LICENSES

(a) A holder of an aircraft mechanic license desiring to renew his license must accomplish and submit the following within 30 days prior to the expiry of his license:

(1) Application for the renewal of license duly notarized;

(2) Certification or proof that the holder has rendered services in accordance with the provisions this Part from an AMO, AOC or an ATO, or any other person found acceptable in writing by the Authority, as applicable, in any case fully in compliance with this regulations.

2.6.3 AVIATION MAINTENANCE SPECIALIST (AMS)

2.6.3.1 APPLICABILITY

(a) This Subpart prescribes the requirements for issuance of Aviation Maintenance Specialist (AMS) licenses and ratings, the conditions under which this license andratings are necessary and the general operating rules and limitations of the holder ofthis license and ratings.

2.6.3.2 ELIGIBILITY REQUIREMENTS: GENERAL

(a) An applicant for an AMS license and any associated rating shall:

(1) Be at least 18 years of age;

(2) Demonstrate the ability to read, write, speak, and understand the English language by reading and explaining appropriate maintenance publications and by writing defect and repair statements;

(3) Comply with the knowledge, experience, and competency requirements prescribed for the license and rating sought; and

(4) Pass all of the prescribed tests for the license and rating sought, within a period of 24 months.

(5) Be a citizen of the Philippines or a citizen of a foreign country granting similar rights and privileges to citizens of the Philippines subject, however, to existing treaty or treaties, and agreements, entered into by the Philippine Government with foreign countries, and subject, further, to security measures adopted by the Philippine Government.

(6) Be specially qualified to perform maintenance on aircraft or components thereof, appropriate to the job for which he/she was employed;

(7) Be employed for a specific job requiring those special qualifications by a approved maintenance organization certificated under Part 6 allowed by its operating certificate and approved specific operating provisions to provide maintenance, preventive maintenance, or modifications to aircraft; and

(8) Be recommended for certification by his employer, to the satisfaction of the Authority, as able to satisfactorily maintain aircraft or components, appropriate to the job for which he is employed;

(b) A licensed AMS who applies for an additional rating must meet the requirements of this Part and, within a period of 24 months, pass the tests prescribed by the Authority for the additional rating sought.

2.6.3.3 AMS RATINGS

(a) The following ratings are issued under this subpart:

(1) Limited Airframe:

(i) Fixed wing

(ii) Rotary wing

(iii) Aircraft Systems, Hydraulics

(iv) Aircraft Systems, Pneumatics

(v) Aircraft Emergency and Safety Equipment

(vi) Aircraft Structures, Sheetmetal

(vii) Aircraft Structures, Composites

(viii) Aircraft Structures, Woodwork/Fabric

(2) Limited Power-plant:

(i) Piston

(ii) Propellers

(iii) Turbine

(iv) Fuel Systems

(3) Avionics

(i) Electrical

(ii) Instruments

(iii) AFCS Fixed wing

(iv) AFCS Rotary wing

(v) Navigation

(vi) Radio

(4) Specialized Services

(i) Welding

(ii) Non-destructive testing (subject to compliance with P.N.S. 146)

(b) At no instance shall an AMS license be issued a rating in which the AMO has not been issued.

(c) Ratings for an applicant employed by an AMO shall coincide with the approved specific operating provisions and the approved maintenance procedures manual that identifies the AMO's authorizations limited to the specific job for which the person is employed to perform, supervise, or sign a maintenance release.

Note: When employed by an AMO, an Aviation Maintenance Specialist (AMS) license should correspond to the speciality shop or group in which they perform, supervise, or sign a maintenance release *an aeronautical product or aircraft. For example, Hydraulic component overhaul, landing gear overhaul, special inspections, non-destructive testing, turbine disc overhaul, etc.*

2.6.3.4 KNOWLEDGE REQUIREMENTS

(a) The applicant for an aviation maintenance Specialist license shall have pass a knowledge test covering at least the following areas related to the ratings sought:

(1) Air law and airworthiness requirements:

(i) rules and regulations relevant to an Aviation Maintenance Technician (AMT) license holder including applicable airworthiness requirements governing certification and continuing airworthiness of aircraft and approved aircraft maintenance organization procedures;

(2) Natural science and aircraft general knowledge

(i) basic mathematics; units of measurement; fundamental principles and theory of physics and chemistry applicable to aircraft maintenance;

(3) Aircraft engineering

(i) characteristics and applications of the materials of aircraft construction including principles of construction and functioning of aircraft structures, fastening techniques; power-plants and their associated systems; mechanical; fluid; electrical and electronic

power sources; aircraft instrument and display systems; aircraft control systems; and airborne navigation and communication systems;

(4) Aircraft maintenance :

(i) tasks required to ensure the continuing airworthiness of an aircraft including methods and procedures for the overhaul, repair, inspection, replacement, modification or defect rectification of aircraft structures, components and systems in accordance with the methods prescribed in the relevant Maintenance Manuals and the applicable requirements of airworthiness;

(5) Human performance:

(i) Human performance and limitations relevant to the duties of an aviation maintenance license holder;

2.6.3.5 KNOWLEDGE REQUIREMENTS FOR THE RATINGS

(a) The applicant for the following ratings shall pass a knowledge test covering at least the following areas:

(1) Limited Airframe:

(i) Airframe Maintenance practices and materials

(ii) Airframe systems and structures-fixed wing

(iii) Airframe systems and structures-rotary wing

(iv) Systems and structures

(2) Limited power-plant:

(i) Piston engines

(ii) Propellers

(iii) Gas turbine engines

(iv) Fuel systems

(3) Avionics :

(i) Aircraft engineering and maintenance: Electrical and instrument

(A) Maintenance practices and materials

(B) Electrical and electronic fundamentals

(C) Digital techniques, computers and associated devices

(D) Aircraft electrical systems

(E) Aircraft instrument systems

(ii) Aircraft engineering and maintenance: Automatic flight control systems AFCS/Navigation/Radio

(A) Automatic flight control systems (AFCS): Fixed wing

(B) Automatic flight control systems (AFCS): Rotary wing

(C) Aircraft inertial navigation systems (INS)

(D) Aircraft radio and radio navigation systems

(iii) Specialized Services

(A) Welding

(B) Non-destructive testing (subject to compliance with P.N.S. 146)

(C) The applicant shall pass each section of the test before applying for the theoretical and practical tests prescribed in this Part.

2.6.3.6 SKILL REQUIREMENTS

(a) Each applicant for an AMS license or rating must pass an oral and a skill test on the license or rating he seeks. The tests cover the applicant's basic skill in performingpractical projects on the subjects covered by the written test for the license or rating,and shall contain at least the subjects in the IS 2.6.3.7, appropriate to the license orrating sought.

2.6.3.7 EXPERIENCE REQUIREMENTS

(a) An applicant for an AMS license and associated ratings may qualify by either practical experience solely or through training in an ATO plus practical experience.

(b) Practical experience only. Each applicant for an AMS license and rating(s) relying solely on practical experience shall provide documentary evidence, acceptable to the Authority, of the following experience in the inspection, servicing and maintenance of aircraft or its components

(1) Limited Airframe rating - 30 months,

(2) Limited Power-plant rating - 30 months;

(3) Avionics rating - 36 months,

(c) Approved Training. Each applicant for an AMS license relying on completion of training in an Approved Training Organization shall provide documentary evidence,acceptable to the Authority, of the following training:

(1) Limited Airframe rating - 24 months

(2) Limited Power-plant rating - 24 months

(3) Avionics rating - 24 months in an ATO, plus 12 months practical work experience.

2.6.3.8 PRIVILEGES AND LIMITATIONS

(a) A licensed AMS may perform or supervise the maintenance, preventive maintenance, or alteration of aircraft, airframes, aircraft engines, propellers, appliances, components, and parts appropriate to the designated specialty area for which the Aviation Maintenance Specialist (AMS) is licensed and rated.

(b) An Aviation Maintenance Specialist (AMS) may not perform or supervise duties unless the aviation repair specialist understands the current instructions of the employing certificate holder and the instructions for continued airworthiness, which relate to the specific operations concerned.

(c) A licensed AMS with an Avionics rating may inspect. repair, maintain, perform a function test and sign a maintenance release for avionics systems and related components.

2.6.3.9 DURATION OF THE LICENSE

(a) The duration of the AMS license is three years.

(b) The holder of a license with an expiration date may not, after that date, exercise the privileges of that license

(c) Licenses shall remain valid as long as the holders thereof maintain their competency.

2.6.3.10 RECENT EXPERIENCE REQUIREMENTS

(a) A licensed AMS may not exercise the privileges of his/her license or rating unless, within the preceding 24 months:

(1) The Authority has found that he/she is able to do that work; or

(2) for at least 6 months within the preceding 24 months-

(i) Served as an AMS under his/her license and rating;

(ii) Technically supervised other AMSs.

(b) Has received appropriate recurrent training from an AMO within the preceding 24 months and is familiar both with current manufacturers and approved maintenanceorganization's instructions and the maintenance manuals pertinent to the particularoperations to be performed.

2.6.3.11 DISPLAY OF LICENSE

(a) Each person who holds an AMS license shall keep it within the immediate area where he/she normally exercises the privileges of the license and shall present it for inspection upon the request of the Authority or law enforcement officer.

2.6.3.12 REQUIREMENTS FOR THE RENEWAL OF LICENSE

(a) A holder of an AMS license desiring to renew his license must accomplish and submit the following within 30 days prior to the expiry of his license:

(i) Application for the renewal of license duly notarized;

(ii) Certification or proof that the holder has rendered services during the previous 24 months in accordance with the provisions of this Part from an AMO, or any other person found acceptable in writing by the Authority, as applicable, in any case fully in compliance with this regulations.

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2.7 AIR TRAFFIC CONTROLLER LICENSES, CATEGORIES AND RATINGS

2.7.1 APPLICABILITY

This section prescribes the requirements for the issue, renewal and re-issue of an air traffic controller license and ratings.

2.7.2 GENERAL

(a) An applicant shall, before being issued with an air traffic controllers license, meet such requirements in respect of age, knowledge, experience, skill, medical fitness and language proficiency as are specified for that license or rating.

(b) An applicant shall for renewal or re-issue of a license, rating or Authorization meet the requirements as are specified for that license, rating or Authorization.

2.7.3 Air TRAFFIC CONTROLLER LICENSE

(a) *Age.* The applicant for an air traffic controller license shall be not less than 21 years of age.

(b) *Knowledge.* The applicant for an air traffic controller license shall

(1) receive an approved training course from an authorized instructor on the knowledge areas:

(i) Air law: rules and regulations relevant to the air traffic controller;

(ii) Air traffic control equipment: principles, use and limitations of equipment used in air traffic control;

(iii) General knowledge: principles of flight; principles of operation and functioning of aircraft, power-plants and systems; aircraft performances relevant to air traffic control operations;

(iv) Human performance: human performance relevant to air traffic control;

(v) Language: the language or languages nationally designated for use in air traffic control and ability to speak such language or languages without accent or impediment which would adversely affect radio communication;

(vi) Meteorology: aeronautical meteorology; use and appreciation of meteorological documentation and information; origin and characteristics of weather phenomena affecting flight operations and safety; altimetry;

(vii) Navigation: principles of air navigation; principle, limitation and accuracy of navigation systems and visual aids;

(viii) Operational procedures: air traffic control, communication, radiotelephony and phraseology procedures (routine, non routine and emergency); use of the relevant aeronautical documentation; safety practices associated with flight.

(2) have received an endorsement for the knowledge test from an authorized instructor who:

(i) conducted the training on the knowledge areas;

(ii) certifies that the person is prepared for the required knowledge test; and

(3) pass the required knowledge test.

(c) *Experience* The applicant shall have completed an approved training course and not less than three months' satisfactory service engaged in the actual control of air traffic under the supervision of an appropriately rated air traffic controller. The experience requirements specified for air traffic

controller ratings in Subpart 2.7.4 will be credited as part of the experience specified in this paragraph.

(d) *Medical fitness.* The applicant for an air traffic controller license shall hold a currentClass 3 Medical Certificate.

(e) *Validity.* Subject to compliance with the requirement specified in this Part, the validity period of the license is two (2) years. For renewal of the license see Subpart 2.2.3.

2.7.4 AIR TRAFFIC CONTROLLER CATEGORIES/RATINGS

(a) Air traffic controller ratings shall comprise the following categories:

(1) aerodrome control rating;

(2) approach control rating;

(3) approach radar control rating;

(4) approach precision radar control rating;

(5) area control rating; and

(6) area radar control rating.

2.7.5 AIR TRAFFIC CONTROLLER RATING REQUIREMENTS

(a) *Knowledge.* The applicant for an air traffic controller rating shall

(1) receive an approved training course from an authorized instructor on the following subjects:

(i) aerodrome control rating:

(A) aerodrome layout; physical characteristics and visual aids;

(B) airspace structure;

(C) applicable rules, procedures and source of information;

(D) air navigation facilities;

(E) air traffic control equipment and its use;

(F) terrain and prominent landmarks;

(G) characteristics of air traffic;

(H) weather phenomena; and emergency and search and rescue plans;

(ii) approach control and area control ratings:

(A) airspace structure;

(B) applicable rules, procedures and source of information;

(C) air navigation facilities;

(D) air traffic control equipment and its use;

(E) terrain and prominent landmarks;

(F) characteristics of air traffic and traffic flow;

(G) weather phenomena; and

(H) emergency and search and rescue plans; and

(iii) approach radar, approach precision radar and area radar control ratings. The applicant shall meet the requirements specified in (ii) in so far as they affect the area of responsibility. and shall have demonstrated a level of knowledge appropriate to the privileges granted. in at least the following additional subjects:

(A) principles, use and limitations of radar, other surveillance systems and associated equipment; and

(B) procedures for the provision of approach, precision approach or area radar control services, as appropriate, including procedures to ensure appropriate terrain clearance;

(2) have received an endorsement for the knowledge test from an authorized instructor who:

(i) conducted the training on the knowledge areas;

(ii) certifies that the person is prepared for the required knowledge test; and

(3) pass the required knowledge test.

(b) *Experience.*

(1) The applicant for an air traffic controller license shall have:

(i) satisfactorily completed an approved training course;

(ii) provided; satisfactorily, under the supervision of an appropriately rated air traffic controller:

(A) aerodrome control rating: an aerodrome control service, for a period of not less than 90 hours or one month, whichever is greater, at the unit for which the rating is sought;

(B) approach, approach radar, area or area radar control rating: the control service for which the rating is sought. for a period of not less than 180 hours or three months, whichever is greater, at the unit for which the rating is sought; and

(C) approach precision radar control rating: not less than 200 precision approaches of which not more than 100 shall have been carried out on a radar simulator approved for that purpose by the Authority. Not less than 50 of those precision approaches shall have been carried out at the unit and on the equipment for which the rating is sought; and

(iii) if the privileges of the approach radar control rating include surveillance radar approach duties, the experience shall include not less than 25 plan position indicator (PPI) approaches on the surveillance equipment of the type in use at the unit for which the rating is sought and under the supervision of an appropriately rated approach radar controller.

(2) The experience specified under (ii) shall have been completed within the 6-month period immediately preceding application.

(c) *Skill.* The applicant shall have demonstrated by passing the required skill test, at a level appropriate to the privileges being granted, the skill, judgment and performance required to provide a safe orderly and expeditious control service.

(d) *Privileges.*

(1) Subject to compliance with the requirements specified in this Part, the privileges of the holder of an air traffic controller license

(i) aerodrome control rating: to provide or to supervise the provision of aerodrome control service for the aerodrome for which the license holder is rated:

(ii) approach control rating: to provide or to supervise the provision of approach control service for the aerodrome or aerodromes for which the license holder is rated, within the airspace or portion thereof, under the jurisdiction of the unit providing approach control service;

(iii) approach control rating: to provide or to supervise the provision of approach control service for the aerodrome or aerodromes for which the license holder is rated, within the airspace or portion thereof, under the jurisdiction of the unit providing approach control service;

(iv) approach radar control rating: to provide and/or supervise the provision of approach control service with the use of radar or other surveillance systems for the aerodrome or aerodromes for which the license holder is rated, within the airspace or portion thereof, under the jurisdiction of the unit providingapproach control service:

(A) subject to compliance with the provisions of paragraph (b) (1) (iii), the privileges shall include the provision of surveillance radar approaches;

(v) approach precision radar control rating: to provide and/or supervise the provision of precision approach radar service at the aerodrome for which the license holder is rated;

(vi) area control rating: to provide and/or supervise the provision of area control service within the control area or portion thereof, for which the license holder is rated; and

(vii) area radar control rating: to provide and/or supervise the provision of area control service with the use of radar, within the control area or portion thereof. for which the license holder is rated.

(2) Before exercising the privileges indicated in paragraph (d) (1), the license holder shall be familiar with all pertinent and current information.

(e) *Validity of ratings.* A rating shall become invalid when an air traffic controller has ceased to exercise the privileges of the rating for a period of six (6) months. A rating shall remain invalid until the controller's ability to exercise the privileges of the rating has been re-established.

2.8 FLIGHT OPERATIONS OFFICER LICENSE

2.8.1 APPLICABILITY

This section prescribes the requirements for the issue, renewal and re-issue of a flight operations officer license.

2.8.2 GENERAL

(a) An applicant shall, before being issued with a flight operations officer license; meet such requirements in respect of age; knowledge; experience; skill, medical fitness and language proficiency as are specified for that license.

(b) An applicant shall for renewal or re-issue of a license meet the requirements as are specified for that license.

Note: The license can also be specified as Flight dispatcher license.

2.8.3 FLIGHT OPERATIONS OFFICER LICENSE

(a) *Age.* The applicant for a flight operations officer license shall be not less than 21 years of age.

(b) *Knowledge.* The applicant for a flight operations officer license shall

(1) receive an approved training course from an authorized instructor on the knowledge areas:

(i) Air Law: rules and regulations relevant to the holder of a flight operations officer license; appropriate air traffic services practices and procedures;

(ii) Aircraft general knowledge:

(A) principles of operation of airplane power-plants, systems and instruments

(B) operating limitations of airplanes and power-plants:

(C) minimum equipment list;

(iii) Flight performance calculation and planning procedures:

(A) effects of loading and mass distribution on aircraft performance and flight characteristics; mass and balance calculations;

(B) operational flight planning; fuel consumption and endurance calculations; alternate airport selection procedures; en-route cruise control; extended range operation;

(C) preparation and filing of air traffic services flight plans;

(D) basic principles of computer-assisted planning systems;

(iv) Human performance: human performance relevant to dispatch duties;

(v) Meteorology

(A) aeronautical meteorology; the moment 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;

(B) interpretation and application of aeronautical meteorological reports, charts and forecasts, codes and abbreviations; use of, and procedures for obtaining, meteorological information;

(vi) Navigation: principles of air navigation with particular reference to instrument flight;

(vii) Operational procedures:

(A) use of aeronautical documentation;

(B) operational procedures for the carriage of freight and dangerous goods;

(C) procedures relating to aircraft accidents and incidents; emergency flight procedures;

(D) procedures relating to unlawful interference and sabotage of aircraft;

(viii) Principles of flight: principles of flight relating to the appropriate category of aircraft;

(ix) Radio communication: procedures for communicating with aircraft and relevant ground stations;

(2) have received an endorsement for the knowledge test from an authorized instructor who:

(i) conducted the training on the knowledge areas;

(ii) certifies that the person is prepared for the required knowledge test; and

(3) pass the required knowledge test.

(c) *Experience.*

(1) The applicant for a flight operations officer license shall have gained the following experience:

(i) a total of two (2) years' service in any one or in any combination of the capacities specified in (A) to (C) inclusive, provided that in any combination of experience the period serviced in any capacity shall be at least one year:

(A) a flight crew member in air transportation; or

(B) a meteorologist in an organization dispatching aircraft in air transportation; or

(C) an air traffic controller; or a technical supervisor of flight operations officers or air transportation flight operations systems; or

(ii) at least one year as an assistant in the dispatching of air transport; or

(iii) have satisfactorily completed a course of approved training.

(2) The applicant shall have served under the supervision of a flight operations officer for at least 90 working days within the 6 months immediately preceding the application.

(d) *Skill.* The applicant shall have demonstrated the ability to:

(1) make an accurate and operationally acceptable weather analysis from a series of daily weather maps and weather reports; provide an operationally valid briefing on weather conditions prevailing in the general neighborhood of a specific air route; forecast weather trends pertinent to air transportation with particular reference to destination and alternates;

(2) determine the optimum flight path for a given segment, and create accurate manual and/or computer generated flight plans; and

(3) provide operating supervision and all other assistance to a flight in actual or simulated adverse weather conditions as appropriate to the duties of the holder of a flight operations officer license.

(e) *Privileges.* Subject to compliance with the requirements specified in this Part, the privileges of the holder of a flight operations officer license shall be to serve in that capacity with responsibility for each area for which the applicant meets the requirements in CAR Part 8 and 9.

(f) *Validity.* The validity period of the license is 1 year. A license shall become invalid when a flight operations officer has ceased to exercise the privileges of the license for a period of 6 months. A license shall remain invalid until the flight operations officer's ability to exercise the privileges of the license has been re-established. For renewal ofthe license see Subpart 2.2.3.

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2.9 AERONAUTICAL STATION OPERATOR LICENSES

2.9.1 APPLICABILITY

This section prescribes the requirements for the issue, renewal or re-issue of an aeronautical station operator license.

2.9.2 GENERAL

(a) An applicant shall, before being issued with an aeronautical station operator license, meet such requirements in respect of age, knowledge, experience, skill, medical fitness and language proficiency as are specified for that license.

(b) An applicant shall for renewal or re-issue of a license, rating or Authorization meet the requirements as are specified for that license.

2.9.3 AERONAUTICAL STATION OPERATOR LICENSE

(a) *Age.* The applicant for an aeronautical station operator license shall be not less than 18 years of age.

(b) *Knowledge.* The applicant for an aeronautical station operator license shall:

(1) receive and log ground training from an authorized instructor on the following subjects:

(i) General Knowledge: air traffic services provided within Republic of the Philippines;

(ii) Language: the language or languages nationally designated for use in airground communications and ability to speak such language or languages without accent or impediment which would adversely affect radio communication;

(iii) Operational Procedures: radiotelephony procedures; phraseology; telecommunication network:

(iv) Rules and regulations: rules and regulations applicable to the aeronautical station operator;

(v) Telecommunication equipment: principles, use and limitations of telecommunication equipment in an aeronautical station

(2) have received an endorsement for the knowledge test from an authorized instructor who:

(i) conducted the training on the knowledge areas;

(ii) certifies that the person is prepared for the required knowledge test; and

(3) pass the required knowledge test.

(c) *Experience.* The applicant for an aeronautical station operator license shall have:

(i) satisfactorily completed an approved training course within the 12-month period immediately preceding application, and have served satisfactorily under a qualified aeronautical station operator for not less than 2 months; or

(ii) satisfactorily served under a qualified aeronautical station operator for not less than 6 months during the 12-month period immediately preceding application.

(d) *Skill.* The applicant for an aeronautical station operator license shall demonstrate; or have demonstrated; competency in:

(i) operating the telecommunication equipment in use; and

(ii) transmitting and receiving radiotelephony messages with efficiency and accuracy.

(e) *Privileges.* Subject to compliance with the requirements specified in this Part, theprivileges of the holder of an aeronautical station operator license shall be to act as an operator in an aeronautical station. Before exercising the privileges of the license, the holder shall be familiar with all pertinent and current information regarding the types of equipment and operating procedures used at that aeronautical station.

(f) *Validity:* The validity period of the license is one (1) year. A license shall become invalid when an aeronautical station operator has ceased to exercise the privileges of the license for a period of 6 months. A license shall remain invalid until the aeronautical station operator's ability to exercise the privileges of the license has been re-established. For renewal of the license see Subpart 2.2.3

2.10 MEDICAL PROVISIONS FOR LICENSING

2.10.1 GENERAL

(a) Medical confidentiality shall be respected at all times.

(b) All medical reports and records shall be securely held with accessibility restricted to authorized personnel.

(c) When justified by operational considerations, the Chief of the Office of Flight Surgeon and Aviation Medicine shall determine to what extent pertinent medical information is presented to relevant officials of the Authority.

