TECHNICAL STANDARDS – Issue version (2023)

NAMCATS: Part 61

Document: NAMCATS-FCL-61/ 2023

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3.1 Approval

Edition Number/Version	Issue version 2023	Effective Date		
	Position	**Name**	**Signature**	**Date**
NCAA Approval	Executive Director	Toska Sem		

(1) General

1.1 Section 227 of the Civil Aviation Act, 2016 (Act no. 6 of 2016 – hereinafter "the Act") empowers the Executive Director of Civil Aviation to issue technical standards for civil aviation "on such matters as may be prescribed". Section 227(3) of the Act further empowers the Executive Director of Civil Aviation to incorporate into a technical standard any international aviation standard or any amendment without publishing the text of such standard or any amendment "by mere reference" to the title, number and year of issue of such standard or amendment or to any other particulars by which such standard or amendment is sufficiently identified.

1.2 By way of Government Notice 178 published in Government Gazette 8119/2023 dated 26 June 2023 provides for Part 61 – "Pilot Licensing". This Part 61 provides for the issue of technical standards as NAMCATS-FCL-61. The Executive Director of Civil Aviation has, pursuant to the empowerment mentioned above, issued technical standards relating to NAMCAR Part 61 (Pilot Licensing) to be known as NAMCATS-FCL-61 as further set out in the SCHEDULE herein.

1.3 NAMCATS-FCL-61 comprises the standards, rules, requirements, methods, specifications, characteristics and procedures which are applicable in respect of pilot licensing.

1.4 To the extent possible, each reference to a technical standard in this document, is a reference to the corresponding regulation in the Namibian Civil Aviation Regulations.

Example: *(1) Technical standard 61.02.1 refers to regulation 61.02.1 in Subpart 02 of Part 61*

(2) Technical standard 61.02.2 refers to either the whole, or more than one specific regulation, of Subpart 02 of Part 61.

1.5 Where there is any perceived disparity of meaning or inconsistency between these technical standards and the regulations, the provisions of the regulations will take precedence.

1.6 Where there is a difference between a standard and procedure prescribed in an ICAO document and the Civil Aviation Technical Standards (CATS), the CATS standard will prevail.

(2) Guidance Material

2.1 Sections 227, and section 236, of the Civil Aviation Act of 2016,

2.2 Part 61 of the Namibia Civil Aviation Regulations of 2001, and

2.3 Annex 1 (Personnel Licensing) of the Chicago Convention

2.4 Guidelines and recommendations in support of any particular technical standard are contained in schedules or appendices to, and/or compliance notes inserted throughout, the technical standards. These guidelines, upon release, are intended to provide recommendations and guidance to illustrate a means, but not necessarily the only means of complying with the regulations and technical standards. They may explain certain regulatory requirements by providing interpretive and explanatory materials. It is expected that service providers will document internal actions in their own operational manuals, to put into effect those, or similarly adequate, practices.

(3) Amendments to the Technical Standards

3.1 The NCAA Safety Division Personnel Licensing Department (PEL) has responsibility for the technical content of this technical standard.

3.2 This technical standard is issued, and may only be amended, under the authority of the Executive Director of Civil Aviation.

3.3 Requests for changes to the content of this technical standard must be forwarded to the Executive Director and may come from:

(a) technical areas within NCAA;

(b) aviation industry service providers or operators; or

(c) licensed aviation personnel.

3.4 The need to change the content of this technical standard may arise for any of the following reasons:

(a) to ensure safety;

(b) to ensure standardization;

(c) to respond to changed NCAA regulations or standards;

(d) to respond to changes initiated by ICAO;

(e) to accommodate proposed initiatives or new technologies.

3.5 NCAA may approve trials of new procedures or technologies to develop appropriate standards.

(4) International Standards

4.1 Section 227 of the Civil Aviation Act, 2016 empowers the Executive Director of the Civil Aviation Authority to issue technical standard for civil aviation. Section 227 of the Civil Aviation Act, 2016 further empowers the Executive Director of the Civil Aviation Authority to incorporate into a technical standard any international aviation standard or any amendment without stating the text of such standard or amendment, "by mere reference" to the title, number and year of issue of such standard or amendment, or to any other particulars by which such standard or amendment is sufficiently identified.

4.2 International standards, recommended practices and procedures, as amended from time to time, (part 37 of the Chicago Convention) will be incorporated into the technical standards contained in this document upon release;

(1) ICAO Annex 1 –Personnel Licensing;

(2) ICAO Doc 9868 – Procedures for Air Navigation Services — Training

(3) ICAO Doc 9654 - Manual on Prevention of Problematic Use of Substances in the Aviation Workplace

(4) ICAO Doc 9683 - Human Factors Training Manual

(5) ICAO Doc 10011 - Manual on Aeroplane Upset Prevention and Recovery Training.

4.3 Differences from ICAO Standards, Recommended Practices and Procedures are published in the AIP.

These Technical Standards apply with immediate effect.

Further access is available on NCAA website: www.ncaa.com.na

Enquiries: licensing@ncaa.na

TOSKA SEM

EXECUTIVE DIRECTOR

SCHEDULE

PART 61 –PILOT LICENSING

(NAMCATS-FCL-61)

CONTENTS

Definitions and Abbreviations

In these technical standards the following terms are used:

"**competency-based training**" means training and assessment that are characterised by a performance orientation, emphasis on standards of performance and their measurement, and the development of training to the specified performance standards;

"**error management**" mans the process of detecting errors and responding to them with countermeasures that reduce or eliminate the consequences of errors and mitigate the probability of further errors or undesired states;

61.01.4 RATINGS AND OTHER APPROVALS RELATING TO PILOT LICENCES

(1) Class Ratings

The list of class ratings is set out in NAMCATS-FCL 61.17.

61.01.6 MAINTENANCE OF COMPETENCY AND RECENCY

(1) Revalidation Check

The contents of the revalidation check must be as defined below and must be conducted in an aircraft of the category, class or type for which the pilot requires the revalidation check or in a flight simulation training device (FSTD) approved for the purpose. In general terms, the elements listed below should be included in the revalidation check, however, it is accepted that there may be aircraft or operational requirements and limitations that prevents some of these elements from being covered. In such cases the DFE must make appropriate comments on the revalidation check form. Where possible, in the interests of safety and for the purposes of conducting a realistic revalidation check, an FSTD should be used. The Executive Director has final authority as to whether the items not covered constitute an acceptable revalidation check.

.1. Normal Procedures

(a) Mass and balance data

(b) Take-off and landing distance or landing area requirements

(c) Altitude capability/flight planning

(d) Weather interpretation

(e) Filing of flight plan

(f) Pre-flight inspection

(g) Pre-start checks

(h) Starting and after start procedures

(i) Taxiing/hover checks

(j) Pre-take-off procedures and checks

(k) Crew/pilot briefing

(l) Departure and after departure procedures

(m) Climb procedures including best rate/maximum angle and cruise climb techniques and engine monitoring procedures

(n) Cruise techniques

(o) Use of navigation systems

(p) Use and monitoring of automation

(q) Descent techniques

(r) Approach preparation and briefing

(s) Flying the published instrument approach and relevant procedures

(t) Landing/hover techniques

(u) After-landing procedures

(v) Shutdown procedures

(w) Paperwork requirements including technical logs

.2. Non-normal Procedures

Non-normal procedures require that the pilot, whilst controlling the aircraft, identifies and assesses the problem, carries out the appropriate action to contain the problem or malfunction and then applies appropriate management techniques to minimise the danger to the crew and passengers. The use of the correct quick reference handbook (QRH) and/or other appropriate flight documentation is an essential element of successfully completing the proficiency or re-validation check.

Non-normal events and malfunctions include but are not limited to the following –

(a) Operation on wet or contaminated runways

(b) Operation in strong crosswinds

(c) Wind-shear recovery procedures

(d) CFIT recovery procedures

(e) Aborted and alternate engine start procedures

(f) Rejected take-off

(g) Engine failure procedures

(h) Autorotation

(i) Vortex ring recovery

(j) Mast bumping

(k) System failure procedures

(l) Instrument failure procedures

(m) Avionic and auto-flight control failure procedures

(n) Radio failure procedures

.3. Crew Procedures

(1.) Crew procedures include but are not limited to the following –

(a) CRM

(b) Threat and error identification and management

(c) Multi-crew co-operation

(d) Communication including ATC communications

(e) General management of the flight

(f) Situational awareness

(g) Declaring an emergency

(h) Pilot incapacitation procedures in multi-crew aircraft

2. In the case where the applicant holds an instrument rating the revalidation check should be carried out under IFR and in IMC or simulated IMC as far as possible. The applicant should act as pilot flying unless the requirement for dealing with a non-normal procedure or the operator's procedures requires otherwise.

(2) Revalidation Check Form

The revalidation check must be conducted using the relevant Forms for aeroplanes (FSS PEL 61-30, FSS PEL 61-32 or FSS PEL 61-35; Forms for helicopters (FSS PEL 61-31, FSS PEL 61-33 or Form FSS PEL 61-36; Form for gliders (FSS PEL 61-38); Form for Free Balloons (FSS PEL 61-39); Form for Airships (FSS PEL 61-40).

(3) Logbook

The logbook must be kept ensuring the logging of flight time as specified in regulation 61.01.15 and the format for to be used is set out in Appendix A to this technical standard.

The summary must:

(a) Reflect: the number of hours flown recorded in each column of the logbook, per aircraft category, class or type in the preceding 12 months, as well as a grand total for the period; and

Be submitted together with annual currency fees and attached to the forms submitted for revalidation mentioned above.

61.01.7 THEORETICAL KNOWLEDGE EXAMINATIONS

1. Examination procedure: PPL CPL, IF and ATPL candidates

(1) General Information

1.1 A candidate that is required by the Regulations to pass any examination conducted by the Authority towards the issue, re-issue, validation or conversion of a flight crew licence or rating or towards a Radiotelephony Operator's Certificate, shall demonstrate a level of knowledge appropriate to the privileges of the particular licence, rating or certificate by passing theoretical knowledge examinations in accordance with the applicable syllabi contained in the NAM-CATS and Appendices

1.2 Questions appropriate to the syllabi will be held in a NCAA Approved Question Bank. The examinations will be provided in English only, using abbreviations where applicable. A list of common abbreviations that may be used in the examinations can be found in Part 1 of the Regulations

1.3 Questions shall normally be presented in multiple-choice format and will generally have three or four choices. Variations such as True/ False, Yes/ No, Multiple-response and Fill-in-the-Blanks questions may also be used where appropriate. Marks will not be deducted for incorrect selection.

1.4. All examinations conducted by the Authority are offered at NCAA Approved Examinations Centers only.

(2) Booking, Cancellation & Rebooking of Examinations

2.1 Exam bookings will be booked in accordance with the procedure stipulated by the NCAA PEL Department. Failure to adhere to the procedure will result in the candidate being denied entry into the exam room

2.2. Candidates will only be allowed ONE cancelation or postponement per booking, Examination bookings may not be changed in the examination week of the examination Under special circumstances cancellations will only be accepted, if received in writing or on-line, at least 24 hours before the examination. Working days means Monday to Friday and excludes public holidays

2.3. If a candidate cancels an exam the exam will have to be rebooked and written within 14days of the initial date of cancelation provided there are available open bookings at the examination center.

2.4. Failure to comply with the procedures stated in (c) and (d) above will result in the candidate forfeiting their booking fee and will have to rebook and make payment to write the exam

2.5 Under exceptional circumstances and upon written application, the Senior Manager: Personnel Licensing may allow the candidate to transfer to an alternate venue.

(3) Attendance at the Examination

3.1 Candidates should be present at the examination centre **at least 15 minutes** before the scheduled time for the commencement of each examination paper, with the following documents –

(a) An acceptable form of identification \ Identity document or passport), as well as their Aviation Licence referred to in the NAMCARS. No photocopies of required documents will be accepted.

(b) A candidate who fails to provide the documents referred to in paragraph 3.1(a) above or fails to be present at the required time will not be permitted to take the examination.

(c) A candidate may only enter the examination room with the permission of the invigilating official and only during the 15 minutes preceding the start of the examinations. He or she may not remain in the room after the end of the examination period.

(d) Personal belongings such as bags, briefcases, pencil cases and mobile telephones shall not be taken into the examination room, but may be locked in a storage facility, if provided by the NCAA, at the risk of the candidate. Any personal belongings shall be removed if left unattended outside the examination room.

(e) Whilst every attempt is made to ensure reasonable comfort in examination rooms, the NCAA cannot be held responsible for extraneous noise or for any breakdown or fluctuation in ventilation, air conditioning or lighting in examination centres.

(f) Candidates should be aware that smoking in examination venues is prohibited in terms of the Tobacco Products Control Act

(g) Failure to comply with these requirements will result in a candidate being barred from an attempt during that particular examination session.

(h) Failure to be present at the examination centre within the specified period or without the appropriate documentation will result in the candidate forfeiting their exam booking fee.

(4) Materials for the Examination

(a) When necessary, the required reference books, manuals, supplements, tables or other documentation will be supplied to a candidate. These aids shall not be marked in any way, except for the documentation referred to in paragraph (b) below.

(b) The restriction in paragraph (4)(a) above does not apply to manuals that are specifically supplied for use in answering questions relating to graph and Mass & Balance calculations. Candidates shall not deface such graphs or mark them in such a manner so as to render them unusable for future examinees.

(c) A candidate is required to provide himself or herself with all the necessary drawing and calculating instruments. This includes dividers, protractors, parallel rules, slide rules and navigational computers.

(d) Calculators are allowed in the examinations, subject to the following conditions -

i. Calculators shall be non-programmable, non-alphanumeric and preferably of a scientific type.

ii. No Navmaster calculators are allowed; If a candidate wishes to use an electronic calculator and is unsure whether it complies with the requirements of paragraph above, written approval for the use of such calculator must be requested from the Senior Manager: PEL prior to writing the exam

iii. An invigilator or enforcement officer may prohibit the use of a calculator in an examination if reasonable doubt exists as to its acceptability.

(e) No pencil boxes, containers or instrument cases are permitted on tables.