2.10.1.1 APPLICABILITY

(a) This Section prescribes the requirements and procedures for issuing, renewing and re-issuing Class 1, Class 2 and Class 3 medical certificates.

2.10.1.2 MEDICAL FITNESS

(a) The applicants for a flight crew license and air traffic controller license shall hold a medical certificate issued in accordance with this Part.

(b) The flight crew members or air traffic controllers shall not exercise the privileges of their license unless they hold a current medical certificate appropriate to the license.

2.10.1.3 AVIATION MEDICAL EXAMINERS (AME)

(a) Subject to compliance with the requirements specified in this Part, the Authority will designate and authorize qualified and licensed physicians in the practice of medicine, to be authorized as an AME and conduct medical examinations of fitness of applicants for the issue, renewal or re-issue of the licenses or ratings specified in this Part. AMEs may be designated outside of Republic of the Philippines.

(b) AMEs shall have had, or shall receive:

(1) Basic training in aviation medicine for Class 2 and 3 medical examinations on the subjects listed in IS: 2.10.1.3 Appendix A, supported by a diploma or a certificate of completion; and

(2) Advance training in aviation medicine for Class 1 medical examinations on the subjects listed in IS: 2.10.1.3 Appendix B.

(3) Refresher training at regular intervals, not more than three years.

(c) AMEs shall acquire practical knowledge and experience of the conditions in which the holders of licenses and ratings carry out their duties.

(d) Prior to a designation, medical examiners shall demonstrate adequate competency in aviation medicine

(e) The Authorization of an AME is valid for 3 years. The AME shall have completed at least 10 examinations for a medical certificate per year. Re-Authorization will be at the discretion of the Authority.

(f) Having completed the medical examination of an applicant in accordance with this Section, the AME shall coordinate the results of the examination and submit a signed report to the Authority, detailing the results of the examination and evaluating the findings with regard to medical fitness. If the medical report is submitted to the Authority in electronic format, adequate identification of the examiner shall be\ established.

(g) The medical examiner shall submit sufficient medical information to the Authority to enable the Authority to audit medical assessment, and to evaluate the medical reports submitted by the examiners, using the services of the medical assessors appointed by the Authority.

(h) If the medical examination is carried out by a constituted group of AMEs, the head of the group will be appointed by the Authority, who will be responsible for coordinating the results of the examination, evaluating the findings with regard to the medical fitness, and signing the report.

(i) The Authority will use the services of physicians experienced in the practice of aviation medicine, when it is necessary to evaluate reports submitted to the Authority by medical examiners.

(j) The Authority retains the right to reconsider any action of an AME.

2.10.1.4 AVIATION MEDICAL EXAMINATIONS

Applicants for licenses or ratings for which medical fitness is prescribed shall sign and furnish to the AME a declaration stating whether they have previously undergone such an examination and, if so, the date, place and result of the last examination. They shall indicate to the examiner whether a medical certificate has previously been refused, revoked or suspended and, if so, the reason for such refusal, revocation or suspension.

(a) Each applicant for a medical certificate shall provide the AME with a personally certified statement of medical facts concerning personal, familial and hereditary history.

(b) Each applicant for a medical certificate shall produce proof of identification.

(c) Any false declaration to an AME made by an applicant for a license or rating shall be reported to the Authority for such action as may be considered appropriate.

(d) The applicant shall complete the appropriate application form as detailed in IS: 2.10.1.4.

2.10.1.5 SPECIAL CIRCUMSTANCES

(a) If the medical requirements prescribed in Part 2 for a particular license are not met, the appropriate medical certificate will not be issued, renewed or re-issued unless the following conditions are fulfilled:

(1) Accredited medical conclusion indicates that in special circumstances the applicant's failure to meet any requirement, whether numerical or otherwise. Is such that exercise of the privileges of the license applied for is not likely to jeopardize flight safety;

(2) Relevant ability, skill and experience of the applicant and operational conditions have been given due consideration; and

(3) The license is endorsed by the Authority with any special limitation or limitations when the safe performance of the license holder's duties is dependent on compliance with such limitation or limitations.

(b) The AME shall report to the Authority any individual case where, in the AME's judgment, an applicant's failure to meet any requirement, whether numerical or otherwise, is such that exercise of the privileges of the license being applied for, or held, is not likely to jeopardize flight safety.

2.10.1.6 DECREASE OF MEDICAL FITNESS

(a) Holders of licenses provided for in this Part shall not exercise the privileges of their licenses and related ratings at any time when they are aware of any decrease in their medical fitness which might render them unable to safely and properly exercise these privileges.

(b) Holders of licenses provided for in this Part shall inform the Authority of confirmed pregnancy or any decrease in medical fitness of a duration of more than 20 days or which requires continued treatment with prescribed medication or which has required hospital treatment.

(c) Holders of licenses provided for in this Part shall not exercise the privileges of their licenses and related ratings during any period in which their medical fitness has, from any cause, decreased to an extent that would have prevented the issue or renewal of their Medical Assessment.

2.10.1.7 USE OF PSYCHOACTIVE SUBSTANCES

(a) Holders of licenses provided for in this Part shall not exercise the privileges of their licenses and related ratings while under the influence of any psychoactive substance which might render them unable to safely and properly exercise these privileges.

(b) Holders of licenses provided for in this Part shall not engage in any problematic use of substances.

(c) Holders of licenses provided for in this Part who engage in any kind of problematic use of substances shall be identified and removed from their safety-critical functions. Return to the safety-critical functions may be considered after successful treatment or, in cases where no treatment is necessary, after cessation of the problematic use of substances and upon determination that the person's continued performance of the function is unlikely to jeopardize safety.

(d) Random tests for effects of alcohol or psychoactive substances will be conducted by the Authority.

Note: See ICAO Manual on Prevention of Problematic Use of Substances in the Aviation Workplace (Doc 924)

2.10.1.8 MEDICAL CERTIFICATES

(a) The medical certificate shall be in a form and manner prescribed by the Authority. The items required on the license are indicated in IS: 2.10.1.8.

(b) *Issue of medical certificates*

(1) A medical certificate will be issued to any person who meets the medical requirements prescribed in this Subpart, based on medical examination and evaluation of the applicant's history and condition.

(i) The Authority will issue the Class 1 medical certificate.

(ii) The issue of Class 2 and 3 medical certificates may be delegated to the authorized Aviation Medical Examiner.

(2) Each person to be issued a medical certificate shall undergo a medical examination based on the physical and mental requirements contained in this Subpart.

(3) Any person who does not meet the medical requirements of this Subpart may apply for the discretionary issuance of a certificate under Subpart 2.10.1.5.

(c) *Validity:*

(1) The validity period of the medical certificate is:

(i) 6 months for the Class 1 for ATPL.

(ii) 12 months for CPL, MPL, flight engineer license, flight navigator license and FOO license.

(iii) 24 months for the Class 2 for the PPL, SPL, glider pilot license and free balloon pilot license; and Class 3 for air traffic controller license.

(iv) When the holders have passed their 40th birthday:

(A) the 12-month interval specified for CPL, MPL, flight engineer license and flight navigator license will be reduced to 6 months; and

(B) the 24-month interval specified for the PPL, SPL, glider pilot license, free balloon pilot license and air traffic controller license will be reduced to 12 months.

(v) The period of validity of a medical certificate may be extended, at the discretion of the Licensing Authority, up to 45 days.

(2) For initial issuance of the medical certificate, the period of validity shall begin on the date the medical examination is performed. For any renewal or re-issuance of a medical certificate, based on a medical examination that takes place during the period of validity of the current medical certificate, but no more than 28 days before its expiry date, the new period of validity shall begin on that date. For any renewal or re-issuance, based on a medical examination taking place after the expiry date or earlier than 28 days before the expiry date, the new period of validity shall begin on the date of the examination.

(3) The period of validity of a Medical Assessment may be reduced when clinically indicated.

(d) *Renewal or re-issue of a medical certificate*

(1) The requirements to be met for the renewal or re-issue of a medical certificate are the same as those for the initial certificate except where otherwise specifically stated.

(2) The renewal of the Class 1, 2 and 3 medical certificates may be delegated to the authorized Aviation Medical Examiner.

(3) Re-issue of the Class 1 medical certificate will be done by the Authority.

(4) Re-issue of the Class 2 and 3 medical certificate may be delegated to the authorized Aviation Medical Examiner.

(e) *Limitation or denial*

(1) The Authority may for medical reasons justified and notified to the applicant limit or deny a medical certificate.

(f) *Suspension or revocation of a medical certificate*

(1) The Authority may in accordance with Subpart 2.2.10 suspend or revoke a medical certificate issued, if it is established that an applicant or a certificate holder has not met, or no longer meets the requirements of Part 2.

2.10.2 MEDICAL REQUIREMENTS

2.10.2.1 REQUIREMENTS FOR MEDICAL CERTIFICATES

2.10.2.1.1 GENERAL

An applicant for a Medical Certificate issued in accordance with this Part, shall undergo a medical examination based on the following requirements:

(a) physical and mental;

(b) visual and color perception; and

(c) hearing.

2.10.2.1.2 PHYSICAL AND MENTAL REQUIREMENTS

An applicant for any class of Medical Assessment shall be required to be free from:

(a) any abnormality; congenital or acquired; or

(b) any active, latent, acute or chronic disability; or

(c) any wound, injury or sequelae from operation; or

(d) any effect or side-effect of any prescribed or non-prescribed therapeutic medication taken; such as would entail a degree of functional incapacity which is likely to interfere with the safe operation of an aircraft or with the safe performance of duties.

2.10.2.1.3 VISUAL ACUITY TEST REQUIREMENTS

(a) Visual acuity tests must be conducted in an environment with a level of illumination that corresponds to ordinary office illumination (30-60cd/m2).

(b) Visual acuity must be measured by means of a series of Landolt rings or similar optotypes, placed at a distance from the applicant appropriate to the method of testing adopted.

2.10.2.1.4 COLOR PERCEPTION REQUIREMENTS

(a) The applicant shall be required to demonstrate the ability to perceive readily those colors the perception of which is necessary for the safe performance of duties.

(b) The applicant shall be tested for the ability to correctly identify a series of pseudoisochromatic plates in daylight or in artificial light of the same color temperature such as that provided by CIE standard illuminants C or D2 as specified by the International Commission of Illumination (CIE).

(c) An applicant obtaining a satisfactory result as prescribed by the Authority shall be assessed as fit. An applicant failing to obtain a satisfactory result in such a test shall be assessed as unfit unless able to readily distinguish the colors used in air navigation and correctly identify aviation colored lights. Applicants who fail to meet these criteria shall be assessed as unfit except for Class 2 assessment with the following restriction: valid daytime only.

2.10.2.1.5 HEARING REQUIREMENTS

Hearing requirements are established in addition to the ear examination conducted during the medical examination for the physical and mental requirements.

(a) The applicant shall be required to be free from any hearing defect that would interfere with the safe performance of duties in exercising the privileges of the license.

Note 1: The reference zero for calibration of pure-tone audiometers used for applying Subparts 2.10.2.2.4 (a) and 2.10.2.4.4 (a) is that of the International Organization for Standardization (ISO) Recommendation R389, 1964.

Note 2: The frequency composition of the background noise referred to in Subparts

2.10.2.4 (a)(1) and 2.10.2.4.4.(a)(1) is defined only to the extent that the frequency range 600 to 4 800 Hz is adequately represented.

Note 3: In the choice of speech material, aviation-type material is not to be used exclusively for the above tests. Lists of phonetically balanced words in use by a number of Contracting States have given satisfactory results.

Note 4: A quiet room for the purposes of testing the hearing requirements is a room in which the intensity of the background noise is less than 50 dB when measured on 'slow response of an 'A"-weighted sound level meter.

Note 5: For the purposes of hearing requirements, the sound level of an average conversational voice at point of output ranges from 85 to 95 dB.

2.10.2.2 CLASS 1 MEDICAL CERTIFICATE

2.10.2.2.1 CERTIFICATE ISSUE AND RENEWAL

(a) An applicant for a CPL, MPL, ATPL, Flight Engineer or Flight Navigator license shall undergo an initial medical examination for the issue of a Class 1 Medical Certificate.

(b) Except where otherwise stated in this subpart, holders of CPL, MPL, ATPL, Flight Engineer or Flight Navigator license shall have their Class 1 Medical Certificate renewed at intervals not exceeding those specified in Subpart 2.10.1.8 (c).

(c) A Class 1 Medical Certificate will be issued when the applicant complies with the requirements of this Part

2.10.2.2.2 PHYSICAL AND MENTAL REQUIREMENTS

The medical examination shall be based on the following requirements.

(a) The applicant shall not suffer from any disease or disability which could render that applicant likely to become suddenly unable either to operate an aircraft safely or to perform assigned duties safely.

(b) The applicant shall have no established medical history or clinical diagnosis of:

(1) a psychosis:

(2) alcoholism;

(3) drug dependence;

(4) any personality disorder, particularly if severe enough to have repeatedly resulted in overt acts;

(5) a mental abnormality, or neurosis of a significant degree; such as might render the applicant unable to safely exercise the privileges of the license applied for or held, unless accredited medical conclusion indicates that in special circumstances, the applicant's failure to meet the requirement is such that exercise of the privileges of the license applied for is not likely to jeopardize flight safety.

(c) The applicant should have no established medical history or clinical diagnosis of any mental abnormality, personality disorder or neurosis which according to accredited medical conclusion, makes it likely that within two years of the examination the applicant will be unable to safely exercise the privileges of the license or rating applied for or held.

Note: A history of acute toxic psychosis need not be regarded as disqualifying, provided that the applicant has suffered no permanent impairment.

(d) The applicant shall have no established medical history or clinical diagnosis of any of the following:

(1) a progressive or non-progressive disease of the nervous system, the effects of which, according to accredited medical conclusion, are likely to interfere with the safe exercise of the applicant's license and rating privileges;

(2) epilepsy;

(3) any disturbance of consciousness without satisfactory medical explanation of cause;

(e) Cases of head injury, the effects of which, according to accredited medical conclusion, are likely to interfere with the safe exercise of the applicant's license and rating privileges shall be assessed as unfit.

(f) The applicant shall not possess any abnormality of the heart, congenital or acquired, which is likely to interfere with the safe exercise of the applicant's license and rating privileges. A history of proven myocardial infarction shall be disqualifying.

Note: Such commonly occurring conditions as respiratory arrhythmia, occasional extra systoles which disappear on exercise, increase of pulse rate from excitement or exercise, or a slow pulse not associated with auriculoventricular dissociation may be regarded as being "within -normal" limits.

(1) Electrocardiography shall form part of the heart examination for the first issue of a license and shall be included in re-examination of applicants between the ages of 30 and 40 no less frequently than every two years, and thereafter no less frequently than annually.

Note 1: The purpose of routine electrocardiography is case finding. It does not provide sufficient evidence to justify disqualification without further thorough cardiovascular investigation.

Note 2: Guidance on resting and exercise electrocardiography is published in the Manual of Civil Aviation Medicine (Doc 8984).

(2) An applicant who has undergone coronary bypass, grafting or angioplasty (with or without stenting) or other cardiac intervention or who suffers from any other potentially incapacitating cardiac condition shall be assessed unfit, unless the applicant's cardiac condition has been investigated and evaluated in accordance with best medical practices and is assessed not likely to interfere with the safe exercise of the applicant's license or rating privileges.

(g) The systolic and diastolic blood pressures shall be within normal limits.

Note *1: The use of drugs for control of high blood pressure is disqualifying except for those drugs. the use of which, according to accredited medical conclusion is compatible with the safe exercise of the applicant's license and rating privileges.*

Note 2: Extensive guidance on the subject is published in the Manual of Civil Aviation Medicine (Doc 8984).

(h) There shall be no significant functional, nor structural abnormality of the circulatory tree.

(i) There shall be no acute disability of the lungs, nor any active disease of the structures of the lungs, mediastinum or pleura. Radiography shall form a part of the medical examination in all doubtful clinical cases.

(1) Radiography should form a part of the initial chest examination and should be repeated periodically thereafter.

(j) Any extensive mutilation of the chest wall with collapse of the thoracic cage and sequelae of surgical procedures resulting in decreased respiratory efficiency at altitude shall be assessed as unfit.

(k) Cases of chronic obstructive pulmonary disease should be assessed as unfit if the condition is causing symptoms.

(l) Cases of active pulmonary tuberculosis, duly diagnosed, shall be assessed as unfit. Cases of quiescent or healed lesions which are known to be tuberculous, or are presumably tuberculous in origin, may be assessed as fit.

Note 1: Guidance material on assessment of respiratory diseases is published in the Manual of Civil Aviation Medicine (Doc 8984).

Note 2: Guidance material on hazards of the medications is published in the Manual of Civil Aviation Medicine (Doc 8984).

(m) Cases of disabling disease with important impairment of function of the gastrointestinal tract or its adnexae shall be assessed as unfit.

(n) The applicant shall be required to be completely free from those hernias that might give rise to incapacitating symptoms.

(o) Any sequelae of disease or surgical intervention on any part of the digestive tract or its adnexae, likely to cause incapacity in flight, in particular any obstructions due to structure or compression shall be assessed as unfit.

(1) An applicant who has undergone a major surgical operation on the biliary passages or the digestive tract or its adnexae, which has involved a total or partial excision or a diversion of any of these organs should be assessed as unfit until such time as the medical Authority designated for the purpose by Republic of the Philippines and having access to the details of the operation concerned considers that the effects of the operation are not likely to cause incapacity in the air.

(p) Cases of metabolic, nutritional or endocrine disorders likely to interfere with the safe exercise of the applicant's license and rating privileges shall be assessed as unfit.

(q) Cases of insulin-treated diabetes mellitus shall be assessed as unfit. Proven cases of non-insulin-treated diabetes mellitus shall be assessed as unfit unless the condition is shown to be satisfactorily controlled by diet alone or by diet combined with oral antidiabetic medication, the use of which, according to the accredited medical conclusion are compatible with the safe exercise of the applicant’s license and rating privileges.

(r) Cases of severe and moderate enlargement of the spleen persistently below the costal margin shall be assessed as unfit.

(s) Cases of significant localized and generalized enlargement of the lymphatic glands and of diseases of the blood shall be assessed as unfit, except in cases where accredited medical conclusion indicates that the condition is not likely to affect the safe exercise of the applicant's license and rating privileges.

(1) Possession of the sickle cell trait should not be a reason for disqualification unless there is positive medical evidence to the contrary.

(2) Cases in (r) due to a transient condition should be assessed as only temporarily unfit.

(t) Cases presenting any signs of organic disease of the kidney shall be assessed as unfit; those due to a transient condition may be assessed as temporarily unfit. Urine examination shall form part of the medical examination and shall contain no abnormal element considered by the medical examiner to be of pathological significance. Cases of affections of the urinary passages and of the genital organs shall be assessed as unfit; those due to a transient condition may be assessed as temporarily unfit.

(u) Any sequelae of disease or surgical procedures on the kidneys and the urinary tract likely to cause incapacity, in particular any obstructions due to stricture or compression, shall be assessed as unfit. Compensated nephrectomy without hypertension or uremia may be assessed as fit.

(1) An applicant who has undergone a major surgical operation on the urinary system which has involved a total or partial excision or a diversion of any of its organs should be assessed as unfit until such time as the medical Authority designated for the purpose by Republic of the

Philippines and having access to the details of the operation concerned considers that the effects of the operation are not likely to cause incapacity in the air.

(v) An applicant for the first issue of a license who has a personal history of syphilis shall be required to furnish evidence, satisfactory to the AME, that the applicant has undergone adequate treatment.

(w) Applicants who have a history of severe menstrual disturbances that have proved unamenable to treatment and that are likely to interfere with the safe exercise of the applicant's license and rating privileges shall be assessed as unfit.

(x) Pregnancy shall be cause of temporary unfitness.

(1) In the absence of significant abnormalities, accredited medical conclusion may indicate fitness during the middle months of pregnancy.

(y) Following confinement or termination of pregnancy, the applicant shall not be permitted to exercise the privileges of her license until she has undergone reexamination and has been assessed as fit.

(z) Any active disease of the bones, joints, muscles or tendons and all serious functional sequelae of congenital or acquired disease shall be assessed as unfit. Functions after-effects of lesion affecting the bones, joints, muscles or tendons and certain anatomical defects compatible with the safe exercise of the applicants license and rating privileges may be assessed as fit.

(aa) Applicants with acquired immunodeficiency syndrome (AIDS) shall be assessed as unfit. Those who are seropositive for human immunodeficiency virus (HIV) shall be assessed as unfit unless full investigation provides no evidence of clinical disease.

(bb) There shall be:

(1) no active pathological process, acute or chronic, of the internal ear or of the middle ear;

(2) no unhealed (unclosed) perforation of the tympanic membranes. A single dry perforation need not render the applicant unfit. Licenses shall not be issued or renewed in these circumstances unless the appropriate hearing requirements in Subpart 2.10.2.2.4 are complied with;

(3) no permanent obstruction of the Eustachian tubes;

(4) no permanent disturbances of the vestibular apparatus. Transient conditions may be assessed as temporarily unfit.

Note: The details of the hearing requirements are set out in Subpart 2.10.2.4.

(cc) There shall be free nasal air entry on both sides. There shall be no serious malformation, nor serious, acute or chronic affection of the buccal cavity or upper respiratory tract. Cases of speech defects and stuttering shall be assessed as unfit.

2.10.2.2.3 VISUAL REQUIREMENTS

The medical examination shall be based on the following requirements.

(a) The function of the eyes and their adnexa shall be normal. There shall be no active pathological condition, acute or chronic, nor any sequelae of surgery or trauma of the eyes or their adnexa likely to reduce proper visual function to an extent that would interfere with the safe exercise of the applicant's license and rating privileges.

(b) Distant visual acuity with or without correction shall be 6/9 or better in each eye separately, and binocular visual acuity shall be 6/6 or better. No limits apply to uncorrected visual acuity. Where

this standard of visual acuity can be obtained only with correcting lenses, the applicant may be assessed as fit provided that:

(1) such correcting lenses are worn during the exercise of the privileges of the license or rating applied for or held; and

(2) in addition, a pair of suitable correcting spectacles is kept readily available during the exercise of the privileges of the applicant's license.

Note: An applicant accepted as meeting these provisions is deemed to continue to do so unless there is reason to suspect otherwise, in which case an ophthalmic report is required at the discretion of the Authority. Both uncorrected and correct visual acuity are normally measured and recorded at each re-examination. Conditions which indicate a need to obtain an ophthalmic report include: a substantial decrease in the uncorrected visual acuity; any decrease in best corrected visual acuity, and the occurrence of eye disease, eye injury or eye surgery.

(c) Applicants may use contact lenses to meet the requirement of (b) provided that:

(1) the lenses are monofocal and non-tinted;

(2) the lenses are well tolerated; and

(3) a pair of suitable correcting spectacles is kept readily available during the exercise of the license privileges.

Note: Applicants who use contact lenses may not need to have their uncorrected visual acuity measured at each re-examination provided the history of their contact lens prescription is known.

(d) Applicants with a large refractive error shall use contact lenses or high-index spectacle lenses. *Note: If spectacles are used, high-index lenses are needed to minimizeperipheral field distortion.*

(1) Applicants whose uncorrected distant visual acuity in either eye is worse than 6/60 shall be required to provide a full ophthalmic report prior to initial Medical certificate and every five years thereafter.

Note 1: The purpose of the required ophthalmic examination is (1) to ascertain normal visual performance and (2) to identify any significant pathology.

Note 2: Guidance on the assessment of monocular applicants under the provisions of Subpart 2.10.1.5 is contained in the Manual of Civil Aviation Medicine (Doc 8984).

(e) Applicants who have undergone surgery affecting the refractive status of the eye shall be assessed as unfit unless they are free from those sequelae which are likely to interfere with the safe exercise of their license and rating privileges.

(f) The applicant shall have the ability to read, while wearing the correcting lenses, if any, required by paragraph (b), the N5 chart or its equivalent at a distance selected by that applicant in the range of 30 to 50 cm and the ability to read the N14 chart or its equivalent at a distance of 100 cm. If this requirement is met only by the use of near correction, the applicant may be assessed as fit provided that this near correction is added to the spectacle correcting already prescribed in accordance with (b); if no such correction is prescribed, a pair of spectacles for near use shall be kept readily available during the exercise of the privileges of the license. When near correction is required, the applicant shall demonstrate that one pair of spectacles is sufficient to meet both distant and near visual requirements.

Note 1: N5 and N14 refer to the size of typeface used. For further details, see the Manual of Civil Aviation Medicine (Doc 8984).

Note 2: Any applicant who needs near correction to meet this requirement will require `look-over", bifocal or perhaps multifocal lenses in order to read the instruments and a chart or manual held in the hand, and also to make use of distant vision, through the windscreen, without removing the lenses. Single-vision near correction (full lenses of one power only, appropriate for reading) significantly reduces distant visual acuity and is therefore not acceptable.

Note 3: Whenever there is a requirement to obtain or renew correcting lenses, an applicant is expected to advise the refractionist of reading distances for the visual flight deck tasks relevant to the types of aircraft in which the applicant is likely to function.

(1) When near correction is required in accordance with this paragraph, a second pair of near-correction spectacles shall be kept available for immediate use.

(g) The applicant shall be required to have normal fields of vision.

(h) The applicant shall be required to have normal binocular function.

Note: Defective stereopsis, abnormal convergence not interfering with near vision, and ocular misalignment where the fusional reserves are sufficient to prevent asthenopia and diplopia may not be disqualifying.

2.10.2.2.4 HEARING REQUIREMENTS

The medical examination shall be based on the following requirements.

(a) The applicant, tested on a pure-tone audiometer at first issue of license, not less than once every five years up to the age of 40 years, and thereafter not less than once every three years, shall not have a hearing loss in either ear separately, of more than 35 dB at any of the frequencies 500, 1 000 or 2 000 Hz, or more than 50 dB at 3 000 Hz. However, an applicant with a hearing loss greater than the above may be declared fit provided that:

(1) the applicant has a hearing performance in each ear separately equivalent to that of a normal person, against a background noise that will simulate the masking properties of flight deck noise upon speech and beacon signals; and

(2) the applicant has the ability to hear an average conversational voice in a quiet room, using both ears, at a distance of 2m from the examiner, with the back turned to the examiner.

(b) Alternatively, other methods providing equivalent results to those specified in paragraph (a) shall be used.

2.10.2.3 CLASS 2 MEDICAL CERTIFICATE

2.10.2.3.1 CERTIFICATE ISSUE AND RENEWAL

(a) An applicant for a PPL, SPL, FOO and a Glider Pilot license or a Free Balloon Pilot license shall undergo an initial medical examination for the issue of a Class 2 Medical Certificate.

(b) Except where otherwise stated in this subpart, holders of a PPL, SPL, FOO and a Glider Pilot license or a Free Balloon Pilot license shall have their Class 2 Medical Certificate renewed at intervals not exceeding those specified in Subpart 2.10.1.8 (c).

(c) A Class 2 Medical Certificate will be issued when the applicant complies with the requirements of this Part.

2.10.2.3.2 PHYSICAL AND MENTAL REQUIREMENTS

The medical examination shall be based on the following requirements.

(a) The applicant shall not suffer from any disease or disability which could render that applicant likely to become suddenly unable either to operate an aircraft safely or to perform assigned duties safely.

(b) The applicant shall have no established medical history or clinical diagnosis of:

(1) a psychosis;

(2) alcoholism;

(3) drug dependence;

(4) any personality disorder, particularly if severe enough to have repeatedly resulted in overt acts;

(5) a mental abnormality, or neurosis of a significant degree;

(6) such as might render the applicant unable to safely exercise the privileges of the license applied for or held, unless accredited medical conclusion indicates that in special circumstances, the applicant's failure to meet the requirement is such that exercise of the privileges of the license applied for is not likely to jeopardize flight safety.

(c) The applicant should have no established medical history or clinical diagnosis of any mental abnormality, personality disorder or neurosis which according to accredited medical conclusion, makes it likely that within two years of the examination the applicant will be unable to safely exercise the privileges of the license or rating applied for or held.

Note: *A history of acute toxic psychosis need not be regarded as disqualifying, provided that the applicant has suffered no permanent impairment.*

(d) The applicant shall have no established medical history or clinical diagnosis of any of the following:

(1) a progressive or non-progressive disease of the nervous system, the effects of which, according to accredited medical conclusion, are likely to interfere with the safe exercise of the applicant's license and rating privileges;

(2) epilepsy:

(3) any disturbance of consciousness without satisfactory medical explanation of cause:

(e) Cases of head injury, the effects of which, according to accredited medical conclusion, are likely to interfere with the safe exercise of the applicant's license and rating privileges shall be assessed as unfit.

(f) The applicant shall not possess any abnormality of the heart, congenital or acquired, which is likely to interfere with the safe exercise of the applicant's license and rating privileges. A history of proven myocardial infarction shall be disqualifying.

Note: Such commonly occurring conditions as respiratory arrhythmia, occasional extrasystoles which disappear on exercise, increase of pulse rate from excitement or exercise, or a slow pulse not associated with auriculoventricular dissociation may be regarded as being "within normal" limits.

(1) Electrocardiography should form part of the heart examination for the first issue of a license, at the first re-examination after the ages 30 and 40, no less frequently than every two years, and thereafter no less frequently than annually.

Note 1: The purpose of routine electrocardiography is case finding. It does not provide sufficient evidence to justify *disqualification without further thoroughcardiovascular investigation.*

Note 2: Guidance on resting and exercise electrocardiography is published in the *Manual of Civil Aviation Medicine* (Doc 8984).

(2) An applicant who has undergone coronary bypass grafting or angioplasty (with or without stenting) or other cardiac intervention or who suffers from any other potentially incapacitating cardiac condition shall be assessed as unfit unless the applicant's cardiac condition has been investigated and evaluated in accordance with best medical practices and is assessed not likely to interfere with the safe exercise of the applicant's license or rating privileges.

(g) The systolic and diastolic blood pressures shall be within normal limits.

Note 1: The use of drugs for control of high blood pressure is disqualifying except for those drugs, the use of which, according to accredited medical conclusion is compatible with the safe exercise of the applicant's license and rating privileges.

Note 2: *Extensive* guidance on the subject is published in the *Manual of Civil Aviation Medicine* (Doc 8984).

(h) There shall be no significant functional nor structural abnormality of the circulatory tree. The presence of varicosities does not necessarily entail unfitness.

(i) There shall be no acute disability of the lungs nor any active disease of the structures of the lungs, mediastinum or pleura. Radiography shall form a part of the medical examination in all doubtful clinical cases.

(1) Radiography should form a part of the initial chest examination and should be repeated periodically thereafter.

(j) Any extensive mutilation of the chest wall with collapse of the thoracic cage and sequelae of surgical procedures resulting in decreased respiratory efficiency at altitude shall be assessed as unfit.

(k) Cases of chronic obstructive pulmonary disease should be assessed as unfit if the condition is causing symptoms.

(l) Cases of active pulmonary tuberculosis, duly diagnosed, shall be assessed as unfit. Cases of quiescent or healed lesions which are known to be tuberculous, or are presumably tuberculous in origin, may be assessed as fit.

Note 1: *Guidance material on assessment of respiratory diseases is published in the Manual of Civil Aviation Medicine (Doc 8984).*

Note 2: Guidance material on hazards of the medications is published in the *Manual of Civil Aviation Medicine* (Doc 8984).

(m) Cases of disabling disease with important impairment of function of the gastrointestinal tract or its adnexae shall be assessed as unfit.

(n) The applicant shall be required to be completely free from those hernias that might give rise to incapacitating symptoms.

(o) Any sequelae of disease or surgical intervention on any part of the digestive tract or its adnexae, likely to cause incapacity in flight, in particular any obstructions due to structure or compression shall be assessed as unfit.

(1) An applicant who has undergone a major surgical operation on the biliary passages or the digestive tract or its adnexae, which has involved a total or partial excision or a diversion of any of these organs should be assessed as unfit until such time as the medical Authority designated for the purpose by Republic of the Philippines and having access to the details of the operation concerned considers that the effects of the operation are not likely to cause incapacity in the air.

(p) Cases of insulin-treated diabetes mellitus shall be assessed as unfit. Proven cases of diabetes mellitus shown to be satisfactorily controlled without the use of any antidiabetic drug may be

assessed as fit. The use of anti-diabetic drugs for the control of diabetes mellitus is disqualifying except for those oral drugs administered under conditions permitting appropriate medical supervision and control and which according to accredited medical conclusion, are compatible with the safe exercise of the applicant's license and rating privileges.

(q) Cases of severe and moderate enlargement of the spleen persistently below the costal margin shall be assessed as unfit.

(r) Cases of significant localized and generalized enlargement of the lymphatic glands and of diseases of the blood shall be assessed as unfit, except in cases where accredited medical conclusion indicates that the condition is not likely to affect the safe exercise of the applicant's license and rating privileges.

(1) Possession of the sickle cell trait should not be a reason for disqualification unless there is positive medical evidence to the contrary.

(2) Cases in (q) due to a transient condition should be assessed as only temporarily unfit.

(s) Cases presenting any signs of organic disease of the kidney shall be assessed as unfit; those due to a transient condition may be assessed as temporarily unfit. Urine examination shall form part of the medical examination and shall contain no abnormal element considered by the medical examiner to be of pathological significance. Cases of affections of the urinary passages and of the genital organs shall be assessed as unfit; those due to a transient condition may be assessed as temporarily unfit.

(t) Any sequelae of disease or surgical procedures on the kidneys and the urinary tract likely to cause incapacity, in particular any obstructions due to stricture or compression, shall be assessed as unfit. Compensated nephrectomy without hypertension or uremia may be assessed as fit.

(1) An applicant who has undergone a major surgical operation on the urinary system which has involved a total or partial excision or a diversion of any of its organs should be assessed as unfit until such time as the medical Authority designated for the purpose by the Republic of the Philippines and having access to the details of the operation concerned considers that the effects of the operation are not likely to cause incapacity in the air.

(u) An applicant for the first issue of a license who has a personal history of syphilis shall be required to furnish evidence, satisfactory to the AME, that the applicant has undergone adequate treatment.

(v) Applicants who have a history of severe menstrual disturbances that have proved unamenable to treatment and that are likely to interfere with the safe exercise of the applicant's license and rating privileges shall be assessed as unfit.

(1) Applicants who have undergone gynaecological operations should be considered individually.

(w) Pregnancy shall be cause of temporary unfitness.

(1) In the absence of significant abnormalities, accredited medical conclusion may indicate fitness during the middle months of pregnancy.

(x) Following confinement or termination of pregnancy, the applicant shall not be permitted to exercise the privileges of her license until she has undergone reexamination and has been assessed as fit.

(y) Any active disease of the bones. joints, muscles or tendons and all serious functional sequelae of congenital or acquired disease shall be assessed as unfit. Certain qualifying functional after-effects of lesion affecting the bones, joints, muscles or tendons and certain anatomical defects compatible with the safe exercise of the applicants license and rating privileges may be assessed as fit.

(z) Applicants with acquired immunodeficiency syndrome (AIDS) shall be assessed as unfit. Those who are seropositive for human immunodeficiency virus (HIV) shall be assessed as unfit unless full investigation provides no evidence of clinical disease.

(aa) There shall be:

(1) no active pathological process, acute or chronic, of the internal ear or of the middle ear;

(2) no permanent disturbances of the vestibular apparatus. Transient conditions may be assessed as temporarily unfit.

Note: The details of the hearing requirements are set out in 2.10.2.3.4. (cc) There shall be no serious malformation nor serious, acute or chronic affection of thebuccal cavity or upper respiratory tract.

2.10.2.3.3 VISUAL REQUIREMENTS

The medical examination shall be based on the following requirements.

(a) The function of the eyes and their adnexa shall be normal. There shall be no active pathological condition, acute or chronic, nor any sequelae of surgery or trauma of the eyes or their adnexa likely to reduce proper visual function to an extent that would interfere with the safe exercise of the applicant's license and rating privileges.

(b) Distant visual acuity with or without correction shall be 6/12 or better in each eye separately, and binocular visual acuity shall be 6/9 or better. No limits apply to uncorrected visual acuity. Where this standard of visual acuity can be obtained only with correcting lenses, the applicant may be assessed as fit provided that:

(1) such correcting lenses are worn during the exercise of the privileges of the license or rating applied for or held; and

(2) in addition, a pair of suitable correcting spectacles is kept readily available during the exercise of the privileges of the applicant's license.

Note: An applicant accepted as meeting these provisions is deemed to continue to do so unless there is reason to suspect otherwise, in which case an ophthalmic report is required at the discretion of the Authority. Both uncorrected and correct visual acuity are normally measured and recorded at each re-examination. Conditions which indicate a need to obtain an ophthalmic report include: a substantial decrease in the uncorrected visual acuity; any decrease in best corrected visual acuity, and the occurrence of eye disease, eye injury or eye surgery.

(c) Applicants may use contact lenses to meet the requirement of paragraph (b) provided that:

(1) the lenses are monofocal and non-tinted:

(2) the lenses are well tolerated; and

(3) a pair of suitable correcting spectacles is kept readily available during the exercise of the license privileges.

Note: Applicants who use contact lenses may not need to have their uncorrected visual acuity measured at each re-examination provided the history of their contact lens prescription is known.

(d) Applicants with a large refractive error shall use contact lenses or high-index spectacle lenses.

Note: If spectacles are used, high-index lenses are needed to minimize peripheral field distortion.

(e) Applicants whose uncorrected distant visual acuity in either eye is worse than 6/60 should be required to provide a full ophthalmic report prior to initial Medical Certificate and every five years thereafter.

Note 1: The purpose of the required ophthalmic examination is (1) to ascertain normal visual performance; and (2) to identify any significant pathology.

Note 2: Guidance on the assessment of monocular applicants under the provisions of Subpart 2.10.1.5 is contained in the Manual of Civil Aviation Medicine (Doc 8984).

(f) Applicants who have undergone surgery affecting the refractive status of the eye shall be assessed as unfit unless they are free from those sequelae which are likely to interfere with the safe exercise of their license and rating privileges.

(g) The applicant shall have the ability to read, while wearing the correcting lenses, if any, required by (b), the N5 chart or its equivalent at a distance selected by that applicant in the range of 30 to 50 cm and the ability to read the N14 chart or its equivalent at a distance of 100 cm. If this requirement is met only by the use of near correction, the applicant may be assessed as fit provided that this near correction is added to the spectacle correcting already prescribed in accordance with (b); if no such correction is prescribed, a pair of spectacles for near use shall be kept readily available during the exercise of the privileges of the license. When near correction is required, the applicant shall demonstrate that one pair of spectacles is sufficient to meet both distant and near visual requirements.

Note 1: N5 and N14 refer to the size of typeface used. For further details, see the Manual of Civil Aviation Medicine (Doc 8984).

Note 2: Any applicant who needs near correction to meet this requirement will require -look-over", *bifocal or perhaps multifocal lenses in order to read the instruments and a chart or manual held in the hand, and also to make use of distant vision, through the windscreen, without removing the lenses. Single-vision near correction (full lenses of one power only, appropriate for reading) significantly reduces distant visual acuity and is therefore not acceptable.*

Note 3: Whenever there is a requirement to obtain or renew correcting lenses, an applicant is expected to advise the *refractionist*of reading distances for the visual flight deck tasks relevant to the types of aircraft in which the applicant is likely to function.

(1) When near correction is required in accordance with this paragraph, a second pair of near-correction spectacles shall be kept available for immediate use.

(h) The applicant shall be required to have normal fields of vision.

(i) The applicant shall be required to have normal binocular function.

Note: Defective stereopsis, abnormal convergence not interfering with near vision, and ocular misalignment where the fusional reserves are sufficient to prevent asthenopia and diplopia may not be disqualifying.

2.10.2.3.4 HEARING REQUIREMENTS

(a) The medical examination shall be based on the following requirements:

(1) The applicant tested on a pure-tone audiometer at first issue of license, and every three (3) years after the age of 50 years, shall not have a hearing loss in either ear separately, of more than 35 dB at any of the frequencies 500, 1000 or 2000 Hz, or more than 50 dB at 3000 Hz. However, an applicant with a hearing loss greater than the above may be declared fit provided that:

(i) the applicant has hearing performance in each ear separately equivalent to that of a normal person, against a background noise that will simulate the masking properties of flight deck noise upon speech and beacon signals; and

(ii) the applicant has the ability to hear an average conversational voice in a quiet room, using both ears, at a distance of 2m from the examiner, with the back turned to the examiner.

(2) Alternatively, other methods providing equivalent results to those specified in paragraph (1) shall be used.

2.10.2.4 CLASS 3 MEDICAL CERTIFICATE

2.10.2.4.1 CERTIFICATE ISSUE AND RENEWAL

(a) An applicant for an Air Traffic Controller license shall undergo an initial medical examination for the issue of a Class 3 Medical Certificate.

(b) Except where otherwise stated in this subpart, holders of an Air Traffic Controller license shall have their Class 3 Medical Certificate renewed at intervals not exceeding those specified in Subpart 2.10.1.8 (c).

(c) A Class 3 Medical Certificate will be issued when the applicant complies with the requirements of this Part.

2.10.2.4.2 PHYSICAL AND MENTAL REQUIREMENTS

The medical examination shall be based on the following requirements.

(a) The applicant shall not suffer from any disease or disability which could render that applicant likely to become suddenly unable to perform assigned duties safely.

(b) The applicant shall have no established medical history or clinical diagnosis of:

(1) a psychosis:

(2) alcoholism;

(3) drug dependence,

(4) any personality disorder, particularly if severe enough to have repeatedly resulted in overt acts;

(5) a mental abnormality, or neurosis of a significant degree,

(i) such as might render the applicant unable to safely exercise the privileges of the license applied for or held, unless accredited medical conclusion indicates that in special circumstances, the applicant's failure to meet the requirement is such that exercise of the privileges of the license applied for is not likely to jeopardize flight safety.

(c) The applicant should have no established medical history or clinical diagnosis of any mental abnormality, personality disorder or neurosis which according to accredited medical conclusion, makes it likely that within two years of the examination the applicant will be unable to safely exercise the privileges of the license or rating applied for or held.

Note: A history of acute toxic psychosis need not be regarded as disqualifying, provided that the applicant has suffered no permanent impairment.

(d) The applicant shall have no established medical history or clinical diagnosis of any of the following:

(1) a progressive or non-progressive disease of the nervous system, the effects of which, according to accredited medical conclusion, are likely to interfere with the safe exercise of the applicant's license and rating privileges;

(2) epilepsy;

(3) any disturbance of consciousness without satisfactory medical explanation of cause;

(e) Cases of head injury, the effects of which, according to accredited medical conclusion, are likely to interfere with the safe exercise of the applicant's license and rating privileges shall be assessed as unfit.

(f) The applicant shall not possess any abnormality of the heart, congenital or acquired, which is likely to interfere with the safe exercise of the applicant's license and rating privileges. An applicant indicated by accredited medical conclusion to have made a satisfactory recovery from myocardial infarction may be assessed as fit.

Note: Such commonly occurring conditions as respiratory arrhythmia, occasional extrasystoles which disappear on exercise, increase of pulse rate from excitement or exercise, or a slow pulse not associated with auriculoventricular dissociation may be regarded as being within "normal" limits.

(1) Electrocardiography shall form part of the heart examination for the first issue of a license, and shall be included in re-examination of the applicant between the ages 30 and 40 no less frequently than every two years, and thereafter no less frequently than annually.

Note 1: The *purpose of routine electrocardiography is case finding. It does not provide sufficient evidence to justify disqualification without further thorough cardiovascular investigation.*

Note 2: Guidance on resting and exercise electrocardiography is published in the *Manual of Civil Aviation Medicine (Doc 8984).*

(2) An applicant who has undergone coronary bypass, grafting or angioplasty (with or without stenting) or other cardiac intervention or who suffers from any other potentially incapacitating cardiac condition shall be assessed unfit, unless the applicant's cardiac condition has been investigated and evaluated in accordance with best medical practices and is assessed not likely to interfere with the safe exercise of the applicant's license or rating privileges.

(g) The systolic and diastolic blood pressures shall be within normal limits.

Note 1: The use of drugs for control of high blood pressure is disqualifying except for those drugs, the use of which, according to accredited medical conclusion is compatible with the safe exercise of the applicant's license and rating privileges.

Note 2: Extensive guidance on the subject is published in the Manual of Civil Aviation Medicine (Doc 8984).

(h) There shall be no significant functional nor structural abnormality of the circulatory tree. The presence of varicosities does not necessarily entail unfitness.

(i) There shall be no acute disability of the lungs nor any active disease of the structures of the lungs, mediastinum or pleura. Radiography shall form a part of the medical examination in all doubtful clinical cases.

(1) Radiography should form a part of the initial chest examination and should be repeated periodically thereafter.

(j) Cases of chronic obstructive pulmonary disease should be assessed as unfit if the condition is causing symptoms.

(k) Cases of active pulmonary tuberculosis, duly diagnosed, shall be assessed as unfit. Cases of quiescent or healed lesions which are known to be tuberculous, or are presumably tuberculous in origin, may be assessed as fit.

Note 1: Guidance material on assessment of respiratory diseases is published in the Manual of Civil Aviation Medicine (Doc 8984).

Note 2: Guidance material on hazards of the medications is published in the Manual of Civil Aviation Medicine (Doc 8984).

(l) Cases of disabling disease with important impairment of function of the gastrointestinal tract or its adnexae shall be assessed as unfit.

(m) The applicant shall be required to be completely free from those hernias that might give rise to incapacitating symptoms.

(n) Any sequelae of disease or surgical intervention on any part of the digestive tract or its adnexae, likely to cause incapacity in flight, in particular any obstructions due to structure or compression shall be assessed as unfit.

(o) Cases of metabolic, nutritional or endocrine disorders likely to interfere with the safe exercise of the applicant's license and rating privileges shall be assessed as unfit.

(p) Cases of insulin treated diabetes mellitus shall be assessed as unfit. Proven cases of diabetes mellitus shown to be satisfactorily controlled without the use of any antidiabeticdrug, may be assessed as fit. The use of anti-diabetic drugs for the control of diabetes mellitus is disqualifying except for those oral drugs administered under conditions permitting appropriate medical supervision and control and which according to accredited medical conclusion, are compatible with the safe exercise of the applicant's license and rating privileges.

(q) Cases of significant localized and generalized enlargement of the lymphatic glands and of diseases of the blood shall be assessed as unfit, except in cases where accredited medical conclusion indicates that the condition is not likely to affect the safe exercise of the applicant's license and rating privileges.

(1) Cases in (q) due to a transient condition should be assessed as only temporarily unfit.

(r) Cases presenting any signs of organic disease of the kidney shall be assessed as unfit; those due to a transient condition may be assessed as temporarily unfit. Urine examination shall form part of the medical examination and shall contain no abnormal element considered by the medical examiner to be of pathological significance. Cases of affections of the urinary passages and of the genital organs shall be assessed as unfit; those due to a transient condition may be assessed as temporarily unfit.

(s) Any sequelae of disease or surgical procedures on the kidneys and the urinary tract likely to cause incapacity, in particular any obstructions due to stricture or compression, shall be assessed as unfit. Compensated nephrectomy without hypertension or uremia may be assessed as fit.

(t) An applicant for the first issue of a license who has a personal history of syphilis shall be required to furnish evidence, satisfactory to the AME, that the applicant has undergone adequate treatment.

(u) Applicants who have a history of severe menstrual disturbances that have proved unamenable to treatment and that are likely to interfere with the safe exercise of the applicant's license and rating privileges shall be assessed as unfit.

(v) Pregnancy shall be cause of temporary unfitness:

(1) In the absence of significant abnormalities, accredited medical conclusion may indicate fitness during the middle months of pregnancy.

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Ramon S. Gutierrez
Director General

Atty. Rodrigo R. Artuz
Acting Corporate Board Secretary

(2) Following confinement or termination of pregnancy, the applicant shall not be permitted to exercise the privileges of her license until she has undergone reexamination and has been assessed as fit.

(w) Any active disease of the bones, joints, muscles or tendons and all serious functional sequelae of congenital or acquired disease shall be assessed as unfit. Functional after-effects of lesion affecting the bones, joints, muscles or tendons and certain anatomical defects compatible with the safe exercise of the applicants license and rating privileges may be assessed as fit.