(f) The use of slide rules or instruments containing printed information on critical point, point of no return, distance to the horizon, convergence, conversion angle, departure, dlat, dlong, conversion factors and similar calculations is not permitted.

(g) No personal notepaper or notes in any form (including electronic data and handwritten notes on objects or body parts) containing any examination-related information may be brought into an examination room.

(h) No documents, exam aids or rough working paper supplied by the Authority shall be removed from the examination facility. It is mandatory to hand such items back to the Invigilator immediately after completion of each examination attempt.

(5) Examination Briefing

5.1 Before the start of the examinations, the invigilating official will give a briefing regarding the examination.

5.2 Rules which will be applied to the conduct of examinations:

(a) Candidates are not allowed to use any loose paper other than that provided at the examination. All papers issued and documents provided by the Exam Centre are to be returned with the answer sheet to the invigilating officer on completion.

(b) Answer sheets, where applicable, must be completed in pencil

(c) A candidate must ensure that all required answers have been entered onto his or her answer sheet or computer assessment by the end of the examination. A candidate that fails to do this will not be given any extra time.

(d) Silence is to be observed in the examination room at all times. Electronic alarms and key rings are not permitted. All electronic devices must be switched off and left in a candidate's personal belongings.

(e) If a candidate wishes to speak to an Invigilating official, he or she should remain seated and raise his or her hand. It should be noted that the Invigilating official will consider only those questions from candidates that relate to the general conduct of the examinations and he or she will not enter into discussion on the interpretation of words or questions contained in the examination papers.

(f) A candidate may leave the room with the permission of the invigilating official for urgent physiological reasons or if he or she finishes an examination before time, except during the last 5 minutes before the end of any paper. A candidate is to stop work, put all writing implements down when so directed and remain seated and quiet until all answer material has been collected, as applicable.

(g) Any candidate who attempts to remove examination material from the room without authorization will be liable for disqualification from those examinations that have been taken and may be subject to special procedures and supervision arrangements for future examinations.

(h) Any violation of an examination regulation is viewed as a serious offence by the Authority and will result in enforcement action instituted against the transgressing candidate.

(6) Failure to comply with examination regulations

6.1. By entering for an examination that is conducted by the Authority, a candidate agrees to comply with all applicable Regulations as well as the rules contained in this Technical Standard.

6.2 If a candidate contravenes any Regulation or rule, as referred to in paragraph (a) above, such a candidate subjects himself or herself to disqualification from future examinations for a period not exceeding 12 months and shall be deemed to have failed the examination during which such contravention occurred.

6.3.If a candidate contravenes any of these Regulations or rules, he or she may be instructed to vacate the examination room immediately by an invigilating official or enforcement officer. Failure to obey such an instruction may result in the candidate being removed from the examination room.

6.4.In case of a dispute regarding a decision by an invigilator or an aviation safety inspector or the interpretation of examination Regulation or rules during an examination session, the decision of the invigilating official or aviation safety inspector shall prevail. A decision taken by an invigilator or aviation safety inspector in this regard is appealable to the Director upon written application by an affected candidate.

6.5.In addition to the offences listed in Part 185 of the Regulations and prohibited conduct referred to elsewhere in this Technical Standard, the following examination-related actions are specifically defined as offences –

(a) Any dishonest or fraudulent behavior, including cheating, other than that referred to in paragraphs above relating to the conduct of an examination.

(b) Using any electronic recording instrument (excluding an allowed calculator), camera, communication device or any electronic device with a playback function during an examination. This includes, but is not limited to, a mobile telephone, smart phone, iPad, iPod, Mp3 player, pager and electronic game device.

(c) For a candidate to have any object referred to in paragraph (e) in his or her possession during an examination, irrespective of whether the device is switched on or not.

(d) Wearing any headgear or earphones during an examination without the written approval of the Director, with the exception of a hearing aid worn for medical purposes.

(e) Passing any object to another candidate.

(f) Communicating in any manner with another candidate.

(g) Behaving in an inappropriate manner.

(h) Tampering with or damaging any NCAA examination equipment.

(i) Any unauthorized accessing, copying or storing of examination data from the official NCAA examination database.

(j) Disobeying any lawful instruction of the examination invigilator or an enforcement officer.

(k) Looking at the work of another candidate.

(7) Results

7.1 Results will normally be available immediately after examinations. Candidates should not telephone the Examination section to request examination results, as results will not be given over the telephone under any circumstances.

7.2 The Executive Director will not enter into discussion or correspondence with candidates on the subject of their examination results, but candidates may apply for any examination to be remarked in line with the Regulations and on payment of the fee prescribed in NAMCARS Part 187, After applying for a remark, the results of the remark will be presented to the candidate within 14 days of receipt of the remark request.

(8) Re-mark and Re-write after failure

8.1 A candidate, who fails an examination, may apply in writing for a re-mark up to 30 days after the date of notification of the examination results. The fee for a remark can be found in NAMCARS Part 187..

8.2 Candidates cannot apply to re-write examinations, which they believe they may have failed, until they have received the official result notification. Furthermore, applicants who have applied for a re-write may not apply for another attempt at the subject being remarked until they receive the official examination result notification.

8.3 Candidates for re-writes may not be allowed to re-write an examination, unless special circumstances prevail, within a period of 72 hours of an unsuccessful attempt.

(9) Theoretical Knowledge Examination Pass Standards

9.1 A candidate must complete all seven required written PPL examination papers within 24 months of obtaining their first pass.

9.2 A candidate must complete all required written CPL/ATPL/IR examination papers within 18 months of achieving a first credit for an examination. A credit for an examination is held for each successful attempt.

9.3 The papers can be attempted in any order. A Pass in an examination paper will be awarded to a candidate achieving at least 75% of the marks allocated to that paper.

(10) Failure to comply with Pass Standards

10.1 An applicant failing to pass all the relevant PPL examinations in accordance with the requirements of paragraph (9.1) will be required to re-enter the examinations as though for an initial attempt.

10.2 An applicant failing to pass all the relevant CPL, CPL/IR or ATPL examinations in accordance with the requirements of paragraph (9.2) will be required to re-enter the examinations as though for an initial attempt.

(11) Theoretical Knowledge Examination Credits

11.1 Details of NCAA Theoretical Examination Credits can be found in Table 2 of this Technical Standard.

11.2 Candidates who obtain credit or a pass for the ATPL subjects have 36 months to obtain an Instrument Flight Rating. The ATPL subjects will remain valid for a period of 60 months from the date of expiry of the last Instrument Flying Revalidation Check.

(12) Failure to obtain PPL/CPL/IR/ATPL/Flight Instructor Rating within 36-month period

12.1 If a PPL, CPL or IR are not issued within the time period specified in the NAMCARS from the date of passing the last PPL/CPL/IR or ATP examination as the case may be, then the PPL/CPL/IR and ATPL theory credits for Air Law and Principles of Flight in the case of a PPL or Airlaw and Operational Procedures in the case of CPL/IR and ATPL will lapse. Candidates will be required to re-take the airlaw and Principles of Flight knowledge examinations in order to regain PPL theory credits, Air Law and Operational Procedures CPL/IR knowledge examinations in order to regain CPL/IR or ATPL theory credits or Air Law in the case of VFR CPL. If the Flight Instructor Rating is not issued within 36 months of the date of the last Flight Instructor Rating examination, then the candidate will be required to re-take all the Flight Instructor Rating examinations.

12.2 In the event of the lapse of the credit referred to above, a student must be required to rewrite and pass the relevant subjects as stated above to renew their validity for 12 months in the case of a PPL and 36 months in the case of CPL/IR/ATPL.

(13) Credit of ATPL Examination

13.1 In some circumstances a candidate who has previously attempted some ATPL theoretical knowledge examinations may wish to consider attempting examinations at a lower level (i.e. CPL and/or IR). A candidate who has failed to obtain a pass in any subject at ATPL level will be required to enter for the CPL and/or IR examinations as though for an initial sitting.

13.2 A candidate who has previously completed an approved ATPL theoretical knowledge course may be credited with the CPL and/or IR theoretical knowledge course.

13.3 Candidates will be required to enter for these theoretical knowledge examinations A candidate who has passed at least one subject at ATPL level may be credited the equivalent subject at CPL and/or IR level as detailed below.

13.4 Candidates should note that where credit is given in accordance with Table 2, all sittings, attempts and time limits will be calculated from the initial attempt at the ATPL examinations.

Table 2: ATPL Examinations Credits i.r.o. of CPL and IR

ATPL	CPL/IR	IR	CPL (VFR)	PPL
				
Aviation Meteorology	Aviation Meteorology	Aviation Meteorology	Aviation Meteorology	Aviation Meteorology
Flight Performance and Planning	Flight Performance and Planning	Flight Performance and Planning	Flight Performance and Planning	Flight Performance and Planning
Radio Aids and Communication	Radio Aids and Communication	Radio Aids and Communication	Radio Aids and Communication	
General Navigation	General Navigation	General Navigation	General Navigation	General Navigation

Navigation (Plotting)				
Instruments and Electronics	Instruments and Electronics	Instruments and Electronics	Instruments and Electronics	
Aircraft (A or H) Technical and General	Aircraft (A or H) Technical and General		Aircraft (A or H) Technical and General	Aircraft (A or H) General
				Principles of Flight (A or H)
Human Performance and Limitations				Human Performance and Limitations
*Air Law and Operational Procedures			*Air Law	Air Law

- **Note 1:** A candidate who has decided to discontinue writing the ATPL examinations and who has a passed a subject at ATPL level will be credited with the subject at CPL/IR, IR or CPL (VFR). Should the candidate wish to upgrade his/her licence then all subjects will have to be rewritten at the correct level with the exception of Human Performance and Limitations and Air Law and Operational Procedures.
- **Note 2:** A candidate who has decided to discontinue writing the ATPL examinations and who has passed Human Performance and Limitations examination papers at CPL (VFR) level will be credited with the Human Performance and Limitations examination required at CPL/IR, IR or ATPL.
- **Note 3:** A candidate who has passed Air Law and Operational Procedures examination papers at ATPL level will be credited with the Air Law and Operational Procedures examination required at CPL/IR or IR.
- **Note 4:** The IR exams under Part 61 are only offered at the level of ATPL or CPL. A PPL requiring an instrument rating must write the examinations at CPL level. These examinations will act as a credit for the CPL (IR) examinations provided that the applicant successfully attains an instrument flying rating within 36 months of attaining a credit for the examinations. The credit for examinations remains valid for a period of 60 months from the date of the last successful IR revalidation check.
- **Note 5:** The credits for the CPL (IR) or IR examinations with the exception of Air Law/Operational Procedure and Human Performance are not applicable to the ATPL examinations.
- **Note 6:** The credits obtained for ATPL examinations are valid for the CPL (IR), CPL (VFR) and the IR examinations.

(14) Crediting of Theoretical Knowledge

14.1 Where an applicant holds the theoretical knowledge credits for an aeroplane licence and wishes to obtain an equivalent helicopter licence and *vice versa* then the following rules apply to the transfer of the credits held.

14.2 In order to satisfy the theoretical knowledge requirements for the ATPL (H), the holder of an ATPL (A), or CPL (A) with valid ATPL (A) theory credit, is required to complete approved bridge instruction for the subjects/topics detailed in Appendix 2,0 to NAM-CATS-FCL. In addition, a pass in the following ATPL (H) examinations must be obtained –

(a) Aircraft (H) Technical and General;

14.3 In order to satisfy the theoretical knowledge requirements for the CPL (A), the holder of an ATPL (H) or CPL (H) is required to complete approved instruction for the subjects/topics detailed in Appendix 2,0 to NAM-CATS-FCL. In addition, a pass in the following CPL (A) examinations must be obtained,

(a) Aircraft (A) Technical and General; and

14.4 In order to satisfy the theoretical knowledge requirements for the PPL (H), the holder of an ATPL (A), CPL (A) or PPL (A) is required to complete approved bridge instruction for the subjects/topics detailed in Appendix 1,0 to NAM-CATS FCL. In addition, a pass in the following PPL (H) examinations must be obtained –

(a) Aircraft (H) Technical and General;

(4) Principles of Flight (H);

(c) Air Law (H);

(d) Flight Performance and Planning (H).

14.5 In order to satisfy the theoretical knowledge requirements for the PPL (A), the holder of an ATPL (H), CPL (H) or PPL (H) is required to complete approved bridge instruction for the subjects/topics detailed in Appendix 1,0 to NAM-CATS FCL. In addition, a pass in the following PPL (A) examinations must be obtained –

(a) Aircraft (A) Technical and General;

(b) Principles of Flight (A);

(c) Air Law (A);

(d) Flight Performance and Planning (A).

14.6 Examination arrangements apply.

The Executive Director must publish dates, times and venues for the examinations in an AIC.

14.7 ATPL Papers

(a) Aviation Meteorology;

(b) Flight Performance and Planning;

(c) Radio Aids and Communication;

(d) General Navigation;

(e) Instruments and Electronics;

(f) Aircraft (A or H) Technical and General;

14.8 CPL/IR Papers

(a) Aviation Meteorology;

(b) Flight Performance and Planning;

(c) Radio Aids and Communication;

(d) General Navigation & Plotting

(e) Instruments and Electronics;

(f) Aircraft (A or H) Technical and General;

(g) Human Performance and Limitations;

(h) Air Law

(i) Operational Procedures.

14.7 IR Papers (For a candidate obtaining an IFR Rating after holding a VFR Licence, subject matter from the subjects below will be in the form of one examination)

(a) Aviation Meteorology;

(b) Flight Performance and Planning;

(c) Radio Aids and Communication;

(d) General Navigation & Plotting

(e) Instruments and Electronics;

(f) Human Performance and Limitations;

(g) Air Law

(i) Operational Procedures.

14.8 CPL (VFR) Papers

(a) Aviation Meteorology;

(b) Flight Performance and Planning;

(c) Radio Aids and Communication;

(d) General Navigation & Plotting

(e) Instruments and Electronics;

(f) Aircraft (A or H) Technical and General;

(g) Human Performance and Limitations;

(h) Air Law.