(x) Applicants with acquired immunodeficiency syndrome (AIDS) shall be assessed as unfit. Those who are seropositive for human immunodeficiency virus (HIV) shall be assessed as unfit unless full investigation provides no evidence of clinical disease.

(y) There shall be:

(1) no active pathological process, acute or chronic, of the internal ear or of the middle ear;

(2) no unhealed (unclosed) perforations of the tympanic membrane. A single dry perforation need not render the applicant unfit. License shall not be issued or renewed in these circumstances unless the appropriate hearing requirements in Subpart 2.10.2.2.4 are complied with;

(3) no permanent obstruction of the Eustachian tubes; and

(4) no permanent disturbances of the vestibular apparatus. Transient conditions may be assessed as temporarily unfit.

Note: The details of the hearing requirements are set out in Subpart 2.10.2.4.4.

(z) There shall be no serious malformation, nor serious, acute or chronic affection of the buccal cavity or upper respiratory tract. Cases of speech defects and stuttering shall be assessed as unfit.

2.10.2.4.3 VISUAL REQUIREMENTS

The medical examination shall be based on the following requirements.

(a) The function of the eyes and their adnexa shall be normal. There shall be no active pathological condition, acute or chronic, nor any sequelae of surgery or trauma of the eyes or their adnexa likely to reduce proper visual function to an extent that would interfere with the safe exercise of the applicant's license and rating privileges.

(b) Distant visual acuity with or without correction shall be 6/9 or better in each eye separately, and binocular visual acuity shall be 6/6 or better. No limits apply to uncorrected visual acuity. Where this standard of visual acuity can be obtained only with correcting lenses, the applicant may be assessed as fit provided that:

(1) such correcting lenses are worn during the exercise of the privileges of the license or rating applied for or held; and

(2) in addition, a pair of suitable correcting spectacles is kept readily available during the exercise of the privileges of the applicant's license.

Note: An applicant accepted as meeting these provisions is deemed to continue to do so unless there is reason to suspect otherwise. in which case an ophthalmic report is required at the discretion of the Authority. Both uncorrected and correct visual acuity are normally measured and recorded at each re-examination. Conditions which indicate a need to obtain an ophthalmic report include: a substantial decrease in the uncorrected visual acuity; any decrease in best corrected visual acuity, and the occurrence of eye disease, eye injury or eye surgery.

(c) Applicants may use contact lenses to meet the requirement of (b) provided that:

(1) the lenses are monofocal and non-tinted:

(2) the lenses are well tolerated; and

(3) a pair of suitable correcting spectacles is kept readily available during the exercise of the license privileges.

Note: Applicants who use contact lenses may not need to have their uncorrected visual acuity measured at each re-examination provided the history of their contact lens prescription is known.

(d) Applicants with a large refractive error shall use contact lenses or high-index spectacle lenses.

Note: If spectacles are used, high-index lenses are needed to minimize peripheral field distortion.

(e) Applicants whose uncorrected distant visual acuity in either eye is worse than 6/60 should be required to provide a full ophthalmic report prior to initial Medical Certificate and every five years thereafter.

Note 1: The purpose of the required ophthalmic examination is 1) to ascertain normal visual performance and 2) to identify any significant pathology.

Note 2: Guidance on the assessment of monocular applicants under the provisions of 2.10.1.5 is contained in the Manual of Civil Aviation Medicine (Doc 8984).

(f) Applicants who have undergone surgery affecting the refractive status of the eye shall be assessed as unfit unless they are free from those sequelae which are likely to interfere with the safe exercise of their license and rating privileges.

(g) The applicant shall have the ability to read, while wearing the correcting lenses, if any, required by (b), the N5 chart or its equivalent at a distance selected by that applicant in the range of 30 to 50 cm and the ability to read the N14 chart or its equivalent at a distance of 100 cm. If this requirement is met only by the use of near correction, the applicant may be assessed as fit provided that this near correction is added to the spectacle correcting already prescribed in accordance with (b); if no such correction is prescribed. a pair of spectacles for near use shall be kept readily available during the exercise of the privileges of the license. When near correction is required, the applicant shall demonstrate that one pair of spectacles is sufficient to meet both distant and near visual requirements.

Note 1: N5 and N14 refer to the size of typeface used. For further details, see the Manual of Civil Aviation Medicine (Doc 8984).

Note 2: Any applicant who needs near correction to meet this requirement will require "Look-over", *bifocal or perhaps multifocal lenses in order to read the instruments and a chart or manual held in the hand, and also to make use of distant vision, through the windscreen, without removing the lenses. Single-vision near correction (full lenses of one power only, appropriate for reading) significantly reduces distant visual acuity and is therefore not acceptable.*

Note 3: Whenever there is a requirement to obtain or renew correcting lenses, an applicant is expected to advise the refractionist of reading distances for the visual flight deck tasks relevant to the types of aircraft in which the applicant is likely to function.

(1) When near correction is required in accordance with this paragraph, a second pair of near-correction spectacles shall be kept available for immediate use.

(h) The applicant shall be required to have normal fields of vision.

(i) The applicant shall be required to have normal binocular function.

Note: Defective stereopsis: abnormal convergence not interfering with near vision, and ocular misalignment where the fusional reserves are sufficient to prevent asthenopia and diplopia may not be disqualifying.

2.10.2.4.4 HEARING REQUIREMENTS

The medical examination shall be based on the following requirements.

(a) The applicant, tested on a pure-tone audiometer at first issue of license, not less than once every five years up to the age of 40 years, and thereafter not less than once every three years, shall not have a hearing loss in either ear separately, of more than 35 dB at any of the frequencies 500, 1000 or 2000 Hz, or more than 50 dB at 3000 Hz. However, an applicant with a hearing loss greater than the above may be declared fit provided that:

(1) the applicant has a hearing performance in each ear separately equivalent to that of a normal person, against a background noise that will simulate the that experienced in a typical air traffic control working environment; and

(2) the applicant has the ability to hear an average conversational voice in a quiet room, using both ears, at a distance of 2m from the examiner, with the back turned to the examiner.

(b) Alternatively, other methods providing equivalent results to those specified in (a) shall be used.

2.10.2.4.5 MEDICAL REQUIREMENTS FOR THE SCHEDULED COMMERCIAL AIR OPERATORS

The following general medical requirements shall apply to the scheduled commercial air operators' medical services:

(a) A scheduled commercial air operator shall have a medical service in support of its operation whose head shall be at least an Aviation Medical Specialist.

(b) A scheduled commercial air operator Medical Examiner shall not perform medical examination of airmen of the scheduled commercial air operator for the purpose of securing original or renewal of airmen licenses or rating(s). He shall be mainly concerned in keeping the flight crew members of the scheduled commercial air operator physically and mentally fit to perform flight duties at all times. (21 March 2011).

2.10.2.4.6 PENALTIES

Any person who violates any provisions of these rules and regulations shall be liable to the provisions and penalties prescribed in Chapter XI of the Civil Aviation Authority Act of 2008 (Republic Act No. 9497).

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Republic of the Philippines CIVIL AVIATION REGULATIONS (CAR)

PART 2: IS PERSONNEL LICENSING: IMPLEMENTING STANDARDS

IS 2.2.1 ISSUE, RENEWAL AND RE-ISSUE OF LICENSES, RATINGS, AUTHORIZATIONS AND CERTIFICATES

Certified Original:

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(a) Issue, renewal and re-issue of licenses, ratings, Authorizations and certificates will take place when the applicant meets the requirements of Part 2 for issue, renewal and re-issue for these licenses, ratings, Authorizations and certificates.

(b) Issue, renewal and re-issue of licenses, ratings, Authorizations and certificates will be performed by the Authority.

(c) Notwithstanding (b), renewal of ratings and category II/III pilot Authorizations may be performed by the Examiner, when delegated by the Authority.

(d) Notwithstanding (b), renewal of medical certificates may be performed by the AME, when delegated by the Authority.

(e) Application for the issue, renewal and re-issue of licenses, ratings. Authorizations or certificates by the Authority shall be done by submitting to the Authority a properly filled out form, which form can be obtained from the Authority. This form must be submitted to the Authority at least 14 days before the expiry date.

IS 2.2.4.3 APPENDIX A: PROCEDURES FOR CONVERSION OF A PPL

(a) The holder of a private pilot license issued by another Contracting State may directly apply for a conversion of his or her license, without prior holding a validation as is required for PPL/IR or professional licenses under Subpart 2.2.4.3 (b).

(b) The applicant shall, before application for a conversion, complete the requirements of Subpart 2.2.4.3 (a).

(c) Application for the issue of a conversion of a license issued by another Contracting State must be done by submitting to the Authority a properly filled out form, which form can be obtained from the Authority.

(d) The application form for the issue of a conversion of a license issued by another Contracting State must be submitted to the Authority at least 14 days in advance of the date the conversion is desired.

(e) The valid license from the other Contracting State and the record (e.g.) logbook must be presented to the Authority

(f) The applicant shall hold a medical certificate relevant to the license applied for and this medical certificate will be issued by the Authority of Republic of the Philippines, when the applicant complies with the requirements of this Part.

(g) The Authority, that issues a license based on a license issued by another Contracting State, remains responsible for the converted license.

IS 2.2.4.3 APPENDIX B: PROCEDURES FOR CONVERSION OF A PPL/R, CPL, CPL/IR, ATPL AND FLIGHT ENGINEER LICENSE

(a) The applicant shall, before application for a conversion, complete the requirements of Subpart 2.2.4.3. (b).

(b) Application for the conversion of a license issued by another Contracting State shall be made by submitting a properly filled out form to the Authority, which form can be obtained from the Authority.

(c) The application form for the issue of a conversion of a license issued by another Contracting State must be submitted to the Authority at least 14 days in advance of the date the conversion is desired.

(d) The valid license from the other Contracting State and the record (e.g. logbook) must be presented to the Authority.

(e) The applicant shall hold a medical certificate relevant to the license applied for and this medical certificate will be issued by the Authority of Republic of the Philippines, when the applicant complies with the requirements of this Part.

(f) The Authority, that issues a license based on a license issued by another Contracting State, remains responsible for the converted license.

IS 2.2.4.3 APPENDIX C: PROCEDURES FOR VALIDATION AND CONVERSION OF FLIGHT CREW LICENSES BY RELIANCE UPON THE LICENSING SYSTEM OF ANOTHER CONTRACTING STATE

(a) The Authority that issues a license based on a license from another Contracting State remains responsible for the validation certificate and the converted license.

(b) The Authority should, before making the agreement mentioned in Subpart 2.2.4.3 (a)(3) be convinced, that the other Contracting State issues licenses in conformity with at least this Part.

(c) An inspector or experienced pilot from Republic of the Philippines, or from another Contracting State delegated by the Authority of Republic of the Philippines, must visit the other Contracting State to be convinced that the licensing system in the other Contracting State is in conformity with at least this Part. A report describing the bases for the decision shall be made to the Authority of Republic of the Philippines.

(d) An Air Law test must be arranged if the Air Law system of Republic of the Philippines is different from the Air Law system from the other Contracting State.

(e) Renewal and re-issue of the validation certificate or the converted licenses and ratings:

(1) when examiners are available in Republic of the Philippines to perform proficiency checks for the renewal of rating(s) or skill tests for the re-issue of the license or rating(s), these tests/checks will be performed by the authorized examiners of Republic of the Philippines;

(2) when examiners are not available in Republic of the Philippines to perform proficiency checks for the renewal of the rating(s) or skill test for the re-issue of the license or rating(s), the availability of examiners for these tests/checks from the other Contracting State can be arranged in the agreement mentioned in Subpart 2.2.4.3 (a)(3).

(f) Application for the validation certificate and the conversion of a license from another Contracting State shall be done by submitting to the Authority a properly filled out form, which form can be obtained from the Authority.

(g) The valid license from the other Contracting State and the record (e.g. logbook) must be presented to the Authority

(h) The applicant shall hold a medical certificate relevant to the license applied for and this medical certificate will be issued by the Authority of Republic of the Philippines, when the applicant complies with the requirements of this Part.

IS 2.2.5 MILITARY FLIGHT CREW AND MECHANICS

(a) Requirements for a military pilot to meet the requirements of Subpart 2.2.5.

(b) *Military pilots on active flying status within the past 12 months.* The holder of a military pilot license (or certificate) who has been on active flying status within the 12 months before applying shall:

(1) Pass a knowledge test on the appropriate parts of these regulations that apply to pilot privileges and limitations, air traffic and general operating rules, and accident reporting rules;

(2) Present documentation showing compliance with the requirements of paragraph (c) of this subsection for at least one aircraft category rating; and

(3) Present documentation showing that the applicant is or was, at any time during the 12 calendar months before the month of application the holder of a military pilot license (or certificate) on active flying status in an armed force of the Republic of the Philippines.

(c) *Aircraft category, class and type ratings.* The Authority may issue to the holder of a military pilot license (or certificate) an aircraft category, class or type rating to a commercial pilot license if the pilot present documentary evidence that shows satisfactory accomplishment of:

(1) A military pilot check and instrument proficiency check of the Republic of the Philippines in that aircraft category, class or type, if applicable, as PIC during the 12 calendar months before the month of application; and

(2) At least 10 hours of PIC time in that aircraft category, class or type, if applicable, during the 12 calendar months before the month of application.

(d) *Instrument rating.* The holder of a military pilot license (or certificate) may apply for an airplane or helicopter instrument rating to be added to his or her commercial pilot license if the pilot has, within the 12 calendar months preceding the month of application:

(1) Passed an instrument proficiency check by an armed force of the Republic of the Philippines in the aircraft category for the instrument rating sought; and

(2) Received Authorization from an armed force of the Republic of the Philippines to conduct IFR flights on airways in that aircraft category and class for the instrument rating sought.

(e) *Aircraft type rating.* The Authority will issue an aircraft type rating only for aircraft types that the Authority has certified for civil operations.

(f) *Aircraft type rating placed on an airline transport pilot license.* The Authority may issue to the holder of a military pilot license (or certificate) who holds an airline transport pilot license an aircraft type rating provided that the pilot:

(1) Holds a category and type rating for that type of aircraft at the airline transport pilot license level; and

(2) Passed an official military pilot of the Republic of the Philippines check and instrument proficiency check in that type of aircraft as PIC during the 12 calendar months before the month of application.

(g) *Evidentiary documents.* The Authority may accept the following documents as satisfactory evidence of military pilot status.

(1) An official identification card issued to the pilot by an armed force to demonstrate membership in the armed forces.

(2) An original or a copy of a certificate of discharge or release from an armed force of the Republic of the Philippines;

(3) At least one of the following:

(i) An order of an armed force of the Republic of the Philippines to flight status as a military pilot

(ii) (ii) An armed force form or logbook showing military pilot status; or

(iii) an order showing that the applicant graduated from a military pilot school of the Republic of the Philippines and received a rating as a military pilot.

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(4) A certified armed force logbook or an appropriate official armed force form or summary to demonstrate flight time in military aircraft as a member of an armed force of the Republic of the Philippines.

(5) An official armed force of Republic of the Philippines record of a military designation as PIC.

(6) An official record of satisfactory accomplishment of an instrument proficiency check during the 12 calendar months preceding the month of application.

IS 2.2.6 APPENDIX A: PREREQUISITES FOR A KNOWLEDGE TEST

(a) The applicant shall, before passing the knowledge test for a license or rating:

(1) have satisfactorily accomplished the required training;

(2) have an endorsement in his or her logbook or training record, that has been signed by an authorized instructor, who certifies that the applicant is prepared for the knowledge test.

IS 2.2.6 APPENDIX B: PREREQUISITES FOR A SKILL TEST

(a) An applicant shall, before passing the skill test for a license or rating:

(1) have passed the required knowledge test within the 24-calendar-month period preceding the month the applicant completes the skill test;

(2) have satisfactorily accomplished the required training and obtained the experience prescribed by Part 2 for the license or rating sought;

(3) meet the prescribed age requirement of this Part for the issuance of the license or rating sought; and

(4) have an endorsement in his or her logbook or training record that has been signed by an authorized instructor, who certifies that the applicant is prepared for the required skill test.

(b) An applicant for an airline transport pilot license may take the skill test for that license with a knowledge test report that has been completed within a period of seven (7) years before the application, provided the applicant is employed as a flight crew member by a certificate holder under Part 9 at the time of the skill test.

IS 2.2.7 LANGUAGE PROFICIENCY

(a) General

(1) To meet the language proficiency requirements contained in Subpart 2.2.7, an applicant for a license or a license holder shall demonstrate, in a manner acceptable to the Authority, compliance with the holistic descriptors in paragraph (b) below and with the Operational Level (Level 4) of the Language Proficiency Rating Scale as mentioned in paragraph c) below.

(b) Holistic descriptors: Proficient speakers shall:

(1) communicate effectively in voice-only (telephone/radiotelephone) and in face-toface situations;

(2) communicate on common, concrete and work-related topics with accuracy and clarity;

(3) use appropriate communicative strategies to exchange messages and to recognize and resolve misunderstandings (e.g. to check, confirm, or clarify information) in a general or work-related context;

(4) handle successfully and with relative ease the linguistic challenges presented by a complication or unexpected turn of events that occurs within the context of a routine work situation or communicative task with which they are otherwise familiar; and

(5) use a dialect or accent which is intelligible to the aeronautical community.

(c) Rating scale:

Operational Level (Level 4)

(1) Pronunciation: Pronunciation, stress, rhythm and intonation are influenced by the first language or regional variation but only sometimes interfere with understanding.

(2) Structure: Basic grammatical structures and sentence patterns are used creatively and are usually well controlled. Errors may occur, particularly in unusual or unexpected circumstances, but rarely interfere with meaning.

(3) Vocabulary: Vocabulary range and accuracy are usually sufficient to communicate effectively on common, concrete, and work related topics. Can often paraphrase successfully when lacking vocabulary in unusual or unexpected circumstances.

(4) Fluency: Produces stretches of language at an appropriate tempo. There may be occasional loss of fluency on transition from rehearsed or formulaic speech to spontaneous interaction, but this does not prevent effective communication. Can make limited use of discourse markers or connectors. Fillers are not distracting.

(5) Comprehension: Comprehension is mostly accurate on common, concrete, and work related topics when the accent or variety used is sufficiently intelligible for an international community of users. When the speaker is confronted with a linguistic or situational complication or an unexpected turn of events, comprehension may be slower or require clarification strategies.

(6) Interactions: Responses are usually immediate, appropriate and informative. Initiates and maintains exchanges even when dealing with an unexpected turn of events. Deals adequately with apparent misunderstandings by checking, confirming or clarifying.

Extended Level (Level 5)

(1) Pronunciation: Pronunciation, stress, rhythm, and intonation, though influenced by the first language or regional variation, rarely interfere with ease of understanding.

(2) Structure: Basic grammatical structures and sentence patterns are consistently well controlled. Complex structures are attempted but with errors which sometimes interfere with meaning.

(3) Vocabulary: Vocabulary range and accuracy are sufficient to communicate effectively on common, concrete, and work related topics. Paraphrases consistently and successfully. Vocabulary is sometimes idiomatic.

(4) Fluency: Able to speak at length with relative ease on familiar topics, but may not vary speech flow as a stylistic device. Can make use of appropriate discourse markers or connectors.

(5) Comprehension: Comprehension is accurate on common, concrete, and work related topics and mostly accurate when the speaker is confronted with a linguistic or situational complication or an unexpected turn of events. Is able to comprehend a range of speech varieties (dialect and/or accent) or registers.

(6) Interactions: Responses are immediate, appropriate, and informative. Managers the speaker/listener relationship effectively.

Expert Level (Level 6)

(1) Pronunciation: Pronunciation, stress, rhythm, and intonation, thought possibly influenced by the first language or regional variation, almost never interfere with ease of understanding.

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(2) Structure: Both basic and complex grammatical structures and sentence patterns are consistently well controlled.

(3) Vocabulary: Vocabulary range and accuracy are sufficient to communicate effectively on a wide variety of familiar and unfamiliar topics. Vocabulary is idiomatic, nuanced, and sensitive to register.

(4) Fluency: Able to speak at length with a natural, effortless flow. Varies speech flow for stylistic effect, e.g. to emphasize a point. Uses appropriate discourse markers and connectors spontaneously.

(5) Comprehension: Comprehension is consistently accurate in nearly all contexts and includes comprehension of linguistic and cultural subtleties.

(6) Interactions: Interacts with ease in nearly all situations Is sensitive to verbal and nonverbal cues, and responds to them appropriately.

IS 2.2.8 RECORDING OF FLIGHT TIME

The details in the records of flights flown as pilot shall contain the following items:

(a) For the purpose of meeting the requirements of Subparts 2.2.6.1 and 2.3.1.6, each person shall enter the following information for each flight or lesson logged:

(1) Personal details:

(i) Name and address of the holder

(2) For each flight:

(i) Name of PIC

(ii) Date of flight

(iii) Place and time of departure and arrival

(iv) Type of aircraft and registration

(3) For each synthetic flight trainer session:

(i) Type and qualification number of flight trainer

(ii) Synthetic flight trainer instruction

(iii) Date

(iv) Total time of session

(4) Pilot function:

(i) Solo

(ii) PIC

(iii) Co-pilot

(iv) Dual

(v) Flight instructor

(b) Logging of flight time

(1) Logging of solo flight time:

(i) A student pilot may log as solo flight time only that flight time when the pilot is the sole occupant of the aircraft.

(2) Logging of PIC flight time:

(i) The applicant or the holder of a pilot license may log as PIC time all that flight time during which that person is:

(A) The sole manipulator of the controls of an aircraft for which the pilot is rated; and

(B) Acting as PIC of an aircraft on which more than one pilot is required under the type certification of the aircraft or the regulations under which the flight is conducted.

(ii) An authorized instructor may log as PIC time all of the flight time while acting as an authorized instructor.

(iii) A student pilot may log as PIC time all solo flight time and flight time as student pilot-in-command provided that such time is countersigned by the instructor.

(3) Logging of co-pilot time:

(i) A person may log co-pilot time only when occupying a pilot seat as co-pilot in an aircraft on which more than one pilot is required under the type certification of the aircraft or the regulations under which the flight is conducted.

(4) Logging of instrument flight time:

(i) A person may log instrument flight time only for that flight when the person operates the aircraft solely by reference to instruments under actual or simulated instrument flight conditions.

(5) Logging instruction time:

(i) A person may log instruction time when that person receives training from an authorized instructor in an aircraft or synthetic flight trainer.

(ii) The instruction time shall be logged in a record (e.g. logbook) and shall be endorsed by the authorized instructor.

IS 2.2.9 FORMAT OF THE LICENSE

(a) The following details shall appear on the license:

(i) Name of State (in bold type);

(ii) Title of license (in very bold type);

(iii) Serial number of the license, in Arabic numerals, given by the Authority issuing the license;

(iv) Name of holder in full (in Roman alphabet also if script of national language is other than Roman and date of birth:

(v) Address of holder:

(vi) Nationality of holder;

(vii) Signature of holder;

(viii) Authority and, where appropriate, all conditions under which the license is issued;

(ix) Certification concerning validity and Authorization;

(x) Signature of officer issuing the license and the date of such issue;

(xi) Seal or stamp of Authority issuing license;

(xii) Ratings, e.g. category, class, type of aircraft, airframe, aerodrome control, etc.;

(xiii) Remarks. i.e. special endorsements relating to limitations and endorsements for privileges;

(xiv) Any other details desired by Republic of the Philippines in issuing the license.