14.9 PPL Papers

(a) Aviation Meteorology;

(b) Flight Performance and Planning;

(c) General Navigation & Plotting

(d) Aircraft (A or H) General;

(e) Principles of Flight;

(f) Human Performance and Limitations;

(g) Air Law.

14.10 Flight Instructor Papers

(a) Applied Airlaw (Legislation), Navigation and Meteorology

(b) Principles of Flight and Principles of Instruction

14.11 Other Papers (not required for a licence in another category)

(a) Night Rating

(b) Restricted Radio Licence

(c) General Radio Licence

61.01.10 VALIDATION OF A FOREIGN PILOT LICENCES, RATINGS AND AUTHORIZATIONS

(1) Application for validation of foreign pilot licence and ratings

1.1. Application must be made on Form FSS PEL 61-04.

1.2. The PPL validation for VFR day operations may be issued by the Authority on confirmation of the validity of the licence. The PPL (VFR) validation will be endorsed with the following wording –

For private day VFR operations only, provided that – "The holder of this validation may only exercise the privileges of the licence if in compliance with CAR 61.01.10(5)(a)"

1.3. Prior to the privileges of the validation for the PPL (VFR) being exercised, ATO's are to ensure that the applicant first successfully completes;

(a) An appropriate Namibian Air Law examination at the Authority;

(b) A flight test at an approved ATO, with a Grade I or II flight instructor with examiner designation; and

(c) A Density Altitude Tutorial conducted by at least a Grade III instructor;

(d) Has the above three items endorsed in his logbook by the testing examiner;

(e) Forward proof to the Authority within 30 days of completion of the requirements (a), (b), (c) and (d) above for the validation to be issued.

1.4. The PPL validation for IFR operations may be issued by the Authority on confirmation of compliance with the requirements of CAR61.01.10 (6)(b). The applicant will be required to successfully complete the following:

(a) An appropriate Namibian Air Law examination at the Authority;

(b) An instrument rating flight test at an approved ATO, with a Grade I or II flight instructor with examiner designation; and

(c) A Density Altitude Tutorial conducted by at least a Grade III instructor.

(d) Has the above three items endorsed in his logbook by the testing examiner.

(e) Forward proof to the Authority within 30 days of completion of the requirements (a), (b), (c) and (d) above for the validation to be issued.

1.5. The CPL or ATP validation for commercial operations may be issued by the Authority on confirmation of compliance with the requirements of CAR61.01.10 (6)(c). The applicant will be required to successfully complete the following:

(a) An appropriate Namibian Air Law examination at the Authority.

(b) A commercial or airline transport pilot flight test or if required, an instrument rating flight test at an approved ATO, with a Designated Examiner; and

(c) A Density Altitude Tutorial conducted by at least a Grade III instructor.

(d) Has the above two items endorsed in his logbook by the testing instructors.

(e) Forward proof to the Authority within 30 days of completion of the requirements (a), (b), (c) and (d) above together with a work permit issued by the Department of Home Affairs in Namibia as well as a letter from an employer confirming that the applicant are in their employ, for the validation to be considered.

1.6. Instructor ratings will only be considered for validation under exceptional circumstances and if no suitably qualified Namibian instructors are available.

1.7. License holders will have 60 days to complete the validation process from the day they obtain a pass in the Airlaw examination.

61.01.11 CREDIT FOR MILITARY SERVICE

(1) Recognition Prior Learning and Experience by NAF pilots and navigators

Credit at ATPL level is only applicable to Pilot Instructor, Navigator Instructors applicants or Namibian Air Force Graduate Test Pilots of Authority recognised test pilot schools.

1.1. Namibian Air Force pilots and navigators are exempted from all or some of the requirement to attend a ground school for the different licences or ratings as the case may be but are required to write the examinations reflected below except where credit is given for prior learning.

(a) This exemption is applicable to all applicants who held an Air Force Pilot or Navigator qualification within the 60 months preceding the date of application; or

(b) For all applicants who held an Air Force Pilot or Navigator qualification and obtained and maintained a pilot's licence within 60 months of leaving the Namibian Air Force.

(c) Applicants are to include in their exemption request a *Curriculum Vitae* describing his/her Namibian Air Force Career and details of his/her flying experience. Include the following documents:

i. Letter from Officer Commanding the squadron or unit where the applicant has served/serving confirm employment or date that applicant left the Air Force and position held. This is necessary to confirm if the applicant complies with the 60 month requirement;

ii. Confirmation of hours flown, and types of aircraft flown in the NAF (Certified copy of logbook must be signed out by Officer Commanding, CFI or responsible person.) This requirement will determine if the applicant is eligible for an exemption;

iii. Certified copy of ID document/Authority licence;

iv. Certified copies of wings course and Instructor's course results or certificates or endorsements in the logbook reflecting the qualification. Certified copy of flying badge endorsement to confirm Air Force category (Pilot, Navigator, Instructor);

v. Proof of Instrument rating;

vi. Certified Copy of any Namibian Authority licence held;

vii. An explanation of the hours flown as summarised in the logbook. (This will assist in determining eligibility of the exemption)

140 hrs dual on JL8 (multi-engine turbine (A));400 hrs PIC on JL8 (multi-engine turbine (A));

3. 800 hrs Instruction;

25 hrs dual on Y12 (multi-engine turboprop (A));

250 hrs Co-pilot on Y12 (multi-engine turboprop (A));

(vi) 1300 hrs PIC onY12 (multi-engine turboprop (A));

(vii) etc., etc., etc.

(d) Exemption *at PPL level*. The applicant must in the case of:

i. A person who only has an aeroplane pilot qualification in the Namibian Air Force requiring to be issued with a Pilot Licence (Helicopter), write the technical examinations for Aircraft Technical and General (H) at PPL, CPL or ATPL level as applicable;

ii. A person who only has a helicopter pilot qualification in the Namibian Air Force requiring to be issued with a Pilot Licence (Aeroplane), write the technical examinations for Aircraft Technical and General (A) at PPL, CPL or ATPL level as applicable.

(e) *Exemption at PPL level*. The applicant, in the case of:

i. A person who has qualified as a pilot in the Namibian Air Force (Aeroplane) requiring to be issued with a Private Pilot Licence (Aeroplane), may be exempted from all technical examinations except Air Law or if an instrument rating is required as part of the licence, then Air Law and Operational Procedures;

ii. A person who has qualified as a pilot in the Namibian Air Force (Helicopter) requiring to be issued with a Private Pilot Licence (Helicopter), may be exempted from all technical examinations except Air Law or if an instrument rating is required as part of the licence, then Air Law and Operational Procedures:

(f) *Exemption at CPL level*. The applicant, in the case of:

i. A person who has qualified as a pilot or navigator in the Namibian Air Force (Aeroplane) requiring to be issued with a Commercial Pilot Licence (Aeroplane) and had a minimum of 500 hours operational experience on Namibian Air Force multi-engine transport/marine type aeroplanes, or Namibian Air Force multi-engine helicopters, may be exempted from all technical examinations except Air Law or if an instrument rating is required as part of the licence, then Air Law and Operational Procedures. The applicant must attend a bridging course with an approved Part 141 aviation training organisation prior to entry for the examination.

ii. A person who has qualified as a pilot or navigator in the Namibian Air Force (Aeroplane) requiring to be issued with a Commercial Pilot Licence (Aeroplane) and who does not have a minimum of operational experience on Namibian Air Force multi-engine transport/marine type aeroplanes, or Namibian Air Force multi-engine helicopters must attend a bridging course with an approved Part 141 aviation training organisation prior to entry for the examination and may be exempted from all technical examinations except Flight Performance and Planning and Air Law or if an instrument rating is required as part of the licence, then Air Law and Operational Procedures;

iii. A person who has qualified as a pilot or navigator in the Namibian Air Force (Helicopter) requiring to be issued with a Commercial Pilot Licence (Helicopter) and had a minimum of 500 hours operational experience on Namibian Air Force multi-engine transport/marine type aeroplanes, or Namibian Air Force multi-engine helicopters, may be exempted from all technical examinations except Air Law or if an instrument rating is required as part of the licence, then Air Law and Operational Procedures. The applicant must attend a bridging course with an approved Part 141 aviation training organisation prior to entry for the examination.

iv. A person who has qualified as a pilot or navigator in the Namibian Air Force (Helicopter) requiring to be issued with a Commercial Pilot Licence (Helicopter) and who does not have a minimum of 500 hours operational experience on Namibian Air Force multi-engine transport/marine type aeroplanes, or Namibian Air Force multi-engine helicopters must attend a bridging course with an approved Par 141 aviation training organisation prior to entry for the examination and may be exempted from all technical examinations except Flight Performance and Planning and Air Law or if an instrument rating is required as part of the licence, then Air Law and Operational Procedures;

(g) *Exemption at ATPL level*. The applicant, in the case of:

i. A person who has qualified as a pilot instructor or navigator instructor in the Namibian Air Force (Aeroplane) requiring to be issued with an Airline Transport Pilot Licence (Aeroplane) and had a minimum of 500 hours operational experience on Namibian Air Force multi-engine transport/marine type aeroplanes, or Namibian Air Force multi-engine helicopters, may be exempted from all technical examinations except Air Law and Operational Procedures. The pilot instructor must in addition write the technical examination General Navigation & Plotting.

ii. A person who has qualified as a pilot instructor or navigator instructor in the Namibian Air Force (Aeroplane) requiring to be issued with an Airline Transport Pilot Licence (Aeroplane) and who

does not have a minimum of 500 hours operational experience on Namibian Air Force multi-engine transport/marine type aeroplanes, or Namibian Air Force multi-engine helicopters must attend a bridging course with an approved Part 141 aviation training organisation prior to entry for the examination and may be exempted from all technical examinations except Flight Performance and Planning as well as Air Law and Operational Procedures. The pilot instructor must in addition write the technical examination General Navigation & Plotting.

iii. A person who has qualified as a pilot instructor or navigator instructor in the Namibian Air Force (Helicopter) requiring to be issued with an Airline Transport Pilot Licence (Helicopter) and had a minimum of 500 hours operational experience on Namibian Air Force multi-engine transport/marine type aeroplanes, or Namibian Air Force multi-engine helicopters, may be exempted from all technical examinations except Air Law or if an instrument rating is required as part of the licence, then Air Law and Operational Procedures. The pilot instructor must in addition write the technical examination General Navigation & Plotting.

iv. A person who has qualified as a pilot instructor or navigator instructor in the Namibian Air Force (Helicopter) requiring to be issued with an Airline Transport Pilot Licence (Helicopter) and who does not have a minimum of 500 hours operational experience on Namibian Air Force multi-engine transport/marine type aeroplanes, or Namibian Air Force multi-engine helicopters must attend a bridging course with an approved Part 141 aviation training organisation prior to entry for the examination and may be exempted from all technical examinations except Flight Performance and Planning and Air Law or if an instrument rating is required as part of the licence, then Air Law and Operational Procedures. The pilot instructor must in addition write the technical examination General Navigation & Plotting.

(h) Exemption for a Flight Instructor Rating. The holder of a valid Namibian Air Force flight instructor, navigator instructor or test pilot qualification on individual application and assessment:

i. Is exempted from all components of the written flight instructor examinations.

ii. Is exempted from all or some of the requirement to attend a ground school.

iii. Must in the case of a Namibian Air Force flight instructor undergo the ground evaluation test and the skills test for the issue of a Grade III Flight Instructor Rating as required by regulations 61.16.1 (d), (e) and 61.19.1 (d), (e).

iv. Must in the case of a Namibian Air Force flight instructor conduct at least 20 hours of flight instruction as a Grade III flight instructor before being eligible to upgrade to either a Grade II or I flight instructor.

v. Must in the case of a Namibian Air Force navigator instructor or test pilot graduate conduct at least 20 hours of patter before being eligible to undergo the ground evaluation test and the skills test for the issue of a Grade III Flight Instructor Rating as required by regulations 61.16.1 (d), (e) and 61.19.1 (d), (e).

vi. Must in the case of a Namibian Air Force flight instructor rating held in only one category of aircraft and an exemption from the flight instructor technical examinations is requested in a different category, then write the flight instructor examination for Principles of Flight in the new category.

vii. Air force pilots and navigators may only receive credits for their flight hours obtained on aircraft types used for carrying passengers or cargo.

61.01.12 CONVERSION OF FOREIGN PILOT LICENCES

(1) Application for a conversion of foreign pilot licence and ratings

(a) Application must be made on Forms FSS PEL 61-05 (Pre-approval application) and FSS PEL 61-06 (Application).

(b) Licence holders converting their foreign issued licence must complete the process within 180 days of obtaining a pass in the first theoretical subject.

61.01.14 LANGUAGE

(1) Certification

English Language Proficiency Certification is a requirement for all pilots licensed in terms of Part 61.01.14.

(2) English Language requirements

(a) In accordance with ICAO requirements (Chapter 1.2.9 of Annex 1) Pilots must demonstrate a minimum proficiency of at least Operational Level '4' of both ICAO Standard Phraseology and plain language.

(b) Pilots who have not been rated at Level 6 proficiency must be tested for English Language Proficiency at the intervals stated below to ensure that they remain proficient at the required level.

PROFICIENCY LEVEL	PROFICIENCY TESTING INTERVAL
Level 6: Expert	Retesting not required
Level 5: Extended	Retesting required every six years
Level 4: Operational (Minimum level)	Retesting required every three years
Level 3: Pre-operational	Licence not issued/maintained
Level 2: Elementary	Licence not issued/maintained
Level 1: Pre-elementary	Licence not issued/maintained

(c) Language Proficiency Requirement applies to speaking and listening proficiency only and does not address the ability to read or write in the English Language.

(3) Certificate of English Language Proficiency

(a) No person may be issued or re-issued with a licence referred to in Part 61 unless that person is in possession of a certificate of proficiency in the English Language issued by a Designated Language Examiner pursuant to these technical standards.

(b) A person who wishes to obtain the certificate of proficiency referred to in item (1) above must demonstrate compliance with -

i. the holistic descriptors described in Appendix 1.5.1; and

ii. at least operational level 4 of the language proficiency rating standard set out in the attached Appendix 1.5.1.

(4) Designated Language Examiners for the issue of English Language Proficiency Certificates

(a) General:

i. If the Executive Director is satisfied that any person is capable of providing testing in the English language to the level of proficiency which meets the ICAO requirements specified in ICAO document 9835 the Executive Director may designate that person as a Designated Language Examiner for the purpose of English Language proficiency testing.

ii. A Designated Language Examiner referred to in item (i) above is authorized to conduct approved tests in English language proficiency and to issue certificates of proficiency in the English language.

iii. A Designated Language Examiner must use the English Language Proficiency test designed for this purpose in accordance with the Designated Examiner Guidance PEL G001 and PEL DLE001.

iv. A Designated Language Examiner must be appointed for a period of three years.

v. Designation will be in the format of a letter of authorisation issued by the Executive Director.

(b) Requirements for designation:

i. A person may only be considered for designation as an English Language Examiner if

1. they are English proficient at level 6

2. have successfully completed an English Language Proficiency Rater's course, and

3. have successfully completed training on the Namibian English Language Proficiency Requirements and test material.

ii. Once the documentation has been submitted to support the completion of the abovementioned requirements, the Chief of Personnel Licensing will recommend designation to the Executive Director.

(c) An examiner must, upon appointment, receive a stamp from the Authority that reflects the following:

a. Name of examiner

b. Designation reference number.

(d) Requirements for re-designation:

i. A designated examiner may be considered for re-designation as an English Language Examiner if

1. He/she has at least completed 12 English Proficiency tests per year, or
2. He/she has completed at least two standardization workshops, or
3. He/she has completed a refresher English Proficiency Rater's course.

ii. Once documentation has been submitted to support the completion of the abovementioned requirements, the Chief of Personnel Licensing will recommend designation to the Executive Director.

(e) Examiner nomination/application

i. Air operators and ATOs will be requested to nominate candidates to be considered for designation as examiners for ELP testing, although any person may apply with the NCAA to be considered.

ii. The fee for designation as an examiner is prescribed in Part 187.

(f) Examiner duties:

Designated Language examiners are required to:

i. ensure that the original form and audio recording for each test conducted, whether such test was successful or not, is submitted to the Executive Director;

ii. record each test carried out with suitable notes explaining the outcome of the test;

iii. submit an annual report of tests conducted within 60 days preceding the anniversary date of the designation or within 60 days preceding expiry of the designation;

iv. have access to the current CAR, CATS and the current DLE Guidance Material including applicable test standards and test material;

v. administer all language tests in accordance with the test standards and material;

vi. sign and stamp all test forms, clearly indicating the DLE reference number and date of the test; and

vii. comply with the code of Ethics for designated examiners.

(g) Examiner oversight:

i. The designation of examiner status is a privilege and may at any time be withdrawn by the Executive Director.

ii. The Personnel Licensing inspectors must from time to time conduct safety oversight on Designated Language Examiners.

Note: Additional guidance material for English Language training is available in the Manual on Implementation of ICAO Language Proficiency Requirements Document 9835.

(5) Issue of English Language Proficiency certificate

(a) Any person who wishes to obtain a certificate of proficiency referred to in item 3 above must apply using application form FSS-PEL G20.

(b) The person must be contacted by the Personnel Licensing Office to confirm the logistical details of his/her test, as well as provide information about documents to be provided at the commencement of the test.

(c) The Designated Language Proficiency Examiner/s must conduct an approved language proficiency test and if satisfied that the applicant meets the requirements for the issue of a certificate, issue such certificate to the applicant at operational level 4, level 5 or level 6 of the language proficiency rating standard set out in Appendix 1.5.1. (see table below)

PROFICIENCY LEVEL	PROFICIENCY TESTING INTERVAL
Level 6: Expert	Retesting not required
Level 5: Extended	Retesting required every six years
Level 4: Operational (Minimum level)	Retesting required every three years
Level 3: Pre-operational	Licence not issued/maintained
Level 2: Elementary	Licence not issued/maintained
Level 1: Pre-elementary	Licence not issued/maintained

(d) A person who is issued with a certificate of proficiency which is below Expert Level 6 must be re-evaluated at the intervals set out in 2(2) above.

(e) A person who does not meet the ICAO level 4 proficiency requirement will be required to undergo English Language training and must wait for a period of 90 days before being re-tested.

(f) The certificate issued must contain the following –

iii. Name of the Certificate, i.e. English Language Proficiency Certificate;

iv. Name of Designated Language Examiner;

v. Full Names of the person tested;

vi. Identity Number/Passport Number of the person tested;

vii. Licence number of the person tested;

viii. Licence type of the person tested;

ix. Colour ID photograph of the person tested; and

x. The overall Language Proficiency Rating.

(6) Endorsement on Licence

Upon submission by any licence holder of a certificate of language proficiency issued in terms of 5(2) above the Executive Director must endorse on the pilot licence of the certificate holder with the appropriate level of proficiency indicated on the certificate.

(7) Alternative Language Proficiency Certification

(a) For the purposes of paragraph 6. above, the Executive Director may accept a certificate of language proficiency issued by a competent authority of another Contracting State if the Executive Director is satisfied that the standards in that state meets the requirements set out in Chapter 1.2.9 of Annex 1 to the Convention.

(b) All persons submitting evidence for alternative language certification must be evaluated by the Executive Director and/or a delegated Personnel Licensing Inspector and must complete an interview.

(c) The English Language Proficiency testing system of the country of issue of the certificate must be verified by the Executive Director, before the Language Certificate may be accepted.

61.01.15 LOGGING OF FLIGHT TIME

1. Pilot-in-command-under-supervision (PICUS) functions

(a) The functions that the pilot-in-command-under-supervision are required to carry out, without intervention by the supervising designated pilot-in-command include, but are not limited to –

i. Checking the accuracy of the proposed flight plan and the load sheet for the flight, including the computation of fuel;

ii. Ensuring that all checks are carried out in accordance with the check system established by the operator;

iii. Ensuring in any emergency that the procedures contained in the operations manual or other relevant documents have been complied with by each crew member;

iv. Carrying out all the duties and functions of a pilot-in-command;

v. Taking all decisions relating to the use of any flight and ground systems required in the case of operations conducted by automatic means;

vi. Ensuring that all problems occasioned by meteorological conditions, communications and air traffic control procedures are resolved; and

vii. The operator must have an approved scheme in terms of which the pilot-in-command under supervision training is conducted.

(b) The supervising designated pilot-in-command must certify an appropriate entry in the pilot-in-command under supervision's logbook.

2. Crediting flight time by designated flight examiner

A designated flight examiner may be credited for flight time as indicated in Document NAM-CATS-FCL.33.

61.01.18 CHANGE OF NAME OR ADDRESS

The notification of change of Name or Address must be made on form FSS PEL-G01.

61.01.19 DUPLICATE PILOT LICENCE OR RATING

The application for a duplicate licence must be made on form FSS PEL G02

61.01.20 CREDITING OF FLIGHT TIME AND THEORETICAL KNOWLEDGE

The crediting of flight time for military service are set out in the Regulation and technical standard 61.01.11.

61.01.21 DESIGNATION OF PILOTS FOR PUROSES OF TRAINING AND TESTS

The Executive Director may designate any pilot to conduct training and tests under the following conditions:

(1) When a new aircraft type is registered in Namibia, irrespective of whether it falls within a class rating or if it requires a type rating, and no instructors are available to provide training to any prospective class/type rating holder, the Executive Director may designate a pilot to provide training to the prospective type holder, when –

(a) In the case of a type falling into a class rating, the pilot has the type endorsed in his logbook and he has at least 10 hours experience on type, or

(b) In the case of a type rating, the pilot holds the type rating and has at least 20 hours experience on type or

(c) In case of a foreign pilot, the pilot has a valid licence and ratings and has sufficient experience on type.

(2) When a new aircraft is registered in Namibia, as referred to in number 1 above, the Executive Director may designate a pilot to conduct the skills test on this type, when –

(a) The pilot is a designated examiner and has experience on the specific type of aircraft or on similar types or on aircraft types with similar handling characteristics.

(b) In case of a foreign pilot, he is designated in terms of NAMCATS 61.32.

61.01.25 TRAINING FOR ISSUING OF LICENCE, RATING OR VALIDATION

1. General

1.1. All flying training must be conducted in accordance with the requirements laid down for a licence and rating as stipulated in the various Subparts.

1.2. The written approval by the Executive Director to conduct flying training must be kept by the person conducting the training and produced on demand to any authorised officer or inspector.

Flying instruction

1.3. Flight instruction and authorisation to a student for solo flying must be such as to ensure that an aircraft piloted by a student does not constitute a hazard to air navigation or endanger the safety of life or property.

Flight instruction syllabus

1.4. Flying training must be conducted in accordance with the flight instruction syllabus prescribed in the Subparts applicable to the licence or rating sought.

Local rules

1.5. A flying training organisation must prepare and keep accessible to all students a copy of its local rules, which must be submitted to the Executive Director for approval.

1.6. In conjunction with the rules referred to in sub-regulation (8) there must be displayed a map clearly showing –

(a) the general flying area;

(b) the low-flying area;

(c) the simulated instrument flying area (if applicable); and

(d) the acrobatic and spinning area.

Experience requirement for the appointment of a chief flying instructor

1.7. A chief flying instructor must be the holder of at least a Grade II flight instructor rating and must satisfy the Executive Director that he/she has –

(a) flown at least 1000 hours total flying time; and

(b) given not less than 500 hours of flight instruction of which at least 200 hours must be *ab initio* training.

Responsibilities of chief flying instructors

1.8. A chief flying instructor is responsible for –

(a) ensuring that each dual and solo training flight is authorised by the holder of an appropriate and valid flight instructor rating or a person appointed by the Chief Flying Instructor for the specific flight or sequence required by these regulations;

(b) ensuring that all authorisations are properly entered in the appropriate flight authorisation book;

(c) ensuring that the flight authorisation book is correctly completed before each dual and solo flight. Such authorisation book must at least show the following entries –

i. Date of the flight;

ii. (ii) Aircraft type and registration;

iii. (iii) Name and licence number of pilot in command;

iv. (iv) Name and licence number of student pilot;

v. (v) Estimated elapse time;

vi. (vi) Actual time of take-off;

vii. (vii) Actual time of landing;

viii. (viii) Actual flying time;

ix. (viii) Description of exercise/route;

x. (viii) Name and full signature of the authorising person;

xi. (ix) Full signature of the student before the flight (OUT); andFull signature of the student after the flight (IN).

(d) ensuring that each solo training flight is personally supervised by the holder of an appropriate and valid flight instructor rating or a person appointed by the Chief Flying Instructor;

(e) the maintenance of flying discipline;

(f) ensuring that student pilots receive the following dual flight instruction –

i. a dual flight check prior to each solo flight during his first 3 hours of solo flight. Such dual flight check must be conducted in accordance with subparagraph (9); and

ii. subsequently a minimum of 1 hour dual instruction for every 5 hours' flight time until a private pilot's licence is obtained;

(g) ensuring that a dual competency check is conducted before the student pilot is permitted to undertake his first solo flight;

(h) ensuring that before a student pilot is authorised to conduct his first solo flight (exercise 14), the instructor who conducted the solo competency check flight has endorsed the student's logbook in accordance with NAM-CATS-FCL 61;

(i) ensuring that before a student pilot is authorised to leave the circuit area on a solo flight to the general flying area or on a solo navigation flight, a flight instructor has endorsed the student's logbook in accordance with NAM-CATS-FCL 61;

(j) the correct maintenance of pilot's logbooks by pupils and student pilots who are under training at the organisation;

(k) ensuring that the aircraft is equipped in accordance with NAMCAR Part 91;

(l) ensuring that the standard of ground instruction given must comply with the standards required for the licence to be obtained;

(m) ensuring that a training record of each student or pilot trained is properly maintained. This record is the property of the student and must accompany him or her as a portfolio of evidence. The training organisation is required to make a copy of the training record and is to keep such record in a safe place for a minimum of 60 months. However, the full training file and logbook of a student or pilot trained must be kept in a secure area on the premises of the training organisation during the entire training period. The training record must include:

i. the full details of the student or pilot trained;

ii. the name and licence number of the flight instructor concerned with the training;

iii. a training progress report for each individual training session which must include:

– the name of the student or trained pilot;

– the name of the instructor conducting the training session;

- the description of the exercise/route;
- detailed de-brief comments related to each training session;
- records of the dual flying hours;
- records of the solo hours conducted in the circuit and general flying area;
- record of the solo hours conducted during navigation flights; and
- a summary of the hours flown solo and dual;

iv. a record of all the theoretical examinations;

v. a record of all the briefings and courses attended pertaining to the licence sought;

vi. certificates of competency;

vii. all reports of passed and failed theoretical examinations;

viii. an exercise checklist;

ix. whether the training was successfully completed and the duration of the training period;

(n) ensuring that no student pilot will conduct a flight below a height of less than 500 feet unless accompanied by a holder of an appropriate and valid flight instructor rating.

1.9. Dual progress check flights

(a) ensuring that a dual progress check flight is conducted at the latest after a student completed his/her first 15 hours dual flight instruction and after each completion of 10 hours flight time thereafter.

(b) the dual progress check flight must be conducted by the chief flying instructor or by an appointed Grade II or Grade I instructor.

(c) Each dual progress check flight must be endorsed by the checking instructor in the logbook of the student in accordance with NAM-CATS-FCL 61.

61.01.27 ENDORSEMENTS AND RECORD KEEPING

The logbook format is contained in Appendix A.

61.02.1 REQUIREMENTS FOR STUDENT PILOT LICENCE

1. Training , Theoretical Knowledge Course and Examination

1.1. The training and theoretical knowledge course and pre-solo theoretical examination must cover the following aspects:

(a) Air Law, as appropriate to student pilots; and

(b) Aircraft Knowledge, covering the aircraft make and model used for training.