IS 2.3.2.4 APPENDIX A: CLASS/TYPE RATING [SP (A) and MP (A)] - KNOWLEDGE

(a) The knowledge instruction and test for the type rating for multi-pilot - airplane shall include the following subjects:

(1) Airplane structure and equipment, normal operation of systems and malfunctions

(i) Dimensions

(ii) Engine including auxiliary power unit

(iii) Fuel system

(iv) Pressurization and air-conditioning

(v) Ice protection. windshield wipers and rain repellent

(vi) Hydraulic systems

(vii) Landing gear

(viii) Flight controls, lift devices

(ix) Electrical power supply

(x) Flight instruments, communication, radar and navigation equipment

(xi) Cockpit, cabin and cargo compartment

(xii) Emergency equipment

(2) Limitations:

(i) General limitations

(ii) Engine limitations

(iii) System limitations

(iv) Minimum equipment list

(3) Performance, flight planning and monitoring

(4) Load. balance and servicing

(i) Load and balance

(ii) Servicing on the ground

(5) Emergency procedures

(6) Special requirements for extension of a type rating for instrument approaches down to a decision height of less than 200 ft (60m)

(i) Airborne and ground equipment: technical requirements, operational requirements, operational reliability, fail operational, fail-passive, equipment reliability, operating procedures, preparatory measures, operational downgrading, communications

(ii) Procedures and limitations: operational procedures, crew co-ordination

(7) Special requirements for "glass cockpit" airplane with electronic flight instrument systems (e.g. EFTS; EICAS)

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(8) Flight Management systems (FMS)

IS 2.3.2.4 APPENDIX B: FLIGHT INSTRUCTION, SKILL TEST AND PROFICIENCY CHECK - CRM

(a) The flight instruction, skill test and proficiency for CRM for the multi-pilot type rating — airplane and helicopter shall include the following subjects:

(1) The training program:

(i) An initial indoctrination/awareness segment;

(ii) A method to provide recurrent practice and feedback; and

(iii) A method of providing continuing reinforcement

(2) Topics to be contained in an initial CRM training course:

(i) Communications processes and decision behavior;

(ii) Internal and external influences on interpersonal communications;

(iii) Barriers to communication;

(iv) Listening skills;

(v) Decision making skills

(vi) Effective briefings;

(vii) Developing open communications;

(viii) Inquiry, advocacy and assertion training;

(ix) Crew self-critique;

(x) Conflict resolution;

(xi) Team building and maintenance;

(xii) Leadership and followership training;

(xiii) Interpersonal relationships;

(xiv) Workload management;

(xv) Situational awareness

(xvi) How to prepare, plan and monitor task completions;

(xvii) Workload distribution;

(xviii) Distraction avoidance;

(xix) Individual factors; and

(xx) Stress reduction.

IS 2.3.3.1 STUDENT PILOTS - MANEUVERS AND PROCEDURES FOR PRE-SOLO FLIGHT TRAINING

(a) A student pilot who is receiving training for solo flight shall receive and log flight training for the following maneuvers and procedures, as applicable for each category and class rating:

(1) Proper flight preparation procedures, including pre-flight planning and preparation, power-plant operation and aircraft systems

(2) Taxiing, including run-ups

(3) Take-offs and landings, including normal and crosswind

(4) Straight and level flight and turns in both directions

(5) Climbs and climbing turns

(6) Airport traffic patterns including entry and departure procedures

(7) Collision avoidance, wind-shear avoidance and wake turbulence avoidance

(8) Descents, with and without turns, using high and low drag configurations

(9) Flight at various airspeeds from cruise to slow flight

(10) Stall entries from various flight attitudes and power combinations with recovery initiated at the first indication of a stall and recovery from a full stall

(11) Emergency procedures and equipment malfunctions

(12) Ground reference maneuvers

(13) Approaches to a landing area with simulated engine malfunctions

(14) Slips to a landing

(15) Go-around

(b) Additional training for a helicopter:

(1) Approaches to the landing area

(2) Hovering and hovering turns

(3) Simulated emergency procedures, including autorotational descents with a power recovery and power recovery to hover

(4) Rapid decelerations

(5) Simulated one-engine-inoperative approaches and landings for multi-engine helicopters

(c) Maneuvers and procedures for cross-country flight training in an airplane or rotorcraft:

(1) Use of aeronautical charts for VFR navigation using pilotage and dead reckoning with the aid of a magnetic compass

(2) Use of aircraft performance charts pertaining to cross-country flight

(3) Procurement and analysis of aeronautical weather reports and forecasts, including recognition of critical weather situations and estimating visibility while in flight

(4) Recognition, avoidance and operational restrictions of hazardous terrain features in the geographical area where the student pilot will conduct cross-country flight

(5) Use of radios for VFR navigation and two-way communications

(6) Climbs at best angle and best rate

(7) Control and maneuvering solely by reference to flight instruments, including straight and level flight, turns, descents, climbs, use of radio aids and ATC directives.

IS 2.3.3.2 APPENDIX A: PRIVATE PILOT LICENSE (A) - KNOWLEDGE

(a) The knowledge instruction and test for the private pilot license - airplane shall include at least the following subjects:

(1) Air law

(i) Relevant parts of ICAO Convention and Annexes 2, 7, 8, 11 and 14

(ii) ICAO Document 4444: General provisions, Area control service, Approach control service, Aerodrome control service, Flight information and alerting service;

(iii) National law

(2) Aircraft General Knowledge

(i) Airframe: Airframe structure and loads

(ii) Power-plant: engines general, engine cooling, engine lubrication, ignition systems, carburetion, aero engine fuel, fuel systems, propellers, engine handling

(iii) Systems: electrical system, vacuum system

(iv) Instruments: Pitot/static system, Airspeed indicator, Altimeter, Vertical speed\ indicator, Gyroscopes, Turn indicator, Altitude indicator, Heading indicator, Magnetic compass, Engine instruments, Other instruments

(v) Airworthiness

(3) Flight Performance and Planning

(i) Mass and balance

(ii) Performance: Take-off, Landing, In-flight

(4) Human performance:

(i) Basic physiology: Concepts, Effects of partial pressure, Vision, Hearing, Motion sickness, Flying and health, Toxic hazards

(ii) Basic psychology: The information process, the central decision channel, stress; judgment and decision making

(5) Meteorology

(i) The atmosphere. Pressure, density and temperature, Humidity and precipitation, Pressure and wind; Cloud information, Fog, mist and haze, Airmasses, Frontology, Ice accretion, Thunderstorms; Flight over mountainous areas, Climatology, Altimetry, The meteorological organization, Weather analysis and forecasting, Weather information for flight planning, Meteorological broadcasts for aviation

(6) Navigation

(i) Form of the earth, mapping, conformal orthomorphic projection (ICAO 1.500.000 chart), Direction, Airplane magnetism, Distances, Charts in practical navigation, Chart reference material/map reading, Principles of navigation, The navigation computer, Time, Flight planning, Practical navigation

(ii) Radio navigation: Ground direction finding (D/F), automatic direction finding (ADF), including associated beacons (non directional beacons (NDBs) and use of the radio magnetic indicator (RMI). VHF omni-directional range/distance measuring equipment (VOR/DME), GPS, Ground radar; Secondary surveillance radar

(7) Operational Procedures

(i) Relevant parts of ICAO Annex 6, Part II; Annex 12, 13 and 16 (relevant parts), Contravention of aviation regulations

(8) Principles of Flight

(i) The atmosphere, Airflow around a body, sub-sonic, Airflow about a two dimensional aerofoil; Three dimensional flow about an aerofoil; Distribution of the four forces, Flying controls, Trimming controls, Flaps and slats, The stall, Avoidance of spins, Stability, Load factor and maneuvers, Stress loads on the ground

(9) Communications

(i) Radio telephony and communications, Departure procedures, En-route procedures, Arrival and traffic pattern procedures, Communications failure, Distress and urgency procedures

IS 2.3.3.2 APPENDIX B: PRIVATE PILOT LICENSE (A) - FLIGHT INSTRUCTION AND SKILL TEST

(a) The flight instruction and skill test for the single-engine and multi-engine private pilot license - airplane shall include at least the following areas of operation:

Note 1: When (SE) is indicated the item or paragraph is only for single-engine. When (ME) is indicated the item or paragraph is only for multi-engine. When nothing is indicated the item or paragraph is for single-engine and multi-engine.

Note 2: When (S) is indicated, the item is only for seaplanes. When (L) is indicated, the item is only for landplanes. When nothing is indicated the item is for land and seaplanes.

(1) Pre-flight preparation; including the applicant's knowledge and performance of the following tasks--

(i) Licenses and documents

(ii) Airworthiness requirements

(iii) Weather information

(iv) Cross-country flight planning

(v) National airspace system

(vi) Performance and limitations

(vii) Operation of system

(viii) Principles of flight

(ix) Water and Seaplane Characteristics (S)

(x) Seaplane bases, maritime rules and aids to marine navigation (S)

(xi) Aeromedical factors

(2) Pre-flight procedures: including the applicant's knowledge and performance of the following tasks--

(i) Pre-flight inspection

(ii) Cockpit management

(iii) Engine Starting

(iv) Taxiing (L)

(v) Taxiing and Sailing (S)

(vi) Before take-off check

(3) Aerodrome and seaplane operations: including the applicant's knowledge and performance of the following tasks--

(i) Radio communications and ATC light signals

(ii) Traffic patterns

(iii) Aerodrome/Seaplane Base, runway and taxiway signs, markings and lighting

(4) Take-offs, landings and go-grounds; including the applicant's knowledge and performance of the following tasks--

(i) Normal and crosswind take-off and climb

(ii) Normal and crosswind approach and landing

(iii) Soft-field take-off and climb (SE) (L)

(iv) Soft-field approach and landing (SE) (L)

(v) Short-field [Confined area (S)] take-off and maximum performance climb

(vi) Short-field approach (Confined area (S)) and landing

(vii) Glassy Water take-off and climb (S)

(viii) Glassy water approach and landing (S)

(ix) Rough water take-off and climb (S)

(x) Rough water approach and landing (S)

(xi) Forward slip to a landing (SE)

(xii) Go-around /rejected landing

(5) Performance maneuver: including the applicant's knowledge and performance of the following tasks--

(i) Steep turns

(6) Ground reference maneuvers; including the applicant's knowledge and performance of the following tasks--

(i) Rectangular course

(ii) S-turns

(iii) Turns around a point

(7) Navigation: including the applicant's knowledge and performance of the following tasks--

(i) Pilotage and dead reckoning

(ii) Navigation systems and radar services

(iii) Diversion

(iv) Lost procedures

(8) Slow flight and stalls; including the applicant's knowledge and performance of the following tasks-

(i) Maneuvering during slow flight

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(ii) Power-off stalls

(iii) Power-on stalls

(iv) Spin awareness

(9) Basic instrument maneuvers; including the applicant's knowledge and performance of the following tasks--

(i) Straight-and-level flight

(ii) Constant airspeed climbs

(iii) Constant airspeed descents

(iv) Turns to headings

(v) Recovery from unusual flight

(vi) Radio Communications, navigation systems/facilities and radar services; including the applicant's knowledge and performance of the following tasks--

(10) Emergency operations; including the applicant's knowledge and performance of the following tasks--

(i) Emergency approach and landing

(ii) Emergency descent (ME)

(iii) Engine failure during take-off before VMC (simulated) (ME)

(iv) Engine failure after lift-off (simulated) (ME)

(v) Approach and landing with an inoperative engine (simulated) (ME)

(vi) Systems and equipment malfunctions

(vii) Emergency equipment and survival gear

(11) Multi-engine operations (ME); including the applicant's knowledge and performance of the following tasks--

(i) Maneuvering with one engine inoperative

(ii) VMC demonstration

(iii) Engine failure during flight (by reference to instruments)

(iv) Instrument approach — one engine inoperative (by reference to instruments)

(12) Night operation; including the applicant's knowledge and performance of the following tasks--

(i) Night preparation

(13) Post-flight procedures; including the applicant's knowledge and performance of the following tasks--

(i) After landing, parking and securing

(ii) Anchoring (S)

(iii) Docking and mooring (S)

(iv) Ramping/Beaching (S)

IS 2.3.3.3 APPENDIX A: COMMERCIAL PILOT LICENSE (A) — KNOWLEDGE

Certified Original: Attested By:

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Director General

Atty. Rodrigo R. Artuz
Acting Corporate Board Secretary

(a) The knowledge instruction and test for the commercial pilot license — airplane shall include at least the following subjects:

(1) Air law

(i) International Agreements and Organizations: The Convention of Chicago; Other International agreements: IATA agreement; Tokyo and Warsaw Convention; PIC authority and responsibility regarding safety and security; Operators and pilots liabilities towards persons and goods on the ground, in case of damage and injury caused by the operation of the aircraft, Commercial practices and associated rules, dry and wet lease;

(ii) Relevant parts of ICAO Annexes: 1, 2, 7, 8, 9, 11 (and Doc 4444), 12, 13, 14, 15, 17;

(iii) Procedures for air navigation (PANS-OPS) - Aircraft Operations Doc 8168;

(iv) National law

(2) Aircraft general knowledge

(i) Airframe and systems, electrics, power-plant, emergency equipment

(A) Airframe and systems: Fuselage, Cockpit and cabin windows, Wings, Stabilizing surfaces, Landing Gear, Flight Controls, Hydraulics, Air driven systems (piston engines only), Air driven systems (turbopropeller and jet aircraft), Non-pneumatic operated de-ice and anti-ice systems, Fuel system;

(B) Electrics: Direct Current (DC), Alternating Current (AC), Semiconductors, Basic knowledge of computers; Basic radio propagation theory

(C) Power-plant: Piston Engine, Turbine Engine, Engine construction, Engine systems, Auxiliary Power Unit (APU)

(D) Emergency equipment: Doors and emergency exits, Smoke detection, Fire detection, Fire fighting equipment, Aircraft oxygen equipment, Emergency equipment

(ii) Instrumentation

(A) Flight instruments: Air data instruments, Gyroscopic instruments, Magnetic Compass, Radio Altimeter, Electronic Flight Instrument System

(B) (EFIS),

(C) Automatic flight control system: Flight director, Autopilot, Yaw damper/Stability augmentation system,

(D) Warning and recording equipment: Warnings general; Stall warning,

(E) Power-plant and system monitoring instruments: Pressure gauge, Temperature gauge, RPM indicator, Consumption gauge, Fuel gauge, Torque meter, Flight hour meter, Vibration motoring, Remote (signal) transmission system, Electronic Displays

(3) Flight performance and planning

(i) Mass and balance: Center of gravity, Mass and balance limits

(ii) Loading: Terminology, Aircraft mass checks, Procedures for determining airplane mass and balance documentation; Effects of overloading;

(iii) Center of gravity: Basis of cg calculations (load and balance documentation), Calculation of cg; Securing of loading; Area load, running load, supporting

(iv) Performance of single-engine airplanes - Performance class B: Definitions of terms and speeds; Take-off and landing performance, Climb and cruise performance

(v) Performance of multi-engine airplanes: Definitions of terms and speeds; Importance of performance calculations; Elements of performance, Use of performance graphs and tabulated data

(vi) Flight planning and flight monitoring:

(A) Flight plan for cross country flights: Navigation plan, Fuel plan, Flight monitoring and in-flight re-planning, Radio communication and navigation aids;

(B) ICAO ATC flight plan: Types of flight plan, Completing the flight plan, Filling the flight plan, Closing the flight plan, Adherence to flight plan

(C) Practical flight planning: Chart preparation; Navigation plans; Simple fuel plans, Radio planning practice

(D) Practical completion of a flight plan (flight plan, flight log, navigation log, ATC plan, etc.): Extraction of data

(4) Human performance

(i) Human factors basic concepts: Human factors in aviation, Accident statistics, Flight safety concepts

(ii) Basic aviation physiology: Basics of flight physiology, Man and environment: the sensory system; Health and Hygiene;

(iii) Basic aviation psychology: Human information processing; Human error and reliability; Decision making; Avoiding and managing errors: cockpit management; Personality; Human overload and underload, Advanced cockpit automation

(5) Meteorology

(i) The atmosphere: Composition, extent, vertical division; Temperature; Atmospheric pressure; Atmospheric density; Altimetry;

(ii) Wind: Definition and measurement; General circulation; Turbulence; Variation of wind with height; Local winds; Standing waves;

(iii) Thermodynamics: Humidity;

(iv) Clouds and Fog: Cloud formation and description; Fog, mist, haze

(v) Precipitation

(vi) Airmasses and fronts: Types of airmasses; Fronts;

(vii) Pressure systems: Location of the principal pressure areas, Anticyclone, Non frontal depressions;

(viii) Climatology: Typical weather situations in mid-latitudes; Local seasonal weather and wind

(ix) Flight hazards: Icing, Turbulence; Wind-shear; Thunderstorms; Hazards in mountainous areas; Visibility reducing phenomena;

(x) Meteorological information: Observation, Weather charts, Information for flight planning

(6) Navigation:

(i) General Navigation: Basics of navigation: The solar system; The earth, Time and time conversions; Directions, Distance

(ii) Magnetism and compasses: General Principles, Aircraft magnetism, Knowledge of the principles, standby and landing or main compasses and remote reading compasses

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Acting Corporate Board Secretary

(iii) Charts: General properties of miscellaneous types of projections; The representation of meridians; parallels; great circles and rhumb lines; The use of current aeronautical charts

(iv) Dead reckoning navigation (DR): Basics of dead reckoning; Use of the navigational computer; The triangle of velocities; Determination of DR position; Measurement of DR elements; Resolution of current DR problems; Measurements of maximum range, radius of action and point-of-safe-return and point-of-equal-time

(v) In-flight navigation: Use of visual observations and application to in-flight navigation; Navigation in climb and descent: Navigation in cruising flight, use of fixes to revise navigation data; Flight log (including navigation records);

(vi) Radio Navigation: Radio aids: Ground D/F (including classification of bearings); ADF (including associated beacons and use of the radio magneticindicator); VOR and Doppler-VOR (including the use of the radio magnetic indicator); DME (distance measuring equipment); Basic radar principles: SSR (secondary surveillance radar and transponder); Self-contained and external referenced navigation systems: Satellite assisted navigation: GPS/GLONASS/DGPS

(7) Operational procedures

(i) ICAO Annex 6 Parts I, II and III (as applicable)

(ii) Special operational procedures and hazards: Minimum equipment list; Ground icing; Bird strike risk and avoidance; Noise abatement; Fire/smoke; Decompression of pressurized cabin; Winds-hear, microburst; Wake turbulence; Security; Emergency and precautionary landings; Fuel jettisoning; Transport of dangerous goods; Contaminated runways;

(8) Principles of flight:

(i) Basics; laws and definitions; The two-dimensional airflow about an aerofoil: The coefficients; The three-dimensional airflow about an airplane; The total drag; The ground effect; The relation between the lift coefficient and the speed for constant lift; The stall; Climax augmentation; Means to decrease the CLCD ratio, increasing drag; The boundary layer;

(ii) Stability: Condition of equilibrium in stable horizontal flight; Methods of achieving balance; Longitudinal stability; Static directional stability; Static lateral stability; Dynamic lateral stability;

(iii) Control: General; Pitch control; Yaw control; Roll control; Interaction in different planes (yaw/roll); Means to reduce control forces; Mass balance; Trimming;

(iv) Limitations: Operating limitations; Maneuvering envelope; Gust envelope;

(v) Propellers: Conversion of engine torque to thrust; Engine failure or engine stop; Design feature for power absorption; Moments and couples due to propeller operation;

(vi) Flight mechanics: Forces acting on an airplane; Asymmetric thrust; Emergency descent; Wind-shear;

(9) Radiotelephony:

(i) VFR Communications: Definitions; General operating procedures; Relevant weather information terms (VFR); Action required to be taken in case of communication failure; distress and urgency procedures; General principles of VHF propagation and allocation of frequencies;

(ii) Morse code.

IS 2.3.3.3 APPENDIX B: COMMERCIAL PILOT LICENSE (A) - FLIGHT INSTRUCTION AND SKILL TEST

(a) The flight instruction and skill test for the single-engine and multi-engine commercial pilot license -airplane shall include at least the following areas of operation:

Note 1: When (SE) is indicated the item or paragraph is only for single-engine. When (ME) is indicated the item or paragraph is only for multi-engine. When nothing is indicated the item or paragraph is for single-engine and multi-engine.

Note 2: When (S) is indicated, the item is only for seaplanes. When (L) is indicated, the item is only for landplanes. When nothing is indicated the item is for land and seaplanes.

(1) Pre-flight preparation; including the applicant's knowledge and performance of the following tasks:

(i) Licenses and documents

(ii) Airworthiness requirements

(iii) Weather information

(iv) Cross-country flight planning

(v) National airspace system

(vi) Performance and limitations

(vii) Operation of system

(viii) Principles of flight (ME)

(ix) Water and Seaplane characteristics (S)

(x) Seaplane bases, maritime rules and aids to marine navigation (S)

(xi) Aeromedical factors

(2) Pre-flight procedures; including the applicant's knowledge and performance of the following tasks:

(i) Pre-flight inspection

(ii) Cockpit management

(iii) Engine Starting

(iv) Taxiing (L)

(v) Taxiing and sailing (S)

(vi) Before take-off check

(3) Aerodrome and seaplane base operations; including the applicant's knowledge and performance of the following tasks--

(i) Radio communications and ATC light signals

(ii) Traffic patterns

(iii) Aerodrome/Seaplane base, runway and taxiway signs, markings and lighting

(4) Take-off, landing, and go-around; including the applicant's knowledge and performance of the following tasks--

(i) Normal and crosswind take-off and climb

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Acting Corporate Board Secretary

(ii) Normal and crosswind approach and landing

(iii) Soft-field take-off and climb (SE)

(iv) Soft-field approach and landing (SE)

(v) Short-field (Confined area (S)) take-off and maximum performance climb

(vi) Short-field (Confined area (S)) approach and landing

(vii) Glassy water take-off and climb (S)

(viii) Glassy water approach and landing (S)

(ix) Rough water take-off and climb (S)

(x) Rough water approach and landing (S)

(xi) Power-off 180 degrees accuracy approach and landing (SE)

(xii) Go-around /rejected landing

(5) Performance maneuvers: including the applicant's knowledge and performance of the following tasks--

(h) Steep turns

(iii) Steep spiral (SE)

(iv) Chandelles (SE)

(v) Lazy eights (SE)

(6) Ground reference maneuvers; including the applicant's knowledge and performance of the following tasks--

(i) Eights on pylons (SE)

(7) Navigation; including the applicant's knowledge and performance of the following tasks:

(i) Pilotage and dead reckoning

(ii) Navigation systems and radar services

(iii) Diversion

(iv) Lost procedures

(8) Slow flight and stalls; including the applicant's knowledge and performance of the following tasks-

(i) Maneuvering during slow flight

(ii) Power-off stalls

(iii) Power-on stalls

(iv) Spin awareness

(9) Emergency operations; including the applicant's knowledge and performance of the following tasks--

(i) Emergency approach and landing

(ii) Emergency descent (ME)

(iii) Engine failure during take-off before VMC (simulated) (ME)

(iv) Engine failure after lift-off (simulated) (ME)

(v) Approach and landing with an inoperative engine (simulated) (ME)

(vi) Systems and equipment malfunctions

(vii) Emergency equipment and survival gear

(10) High altitude operations: including the applicant's knowledge and performance of the following tasks--

(i) Supplemental oxygen

(ii) Pressurization

(11) Multi-engine operations (ME): including the applicant's knowledge and performance of the following tasks--

(i) Maneuvering with one engine inoperative

(ii) VMC demonstration

(iii) Engine failure during flight (by reference to instruments

(iv) Instrument approach — one engine inoperative (by reference to instruments)

(12) Post-flight procedures; including the applicant's knowledge and performance of the following tasks--

(i) After landing, parking and securing

(ii) Anchoring (S)

(iii) Docking and mooring (S)

(iv) Ramping/beaching (S)

IS 2.3.3.4 APPENDIX A: AIRLINE TRANSPORT PILOT LICENSE (A) — KNOWLEDGE

(a) The knowledge instruction and test for the airline transport pilot license — airplane shall include at least the following subjects:

(1) Air law

(i) International Agreements and Organizations: The Convention of Chicago: Other International agreements: IATA agreement, Tokyo and Warsaw Convention: PIC authority and responsibility regarding safety and security: Operators and pilots liabilities towards persons and goods on the ground: in case of damage and injury caused by the operation of the aircraft; Commercial practices and associated rules: dry and wet lease;

(ii) Relevant parts of ICAO Annexes: 1. 2. 7, 8, 9, 11 (and Doc 4444). 12, 13, 14, 15, 17.