1.2. The written theoretical knowledge examinations must be conducted at an approved Aviation Training Organisation.

(a) The examination must be conducted and corrected by the holder of an appropriately rated Grade I or Grade II flight instructor, Aeroplane or Helicopter, respectively;

(b) The flight instructor referred to in paragraph (2.1) may not be the flight instructor from whom the applicant received his or her theoretical training.

3. The Communications Syllabus can be found in Appendix 1.5 to Document NAM-CATS-FCL.

61.02.2 APPLICATION FOR STUDENT PILOT LICENCE

(1) Application

The application for Student Pilot Licence must be made on Form FSS PEL 61-01.

61.02.6 PRIVILEGES AND LIMITATIONS OF STUDENT PILOT LICENCE

NOTE: ENTRY TO TRAINING

Before being accepted for training an applicant should be informed that the appropriate medical certificate must be obtained before solo flying is permitted.

(1) Requirements for, authorisation and supervision of solo training flights

1.1. A student cannot be released for the first solo flight unless he/she:

(a) has undergone a minimum of 10 hours of dual flight training;

(b) is holder of a student pilot licence;

(c) proves to possess adequate knowledge of the basic principles of flight;

(d) has undergone training in exercises 1 through 13;

(e) has shown proficiency in handling the aircraft in the event of an engine failure during initial climb-out and from downwind position;

(f) has shown proficiency in recovery from a balloon during landing and a bounced landing; and

(g) has shown proficiency in executing a go-around manoeuvre from a full flaps configuration.

1.2. Each solo training flight must be authorised by the Chief Flying Instructor (CFI) or by the holder of a valid flight instructor rating appointed by the CFI for the specific flight or sequence required by these regulations.

1.3. Each solo training flight authorisation must be properly entered in the appropriate flight authorisation book in compliance with the proper format represented in Part 141 of the Regulations.

1.4. Each solo training flight must be personally supervised by the holder of a valid flight instructor rating or a person appointed by the Chief Flying Instructor.

(2) Dual competency check flight, dual check flight and dual progress check flight

3.1 A dual competency check flight must be conducted before the student pilot is permitted to undertake his first solo flight

2.2. The dual competency first solo check flight must be conducted by the Chief Flying Instructor (CFI) or a Grade II or Grade I instructor appointed by the CFI.

2.3. Before a student pilot is authorised to conduct his first solo flight (exercise 14), the instructor who conducted the dual competency check flight must endorse the student's logbook in accordance with NAM-CATS-FCL 61.

2.4. The dual competency first solo check flight must include but is not limited to –

(a) at least 3 take-offs and landings

(b) one glide approach to a landing

(c) one simulated engine failure during initial climb out

(d) one go-around from a full flaps configuration.

2.5. A dual check flight must be conducted by a suitably rated instructor prior to each solo flight during the first 3 hours of the student's solo flight time –

(a) subsequently a minimum of 1 hour dual instruction must be conducted for every 5 hours solo flight time until a private pilot's licence is obtained.

2.6. Before a student pilot is authorised to leave the circuit area on a solo flight to the general flying area or on a solo navigation flight, a flight instructor must endorse the student's logbook in accordance with NAM-CATS-FCL 61.

2.7. A dual progress check flight must be conducted at the latest after a student completed his/her first 10 hours dual flight instruction and after each completion of 10 hours flight time thereafter.

(a) the dual progress check flight must be conducted by the Chief Flying Instructor (CFI) or by a Grade II or Grade I instructor appointed by the CFI.

(b) each dual progress check flight must be endorsed by the checking instructor in the logbook of the student in accordance with NAM-CATS-FCL 61.

(3)Solo flights in the General Training Area and solo navigation flights

3.1. The student must adhere to the authorised exercises while conducting solo flights in the general training area.

3.2. The student must adhere to the authorised route while conducting his/her solo navigation flight.

3.3. The solo navigation flight must –

(a) include full-stop landings at two aerodromes away from base;

(b) have a total distance of not less than 150 nautical miles with a radius not exceeding 100 nautical miles from the base, along any sector of the flight.

3.4. Except for the purpose of conducting the exercise 17b (precautionary landing), no flight below 500 feet above ground level (AGL) may be conducted unless an instructor is on board the aircraft.

61.02.7 DISCONTINUING OF FLIGHT TRAINING

(1) A student pilot who fails to be recommended for solo flight after completing 30 (A) hours or 40 (H) hours of dual flight training, shall undergo a flight assessment by the CFI of the ATO where he or she is receiving flight training.

(2) If the CFI cannot recommend solo flight for the student, then the following shall apply:

2.1 The student pilot shall be informed in writing that a potential safety risk has been identified and that CAR 61.02.7 may be brought into effect. The student shall acknowledge receipt of the letter in writing.

2.2 A training program of up to 5 hours dual flight instruction shall be designed and implemented to address the knowledge, skills and attitude of the student pilot.

2.3 Once the additional 5 hours of dual flight instruction are flown (35 (A) or 45 (H)), a recommendation must be made by the responsible flight instructor for solo flight. If a recommendation cannot be made, then the student must be referred for assessment by a DFE appointed for this purpose by the Director.

(3) If a student pilot fails to be recommended for solo flight after completing 35 hours (A) or 45 hours (H) of dual flight training, the following shall apply:

3.1 The student pilot shall be given a second and final warning in writing that a further potential safety risk has been identified and that NAMCAR 61.02.7 may be brought into effect. The student shall acknowledge receipt of the letter in writing.

3.2 A further training program of up to 5 hours dual flight instruction shall be designed and implemented to address the knowledge, skills and attitude of the student pilot.

3.3 Once the additional 5 hours of dual flight instruction are flown (40 (A) or 50 (H)), a recommendation must be made by the responsible flight instructor for solo flight. If a recommendation cannot be made, then the student must be referred for assessment by yet another DFE appointed for this purpose by the Director and being different from the previous DFEs who conducted check flights at 25 and 35 hrs (A) or 30 and 40 hrs (H).

(4) A student pilot who fails to receive a recommendation for solo flight after 40 hours (A) or 50 hours (H) of dual flight training shall undergo a final flight assessment by a DFE appointed for this purpose by the Director and if the DFE cannot recommend solo flight for the student, then the following shall apply:

4.1 The student pilot shall be informed in writing that all further flight training is suspended whilst awaiting the decision of the Director in terms of NAMCAR 61.02.7. The student shall acknowledge receipt of the letter in writing.

4.2 The CFI shall inform the Director that the student's flight training has been temporarily suspended.

4.3 The CFI shall compile a report for the Director containing copies of—

(a) the training instructors' and DFEs' reports given when the student pilot failed to be recommended for a solo flight;

(b) the student pilot's letters of acknowledgement of receipt of letters of failure to be recommended for solo flight and suspension of flight training; and

(5) a summarized progress report.A student pilot who fails to make satisfactory progress after having flown solo following a successful check flight in terms of NAMCATS 61.02.5 paragraphs 2 and 3, shall undergo a flight assessment by the CFI of the ATO where he or she is receiving flight training. If the CFI cannot recommend solo flight for the student pilot, the following shall apply:

5.1 the student pilot shall be informed in writing that a potential safety risk has been identified and that CAR 61.02.7 may be brought into effect.

5.2 A training program of not more than 3 hours dual flight instruction shall be designed and implemented to address the knowledge, skills and attitude of the student.

5.3 Following the remedial training referred in 5.2 above, if a recommendation cannot be made for the student to continue flight training, the student must be referred for assessment by a DFE appointed for this purpose by the Director.

5.4 If the DFE cannot recommend continuation of flight training for the student pilot, then the following shall apply:

(a) The student pilot shall be informed in writing that a potential safety risk has been identified and that NAMCAR 61.02.7 may be brought into effect.

(b) A training program of not more than 3 hours dual flight instruction shall be designed and implemented to address the knowledge, skills and attitude of the student pilot.

(c) If a recommendation can still not be made by the instructor after 3 hours of remedial training, the student must be referred for assessment by a DFE appointed for this purpose by the Director.

5.5 If the DFE still fails to recommend the student pilot for continuation of training after the remedial training given in 5.4. (c) the following shall apply:

(a) The student pilot shall be informed in writing that a potential safety risk has been identified and that all further flight training is suspended whilst awaiting the decision of the Director in terms of CAR 61.02.7. The student shall acknowledge receipt of the letter in writing.

(b) The CFI shall inform the Director that flight training has been temporarily suspended.

(c) The CFI shall compile a report for the Director containing copies of—

i. The training instructors' and DFEs' reports given when the student pilot failed to be recommended for continuation of training;

ii. The student pilot's letters of acknowledgement of receipt of letters of failure to be recommended for continuation of flight training and suspension of flight training; and

iii. A summarized progress report.

iv. The Director shall suspend the student pilot in terms of NAMCAR 61.02.7

61.03.1 REQUIREMENTS FOR PRIVATE PILOT LICENCE (AEROPLANE)

(1) Training

1.1 Aim of training course

The aim of the course is to train a candidate to the level of proficiency required for the issue of a private pilot licence (Aeroplane), and provide the training necessary to act, but not for remuneration, as pilot-in-command or as co-pilot of any aeroplane for which he or she holds a valid class or type rating, engaged in non-revenue flights under visual flight rules.

(2) Contents and requirements of training course

2.1 The applicant must complete a training course with an aviation training organisation approved by the Executive Director in terms of Part 141. However, the theoretical knowledge course and the practical training course may be completed at different aviation training organisations.

2.2 The course comprises –

(a) theoretical knowledge course; and

(b) practical training course.

(3) Theoretical knowledge course syllabus

3.1 The detailed theoretical knowledge syllabus is contained in Appendix 1.0 to Document NAM-CATS-FCL.

3.2 The practical training syllabus is contained in Appendix 1.1 to Document NAM-CATS-FCL.

(4) Radio Telephony

4.1 To be eligible for the RTC a candidate must prove his knowledge of the ITU (International Telecommunications Union), and Authority requirements in both written and oral tests. The requirements are –

(a) ITU: Knowledge of radiotelephony operation and procedures, ability to transmit and receive messages by radio and knowledge of the radio communication regulations (e.g. use of different appropriate frequencies, interference, etc.) and especially those relating to the safety of human life.

(b) Communications Regulating Authority of Namibia: Proficiency in operating a radio installation including changing frequency, transmitting and receiving messages using the prescribed procedures, identification of Morse code beacons and clearing minor external faults.

(c) The Authority: requirements are based on documents issued by the International Civil Aviation Organisation (ICAO) dealing with procedures, abbreviations and flight planning, the various aeronautical information circulars (AIC) in force, the Namibian Aeronautical Information Publication (AIP), Civil Aviation Regulations (CAR) and Civil Aviation Technical Standards (CATS) and also other relevant regulations or rules in force.

(d) Applicants for a Restricted Radio Certificate must pass a theoretical Restricted Radio Examination at an approved CAA examination centre. The training syllabus for a Restricted Radio Certificate is contained in Appendix 1.5 to Document NAM-CATS-FCL

4.2. Applicants for a Restricted Radio Certificate must in addition to the theoretical knowledge examination pass a practical communication test including the identification of radio beacons using morse code conducted by a Designated Radio Examiner. The practical test must include the full completion of an ATC Flight Plan and examine at minimum the following aspects:

(a) Use of Radio on the Ground.

(i) Obtaining and complying with taxi instructions.

(ii) Knowing what to expect from the Air Traffic Control (ATC).

(iii) The importance of reading back all "hold short of instructions".

(iv) The avoidance of runway incursions.

(v) Meaning of "give way to other aircraft".

(vi) Obtaining and complying with take-off instructions.

(vii) Importance of understanding "line up behind".

(viii) Importance of reading back the take-off clearance.

(ix) Importance of reading back any other required instructions.

(x) Radio procedures at unmanned/uncontrolled aerodromes.

(b) Departure procedures.

(i) Knowing what to expect in respect of departure procedures.

(ii) Required calls to be made on leaving the aerodrome circuit area.

(c) *En route* procedures.

(i) Knowing what call should be made to which station and when according to the airspace requirements.

(ii) Knowing the required in-flight broadcast procedure applicable to uncontrolled airspace.

(iii) Making a position report.

(iv) Obtaining relevant weather information, use of ATIS.

(v) Making appropriate weather reports (PIREPS).

(vi) Knowing the difference between positively controlled airspace as opposed to a Flight Information Service (FIS).

(vii) Transponder use.

(viii) Procedure to obtain bearings, headings and position from air traffic control/FIS Altimeter setting procedures.

(ix) Relaying messages for other stations.

(d) Arrival and traffic pattern procedures.

(i) Knowing what to expect.

(ii) Arrival clearance/instructions.

(iii) Calls and ATC instructions whilst joining the traffic pattern.

(iv) Calls to be made in the circuit.

(v) Calls to be made on vacating the runway.

4.3. Applicants for a Restricted Radio Certificate must attach a certificate of competency from the Communications Regulating Authority of Namibia when applying for a private pilot licence

(5) Theoretical Knowledge Examination

5.1 The knowledge acquired must be sufficient for the candidate to pass examinations in the following theoretical knowledge subjects –

(a) Aviation Meteorology (duration: 60 min);

(b) Flight Performance and Planning (duration: 90 min);

(c) General Navigation (duration: 90 min);

(d) Aircraft General (duration: 45 min);

(e) Principles of Flight (duration: 45 min);

(f) Human Performance and Limitations (duration: 45 min);

(g) Air Law (duration: 60min).

(6) Practical Flight Test Standard

The Practical Flight Test Standard is found in Appendix 1.2 to Document NAM-CATS-FCL.