(iii) Procedures for air navigation (PANS-OPS) - Aircraft Operations Doc 8168;

(iv) National law;

(2) Aircraft general knowledge

(i) Airframe and systems, electrics, power-plant; emergency equipment

(A) Airframe and systems: Fuselage: Cockpit and cabin windows: Wings, Stabilizing surfaces: Landing Gear: Flight Controls; Hydraulics: Air driven systems (piston engines only): Air driven systems (turbopropeller and jet aircraft): Non-pneumatic operated de-ice and anti-ice systems; Fuel system;

(B) Electrics: Direct Current (DC); Alternating Current (AC): Semiconductors: Basic knowledge of computers: Basic radio propagation theory;

(C) Power-plant: Piston Engine: Turbine Engine: Engine construction: Engine systems, Auxiliary Power Unit (APU);

(D) Emergency equipment: Doors and emergency exits; Smoke detection; Fire detection; Fire fighting equipment; Aircraft oxygen equipment; Emergency equipment;

(ii) Instrumentation

(A) Flight instruments: Air data instruments, Gyroscopic instruments; Magnetic Compass; Radio Altimeter; Electronic Flight Instrument System (EFIS); Flight Management System (FMS);

(B) Automatic flight control system: Flight director, Autopilot; Flight envelope protection; Yaw damper/Stability augmentation system, Automatic pitch trim; Thrust computation, Auto-thrust,

(C) Warning and recording equipment: Warnings general; Altitude alert system; Ground proximity warning system (GPWS); Traffic collision avoidance system (TCAS), Overspeed warning; Stall warning, Flight data recorder; Cockpit voice recorder;

(D) Power-plant and system monitoring instruments: Pressure gauge, Temperature gauge, RPM indicator; Consumption gauge; Fuel gauge; Torque meter; Flight hour meter; Vibration motoring; Remote (signal)transmission system; Electronic Displays;

(3) Flight performance and planning

(i) Mass and balance: Center of gravity, Mass and balance limits;

(ii) Loading: Terminology; Aircraft mass checks; Procedures for determining airplane mass and balance documentation; Effects of overloading;

(iii) Center of gravity: Basis of cg calculations (load and balance documentation); Calculation of cg; Securing of loading; Area load; running load, supporting;

(iv) Performance of single-engine airplanes not certified under FAR/JAR 25 — Performance class B: Definitions of terms and speeds; Take-off and landing performance, Climb and cruise performance,

(v) Performance of multi-engine airplanes not certified under FAR/JAR 25 — Performance class B: Definitions of terms and speeds; Importance of performance calculations; Elements of performance, Use of performance graphs and tabulated data;

(vi) Performance of airplanes certified under FAR/JAR 25 — Performance class A: Take-off, Accelerate-stop distance, Initial Climb; Climb; Cruise; Descent and landing; Practical application of an airplane performance manual;

(vii) Flight planning and flight monitoring:

(A) Flight plan for cross country flights: Navigation plan; Fuel plan; Flight monitoring and in-flight re-planning; Radio communication and navigation aids;

(B) ICAO ATC flight plan: Types of flight plan; Completing the flight plan; Filling the flight plan; Closing the flight plan; Adherence to flight plan;

(C) Practical flight planning: Chart preparation; Navigation plans; Simple fuel plans; Radio planning practice.

(viii) IFR *(airways) flight planning: Meteorological considerations; Selection of routes to destination and alternates; General flight planning tasks;*

(A) Jet airplanes flight planning: Additional flight planning aspects for jet airplanes (advanced flight planning); computerized flight planning;

(B) Practical completion of a flight plan (flight plan, flight log, nav log, ATC plan, etc.): Extraction of data;

(4) Human performance

(i) Human factors basic concepts: Human factors in aviation; Accident statistics; Flight safety concepts;

(ii) Basic aviation physiology: Basics of flight physiology; Man and environment: the sensory system; Health and Hygiene;

(iii) Basic aviation psychology: Human information processing; Human error and reliability; Decision making; Avoiding and managing errors: cockpit management; Personality; Human overload and underload, Advanced cockpit automation

(5) Meteorology

(i) The atmosphere: Composition, extent, vertical division; Temperature; Atmospheric pressure; Atmospheric density; International Standard Atmosphere (ISA); Altimetry;

(ii) Wind: Definition and measurement; Primary cause of wind; General circulation; Turbulence; Variation of wind with height; Local winds; Jet streams; Standing waves;

(iii) Thermodynamics: Humidity; Change of state of aggregation; Adiabetic processes

(iv) Clouds and Fog: Cloud formation and description; Fog, mist, haze

(v) Precipitation: Development; Types;

(vi) Airmasses and fronts: Types of airmasses; Fronts;

(vii) Pressure systems: Location of the principal pressure areas, Anticyclone, Non frontal depressions; Tropical revolving storms

(viii) Climatology: Climatology zones; Tropical climatology; Typical weather situations in mid-latitudes; Local seasonal weather and wind

(ix) Flight hazards: Icing, Turbulence; Wind-shear; Thunderstorms; Tornadoes; Low and high level inversions; Stratospheric conditions; Hazards in mountainous areas; Visibility reducing phenomena;

(x) Meteorological information: Observation, Weather charts, Information for flight planning

(6) Navigation:

(i) General Navigation: Basics of navigation: The solar system; The earth, Time and time conversions: Directions, Distance

(ii) Magnetism and compasses: General Principles, Aircraft magnetism, Knowledge of the principles, standby and landing or main compasses and remote reading compasses

(iii) Charts: General properties of miscellaneous types of projections; The representation of meridians, parallels, great circles and rhumb lines; The use of current aeronautical charts

(iv) Dead reckoning navigation (DR): Basics of dead reckoning; Use of the navigational computer; The triangle of velocities; Determination of DR position; Measurement of DR elements; Resolution of current DR problems; Measurements of maximum range, radius of action and point-of-safe-return and point-of-equal-time

(v) In-flight navigation: Use of visual observations and application to in-flight navigation; Navigation in climb and descent; Navigation in cruising flight, use of fixes to revise

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navigation data; Flight log (including navigation records); Purposes of FMS (flight management systems);

(vi) Inertial navigation systems (INS): Principles and practical application; Alignment procedures; Accuracy, reliability, errors and coverage, INS operation;

(vii) Radio Navigation: Radio aids: Ground D/F (including classification of bearings); ADF (including associated beacons and use of the radio magnetic indicator); VOR and Doppler VOR (including the use of the radio magnetic indicator); DME (distance measuring equipment); ILS (instrument landing system); MLS (Microwave landing system);

(viii) Basic radar principles: Pulse techniques and associated terms; Ground radar; Airborne weather radar; SSR (secondary surveillance radar and transponder); Use of radar observations and application to in-flight navigation;

(ix) Area navigation systems: General philosophy; Typical flight deck equipment and operation; Instrument indications; Types of area navigation system inputs; VOR/DME area navigation (RNAV); Flight director and autopilot coupling;

(x) Self-contained and external-referenced navigation systems: Doppler, Loran-C; Decca navigation system; Satellite assisted navigation: GPS/GLONASS/DGPS

(7) Operational procedures

(i) ICAO Annex 6 Parts I, II and III (as applicable); Navigation requirements for long-range flights;

(ii) Special operational procedures and hazards: Minimum equipment list; Ground icing; Bird strike risk and avoidance; Noise abatement; Fire/smoke; Decompression of pressurized cabin; Wind-shear, microburst; Wake turbulence; Security; Emergency and precautionary landings; Fuel jettisoning; Transport of dangerous goods; Contaminated runways;

(8) Principles of flight:

(i) Basics, laws and definitions; The two-dimensional airflow about an aerofoil; The coefficients; The three-dimensional airflow about an airplane; The totaldrag; The ground effect; The relation between the lift coefficient and the speed for constant lift; The stall; Climax augmentation, Means to decrease the CLCD ratio, increasing drag; The boundary layer; Special circumstances,

(ii) Transonic aerodynamics: The Mach number definition, Normal shockwaves; Means to avoid the effects of exceeding M-CRIT

(iii) Supersonic aerodynamics: Oblique shockwaves

(iv) Stability: Condition of equilibrium in stable horizontal flight; Methods of achieving balance; Longitudinal stability; Static directional stability; Static lateral stability; Dynamic lateral stability;

(v) Control: General; Pitch control; Yaw control; Roll control; Interaction in different planes (yaw/roll); Means to reduce control forces; Mass balance; Trimming;

(vi) Limitations: Operating limitations, Maneuvering envelope; Gust envelope,

(vii) Propellers: Conversion of engine torque to thrust; Engine failure or engine stop; Design feature for power absorption; Moments and couples due to propeller operation;

(viii) Flight mechanics: Forces acting on an airplane; Asymmetric thrust; Emergency descent; Wind-shear;

(9) Radiotelephony:

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(i) VFR Communications: Definitions; General operating procedures; Relevant weather information terms (VFR); Action required to be taken in case of communication failure, distress and urgency procedures; General principles of VHF propagation and allocation of frequencies,

(ii) IFR Communications: Definitions; General operating procedures; Action required to be taken in case of communication failure; Distress and urgency procedures; General principles of VHF propagation and allocation of frequencies;

(iii) Morse code.

IS 2.3.3.4 APPENDIX B: AIRLINE TRANSPORT PILOT LICENSE (A) – FLIGHT INSTRUCTION AND SKILL TEST

(a) The flight instruction and skill test for the airline transport pilot license - airplanes shall include CRM and at least the following areas of operation:

(1) Pre-flight preparation; including the applicant's knowledge and performance of the following tasks--

(i) Equipment examination

(ii) Performance and limitations

(2) Pre-flight procedures: including the applicant's knowledge and performance of the following tasks--

(i) Pre-flight inspection

(ii) Power-plant start

(iii) Taxiing

(iv) Before takeoff checks

(3) Take-off and departure phase: including the applicant's knowledge and performance of the following tasks--

(i) Normal takeoffs with different flap settings. including expedited take-off

(ii) Instrument takeoff;

(iii) Power-plant failure during takeoff

(iv) Rejected takeoff

(v) Departure procedures

(4) In-flight maneuvers; including the applicant's knowledge and performance of the following tasks-

(i) Steep turns

(ii) Approach to stalls

(iii) Power-plant failure

(iv) Specific flight characteristics

(v) Recovery from unusual altitudes.

(5) Instrument procedures; including the applicant's knowledge and performance of the following tasks--

(i) Standard terminal arrival/flight management system procedures

(ii) Holding procedures

(iii) Precision instrument approaches

(iv) Non-precision instrument approaches

(v) Circling approach

(vi) Missed approach

(6) Landings and approaches to landings; including the applicant's knowledge and performance of the following tasks--

(i) Normal and crosswind approaches and landings

(ii) Landing from a precision approach

(iii) Approach and landing with (simulated) power-plant failure

(iv) Landing from a circling approach

(v) Rejected landing

(vi) Landing from a no-flap or a non-standard flap approach.

(7) Normal and abnormal procedures

(8) Emergency procedures

(9) Post-flight procedures; including the applicant's knowledge and performance of the following tasks--

(i) After landing procedures

(ii) Parking and securing

IS 2.3.3.5 Appendix 'A' MULTI-CREW PILOT LICENSE KNOWLEDGE AND EXPERIENCE

The applicant shall have completed a course of approved training covering all theknowledge and experience requirements specified herein:

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

(1) Meteorology

(2) Air law

(i) rules and regulations relevant to the holder of an airline transport pilot license; rules of the air; appropriate air traffic services practices and procedures;

(3) Aircraft general knowledge for airplanes, helicopters and powered-lifts

(i) general characteristics and limitations of electrical, hydraulic, pressurization and other aircraft systems; flight control systems, including autopilot and stability augmentation;

(ii) principles of operation, handling procedures and operating limitations of aircraft power-plants; effects of atmospheric conditions on engine performance; relevant operational information from the flight manual or other appropriate document;

(iii) 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;

(iv) use and serviceability checks of equipment and systems of appropriate aircraft;

(v) 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;

(vi) maintenance procedures for airframes, systems and power-plants of appropriate aircraft;

(vii) for helicopters and powered-lifts, transmission (power trains) where applicable;

(4) Flight performance, planning and loading

(i) effects of loading and weight distribution on aircraft handling, flight characteristics and performance; mass and balance calculations;

(ii) use and practical application of take-off, landing and other performance data, including procedures for cruise control;

(iii) 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;

(iv) in the case of helicopters and powered-lifts, effects of external loading on handling;

(5) Human performance

(i) human performance including principles of threat and error management;

(ii) 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;

(iii) 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;

(iv) causes, recognition and effects of icing; frontal zone penetration procedures; hazardous weather avoidance;

(v) in the case of airplanes and powered-lifts, practical high altitude meteorology, including interpretation and use of weather reports, charts and forecasts; jetstreams;

(6) Navigation

(i) air navigation, including the use of aeronautical charts, radio navigation aids and area navigation systems; specific navigation requirements for long-range flights;

(ii) use, limitation and serviceability of avionics and instruments necessary for the control and navigation of aircraft:

(iii) use, accuracy and reliability of navigation systems used in departure, enroute, approach and landing phases of flight; identification of radio navigation aids;

(iv) principles and characteristics of self-contained and external-referenced navigation systems; operation of airborne equipment;

(7) Operational procedures

(i) application of threat and error management to operational performance;

(ii) interpretation and use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations;

(iii) precautionary and emergency procedures; safety practices;

(iv) operational procedures for carriage of freight and dangerous goods;

(v) requirements and practices for safety briefing to passengers, including precautions to be observed when embarking and disembarking from aircraft;

(vi) 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;

(8) Principles of flight

(i) principles of flight;

(9) Radiotelephony

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

(ii) In addition to the above subjects, the applicant for an airline transport pilot license applicable to the airplane or powered-lift category shall have met the knowledge requirements for the instrument rating.

IS 2.3.3.5 APPENDIX B: MULTI-CREW PILOT LICENSE SKILLS

(a) 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 copilot, the following procedures and maneuvers:

(1) pre-flight procedures, including the preparation of the operational flight plan and filing of the air traffic services flight plan;

(2) normal flight procedures and maneuvers during all phases of flight;

(3) abnormal and emergency procedures and maneuvers related to failures and malfunctions of equipment, such as power-plant, systems and airframe;

(4) procedures for crew incapacitation and crew coordination, including allocation of pilot tasks, crew cooperation and use of checklists; and

(5) in the case of airplanes and powered-lifts, procedures and maneuvers for instrument flight described The applicant shall have completed not less than:

(6) 50 hours of cross-country flight time as pilot-in-command of aircraft in categories acceptable to the Licensing Authority, of which not less than 10 hours shall be in the aircraft category being sought; and

(7) 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.

(b) Flight instruction

(1) The applicant shall have gained not less than 10 hours of instrument flight time while receiving dual instrument flight instruction in the aircraft category being sought, from a flight instructor authorized by the Authority. 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:

(i) 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;

(ii) pre-flight inspection, use of checklists, taxiing and pre take-off checks;

(iii) procedures and maneuvers for LFR operation under normal, abnormal and emergency conditions covering at least:

(A) transition to instrument flight on take-off;

(B) standard instrument departures and arrivals;

(C) en-route IFR procedures;

(D) holding procedures;

(E) instrument approaches to specified minima;

(F) missed approach procedures;

(G) landings from instrument approaches;

(H) in-flight maneuvers and particular flight characteristics including simulated engine failure.

(I) In the case of an airplane, the applicant shall have demonstrated the ability to perform the procedures and maneuvers described as pilot-incommand of a multi-engine airplane.

(2) The applicant shall have demonstrated the ability to perform the procedures and maneuvers described with a degree of competency appropriate to the privileges granted to the holder of an airline transport pilot license, and to:

(i) recognize and manage threats and errors;

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

(iii) operate the aircraft in the mode of automation appropriate to the phase of flight and to maintain awareness of the active mode of automation;

(iv) perform, in an accurate manner, normal, abnormal and emergency procedures in all phases of flight;

(v) exercise good judgment and airmanship, to include structured decision making and the maintenance of situational awareness; and

(vi) 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.

IS 2.3.3.6 APPENDIX A: INSTRUMENT RATING (A AND H) - KNOWLEDGE

(a) The knowledge instruction and test for the instrument rating — airplane and helicopter shall include at least the following subjects:

(1) Air law

(i) International Agreements and Organizations: The Convention of Chicago; Other International agreements: IATA agreement, Tokyo and Warsaw Convention; PIC authority and responsibility regarding safety and security,Operators and pilots liabilities towards persons and goods on the ground, incase of damage and injury caused by the operation of the aircraft,Commercial practices and associated rules: dry and wet lease

(ii) Relevant parts of ICAO Annexes: 1. 2. 7; 8, 9, 11 (and Doc 4444), 12, 13, 14,15;

(iii) Procedures for air navigation (PANS-OPS) - Aircraft Operations Doc 8168;

(iv) National law

(2) Aircraft general knowledge

(i) Airframe and systems, electrics, power-plant, emergency equipment

(A) Airframe and systems: Air driven systems (piston engines only), Air driven systems (turbopropeller and jet aircraft), Non-pneumatic operated de-ice and anti-ice systems, Fuel systems

(B) Electrics: Direct Current (DC), Basic radio propagation theory

(C) Flight instruments: Air data instruments, Gyroscopic instruments, Magnetic Compass, Radio Altimeter; Electronic Flight Instrument System (EFTS), Flight Management System (FMS)

(D) Automatic flight control system: Flight director; Autopilot; Yaw damper/Stability augmentation system;

(E) Warning and recording equipment: Warnings general; Stall warning;

(3) Flight performance and planning

(i) Flight planning and flight monitoring:

(A) Flight plan for cross country flights: Navigation plan, Fuel plan, Flight monitoring and in-flight re-planning, Radio communication and navigation aids;

(B) ICAO ATC flight plan: Types of flight plan, Completing the flight plan, Filling the flight plan, Closing the flight plan, Adherence to flight plan

(C) Practical flight planning: Chart preparation; Navigation plans; Simple fuel plans, Radio planning practice

(D) IFR (airways) flight planning: Meteorological considerations, Selection of routes to destination and alternates, General flight planning tasks,

(E) Practical completion of a flight plan (flight plan, flight log, na$_y$ log, ATC plan, etc.): Extraction of data

(4) Human performance

(i) Human factors basic concepts: Human factors in aviation, Accident statistics, Flight safety concepts

(ii) Basic aviation physiology: Basics of flight physiology, Man and environment: the sensory system; Health and Hygiene;

(iii) Basic aviation psychology: Human information processing; Human error and reliability; Decision making; Avoiding and managing errors: cockpit management; Personality; Human overload and underload, Advanced cockpit automation

(5) Meteorology

(i) The atmosphere: Composition, extent, vertical division; Temperature; Atmospheric pressure; Atmospheric density; Altimetry;

(ii) Wind: Definition and measurement: General circulation; Turbulence: Variation of wind with height; Local winds; Standing waves;

(iii) Thermodynamics: Humidity; Change of state of aggregation; Adiabaticprocesses

(iv) Clouds and Fog: Cloud formation and description; Fog, mist, haze

(v) Precipitation: Development and types of precipitation;

(vi) Airmasses and fronts: Types of airmasses; Fronts;

(vii) Pressure systems: Location of the principal pressure areas, Anticyclone, Non frontal depressions;

(viii) Climatology: Typical weather situations in mid-latitudes; Local seasonal weather and wind

(ix) Flight hazards: Icing, Turbulence; Wind-shear; Thunderstorms; Low and high level inversions; Hazards in mountainous areas;

(x) Meteorological information: Observation, Weather charts, Information for flight planning

(6) Navigation:

(i) General Navigation:

(ii) Charts: The use of current aeronautical charts

(iii) Radio Navigation: Radio aids: Ground D/F (including classification of bearings); ADF (including associated beacons and use of the radio magnetic indicator); VOR and Doppler-VOR (including the use of the radio magnetic indicator); DME (distance measuring equipment); ILS (instrument landing

(iv) system); MLS (Microwave landing system);

(v) Basic radar principles: Pulse techniques and associated terms; Ground radar; Airborne weather radar; SSR (secondary surveillance radar and transponder); Use of radar observations and application to in-flight navigation;

(vi) Area navigation systems: General philosophy; Typical flight deck equipment and operation; Instrument indications; Types of area navigation system inputs; VOR/DME area navigation (RNAV);

(vii) Self-contained and external-referenced navigation systems: Satellite assisted navigation: GPS/GLONASS/DGPS

(7) Operational procedures

(i) General

(ii) Special operational procedures and hazards: General

(8) Radiotelephony:

(i) IFR Communications: Definitions; General operating procedures; Action required to betaken in case of communication failure; distress and urgency procedures; General principles of VHF propagation and allocation of frequencies; Morse code.

IS 2.3.3.6 APPENDIX B: INSTRUMENT RATING (A AND H) - FLIGHT INSTRUCTION, SKILL TEST AND PROFICIENCY CHECK

(a) The flight instruction, skill test and proficiency check for the instrument rating — airplane and helicopter shall include at least the following areas of operation:

Note: When (SE) is indicated the item or paragraph is only for single-engine. When (ME) is indicated the item or paragraphs is only for multi-engine. When nothing is indicated the item or paragraph is for single-engine and multi-engine.