61.03.2 APPLICATION FOR, AND ISSUE OF A PRIVATE PILOT LICENCE (AEROPLANE)

1. The application for a private pilot licence (Aeroplane) must be made on Form FSS PEL 61-02.
2. The logbook summary must be completed in the format indicated at the next page and submitted together with the application form.
3. The skills test report form to be used is form FSS PEL 61-30.
4. Logbook Summary

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
A/C Class or Type	Instrument			Instructor		FSTD	Single Engine Day			
	Actual Time	FSTD Time	SE	ME	FSTD		Dual	PIC	PICUS	Co-Pilot
PA 160							4.3	4.3		
C 172	3.0						15.2	12.9		
FNPT 1		3.8					18.0	4.3		

	3.0	3.8					37.5	21.5		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)

(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
Single Engine Night				Multi Engine Day				Multi Engine Day			
Dual	PIC	PICUS	Co-Pilot	Dual	PIC	PICUS	Co-pilot	Dual	PIC	PICUS	Co-pilot
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
Total Flight Time			59.0		Hours						

61.03.4 SKILLS TEST

1. The Skills Test must be conducted in accordance with Appendix 1.2 to NAM-CATS-FCL Guidance to the Instructor or Designated Flight Examiner is provided on page 2 of the skills test form, Form FSS PEL 61-30, in respect of retesting. The skills test Form FSS PEL 61-30, completed by the Instructor or Designated Flight Examiner, must accompany the application form.
2. The navigation element of the skills test administered for the issuing of a private pilot licence may be conducted as a separate flight within a maximum period of 14 days.
3. The cross-country navigation flight of the skills test must not be less than 200 nautical miles total distance and must include take-offs and landings at two aerodromes away from base. At least one of the aerodromes from which the aircraft takes off for this flight must be an aerodrome at which an Air Traffic Services Unit (ATSU) is in operation.

61.04.1 REQUIREMENTS FOR PRIVATE PILOT LICENCE (HELICOPTER)

(1)Training

1.1. Aim of training course

The aim of the course is to train a candidate to the level of proficiency required for the issue of a private pilot licence (Helicopter), and provide the training necessary to act, but not for remuneration, as pilot-in-command or as co-pilot of any helicopter for which he or she holds a valid class or type rating, engaged in non-revenue flights under visual flight rules.

(2) Contents and requirements of training course

2.1 The applicant must complete a training course with an aviation training organisation approved by the Executive Director in terms of Part 141. However, the theoretical knowledge course and the practical training course may be completed at different aviation training organisations.

2.2 The course comprises –

(a) theoretical knowledge course; and

(b) practical training course.

(3) Theoretical knowledge course syllabus

The detailed theoretical knowledge syllabus is contained in Appendix 1.0 to Document NAM-CATS-FCL.

(4) Radio Telephony

4.1 To be eligible for the RTC a candidate must prove his knowledge of the ITU (International Telecommunications Union), and Authority requirements in both written and oral tests. The requirements are:

(a) ITU: Knowledge of radiotelephony operation and procedures, ability to transmit and receive messages by radio and knowledge of the radio communication regulations (e.g. use of different appropriate frequencies, interference, etc. and especially those relating to the safety of human life.

(b) Communications Regulating Authority of Namibia: Proficiency in operating a radio installation including changing frequency, transmitting and receiving messages using the prescribed procedures, identification of Morse code beacons and clearing minor external faults.

(c) The Authority: requirements are based on documents issued by the International Civil Aviation Organisation (ICAO) dealing with procedures, abbreviations and flight planning, the various aeronautical information circulars (AIC) in force, the Namibian Aeronautical Information Publication (AIP), Civil Aviation Regulations (CAR) and Civil Aviation Technical Standards (CATS) and also other relevant regulations or rules in force.

(d) Applicants for a Restricted Radio Certificate must pass a theoretical Restricted Radio Examination at an approved Authority examination centre. The training syllabus for a Restricted Radio Certificate is contained in Appendix 1.5 to Document NAM-CATS-FCL.

4.2. Applicants for a Restricted Radio Certificate must in addition to the theoretical knowledge examination pass a practical communication test including the identification of radio beacons using morse code conducted by a Designated Radio Examiner. The practical test must include the full completion of an ATC Flight Plan and examine at minimum the following aspects:

a. Use of Radio on the Ground.

i. Obtaining and complying with taxi instructions.

ii. Knowing what to expect from the Air Traffic Control (ATC).

iii. The importance of reading back all “hold short of instructions”.

iv. The avoidance of runway incursions.

v. Meaning of “give way to other aircraft”.

vi. Obtaining and complying with take-off instructions.

vii. Importance of understanding “line up behind”.

viii. Importance of reading back the take-off clearance.

ix. Importance of reading back any other required instructions.

x. Radio procedures at unmanned/uncontrolled aerodromes.

b. Departure procedures.

i. Knowing what to expect in respect of departure procedures.

ii. Required calls to be made on leaving the aerodrome circuit area.

c. En route procedures.

i. Knowing what call should be made to which station and when according to the airspace requirements.

ii. Knowing the required in-flight broadcast procedure applicable to uncontrolled airspace.

iii. Making a position report.

iv. Obtaining relevant weather information, use of ATIS.

v. Making appropriate weather reports (PIREPS).

vi. Knowing the difference between positively controlled airspace as opposed to a Flight Information Service (FIS).

vii. Transponder use.

viii. Procedure to obtain bearings, headings and position from air traffic control/FIS Altimeter setting procedures.

ix. Relaying messages for other stations.

d. Arrival and traffic pattern procedures.

i. Knowing what to expect.

ii. Arrival clearance/instructions.

iii. Calls and ATC instructions whilst joining the traffic pattern.

iv. Calls to be made in the circuit.

v. Calls to be made on vacating the runway.

4.3. Applicants for a Restricted Radio Certificate must attach a certificate of competency (Form CA 61.03.2a) signed by a Designated Radio Examiner when applying for a private pilot licence.

(5)Theoretical Knowledge Examination

5.1 The knowledge acquired must be sufficient for the candidate to pass examinations in the following theoretical knowledge subjects –

(a) Aviation Meteorology (duration: 60 min);

(b) Flight Performance and Planning (duration: 90 min);

(c) General Navigation (duration: 90 min);

(d) Aircraft General (duration: 45 min);

(e) Principles of Flight (duration: 45 min);

(f) Human Performance and Limitations (duration: 45 min);

(g) Air Law (duration: 60min).

(6) Practical Flight Test Standard

The Practical Flight Test Standard is found in Appendix 1.2 to Document NAM-CATS-FCL

61.04.2 APPLICATION FOR AND ISSUE OF A PRIVATE PILOT LICENCE (HELICOPTER)

1. The application for a Private Pilot Licence (Helicopter) must be made on Form FSS PEL 61-02.
2. The logbook summary must be completed in the format indicated at the next page and submitted together with the application form.
3. The licence will be issued in the format as prescribed in Appendix B to Document NAM-CATS-FCL.

Logbook Summary

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
A/C Class or Type	Instrument			Instructor		FSTD	Single Engine Day			
	Actual Time	FSTD Time	SE	ME	FSTD		Dual	PIC	PICUS	Co-Pilot
R22							4.3	4.3		
R44	3.0						15.2	12.9		
FNPT 1		3.8					18.0	4.3		

	3.0	3.8					37.5	21.5		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)

(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
Single Engine Night				Multi Engine Day				Multi Engine Day			
Dual	PIC	PICUS	Co-Pilot	Dual	PIC	PICUS	Co-pilot	Dual	PIC	PICUS	Co-pilot
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
Total Flight Time			59.0		Hours						

61.04.4 SKILLS TEST

The Skills Test must be conducted in accordance with Appendix 1.4 to NAM-CATS-FCL Guidance to Designated Flight Examiner is provided on page 2 of the skills test form, Form FSS PEL 61-31, in respect of retesting. The skills test Form FSS PEL 61-31, completed by the Designated Flight Examiner, must accompany the application form.

61.05.1 REQUIREMENTS FOR COMMERCIAL PILOT LICENCE (AEROPLANE)

(1) Training

1.1 *Aim of training course*

The aim of the course is to train a candidate to the level of proficiency required for the issue of a Commercial Pilot licence (Aeroplane), and provide the training necessary to act, but not for remuneration, as pilot-in-command or as co-pilot of any aeroplane for which he or she holds a valid class or type rating, engaged in non-revenue flights under visual flight rules.

1.2 *Contents and requirements of training course*

(a) The applicant must complete a training course with an aviation training organisation approved by the Executive Director in terms of Part 141. However, the theoretical knowledge course and the practical training course may be completed at different aviation training organisations.

(b) The course comprises –

i. theoretical knowledge course; and

ii. practical training course. The syllabus for the practical training is contained in Appendix 2.0.1 to Document NAM-CATS-FCL.

(2)Theoretical Knowledge Examination

The knowledge acquired must be sufficient for the candidate to pass examinations in the following theoretical knowledge subjects:

2.1 In the case of CPL VFR only:

(a) Aviation Meteorology;

(b) Flight Performance and Planning;

(c) Radio Aids and Communication;

(d) General Navigation;

(e) Instruments and Electronics;

(f) Aircraft Technical and General;

(g) Human Performance and Limitations;

(h) Air Law.

2.2 In the case of CPL with IFR:

(a) Aviation Meteorology;

(b) Flight Performance and Planning;

(c) Radio Aids and Communication;

(d) General Navigation;

(e) Instruments and Electronics;

(f) Aircraft Technical and General;

(g) Human Performance and Limitations;

(h) Air Law

(i) Operational Procedures.

(3)Theoretical knowledge course syllabus

The detailed theoretical knowledge syllabus is contained in Appendix 2.0 to Document NAM-CATS-FCL

(4)Radio Telephony

4.1 To be eligible for the RTC a candidate must prove his knowledge of the ITU (International Telecommunications Union), and Authority requirements in both written and oral tests. The requirements are:

(a) ITU: Knowledge of radiotelephony operation and procedures, ability to transmit and receive messages by radio and knowledge of the radio communication regulations (e.g. use of different appropriate frequencies, interference, etc.) and especially those relating to the safety of human life.

(b) Communications Regulating Authority of Namibia: Proficiency in operating a radio installation including changing frequency, transmitting and receiving messages using the prescribed procedures, identification of Morse code beacons and clearing minor external faults.

(c) The Authority: requirements are based on documents issued by the International Civil Aviation Organisation (ICAO) dealing with procedures, abbreviations and flight planning, the various aeronautical information circulars (AIC) in force, the Namibian Aeronautical Information Publication (AIP), Civil Aviation Regulations (CAR) and Civil Aviation Technical Standards (CATS) and also other relevant regulations or rules in force.

(d) Applicants for a General Radio Certificate must pass a theoretical General Radio Examination at an approved Authority examination centre. The training syllabus for a General Radio Certificate is contained in Appendix 1.5a to Document NAM-CATS-FCL

4.2 Applicants for a General Radio Certificate must in addition to the theoretical knowledge examination pass a practical communication test including the identification of radio beacons using morse code conducted by a Designated Radio Examiner (General). The practical test must include the full completion of an ATC IFR Flight Plan and examine, at minimum, the following aspects for an IFR flight departing on a standard or non-standard departure from a controlled aerodrome, into a CTR/TMA, flying in both controlled and uncontrolled airspace en route to a controlled airfield as destination, complying with a standard arrival (STAR) and the completion of an instrument approach procedure (precision or non-precision):

(a) Use of Radio on the Ground –

(i) Obtaining start clearance

(ii) Obtaining taxi clearance

(iii) Acceptance and read back of ATC departure clearance (Standard/non-standard)

(b) Departure procedure –

(i) Take-off clearance

(ii) Use of SID chart/compliance with non-standard departure procedure

(iii) Selection of departure frequency and contact with relevant ATSU

(iv) Use of area chart if applicable

(c) En route procedures –

(i) Use of radio navigation chart

(ii) Selection of frequencies appropriate to the route

(iii) Passing and revising estimates

(iv) Complying with onward clearance time (OCT)

(d) Arrival procedures –

(i) Use of area chart if applicable

(ii) Acceptance and review of STAR and instrument approach charts

(iii) Radar vectors to ILS localiser or

Holding beacon for non-precision approach including expected approach time (EAT)

(iv) Establishing weather minima at landing aerodrome and compliance with Approach Ban

(v) Completion of instrument approach procedure using IAC and correct radio procedures

(e) Radio communication failure –

Emphasis must be placed on correct use of aviation words and phrases as well as the avoidance of slang terms.

61.05.2 APPLICATION FOR, AND ISSUE OF COMMERCIAL PILOT LICENCE (AEROPLANE)

1. The application for a Commercial Pilot Licence (Aeroplane) must be made on Form FSS PEL 61-03.
2. The logbook summary must be completed in the format indicated on the following page and submitted together with the application form.
3. Guidance to Designated Flight Examiner is provided on page 2 of the skills test form, Form FSS PEL 61-32, in respect of retesting. The skills test Form FSS PEL 61-32, completed by the Designated Flight Examiner, must accompany the application form.

Logbook Summary

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
A/C Class or Type	Instrument			Instructor		FSTD	Single Engine Day			
	Actual Time	FSTD Time	SE	ME	FSTD		Dual	PIC	PICUS	Co-Pilot
PA 160							40.0	27.2		
C 172	15.0.0						53.3	67.2		
FNPT 1		21.0								
BE 55	5.0									
	20.0	21.0					93.3	94.4		

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)

(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
Single Engine Night				Multi Engine Day				Multi Engine Day			
Dual	PIC	PICUS	Co-Pilot	Dual	PIC	PICUS	Co-pilot	Dual	PIC	PICUS	Co-pilot
12.0	4.5										
	3.0										
				9.1	2.0			2.0	1.0		
12.0	7.5			9.1				2.0	1.0		
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
Total Flight Time			219.3		Hours						

61.05.4 SKILLS TEST

The practical test standard must be conducted in accordance with Appendix 2.1 to NAM-CATS-FCL.

61.06.1 REQUIREMENTS FOR COMMERCIAL PILOT LICENCE (HELICOPTER)

(1)Training

1. *Aim of training course*

   The aim of the course is to train a candidate to the level of proficiency required for the issue of a Commercial Pilot licence (Helicopter), and provide the training necessary to act as pilot-in-command or as co-pilot of any helicopter for which he or she holds a valid class or type rating engaged in flights under visual flight rules.

2. *Contents and requirements of training course*

   2.1 The applicant must complete a training course with an aviation training organisation approved by the Executive Director in terms of Part 141. However, the theoretical knowledge course and the practical training course may be completed at different aviation training organisations.

   2.2 The course comprises –

   (a) theoretical knowledge course; and

   (b) practical training course. The syllabus for the practical training is contained in Appendix 2.1 to Document NAM-CATS-FCL.

3. *Theoretical Knowledge Examination*

   The knowledge acquired must be sufficient for the candidate to pass examinations in the following theoretical knowledge subjects:

   3.1 In the case of CPL VFR only:

   (a) Aviation Meteorology;

   (b) Flight Performance and Planning;

   (c) Radio Aids and Communication;

   (d) General Navigation;

   (e) Instruments and Electronics;

   (f) Aircraft Technical and General;

(g) Human Performance and Limitations;

(h) Air Law.

3.2 In the case of CPL with IFR:

(a) Aviation Meteorology;

(b) Flight Performance and Planning;

(c) Radio Aids and Communication;

(d) General Navigation;

(e) Instruments and Electronics;

(f) Aircraft Technical and General;

(g) Human Performance and Limitations;

(h) Air Law

(i) Operational Procedures.

4. *Theoretical knowledge course syllabus*

The detailed theoretical knowledge syllabus is contained in Appendix 2.0 to Document NAM-CATS-FCL 61.

5. *Radio Telephony*

5.1 To be eligible for the RTC a candidate must prove his knowledge of the ITU (International Telecommunications Union), and Authority requirements in both written and oral tests. The requirements are:

(a) ITU: Knowledge of radiotelephony operation and procedures, ability to transmit and receive messages by radio and knowledge of the radio communication regulations (e.g. use of different appropriate frequencies, interference, etc.) and especially those relating to the safety of human life.

(b) Communications Regulating Authority of Namibia: Proficiency in operating a radio installation including changing frequency, transmitting and receiving messages using the prescribed procedures, identification of Morse code beacons and clearing minor external faults.

(c) The Authority: requirements are based on documents issued by the International Civil Aviation Organisation (ICAO) dealing with procedures, abbreviations and flight planning, the various aeronautical information circulars (AIC) in force, the Namibian Aeronautical Information Publication (AIP), Civil Aviation Regulations (CAR) and Civil Aviation Technical Standards (CATS) and also other relevant regulations or rules in force.

(d) Applicants for a General Radio Certificate must pass a theoretical General Radio Examination at an approved CAA examination centre. The training syllabus for a General Radio Certificate is contained in Appendix 1.5a to Document NAM-CATS-FCL.

5.2. Applicants for a General Radio Certificate must in addition to the theoretical knowledge examination pass a practical communication test including the identification of radio beacons using morse code conducted by a Designated Radio Examiner (General). The practical test must include the full completion of an ATC IFR Flight Plan and examine, at minimum, the following aspects for an IFR flight departing on a standard or non-standard departure from a controlled aerodrome, into a CTR/TMA, flying in both controlled and uncontrolled airspace en route to a controlled airfield as

destination, complying with a standard arrival (STAR) and the completion of an instrument approach procedure (precision or non-precision):

(a) Use of Radio on the Ground

(i) Obtaining start clearance

(ii) Obtaining taxi clearance

(iii) Acceptance and read back of ATC departure clearance (Standard/non-standard)

(b) Departure procedure

(i) Take-off clearance

(ii) Use of SID chart/compliance with non-standard departure procedure

(iii) Selection of departure frequency and contact with relevant ATSU

(iv) Use of area chart if applicable

(c) *En route* procedures

(i) Use of radio navigation chart

(ii) Selection of frequencies appropriate to the route

(iii) Passing and revising estimates

(iv) Complying with onward clearance time (OCT)

(d) Arrival procedures

(i) Use of area chart if applicable

(ii) Acceptance and review of STAR and instrument approach charts

(iii) Radar vectors to ILS localiser or Holding beacon for non-precision approach including expected approach time (EAT)

(iv) Establishing weather minima at landing aerodrome and compliance with Approach Ban

(v) Completion of instrument approach procedure using IAC and correct radio procedures

(e) Radio communication failure

Emphasis must be placed on correct use of aviation words and phrases as well as the avoidance of slang terms.

61.06.2 APPLICATION FOR,AND ISSUE OF ACOMMERCIAL PILOT LICENCE (HELICOPTER)

(1) The application for a Commercial Pilot Licence (Helicopter) must be made on Form FSS PEL 61-03.

(2) The logbook summary must be completed in the format indicated on the next page and submitted together with the application form.

(3) Guidance to Designated Flight Examiner is provided on page 2 of the skills test form, Form FSS PEL 61-33, in respect of retesting. The skills test Form FSS PEL 61-33, completed by the Designated Flight Examiner, must accompany the application form.

Logbook Summary

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
A/C Class or Type	Instrument			Instructor		FSTD	Single Engine Day			
	Actual Time	FSTD Time	SE	ME	FSTD		Dual	PIC	PICUS	Co-Pilot
R22							40.0	36.3		
R44	20.0.0						53.3	67.2		
FNPT 1		21.0								
	20.0	21.0					93.3	103.5		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)

(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
Single Engine Night				Multi Engine Day				Multi Engine Day			
Dual	PIC	PICUS	Co-Pilot	Dual	PIC	PICUS	Co-pilot	Dual	PIC	PICUS	Co-pilot
12.0	4.5										
1.0	3.0										
13.0	7.5			9.1				2.0	1.0		
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
Total Flight Time			217.8		Hours						

61.06.4 SKILLS TEST

The practical test standard must be conducted in accordance with Appendix 2.2 to NAM-CATS-FCL.

61.07.1 REQUIREMENTS FOR AIRLINE TRANSPORT PILOT LICENCE (AEROPLANE)

(1)Training

1. *Aim of training course*

   The aim of the course is to train a candidate to the level of proficiency required for the issue of an Airline Transport Pilot licence (Aeroplane), and provide the training necessary to act, but not for remuneration, as pilot-in-command or as co-pilot of any aeroplane for which he or she holds a valid class or type rating, engaged in non-revenue flights under visual flight rules.

2. *Contents and requirements of training course*

   2.1 The applicant must complete a training course with an aviation training organisation approved by the Executive Director in terms of Part 141. However, the theoretical knowledge course and the practical training course may be completed at different aviation training organisations.

   2.2 The course comprises –

   (a) Theoretical knowledge course; and

   (b) Practical training course is only applicable to the Integrated Training Course. The syllabus for the practical training is contained in Appendix 3.0 to Document NAM-CATS-FCL.

3. *Theoretical Knowledge Examination*

   3.1 The knowledge acquired must be sufficient for the candidate to pass examinations in the following theoretical knowledge subjects:

   (a) Aviation Meteorology;

   (b) Flight Performance and Planning;

   (c) Radio Aids and Communication;

   (d) General Navigation;

   (d) Navigation Plotting;

   (e) Instruments and Electronics;

   (f) Aircraft Technical and General;

   3.2 In the case of a student pilot following an integrated course or a private pilot, the following three exams will also have to be written:

   (a) Human Performance and Limitations;

   (b) Air Law

(c) Operational Procedures.

4. *Theoretical knowledge course syllabus*

The detailed theoretical knowledge syllabus is contained in Appendix 2.0 to Document NAM-CATS-FCL.

61.07.2 APPLICATION FOR, AND ISSUE OF AN AIRLINE TRANSPORT PILOT LICENCE (AEROPLANE)

(1) The application for an Airline Transport Pilot Licence (Aeroplane) must be made on Form FSS PEL 61-03.

(2) The logbook summary must be completed in the format indicated on the following page and submitted together with the application form.

(3) Guidance to Designated Flight Examiner is provided on page 2 of the skills test form, Form FSS PEL 61-35, in respect of retesting. The skills test Form FSS PEL 61-35, completed by the Designated Flight Examiner, must accompany the application form.

Logbook Summary

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
A/C Class or Type	Instrument			Instructor		FSTD	Single Engine Day			
	Actual Time	FSTD Time	SE	ME	FSTD		Dual	PIC	PICUS	Co-Pilot
PA 160							40.0	27.2		
C 172	15.0						53.3	67.2		
FNPT 1		21.0								
BE 55	5.0									
C208	29.0						12.0	250.7	120.2	
BE1900	37.8	17.0								
C551	17.0	34.4								
B737	103.2	65.0								
	276.8	103.0					105.3	345.1	120.2	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)

(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
Single Engine Night				Multi Engine Day				Multi Engine Day			
Dual	PIC	PICUS	Co-Pilot	Dual	PIC	PICUS	Co-pilot	Dual	PIC	PICUS	Co-pilot
12.0	4.5										
	3.0										
				9.1	2.0			2.0	1.0		
2.0	50.7	20.2	138.4								
				7.0	237.0	120.0	572.0	3.1	9.4	2.7	15.8
				4.0	120.0	60.0	420.0	2.0	4.7	3.2	45.8

				12.0		230.0	952.0	10.0		15.0	158.0
14.0	58.2	20.2	138.4	32.1	359.0	410.0	1944.0	17.0	15.1	20.9	219.6
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
Total Flight Time			3809.1		Hours						

61.07.4 SKILLS TEST

The practical test standard must be conducted in accordance with Appendix 9.0 to NAM-CATS-FCL..

61.08.1 REQUIREMENTS FOR AIRLINE TRANSPORT PILOT LICENCE (HELICOPTER)

(1)Training

1. *Aim of training course*

   The aim of the course is to train a candidate to the level of proficiency required for the issue of an Airline Transport Pilot licence (Helicopter), and provide the training necessary to act, but not for remuneration, as pilot-in-command or as co-pilot of any helicopter for which he or she holds a valid class or type rating, engaged in non-revenue flights under visual flight rules.

2. *Contents and requirements of training course*

   2.1 The applicant must complete a training course with an aviation training organisation approved by the Executive Director in terms of Part 141. However, the theoretical knowledge course and the practical training course may be completed at different aviation training organisations.

   2.2 The course comprises –

   (a) theoretical knowledge course; and

   (b) practical training course is only applicable to the Integrated Training Course. The syllabus for the practical training is contained in Appendix 3.0 to Document NAM-CATS-FCL.

3. *Theoretical Knowledge Examination*

   3.1 The knowledge acquired must be sufficient for the candidate to pass examinations in the following theoretical knowledge subjects:

   (a) Aviation Meteorology;

   (b) Flight Performance and Planning;

(c) Radio Aids and Communication;

(d) General Navigation;

(d) Navigation Plotting;

(e) Instruments and Electronics;

(f) Aircraft Technical and General.

3.2 In the case of a student pilot following an integrated course or a private pilot, the following three exams will also have to be written:

(a) Human Performance and Limitations;

(b) Air Law

(c) Operational Procedures.

4. *Theoretical knowledge course syllabus*

The detailed theoretical knowledge syllabus is contained in Appendix 2.0 to Document NAM-CATS-FCL..

61.08.2 APPLICATION FOR, AND ISSUE OF AN AIRLINE TRANSPORT PILOT LICENCE (HELICOPTER)

(1) The application for an Airline Transport Pilot licence (Helicopter) must be made on Form FSS PEL 61-03.

(2) The logbook summary must be completed in the format indicated on the following page and submitted together with the application form.

(3) Guidance to Designated Flight Examiner is provided on page 2 of the skills test form, Form FSS PEL 61-32, in respect of retesting. The skills test Form FSS PEL 61-36, completed by the Designated Flight Examiner, must accompany the application form.

Logbook Summary

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
A/C Class or Type	Instrument			Instructor		FSTD	Single Engine Day			
	Actual Time	FSTD Time	SE	ME	FSTD		Dual	PIC	PICUS	Co-Pilot
R22							40.0	27.2		
R44	15.0						53.3	67.2		
FNPT 1		21.0								
Bell 206LT	5.0									
Bell47T	29.0						12.0	250.7	120.2	
AS332	37.8	17.0								
NAMIBIAN330	17.0	34.4								
SK 61	103.2	65.0								
	276.8	103.0					105.3	345.1	120.2	

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)

(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
Single Engine Night				Multi Engine Day				Multi Engine Day			
Dual	PIC	PICUS	Co-Pilot	Dual	PIC	PICUS	Co-pilot	Dual	PIC	PICUS	Co-pilot
12.0	4.5										
	3.0										
				9.1	2.0			2.0	1.0		
2.0	50.7	20.2	138.4								
				7.0	237.0	120.0	572.0	3.1	9.4	2.7	15.8
				4.0	120.0	60.0	420.0	2.0	4.7	3.2	45.8
				12.0		230.0	952.0	10.0		15.0	158.0
14.0	58.2	20.2	138.4	32.1	359.0	410.0	1944.0	17.0	15.1	20.9	219.6
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
Total Flight Time			3809.1		Hours						

61.08.4 SKILLS TEST

The practical test standard must be conducted in accordance with Appendix 9.0 to NAM-CATS-FCL.

61.09.1 REQUIREMENTS FOR PRIVATE PILOT LICENCE (POWERED-LIFT)

(1)Training

1. *Aim of training course*

1.1 The aim of the course is to train a candidate to the level of proficiency required for the issue of a private pilot licence (Powered-lift), and provide the training necessary to act, but not for remuneration, as pilot-in-command or as co-pilot of any powered-lift for which he or she holds a valid class or type rating, engaged in non-revenue flights under visual flight rules.

2. *Contents and requirements of training course*

2.1 The applicant must complete a training course with an aviation training organisation approved by the Executive Director in terms of Part 141. However, the theoretical knowledge course and the practical training course may be completed at different aviation training organisations.

2.2 The course comprises –

(a) theoretical knowledge course; and

(b) practical training course.

3. *Theoretical knowledge course*

4. *Theoretical knowledge course syllabus*

4.1 The detailed theoretical knowledge syllabus is contained in Appendix 1.0 to Document NAM-CATS-FCL.

4.1 The practical training syllabus is contained in Appendix 1.4A to Document NAM-CATS-FCL.

5. *Radio Telephony*

5.1 To be eligible for the RTC a candidate must prove his knowledge of the ITU (International Telecommunications Union), and Authority requirements in both written and oral tests. The requirements are –

(a) ITU: Knowledge of radiotelephony operation and procedures, ability to transmit and receive messages by radio and knowledge of the radio communication regulations (e.g. use of different appropriate frequencies, interference, etc.) and especially those relating to the safety of human life.