(1) Pre-flight preparation; including the applicant's knowledge and performance of the following tasks--

(i) Weather information

(ii) Cross-country flight planning

(2) Pre-flight procedures; including the applicant's knowledge and performance of the following tasks:

(i) Aircraft systems related to IFR operations

(ii) Aircraft flight instruments and navigation equipment

(iii) Instrument cockpit check

(3) Air traffic control clearances and procedures; including the applicant's knowledgeand performance of the following tasks--

(i) Air traffic control clearances

(ii) Compliance with departure, en route and arrival procedures and clearances

(iii) Holding procedures

(4) Flight by reference to instruments; including the applicant's knowledge and performance of the following tasks--

(i) Straight-and-level flight

(ii) Change of airspeed

(iii) Constant airspeed climbs and descents

(iv) Rate climbs and descents

(v) Timed turns to magnetic compass headings

(vi) Steep turns

(vii) Recovery from unusual flight attitudes

(5) Navigation systems; including the applicant's knowledge and performance of the following tasks--

(i) Intercepting and tracking navigational systems and DME Arcs

(6) Instrument approach procedures; including the applicant's knowledge and performance of the following tasks--

(i) Non-precision instrument approach

(ii) Precision ILS instrument approach

(iii) Missed approach

(iv) Circling approach

(v) Landing from a straight-in or circling approach

(7) Emergency operations; including the applicant's knowledge and performance of the following tasks--

(i) Loss of communications

(ii) One engine inoperative during straight-and-level flight and turns (ME)

(iii) One engine inoperative — instrument approach (ME)

(iv) Loss of gyro attitude and/or heading indicators

(8) Post-flight procedures; including the applicant's knowledge and performance of the following tasks--

(i) Checking instruments and equipment

IS 2.3.3.7 APPENDIX A: PRIVATE PILOT LICENSE (H) — KNOWLEDGE

(a) The knowledge instruction and test for the private pilot license - helicopter shall include at least the following subjects:

(1) Air law

(i) Relevant parts of ICAO Convention and Annexes 2, 7, 8, 11 and 14

(ii) ICAO Document 4444: General provisions, Area control service, Approach control service, Aerodrome control service; Flight information and alerting service

(iii) National law:

(2) Aircraft General Knowledge

(i) Airframe: Rotors: Airframe structure and loads

(ii) Power-plant: Piston engine; Engines general, lubrication system; air cooling; ignition systems, engine fuel supply, engine performance, power augmentation devices, fuel, mixture, engine handling and manipulation. operational criteria,

(iii) Systems: electrical system, hydraulic system

(iv) Instruments: Pitot/static system, Airspeed indicator, Altimeter, Vertical speed indicator, Gyroscopes, Turn indicator, Altitude indicate, Heading indicator, Magnetic compass, Engine instruments, Other instruments

(v) Airworthiness

(3) Flight Performance and Planning

(i) Mass and balance

(ii) Performance: Take-off; Landing; In flight

(4) Human performance:

(i) Basic physiology: Concepts, Effects of partial pressure, Vision, Hearing; Motion sickness, Flying and health; Toxic hazards

(ii) Basic psychology: The information process, the central decision channel, stress, judgment and decision making

(5) Meteorology

(i) The atmosphere, Pressure, density and temperature, Humidity and precipitation, Pressure and wind, Cloud information, Fog, mist and haze, Airmasses, Frontology, Ice accretion, Thunderstorms, Flight over mountainous areas, Climatology, Altimetry, The meteorological organization, Weather analysis and forecasting; Weather information for flight planning, Meteorological broadcasts for aviation

(6) Navigation

(i) Form of the earth; Mapping, Conformal conic projection, Direction, Helicopter magnetism, Distances, Charts in practical navigation, Chart reference material/map reading,

Principles of navigation; The navigation computer; Time; Flight planning, Practical navigation

(7) Radio navigation: Ground directory finding (D/F), Automatic directory finding (ADF), including associated beacons (non directional beacons (NDBs)) and use of the radio magnetic indicator (RMI), VHF omni-directional range/distance measuring equipment (VOR/DME), GPS, Ground radar, Secondary surveillance radar

(8) Operational Procedures

(i) Relevant parts of ICAO Annex 6. Part III. Annex 12, 13 and 16 (relevant parts), Contravention of aviation regulations

(9) Principles of Flight

(i) The atmosphere. Airflow around a body; Subsonic flow about a two dimensional aerofoil, Three dimensional flow about an aerofoil, Rotor aerodynamics, Flying controls, Stability. Load factor and maneuvers, Stressloads on the ground, Helicopter specific hazards

(10) Communications

(i) Radio telephony and communications, Departure procedures, En-route procedures, Arrival and traffic pattern procedures, Communications failure, Distress and urgency procedures

IS 2.3.3.7 APPENDIX B: PRIVATE PILOT LICENSE (H) - FLIGHT INSTRUCTION AND SKILL TEST

(a) The flight instruction and skill test for the private pilot license - helicopter shall include at least the following areas of operation:

(1) Pre-flight preparation; including the applicant's knowledge and performance of the following tasks--

(i) Licenses and documents

(ii) Weather information

(iii) Cross-country flight planning

(iv) National airspace system

(v) Performance and limitations

(vi) Operation of system

(vii) Minimum equipment list

(viii) Aeromedical factors

(2) Pre-flight procedures; including the applicant's knowledge and performance of the following tasks--

(i) Pre-flight inspection

(ii) Cockpit management

(iii) Engine Starting and rotor engagement

(iv) Before take-off check

(3) Aerodrome and heliport operations; including the applicant's knowledge and performance of the following tasks--

(i) Radio communications and ATC light signals

(ii) Traffic patterns

(iii) Aerodrome and heliport markings and lighting

(4) Hovering maneuvers; including the applicant's knowledge and performance of the following tasks--

(i) Vertical take-off and landing

(ii) Slope operations

(iii) Surface taxi

(iv) Hover taxi

(v) Air taxi

(5) Take-off, landing, and go-around; including the applicant's knowledge and performance of the following tasks--

(i) Normal and crosswind take-off and climb

(ii) Normal and crosswind approach

(iii) Maximum performance take-off and climb

(iv) Steep approach

(v) Rolling take-off

(vi) Shallow approach and running/roll-on landing

(vii) Go-around

(6) Performance maneuver; including the applicant's knowledge and performance of the following tasks--

(i) Rapid deceleration

(ii) Straight in autorotation

(7) Navigation; including the applicant's knowledge and performance of the following tasks--

(i) Pilotage and dead reckoning

(ii) Radio navigation and radar services

(iii) Diversion

(iv) Lost procedures

(8) Emergency operations; including the applicant's knowledge and performance of the following tasks--

(i) Power failure at a hover

(ii) Power failure at altitude

(iii) Systems and equipment malfunctions

(iv) Settling-with-power

(v) Low rotor RPM recovery

(vi) Dynamic rollover

(vii) Ground resonance

(viii) Low G conditions

(9) Emergency equipment and survival gear Night operation; including the applicant's knowledge and performance of the following tasks--

(i) Physiological aspects of night flying

(ii) Lighting and equipment for night flying

(10) Post-flight procedures; including the applicant's knowledge and performance of the following tasks--

(i) After landing and securing

IS 2.3.3.8 APPENDIX A: COMMERCIAL PILOT LICENSE (H) — KNOWLEDGE

(a) The knowledge instruction and test for the commercial pilot license — helicopter shall include at least the following subjects:

(1) Air law

(i) International Agreements and Organizations: The Convention of Chicago; Other International agreements: IATA agreement, Tokyo and Warsaw Convention; PIC authority and responsibility regarding safety and security; Operators and pilots liabilities towards persons and goods on the ground; in case of damage and injury caused by the operation of the aircraft; Commercial practices and associated rules: dry and wet lease;

(ii) Relevant parts of ICAO Annexes: 1. 2.7. 8, 9, 11 (and Doc 4444). 12, 13, 14, 15, 17;

(iii) Procedures for air navigation (PANS-OPS) - Aircraft Operations Doc 8168;

(iv) National law;

(2) Aircraft general knowledge

(i) Airframe and systems, electrics, power-plant; emergency equipment

(A) Airframe and systems: Helicopter configurations; Controls and rotors; Cockpit and cabin; Landing Gear; Transmission systems; Rotor-brake; Inspection; Hydraulics; Air driven systems De-ice and anti-ice systems, Fuel system

(B) Electrics: Direct Current (DC); Alternating Current (AC); Semiconductors; Basic knowledge of computers; Basic radio propagation theory;

(C) Power-plant: Piston Engine; Turbine Engine; Engine construction; Engine systems, Auxiliary Power Unit (APU);

(D) Emergency equipment: Doors and emergency exits; Smoke detection; Fire detection; Fire fighting equipment; Aircraft oxygen equipment; Emergency equipment;

(ii) Instrumentation

(A) Flight instruments: Air data instruments; Gyroscopic instruments; Magnetic Compass; Radio Altimeter; Electronic Flight Instrument System (EFIS); Flight Management System (FMS):

(B) Automatic flight control system: Flight director, Autopilot; Flight envelope protection: Yaw damper/Stability augmentation system;

(C) Warning and recording equipment: Warnings general: Altitude alert system: Ground proximity warning system (GPWS); Traffic collision avoidance system (TCAS),

Overspeed warning; Flight data recorder; Cockpit voice recorder; Rotors and engine over/underspeed warning;

(D) Power-plant and system monitoring instruments: Pressure gauge, Temperature gauge, RPM indicator, Consumption gauge: Fuel gauge: Torque meter: Flight hour meter; Remote (signal) transmission system: Electronic Displays; Chip detection;

(3) Flight performance and planning

(i) Mass and balance: Center of gravity, Mass and balance limits;

(ii) Loading: Terminology: Aircraft mass checks: Procedures for determining helicopter mass and balance documentation; Effects of overloading:

(iii) Center of gravity: Basis of cg calculations (load and balance documentation); Calculation of cg; Securing of load, Area load, running load, supporting;

(iv) Performance: Airworthiness Requirements: Definitions of terms; Take off — Cruise - Landing Performance;

(v) Flight planning and flight monitoring:

(A) Flight plan for cross country flights: Navigation plan: Fuel plan; Flight monitoring and in-flight re-planning; Radio communication and navigation aids;

(B) ICAO ATC flight plan: Types of flight plan; Completing the flight plan; Filling the flight plan; Closing the flight plan; Adherence to flight plan;

(C) Practical flight planning: Chart preparation; Navigation plans; Simple fuel plans; Radio planning practice;

(D) Practical completion of a flight plan (flight plan, flight log, na$_y$ log, ATC plan, etc.): Extraction of data;

(E) Offshore or remote area operation: Additional flight planning aspects foroffshore or remote area operation; computerized flight planning;

(4) Human performance

(i) Human factors basic concepts: Human factors in aviation; Accident statistics; Flight safety concepts;

(ii) Basic aviation physiology: Basics of flight physiology; Man and environment: the sensory system; Health and Hygiene;

(iii) Basic aviation psychology: Human information processing; Human error and reliability; Decision making; Avoiding and managing errors: cockpit management; Personality; Human overload and underload, Advanced cockpit automation

(5) Meteorology

(i) The atmosphere: Composition, extent, vertical division; Temperature; Atmospheric pressure; Atmospheric density; Altimetry;

(ii) Wind: Definition and measurement; General circulation; Turbulence; Variation of wind with height; Local winds; Standing waves;

(iii) Thermodynamics: Humidity; Change of state of aggregation; Adiabatic processes

(iv) Clouds and Fog: Cloud formation and description; Fog, mist, haze

(v) Precipitation

(vi) Airmasses and fronts: Types of airmasses; Fronts;

(vii) Pressure systems: Location of the principal pressure areas, Anticyclone, Non frontal depressions; Tropical revolving storms

(viii) Climatology: Climatology zones; Tropical climatology; Typical weather situations in mid-latitudes; Local seasonal weather and wind

(ix) Flight hazards: Icing, Turbulence; Wind-shear; Thunderstorms; Tornadoes; Low and high level inversions; Stratospheric conditions; Hazards in mountainous areas;

(x) Meteorological information: Observation, Weather charts, Information for flight planning

(6) Navigation:

(i) General Navigation: Basics of navigation: The solar system; The earth Time and time conversions; Directions. Distance

(ii) Magnetism and compasses: General Principles, Aircraft magnetism, Knowledge of the principles, standby and landing or main compasses and remote reading compasses

(iii) Charts: General properties of miscellaneous types of projections; The representation of meridians, parallels, great circles and rhumb lines; The use of current aeronautical charts

(iv) Dead reckoning navigation (DR): Basics of dead reckoning; Use of the navigational computer; The triangle of velocities; Determination of DR position; Measurement of DR elements; Resolution of current DR problems; Measurements of maximum range, radius of action and point-of-safe-return and point-of-equal-time

(v) In-flight navigation: Use of visual observations and application to in-flight navigation; Navigation in climb and descent; Navigation in cruising flight, use of fixes to revise navigation data; Flight log (including navigation records); Purposes of FMS (flight management systems);

(vi) Radio Navigation: Radio aids: Ground D/F (including classification of bearings); ADF (including associated beacons and use of the radio magneticindicator); VOR and Doppler VOR (including the use of the radio magnetic indicator); DME (distance measuring equipment);

(vii) Basic radar principles: Pulse techniques and associated terms; Ground radar; SSR (secondary surveillance radar and transponder); Use of radar observations and application to in-flight navigation;

(viii) Area navigation systems: Flight director and autopilot coupling;

(ix) Self-contained and external-referenced navigation systems: Doppler; Loran-C; Decca navigation system; Satellite assisted navigation: GPS/GLONASS/DGPS

(7) Operational procedures

(i) ICAO Annex 6 Parts II and III (as applicable);

(ii) Special operational procedures and hazards: Minimum equipment list; Ground icing; Bird strike risk and avoidance; Noise abatement; Fire/smoke; Windshear, microburst; Wake turbulence; Security; Emergency and precautionary landings; Fuel jettisoning; Transport of dangerous goods; Contaminated runways; Rotor down wash; Operation influence by meteorological conditions;

(8) Emergency procedures;

(i) Subsonic Aerodynamics: Basic laws and definitions; Derivation of lift; Drag; Distribution of forces — balance of couples; Stability; Blade-stall; Transonic effects on blades; Limitations; Performance degradation;

(ii) Helicopter aerodynamics: The helicopter and associated terminology; The forces diagram and associated terminology; Uniformity of rotor thrust along blade span; Helicopter controls; Rotor blade freedom of movement; Phase lag and advance angle; Vertical flight; Forces in balance; Transitional lift; Power requirements; Further aerodynamics of forward flight; Factors affecting cyclic stick limits; The flare — power flight; Settling with power (vortex ring); Blade sailing; Autorotation — vertical; Autorotation - forward flight; Stability; Control power; Power requirements — graphs;

(9) Radiotelephony

(i) VFR Communications: Definitions; General operating procedures; Relevant weather information terms (VFR); Action required to be taken in case of communication failure; distress and urgency procedures; General principles of VHF propagation and allocation of frequencies;

(ii) Morse code.

IS 2.3.3.8 APPENDIX B: COMMERCIAL PILOT LICENSE (H) — FLIGHT INSTRUCTION AND SKILL TEST

(a) The flight instruction and skill test for the commercial pilot license — helicopter shall include at least the following areas of operation:

(1) Pre-flight preparation; including the applicant's knowledge and performance of the following tasks--

(i) Licenses and documents

(ii) Weather information

(iii) Cross-country flight planning

(iv) National airspace system

(v) Performance and limitations

(vi) Operation of system

(vii) Minimum equipment list

(viii) Aeromedical factors

(ix) Physiological aspects of night flying

(x) Lighting and equipment for night flying

(2) Pre-flight procedures; including the applicant's knowledge and performance of the following tasks--

(i) Pre-flight inspection

(ii) Cockpit management

(iii) Engine starting and rotor engagement

(iv) Before take-off check

(3) Aerodrome and heliport operations; including the applicant's knowledge and performance of the following tasks:

(i) Radio communications and ATC light signals

(ii) Traffic patterns

(iii) Aerodrome and heliport markings and lighting

(4) Hovering maneuvers; including the applicant's knowledge and performance of the following tasks--

(i) Vertical take-off and landing

(ii) Slope operations

(iii) Surface taxi

(iv) Hover taxi

(v) Air taxi

(5) Take-off, landing and go-around; including the applicant's knowledge and performance of the following tasks--

(i) Normal and crosswind take-off and climb

(ii) Normal and crosswind approach and landing

(iii) Maximum performance take-off and climb

(iv) Steep approach

(v) Rolling take-off

(vi) Shallow approach and running/roll-on landing

(vii) Go-around

(6) Performance maneuver; including the applicant's knowledge and performance of the following tasks--

(i) Rapid deceleration

(ii) 180 Degrees autorotation

(7) Navigation; including the applicant's knowledge and performance of the following tasks--

(i) Pilotage and dead reckoning

(ii) Radio navigation and radar services

(iii) Diversion

(iv) Lost procedures

(8) Emergency operations; including the applicant's knowledge and performance of the following tasks:

(i) Power failure at a hover

(ii) Power failure at altitude

(iii) Systems and equipment malfunctions

(iv) Settling-with-power

(v) Low rotor RPM recovery

(vi) Dynamic rollover

(vii) Ground resonance

(viii) Low G conditions

(ix) Emergency equipment and survival gear

(9) Special operations; including the applicant's knowledge and performance of the following tasks--

(i) Confined area operation

(ii) Pinnacle/platform operations

(10) Post-flight procedures; including the applicant's knowledge and performance of the following tasks--

(i) After landing; parking and securing

IS 2.3.3.9 APPENDIX A: AIRLINE TRANSPORT PILOT LICENSE (H) - KNOWLEDGE

(a) The knowledge instruction and test for the airline transport pilot license — helicopter shall include at least the following subjects:

(1) Air law

(i) International Agreements and Organizations: The Convention of Chicago; Other International agreements: IATA agreement, Tokyo and Warsaw Convention; PIC authority and responsibility regarding safety and security; Operators and pilots liabilities towards persons and goods on the ground; in

(ii) case of damage and injury caused by the operation of the aircraft; Commercial practices and associated rules: dry and wet lease;

(iii) Relevant parts of ICAO Annexes: 1, 2, 7, 8, 9, 11 (and doc 4444), 12, 13, 14, 15 and 17;

(iv) Procedures for air navigation (PANS-OPS) - Aircraft Operations Doc 8168;

(v) National law;

(2) Aircraft general knowledge

(i) Airframe and systems, electrics, power-plant; emergency equipment

(A) Airframe and systems: Helicopter configurations; Controls and rotors; Cockpit and cabin; Landing Gear; Transmission systems; Rotor-brake; Inspection; Hydraulics; Air driven systems, De-ice and anti-ice systems, Fuel system

(B) Electrics: Direct Current (DC); Alternating Current (AC); Semiconductors, Basic knowledge of computers Basic radio propagation theory;

(C) Power-plant: Piston Engine; Turbine Engine; Engine construction; Engine systems, Auxiliary Power Unit (APU);

(D) Emergency equipment: Doors and emergency exits; Smoke detection; Fire detection; Fire-fighting equipment; Aircraft oxygen equipment; Emergency equipment;

(ii) Instrumentation

(A) Flight instruments: Air data instruments, Gyroscopic instruments,Magnetic Compass; Radio Altimeter; Electronic Flight Instrument System (EFIS); Flight Management System (FMS);

(B) Automatic flight control system: Flight director, Autopilot; Flight envelope protection; Yaw damper/Stability augmentation system;

(C) Warning and recording equipment: Warnings general; Altitude alert system; Ground proximity warning system (GPWS); Traffic collision avoidance system (TCAS), Overspeed warning; Flight data recorder; Cockpit voice recorder; Rotors and engine over/underspeed warning;

(D) Power-plant and system monitoring instruments: Pressure gauge, Temperature gauge, RPM indicator; Consumption gauge, Fuel gauge, Torque meter, Flight hour meter, Remote (signal) transmission system; Electronic Displays; Chip detection;

(3) Flight performance and planning

(i) Mass and balance: Center of gravity, Mass and balance limits;

(ii) Loading: Terminology; Aircraft mass checks; Procedures for determining helicopter mass and balance documentation; Effects of overloading;

(iii) Center of gravity: Basis of cg calculations (load and balance documentation); Calculation of cg; Securing of load; Area load; running load, supporting;

(iv) Performance: Airworthiness Requirements; Definitions of terms; Take off — Cruise - Landing Performance;

(v) Flight planning and flight monitoring:

(A) Flight plan for cross country flights: Navigation plan; Fuel plan; Flight monitoring and in-flight re-planning; Radio communication and navigation aids;

(B) ICAO ATC flight plan: Types of flight plan; Completing the flight plan; Filling the flight plan; Closing the flight plan; Adherence to flight plan;

(C) Practical flight planning: Chart preparation; Navigation plans; Simple fuel plans; Radio planning practice;

(D) IFR (airways) flight planning: Meteorological considerations; Selection of routes to destination and alternates; General flight planning tasks;

(E) Note: This subsection is only part of the instruction, test or check when an instrument rating is required.

(F) Practical completion of a flight plan (flight plan, flight log, navigation log, ATC plan, etc.): Extraction of data;

(G) Offshore or remote area operation: Additional flight planning aspects for offshore or remote area operation; computerized flight planning;

(4) Human performance

(i) Human factors basic concepts: Human factors in aviation; Accident statistics; Flight safety concepts;

(ii) Basic aviation physiology: Basics of flight physiology; Man and environment: the sensory system; Health and Hygiene;

(iii) Basic aviation psychology: Human information processing; Human error and reliability; Decision making; Avoiding and managing errors: cockpit management; Personality; Human overload and underload, Advanced cockpit automation

(5) Meteorology

(i) The atmosphere: Composition, extent, vertical division; Temperature; Atmospheric pressure; Atmospheric density; Altimetry;

(ii) Wind: Definition and measurement; General circulation; Turbulence; Variation of wind with height; Local winds; Jet streams; Standing waves;

(iii) Thermodynamics: Humidity; Change of state of aggregation; Adiabetic processes

(iv) Clouds and Fog: Cloud formation and description; Fog, mist, haze

(v) Precipitation

(vi) Airmasses and fronts: Types of airmasses; Fronts;

(vii) Pressure systems: Location of the principal pressure areas, Anticyclone, Non frontal depressions; Tropical revolving storms

(viii) Climatology: Climatology zones; Tropical climatology; Typical weather situations in mid-latitudes; Local seasonal weather and wind

(ix) Flight hazards: Icing, Turbulence; Wind-shear; Thunderstorms; Tornadoes; Low and high level inversions; Stratospheric conditions; Hazards in mountainous areas;

(x) Meteorological information: Observation, Weather charts, Information for flight planning

(6) Navigation:

(i) General Navigation: Basics of navigation: The solar system; The earth Time and time conversions; Directions, Distance

(ii) Magnetism and compasses: General Principles, Aircraft magnetism, Knowledge of the principles, standby and landing or main compasses and remote reading compasses

(iii) Charts: General properties of miscellaneous types of projections; The representation of meridians, parallels, great circles and rhumb lines; The use of current aeronautical charts

(iv) Dead reckoning navigation (DR): Basics of dead reckoning; Use of the navigational computer; The triangle of velocities; Determination of DR position; Measurement of DR elements; Resolution of current DR problems; Measurements of maximum range, radius of action and point-of-safe-return and point-of-equal-time

(v) In-flight navigation: Use of visual observations and application to in-flight navigation; Navigation in climb and descent; Navigation in cruising flight, use of fixes to revise navigation data; Flight log (including navigation records); Purposes of FMS (flight management systems);

(vi) Radio Navigation: Radio aids: Ground D/F (including classification of bearings); ADF (including associated beacons and use of the radio magnetic indicator); VOR and Doppler-VOR (including the use of the radio magnetic indicator); DME (distance measuring equipment); ILS (instrument landing system); MLS (Microwave landing system);

(vii) Basic radar principles: Pulse techniques and associated terms; Ground radar; Airborne weather radar; SSR (secondary surveillance radar and transponder); Use of radar observations and application to in-flight navigation;

(viii) Area navigation systems: General philosophy; Typical flight deck equipment and operation; Instrument indications; Types of area navigation system inputs; VOR/DME area navigation (RNAV); Flight director and autopilot coupling

(ix) Area navigation systems: General philosophy; Typical flight deck equipment and operation; Instrument indications; Types of area navigation system inputs; VOR/DME area navigation (RNAV); Flight director and autopilot coupling

Note: Typical flight deck equipment and operation: Instrument indications: and Types of area navigation system inputs are only part of the instruction, test or check when an instrument rating is required.

(x) Self-contained and external-referenced navigation systems: Doppler; Loran-C; Decca navigation system; Satellite assisted navigation: GPS/GLONASS/DGPS

(7) Operational procedures

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(i) ICAO Annex 6 Parts I, II and III (as applicable);

(ii) Special operational procedures and hazards: Minimum equipment list; Ground icing; Bird strike risk and avoidance; Noise abatement; Fire/smoke; Windshear; microburst; Wake turbulence; Security; Emergency and precautionary landings; Fuel jettisoning; Transport of dangerous goods; Contaminated runways;

(8) Principles of flight:

(i) Subsonic Aerodynamics: Basic laws and definitions; Derivation of lift; Drag; Distribution of forces — balance of couples; Stability; Blade-stall; Transonic effects on blades; Limitations; Performance degradation;

(ii) Helicopter aerodynamics: The helicopter and associated terminology; The forces diagram and associated terminology; Uniformity of rotor thrust along blade span; Helicopter controls; Rotor blade freedom of movement;; Phase lag and advance angle; Vertical flight; Forces in balance; Transitional lift; Power requirements; Further aerodynamics of forward flight; Factors affecting cyclic stick limits; The flare — power flight; Settling with power (vortex ring); Blade sailing; Autorotation — vertical; Autorotation - forward flight; Stability; Control power; Power requirements — graphs;

(9) Radiotelephony:

(i) VFR Communications: Definitions; General operating procedures; Relevant weather information terms (VFR); Action required to be taken in case of communication failure; distress and urgency procedures; General principles of VHF propagation and allocation of frequencies;

(ii) IFR Communications: Definitions; General operating procedures; Action required to be taken in case of communication failure; distress and urgency procedures; General principles of VHF propagation and allocation of frequencies;

(iii) Note: This subsection is only part of the instruction, test or check when an instrument rating is required.

(iv) Morse code.

IS 2.3.3.9 APPENDIX B: AIRLINE TRANSPORT PILOT LICENSE (H) – FLIGHT INSTRUCTION AND SKILL TEST

(a) The flight instruction and skill test for the airline transport pilot license for helicopters shall include CRM and at least the following areas of operation:

(1) Pre-flight preparations and checks; including the applicant's knowledge and performance of the following tasks--

(i) Equipment examination

(ii) Performance and limitations

(2) Pre-flight procedures: including the applicant's knowledge and performance of the following tasks--

(i) Pre-flight inspection

(ii) Power-plant start

(iii) Taxiing

(iv) Pre-takeoff checks

(3) Takeoff and departure phase: including the applicant's knowledge and performance of the following tasks--

(i) Normal and crosswind takeoff

(ii) Instrument takeoff

(iii) Power-plant failure during takeoff

(iv) Rejected takeoff

(v) Instrument departure

(4) In-flight maneuvers: including the applicant's knowledge and performance of the following tasks-

(i) Steep turns

(ii) Power-plant failure-multi-engine helicopter

(iii) Power-plant failure-single-engine helicopter

(iv) Recovery from unusual altitudes

(v) Settling with power

(5) Instrument procedures: including the applicant's knowledge and performance of the following tasks--

(i) Instrument arrival

(ii) Holding

(iii) Precision instrument approaches

(iv) Non-precision instrument approaches

(v) Missed approach

(6) Landings and approaches to landings: including the applicant's knowledge and performance of the following tasks--

(i) Normal and crosswind approaches and landings

(ii) Approach and landing with simulated power-plant failure-multiengine helicopter

(iii) Rejected landing

(7) Normal and abnormal procedures; including the applicant's knowledge and performance of the tasks.

(8) Emergency procedures: including the applicant's knowledge and performance.

(9) Post-flight procedures; including the applicant's knowledge and performance of the following tasks--

(i) After landing procedures

(ii) Parking and securing

IS 2.3.3.11 APPENDIX A: FLIGHT INSTRUCTOR (A and H) - FLIGHT INSTRUCTION, SKILL TEST AND PROFICIENCY CHECK

(a) The flight instruction, skill test and proficiency check for the flight instructor rating - airplane and helicopter shall include at least the following areas of operation:

Notes:

(1) When (SE) is indicated the item or paragraph is only for single-engine, when (ME) is indicated the item or paragraphs is only for multi-engine. When nothing is indicated the item or paragraph is for single-engine and multi-engine.

(2) When (A) is indicated the item or paragraph is only for Airplane. When (H) is indicated the item or paragraph is only for Helicopter. When nothing is indicated the item or the paragraph is for A and H.

(3) When (S) is indicated, the item is only for seaplanes, when (L) is indicated, the item is only for landplanes. When nothing is indicated the item is for land and seaplanes.

(1) Fundamentals of instruction; including the applicant's knowledge and performance of the following tasks--

(i) The learning process

(ii) The teaching process

(iii) Teaching methods

(iv) Evaluation

(v) Flight instructor characteristics and responsibilities

(vi) Human factors

(vii) Planning instructional activity

(2) Technical subject areas; including the applicant's knowledge and performance of the following tasks

(i) Aeromedical factors

(ii) Visual Scanning and collision avoidance

(iii) Principles of flight

(iv) Aircraft flight controls

(v) Aircraft weight and balance

(vi) Navigation and flight planning

(vii) Night operations

(viii) High altitude operations (A)

(ix) Regulations and publications

(x) Use of minimum equipment list

(xi) National airspace system

(xii) Navigation aids and radar services (A)

(xiii) Logbook entries and license endorsements

(xiv) Water and seaplane characteristics (S)

(xv) Seaplane bases, rules and aids to marine navigation (S)

(3) Pre-flight preparation; including the applicant's knowledge and performance of the following tasks--

(i) Licenses and documents

(ii) Weather information

(iii) Operation of systems (SE)

(iv) Performance and limitations (SE)

(v) Airworthiness requirements

(4) Pre-flight lesson on a maneuver to be performed in flight: including the applicant's knowledge and performance of the following task--

(i) Maneuver lesson

(5) Pre-flight procedures: including the applicant's knowledge and performance of the following tasks--

(i) Pre-flight inspection

(ii) Cockpit management

(iii) Engine starting (A)

(iv) Engine starting and rotor engagement (H)

(v) Taxiing (A)

(vi) Sailing (S)

(vii) Before take-off check

(6) Aerodrome operations and Heliport operations: including the applicant's knowledge and performance of the following tasks--

(i) Radio communications and ATC light signals

(ii) Traffic patterns

(iii) Aerodrome and runway markings and lighting (A)

(iv) Aerodrome and Heliport Markings and lighting

(7) Take-off, landing and go-around (A): including the applicant's knowledge and performance of the following tasks--

(i) Normal and crosswind take-off and climb

(ii) Take-off and maximum performance climb

(iii) Short field (Confined area (S)) take-off and maximum performance climb

(iv) Soft field take-off and climb (SE)

(v) Glossy water take-off and climb (S)

(vi) Rough water take-off and climb (S)

(vii) Normal and crosswind approach and landing

(viii) Slip to a landing (SE)

(ix) Go-around/rejected landing

(x) Short field (Confined area (S)) approach and landing

(xi) Glassy water approach and landing (S)

(xii) Rough water approach and landing (S)

(xiii) Soft field approach and landing (SE)

(xiv) Power-off 180 degrees accuracy approach and landing

(8) Hovering Maneuvers (H); including the applicant's knowledge and performance of the following tasks--

(i) Vertical take-off and landing

(ii) Surface taxi

(iii) Hover taxi

(iv) Air taxi

(v) Slope operation

(9) Fundamentals of flight; including the applicant's knowledge and performance of the following tasks--

(i) Straight-and-level flight

(ii) Level turns

(iii) Straight climbs and climbing turns

(iv) Straight descents and descending turns

(10) Performance maneuvers (A); including the applicant's knowledge and performance of the following tasks--

(i) Steep turns

(ii) Steep spirals (SE)

(11) Performance maneuvers (H); including the applicant's knowledge and performance of the following tasks--

(i) Rapid deceleration

(ii) Straight-in autorotation

(iii) 180 degrees autorotation

(12) Ground reference maneuvers (A); including the applicant's knowledge and performance of the following tasks--

(i) Rectangular course

(ii) S-turns across a road

(iii) Turns around a point

(13) Slow flight, stalls and spins (A); including the applicant's knowledge and performance of the following tasks--

(i) Maneuvering during slow flight

(ii) Power-on stalls (proficiency)

(iii) Power-off stalls (proficiency)

(iv) Crossed-control stalls (demonstration) (SE)

(v) Elevator trim stalls (demonstration) (SE)

(vi) Secondary stalls (demonstration) (SE)

(vii) Spins (SE)

(14) Basic instrument maneuvers; including the applicant's knowledge and performance of the following tasks--

(i) Straight-and-level flight

(ii) Constant airspeed climbs

(iii) Constant airspeed descents

(iv) Turns to headings

(v) Recovery from unusual flight attitudes

(15) Emergency operations (SE) (A); including the applicant's knowledge and performance of the following tasks--

(i) Emergency approach and landing (simulated)

(ii) Systems and equipment malfunctions

(iii) Emergency equipment and survival gear

(16) (Emergency operations (ME) (A); including the applicant's knowledge and performance of the following tasks--

(i) Systems and equipment malfunctions

(ii) Engine failure during take-off before VMC

(iii) Engine failure after lift-off

(iv) Approach and landing with an inoperative engine

(v) Emergency descent

(vi) Emergency equipment and survival gear

(17) Emergency operations (H); including the applicant's knowledge and performance of the following tasks--

(i) Power failure at a hover

(ii) Power failure at altitude

(iii) Settling-with-power

(iv) Low rotor RPM recovery

(v) Anti-torque system failure

(vi) Dynamic rollover

(vii) Ground resonance

(viii) Low "G" conditions

(ix) Systems and equipment malfunctions

(x) Emergency equipment and survival gear

(18) Multi-engine operations (ME) (A); including the applicant's knowledge and performance of the following tasks--

(i) Operation of systems

(ii) Performance and limitations

(iii) Flight principles — engine inoperative

(iv) Maneuvering with one engine inoperative

(v) VMC demonstration

(vi) Demonstrating the effects of various airspeeds and configurations during engine inoperative performance

(19) Special operations (H); including the applicant's knowledge and performance of the following tasks--

(i) Confined area operation

(ii) Pinnacle/platform operation

(20) Post-flight procedures; including the applicant's knowledge and performance of the following tasks--

(i) Post-flight procedures

(ii) Anchoring

(iii) Docking and mooring

(iv) Beaching

(v) Ramping

IS 2.3.3.11 APPENDIX B: FLIGHT INSTRUCTOR FOR INSTRUMENT RATINGS (A and H) - FLIGHT INSTRUCTION, SKILL TEST and PROFICIENCY CHECK

(a) The flight instruction, skill test and proficiency for the flight instructor for instrument ratings - airplane and helicopter shall include at least the following areas of operation:

Notes:

(1) When (SE) is indicated the item or paragraph is only for single-engine. When (ME) is indicated the item or paragraphs is only for multi-engine. When nothing is indicated the item and paragraph are for single-engine and multi-engine.

(2) When (A) is indicated the item or paragraph is only for Airplane. When (H) is indicated the item or paragraph is only for Helicopter. When nothing is indicated the item and the paragraph are for A and H.

(1) Fundamentals of instructing; including the applicant's knowledge and performance of the following tasks--

(i) The learning process

(ii) Human behavior and effective communication

(iii) The teaching process

(iv) Teaching methods

(v) Critique and evaluation

(vi) Flight instructor characteristics and responsibilities

(vii) Planning instructional activity

(2) Technical subject areas; including the applicant's knowledge and performance of the following tasks:

(i) Aircraft flight instruments and navigation equipment

(ii) Aeromedical factors

(iii) Regulations and publications related to IFR operations

(iv) Logbook entries related to instrument instruction

(3) Pre-flight preparation; including the applicant's knowledge and performance of the following tasks:

(i) Weather information

(ii) Cross-country flight planning

(iii) Instrument cockpit check

(4) Pre-flight lesson on a maneuver to be performed in flight; including the applicant's knowledge and performance of the following task:

(i) Maneuver lesson

(5) Air traffic control clearances and procedures; including the applicant's knowledge and performance of the following tasks-

(i) Air traffic control clearances

(ii) Compliance with departure, en-route and arrival procedures and clearances

(6) Flight by reference to instruments; including the applicant's knowledge and performance of the following tasks--

(i) Straight-and-level flight

(ii) Turns

(iii) Change of airspeed in straight-and-level and turning flight

(iv) Constant airspeed climbs and descents

(v) Constant rate climbs and descents

(vi) Timed turns to magnetic compass headings

(vii) Steep turns

(viii) Recovery from unusual flight altitudes

(7) Navigation systems; including the applicant's knowledge and performance of thefollowing tasks:

(i) Intercepting and tracking navigational systems and DME Arcs

(ii) Holding procedures

(8) Instrument approach procedures; including the applicant's knowledge and performance of the following tasks--

(i) Non-precision instrument approach

(ii) Precision instrument approach

(iii) Missed approach

(iv) Circling approach (A)

(v) Landing from a straight-in approach

(9) Emergency operations; including the applicant's knowledge and performance of the following tasks:

(i) Loss of communications

(ii) Loss of gyro attitude and heading indicators

(iii) Engine failure during straight-and-level flight and turns

(iv) Instrument approach — one engine inoperative

(10) Post-flight procedures; including the applicant's knowledge and performance of the following task--

(i) Checking instruments and equipment

IS 2.3.3.11 APPENDIX C: INSTRUCTOR RATING FOR ADDITIONAL TYPE RATINGS - FLIGHT INSTRUCTION, SKILL TEST and PROFICIENCY CHECK

(a) The flight instruction, skill test and proficiency checks for instructors for additional type ratings - airplane and helicopter shall include at least the following areas of operation:

Note: When (A) is indicated the item or paragraph is only for Airplane. When (H) is indicated the item or paragraph is only for Helicopter. When nothing is indicated the item and the paragraph are for A and H.

(1) Technical subject areas

(i) The content of the technical subject areas shall cover the areas as applicable to the aircraft class or type.

(ii) Flight simulator: including the applicant's knowledge and performance of the following tasks:

(A) Use of checklist, setting of radios/navigation aids

(B) Starting engines

(C) Take-off checks

(D) Instrument take-off, transition to instruments after lift off

(E) Engine failure during take-ff between V1 and V2 (Airplane)

(F) Aborted take-off prior to reaching V1 (A)

(G) High mach buffeting, specific flight characteristics (if necessary) (A)

(H) Take-off with engine failure prior to TDP or DPATO or shortly after TDP or DPATO (Helicopter)

(I) Steep turns

(J) Recovery from approach to stall/take-off, clean landing configuration (Airplane)

(K) Instrument approach to required minimum decision height or minimum descent height/altitude, manual one engine simulated inoperative during approach and landing or go-around (Airplane)

(L) Instrument approach to required minimum decision height or minimum descent height/altitude, autopilot one engine simulated inoperative during approach and landing or go-around (Helicopter)

(M) Rejected landing and go-around

(N) Crosswind landing

(iii) Category II and II operations, if applicable: including the applicant's knowledge and performance of the following tasks--

(A) Precision approaches, automatic with auto-throttle and flight director goaround caused by aircraft or ground equipment deficiencies

(B) Go-around caused by weather conditions

(C) Go-around at DH caused by offset position from centerline

(D) One of the CAT II/CAT III approaches must lead to a landing

(iv) Aircraft: including the applicant's knowledge and performance of the following tasks--

(A) Familiarization with controls during outside checks

(B) Use of checklist, setting of radios and navigation aids, starting engines

(C) Taxiing

(D) Take-off

(E) Engine failure during take-off short after V2, after reaching climb out attitude (Airplane)

(F) Engine failure during take-off short after TDP **or** DPATO after reaching climb out attitude (Helicopter)

(G) Other emergency procedures (if necessary)

(H) Instrument approaches to required minimum decision height, manual one engine out during approach and landing or go-around

(I) One engine simulated inoperative go-around from required minimum decision height

(J) One engine (critical) simulated inoperative landing

IS 2.3.3.11 APPENDIX D: INSTRUCTOR RATING FOR MULTI-CREW PILOT LICENSE – FLIGHT INSTRUCTION, SKILL TEST AND PROFICIENCY CHECK

In addition to the information outlined in IS: 2.3.3.11 Appendices A, B and C, the following applies to the MPL program:

(a) Flight Instructor Competencies The nature of MPL training, with its emphasize on multi-crew operations, is such that instructors engaged in the delivery of that training need to meet minimum levels of competency. Organizations planning to deliver training for the issue of a MPL have a responsibility to ensure that their instructors either have, or provide a means by which the instructors can achieve, the following competencies:

(b) Competencies:

(1) For all instructors engaged in training for the MPL:

(i) Successful completion of an operators CRM course;

(ii) Understanding of the philosophy of multi-crew operations;

(iii) Use of a multi-crew flight check system; and

(iv) Use of operator specific SOPs.

(2) For flight instructors engaged in training for the Core and Basic Stages;

(i) Current Flight Instructors Rating;

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(ii) Current Command Instrument Rating,

(iii) Management of multiple students; and

(iv) Successful completion of an operator's multi-crew operations course.

(3) For instructors engaged in training for the Intermediate and Advanced Stages:

(i) Hold, or have held, a Command (Multi-engine) Instrument Rating,

(ii) Hold, or have held, a Flight Instructors Rating, and

(iii) Hold, or have held, a Multi-engine Training Approval.

(c) Induction

The standardization of instructors is an essential for any MPL training organization. Induction training which covers the following aspects will provide a suitable level of initial standardization:

(1) Structure and management chain of responsibility;

(i) This should provide the new instructor with a clear understanding of the hierarchy of the organization and the lines of communication and responsibility.

(2) Instructor and trainee duties and responsibilities;

(i) Particular attention should be given to the conduct of in-flight procedures such as:

(A) multi-crew operations,

(B) emergency and non-normal procedure training.

(C) Multi-crew Operations;

(3) Particular attention should be given to ensuring that instructors are cognizant of the differences in multi-crew training, and are familiar with the specific requirements of the organization with respect to multi-crew pilot training.

(4) Threat and Error Management should:

(i) clearly address the need for TEM,

(ii) ensure that all instructors clearly understand the importance of applying TEM in training,

(iii) ensure that instructors understand how to deliver TEM training,

(iv) ensure that instructors are competent in the assessment of TEM.

(5) Supervision;

(i) Address the need for supervision and the individual responsibilities of instructors.

(6) Operations Manual;

(i) Instructors should be left in no doubt as to the need for them to conduct all operations in accordance with the procedures laid down in the operations manual.

(7) Pre and post flight briefings procedures;

(i) In addition to addressing the policy on briefings, instructors should be given the opportunity to review and refresh their individual briefing techniques.

(8) Training procedures;

(i) Address the Operations Manual provisions on training including the use of Training Plans, Achievement Records etc.

(9) Recording procedures.

(i) Instructors should be given the opportunity to gain familiarity with theorganizations recording methods. In particular attention should be made of theneed for accurate Training Records, and the need to maintain up to dateAchievement Records.

(d) Recurrent Training

Recurrent training represents the ongoing aspect of standardization and should reinforce many of the topics addressed during induction training. Accordingly, the following topics need to be part of any recurrent training program:

(1) Instructor and trainee duties and responsibilities;

(i) Supervision;

(ii) Pre and post flight briefings procedures;

(iii) Training procedures; and

(iv) Recording procedures.

(2) In addition (under the guidance and supervision of senior staff) provision shouldmade for each instructor to evaluate their own flight instructional techniques andprocedures to identify any weaknesses or deviations from the requirements of theOperations Manual.

(e) Duty Roster Systems

The requirements for instructor rostering will vary according to the size and complexity of the individual training organization. For small organizations a suitable roster system need be no more complex than a simple white board showing instructional and other duties with provision for the display of rest periods. Larger organizations will need to take a more detailed approach to their rostering, and may need to make use of a computerized system. Regardless of size, organizations will need to ensure that the rostering system makes provision for the inclusion of standardization/recurrent training undertaken by instructors.

IS 2.3.3.12 EXAMINERS

(a) The ground training for examiners shall at least include:

(1) Examiner duties, functions and responsibilities

(2) Applicable regulations and procedures;

(3) Appropriate methods, procedures and techniques for conducting the required tests and checks;

(4) Proper evaluation of student performance including the detection of:

(i) Improper and insufficient training, and

(ii) Personal characteristics of an applicant that could adversely affect safety;

(5) Appropriate corrective action in the case of unsatisfactory tests and checks; and

(6) Approved methods, procedures and limitations for performing the requirednormal, abnormal and emergency procedures in the aircraft.

(b) The flight training shall include:

(1) Training and practice in conducting flight evaluation (from the left and right pilotseats for pilot examiners) in the required normal, abnormal and emergencyprocedures to ensure competence to conduct the flight tests and checks;

(2) The potential results of improper, untimely or non-execution of safety measures during an evaluation; and

(3) The safety measures (to be taken from either pilot seat for pilot check examiners) for emergency situations that are likely to develop during an evaluation.

(c) The flight training for examiners (simulator) shall include:

(1) Training and practice in conducting flight checks in the required normal, abnormal and emergency procedures to ensure competence to conduct the evaluations tests and checks required by this Part (this training and practice shall be accomplished in a flight simulator, a flight procedures trainer or flight training device.

(2) Training in the operation of flight simulators, flight procedures trainers, or flight training devices, or in all three, to ensure competence to conduct the evaluations required by this Part.

IS 2.4.3 TYPE RATING - FLIGHT ENGINEERS - FLIGHT INSTRUCTION, SKILL TEST and PROFICIENCY CHECK

(a) The flight instruction, skill test and proficiency check for the flight engineers licenseand type rating shall include CRM and at least the following areas of operation:

(1) Pre-flight preparation: including the applicant's knowledge and performance of the following tasks--

(i) Equipment examination-systems knowledge

(ii) Aircraft handbooks; manuals, minimum equipment list (MEL), configuration deviation list (CDL) and operations specifications

(iii) Performance and limitations

(2) Pre-flight procedures; including the applicant's knowledge and performance of the following tasks:

(i) Pre-flight inspection and cockpit setup

(ii) Pre-flight inspection-exterior

(3) Ground operations; including the applicant's knowledge and performance of the following tasks:

(i) Power-plant start

(ii) Taxi and pre-takeoff checks

(4) Normal procedures: including the applicant's knowledge and performance of the following tasks:

(i) Take-off

(ii) In-flight

(iii) During approach and landing

(iv) Engine systems monitoring

(5) Abnormal and emergency procedures; including the applicant's knowledge and performance of the following tasks:

(i) Take-off

(ii) In-flight

(iii) During approach and landing

(iv) Engine systems monitoring

(6) Post-flight procedures

(i) After landing

(ii) Parking and securing

IS 2.6.2.6 AVIATION MAINTENANCE TECHNICIAN (AMT) LICENSE SKILL TEST

Each applicant for a Aviation Maintenance Technician (AMT) license or rating shall pass an oral and practical test appropriate to the rating(s) sought. The tests cover the applicants'skill in performing the practical projects on the subjects covered by the written test for that rating. The applicant will be provided with appropriate facilities, tools, materials and airworthiness data

(a) The skill test for the AMT License shall test the applicant's knowledge and performance in at least the following areas of operation:

(1) basic electricity

(2) lines and fittings

(3) materials and processes

(4) ground operations and servicing

(5) cleaning and corrosion control

(6) mathematics

(7) maintenance forms and records

(8) maintenance publications

(9) physics

(10) mechanic privileges and limitations

IS 2.6.2.6 (a) SKILL REQUIREMENTS FOR THE AMT AIRFRAME RATING

(a) The skill test for the airframe rating shall test the applicant's knowledge andperformance in at least the following areas of operation:

(1) assembly and rigging

(2) airframe inspection

(3) aircraft landing gear systems

(4) hydraulic and pneumatic systems

(5) cabin atmosphere control systems

(6) aircraft instrument systems

(7) communication and navigation systems

(8) fuel systems

(9) aircraft electrical systems

(10) position and warning systems

(11) ice and rain control systems

(12) fire protection systems

(13)Job/task documentation and control practices.

IS 2.6.2.6 (b) SKILL REQUIREMENTS FOR THE AMT POWER-PLANT RATING

(a) The skill test for the power-plant rating shall test the applicant's knowledge andperformance in at least the following areas of operation:

(1) power-plant electrical systems

(2) lubrication systems

(3) ignition and starting systems

(4) fuel metering

(5) engine fuel systems

(6) induction and engine airflow systems

(7) engine cooling systems

(8) engine exhaust and reverser systems

(9) propellers

(10)auxiliary power units

(11)Job/task documentation and control practices.

IS 2.6.3.6 (c) SKILL REQUIREMENTS FOR THE AMS AVIONICS RATING

(a) The skill test for the avionics rating shall test the applicant's knowledge and performance in the basic workshop and maintenance practices in at least the following areas of operation:

(1) Avionics — electrical

(2) Avionics — instrument

(3) Avionics — autoflight

(4) Avionics — radio

(5) Repair, maintenance and function testing of aircraft systems/components — avionics

(6) Job/task documentation and control practices.

IS 2.10.1.3 APPENDIX A- BASIC TRAINING IN AVIATION MEDICINE FOR AMEs

(a) Basic training in aviation medicine

(b) Physics of atmosphere and space

(c) Basic aeronautical knowledge

(d) Aviation Physiology

(e) Ophthalmology

(f) Otorinolaryngology

(g) Cardiology and general medicine

(h) Neurology

(i) Psychiatry in aviation medicine

(j) Psychology

(k) Dentistry

(l) Accidents, Escape and Survival

(m) Legislation. rules and regulations

(n) Air evacuation

(o) Medicine and flying

IS 2.10.1.3 APPENDIX B - ADVANCED TRAINING IN AVIATION MEDICINE FOR AMEs

(a) Pilot working environment

(b) Aerospace physiology

(c) Ophthalmology

(d) Otorinolaryngology

(e) Cardiology and general medicine

(f) Neurology/Psychiatry

(g) Human factors in aviation

(h) Tropical medicine

(i) Hygiene

(j) Space medicine

IS 2.10.1.4 APPLICATION FORM FOR MEDICAL CERTIFICATE

(Application form to be implemented here from Guide for Aviation Medical Examiners.)

IS 2.10.1.8 MEDICAL CERTIFICATE

The following details shall appear on the medical certificate:

(i) Name of State

(ii) License No.

(iii) Name of holder in full (in Roman alphabet also if script of national language is other than Roman):

(iv) Date of birth

(v) Address of holder

(vi) Nationality of holder

(vii) Signature of holder

(viii) Medical certificate Class 1 or 2

(ix) Issuing Authority

(x) Validity

(xi) Limitations

(xii) Date of issue and signature of issuing officer.

Republic of the Philippines **Initial Medical Examination**		
Date:		
Date (YDM) of:	Last	Next
Extended Medical Examination		
Medical (general) examination		
Electrocardiogram		
Audiogram		

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