(b) Communications Regulating Authority of Namibia: Proficiency in operating a radio installation including changing frequency, transmitting and receiving messages using the prescribed procedures, identification of Morse code beacons and clearing minor external faults.

(c) The Authority: requirements are based on documents issued by the International Civil Aviation Organisation (ICAO) dealing with procedures, abbreviations and flight planning, the various aeronautical information circulars (AIC) in force, the Namibian Aeronautical Information Publication (AIP), Civil Aviation Regulations (CAR) and Civil Aviation Technical Standards (CATS) and also other relevant regulations or rules in force.

(d) Applicants for a Restricted Radio Certificate must pass a theoretical Restricted Radio Examination at an approved CAA examination centre. The training syllabus for a Restricted Radio Certificate is contained in Appendix 1.5 to Document NAM-CATS-FCL.

5.2. Applicants for a Restricted Radio Certificate must in addition to the theoretical knowledge examination pass a practical communication test including the identification of radio beacons using morse code conducted by a Designated Radio Examiner. The practical test must include the full completion of an ATC Flight Plan and examine at minimum the following aspects:

(a) Use of Radio on the Ground.

(i) Obtaining and complying with taxi instructions.

(ii) Knowing what to expect from the Air Traffic Control (ATC).

(iii) The importance of reading back all “hold short of instructions”.

(iv) The avoidance of runway incursions.

(v) Meaning of “give way to other aircraft”.

(vi) Obtaining and complying with take-off instructions.

(vii) Importance of understanding "line up behind".

(viii) Importance of reading back the take-off clearance.

(ix) Importance of reading back any other required instructions.

(x) Radio procedures at unmanned/uncontrolled aerodromes.

(b) Departure procedures.

(i) Knowing what to expect in respect of departure procedures.

(ii) Required calls to be made on leaving the aerodrome circuit area.

(c) *En route* procedures.

(i) Knowing what call should be made to which station and when according to the airspace requirements.

(ii) Knowing the required in-flight broadcast procedure applicable to uncontrolled airspace.

(iii) Making a position report.

(iv) Obtaining relevant weather information, use of ATIS.

(v) Making appropriate weather reports (PIREPS).

(vi) Knowing the difference between positively controlled airspace as opposed to a Flight Information Service (FIS).

(vii) Transponder use.

(viii) Procedure to obtain bearings, headings and position from air traffic control/FIS Altimeter setting procedures.

(ix) Relaying messages for other stations.

(d) Arrival and traffic pattern procedures.

(i) Knowing what to expect.

(ii) Arrival clearance/instructions.

(iii) Calls and ATC instructions whilst joining the traffic pattern.

(iv) Calls to be made in the circuit.

(v) Calls to be made on vacating the runway.

5.3. Applicants for a Restricted Radio Certificate must attach a certificate of competency from the Communications Regulating Authority of Namibia when applying for a private pilot licence.

(2) Theoretical Knowledge Examination

The knowledge acquired must be sufficient for the candidate to pass examinations in the following theoretical knowledge subjects –

(a) Aviation Meteorology (duration: 60 min);

(b) Flight Performance and Planning (duration: 90 min);

(c) General Navigation (duration: 90 min);

(d) Aircraft General (duration: 45 min);

(e) Principles of Flight (duration: 45 min);

(f) Human Performance and Limitations (duration: 45 min);

(g) Air Law (duration: 60min).

(3)Practical Flight Test Standard

The Practical Flight Test Standard is found in Appendix 1.4A to Document NAM-CATS-FCL.

61.09.2 APPLICATION FOR, AND ISSUE OF A PRIVATE PILOT LICENCE (POWERED-LIFT)

1. The application for a private pilot licence (Powered-lift) must be made on Form FSS PEL 61-02.
2. The logbook summary must be completed in the format indicated at the next page and submitted together with the application form.
3. The skills test report form to be used is form FSS PEL 61-34.

Logbook Summary

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
A/C Class or Type	Instrument			Instructor		FSTD	Single Engine Day			
	Actual Time	FSTD Time	SE	ME	FSTD		Dual	PIC	PICUS	Co-Pilot
PA 160							4.3	4.3		
C 172	3.0						15.2	12.9		
FNPT 1		3.8					18.0	4.3		
	3.0	3.8					37.5	21.5		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)

(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
Single Engine Night				Multi Engine Day				Multi Engine Day			
Dual	PIC	PICUS	Co-Pilot	Dual	PIC	PICUS	Co-pilot	Dual	PIC	PICUS	Co-pilot

(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
Total Flight Time			59.0		Hours						

61.09.4 SKILLS TEST

1. The Skills Test must be conducted in accordance with Appendix 1.4B to NAM-CATS-FCL Guidance to Designated Flight Examiner is provided on page 2 of the skills test form, Form FSS PEL 61-34, in respect of retesting. The skills test Form FSS PEL 61-34, completed by the Designated Flight Examiner, must accompany the application form.
2. The navigation element of the skills test administered for the issuing of a private pilot licence may be conducted as a separate flight within a maximum period of 14 days.
3. The cross-country navigation flight of the skills test must not be less than 200 nautical miles total distance and must include take-offs and landings at two aerodromes away from base. At least one of the aerodromes from which the aircraft takes off for this flight must be an aerodrome at which an Air Traffic Services Unit (ATSU) is in operation.

61.10.1 REQUIREMENTS FOR COMMERCIAL PILOT LICENCE (POWERED-LIFT)

(1)Training

1.1 *Aim of training course*

The aim of the course is to train a candidate to the level of proficiency required for the issue of a Commercial Pilot licence (Powered-lift), and provide the training necessary to act, but not for remuneration, as pilot-in-command or as co-pilot of any powered-lift for which he or she holds a valid class or type rating, engaged in non-revenue flights under visual flight rules.

1.2 *Contents and requirements of training course*

(a) The applicant must complete a training course with an aviation training organisation approved by the Executive Director in terms of Part 141. However, the theoretical knowledge course and the practical training course may be completed at different aviation training organisations.

(b) The course comprises –

i. theoretical knowledge course; and

ii. practical training course. The syllabus for the practical training is contained in Appendix 2.1. to Document NAM-CATS-FCL.

2. Theoretical Knowledge Examination

The knowledge acquired must be sufficient for the candidate to pass examinations in the following theoretical knowledge subjects:

2.1 In the case of CPL VFR only:

(a) Aviation Meteorology;

(b) Flight Performance and Planning;

(c) Radio Aids and Communication;

(d) General Navigation;

(e) Instruments and Electronics;

(f) Aircraft Technical and General;

(g) Human Performance and Limitations;

(h) Air Law.

2.2 In the case of CPL with IFR:

(a) Aviation Meteorology;

(b) Flight Performance and Planning;

(c) Radio Aids and Communication;

(d) General Navigation;

(e) Instruments and Electronics;

(f) Aircraft Technical and General;

(g) Human Performance and Limitations;

(h) Air Law

(i) Operational Procedures.

3. Theoretical knowledge course syllabus

The detailed theoretical knowledge syllabus is contained in Appendix 2.0 to Document NAM-CATS-FCL.

4. Radio Telephony

4.1 To be eligible for the RTC a candidate must prove his knowledge of the ITU (International Telecommunications Union), and Authority requirements in both written and oral tests. The requirements are:

(a) ITU: Knowledge of radiotelephony operation and procedures, ability to transmit and receive messages by radio and knowledge of the radio communication regulations (e.g. use of different appropriate frequencies, interference, etc.) and especially those relating to the safety of human life.

(b) Communications Regulating Authority of Namibia: Proficiency in operating a radio installation including changing frequency, transmitting and receiving messages using the prescribed procedures, identification of Morse code beacons and clearing minor external faults.

(c) The Authority: requirements are based on documents issued by the International Civil Aviation Organisation (ICAO) dealing with procedures, abbreviations and flight planning, the various aeronautical information circulars (AIC) in force, the Namibian Aeronautical Information Publication (AIP), Civil Aviation Regulations (CAR) and Civil Aviation Technical Standards (CATS) and also other relevant regulations or rules in force.

(d) Applicants for a General Radio Certificate must pass a theoretical General Radio Examination at an approved Authority examination centre. The training syllabus for a General Radio Certificate is contained in Appendix 1.5a to Document NAM-CATS-FCL

4.2 Applicants for a General Radio Certificate must in addition to the theoretical knowledge examination pass a practical communication test including the identification of radio beacons using morse code conducted by a Designated Radio Examiner (General). The practical test must include the full completion of an ATC IFR Flight Plan and examine, at minimum, the following aspects for an IFR flight departing on a standard or non-standard departure from a controlled aerodrome, into a CTR/TMA, flying in both controlled and uncontrolled airspace en route to a controlled airfield as destination, complying with a standard arrival (STAR) and the completion of an instrument approach procedure (precision or non-precision):

(a) Use of Radio on the Ground –

(i) Obtaining start clearance

(ii) Obtaining taxi clearance

(iii) Acceptance and read back of ATC departure clearance (Standard/non-standard)

(b) Departure procedure –

(i) Take-off clearance

(ii) Use of SID chart/compliance with non-standard departure procedure

(iii) Selection of departure frequency and contact with relevant ATSU

(iv) Use of area chart if applicable

(c) En route procedures –

(i) Use of radio navigation chart

(ii) Selection of frequencies appropriate to the route

(iii) Passing and revising estimates

(iv) Complying with onward clearance time (OCT)

(d) Arrival procedures –

(i) Use of area chart if applicable

(ii) Acceptance and review of STAR and instrument approach charts

(iii) Radar vectors to ILS localiser or

Holding beacon for non-precision approach including expected approach time (EAT)

(iv) Establishing weather minima at landing aerodrome and compliance with Approach Ban

(v) Completion of instrument approach procedure using IAC and correct radio procedures

(e) Radio communication failure –

Emphasis must be placed on correct use of aviation words and phrases as well as the avoidance of slang terms.

61.10.2 APPLICATION FOR, AND ISSUE OF A COMMERCIAL PILOT LICENCE (POWERED-LIFT)

1. The application for a Commercial Pilot Licence (Powered-lift) must be made on Form FSS PEL 61-03.
2. The logbook summary must be completed in the format indicated on the following page and submitted together with the application form.
3. Guidance to Designated Flight Examiner is provided on page 2 of the skills test form, Form FSS PEL 61-37, in respect of retesting. The skills test Form FSS PEL 61-37, completed by the Designated Flight Examiner, must accompany the application form.

Logbook Summary

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
A/C Class or Type	Instrument			Instructor		FSTD	Single Engine Day			
	Actual Time	FSTD Time	SE	ME	FSTD		Dual	PIC	PICUS	Co-Pilot
PA 160							40.0	27.2		
C 172	15.0.0						53.3	67.2		
FNPT 1		21.0								
BE 55	5.0									
	20.0	21.0					93.3	94.4		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)

(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
Single Engine Night				Multi Engine Day				Multi Engine Day			
Dual	PIC	PICUS	Co-Pilot	Dual	PIC	PICUS	Co-pilot	Dual	PIC	PICUS	Co-pilot
12.0	4.5										
	3.0										
				9.1	2.0			2.0	1.0		
12.0	7.5			9.1				2.0	1.0		
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
Total Flight Time			219.3		Hours						

61.10.4 SKILLS TEST

The practical test standard must be conducted in accordance with Appendix 2.3 to NAM-CATS-FCL 61

61.11.1 REQUIREMENTS FOR AIRLINE TRANSPORT PILOT LICENCE (POWERED-LIFT)

(1)Training

1. *Aim of training course*

   The aim of the course is to train a candidate to the level of proficiency required for the issue of an Airline Transport Pilot licence (Powered-lift), and provide the training necessary to act, but not for remuneration, as pilot-in-command or as co-pilot of any aeroplane for which he or she holds a valid class or type rating, engaged in non-revenue flights under visual flight rules.

2. *Contents and requirements of training course*

   2.1 The applicant must complete a training course with an aviation training organisation approved by the Executive Director in terms of Part 141. However, the theoretical knowledge course and the practical training course may be completed at different aviation training organisations.

   2.2 The course comprises –

   (a) Theoretical knowledge course; and

   (b) Practical training course is only applicable to the Integrated Training Course. The syllabus for the practical training is contained in Appendix 3.0 to Document NAM-CATS-FCL

3. *Theoretical Knowledge Examination*

   3.1 The knowledge acquired must be sufficient for the candidate to pass examinations in the following theoretical knowledge subjects:

   (a) Aviation Meteorology;

   (b) Flight Performance and Planning;

   (c) Radio Aids and Communication;

   (d) General Navigation;

   (d) Navigation Plotting;

   (e) Instruments and Electronics;

   (f) Aircraft Technical and General;

   3.2 In the case of a student pilot following an integrated course or a private pilot, the following two exams will also have to be written:

   (a) Human Performance and Limitations;

   (b) Air Law and Operational Procedures.

4. *Theoretical knowledge course syllabus*

   The detailed theoretical knowledge syllabus is contained in Appendix 2.0 to Document NAM-CATS-FCL.

61.11.2 APPLICATION FOR, AND ISSUE OF AN AIRLINE TRANSPORT PILOT LICENCE (POWERED-LIFT)

(1) The application for an Airline Transport Pilot Licence (Powered-lift) must be made on Form FSS PEL 61-03.

(2) The logbook summary must be completed in the format indicated on the following page and submitted together with the application form.

(3) Guidance to Designated Flight Examiner is provided on page 2 of the skills test form, Form FSS PEL 61-35, in respect of retesting. The skills test Form FSS PEL 61-35, completed by the Designated Flight Examiner, must accompany the application form.

Logbook Summary

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
A/C Class or Type	Instrument			Instructor		FSTD	Single Engine Day			
	Actual Time	FSTD Time	SE	ME	FSTD		Dual	PIC	PICUS	Co-Pilot
PA 160							40.0	27.2		
C 172	15.0						53.3	67.2		
FNPT 1		21.0								
BE 55	5.0									
C208	29.0						12.0	250.7	120.2	
BE1900	37.8	17.0								
C551	17.0	34.4								
B737	103.2	65.0								
	276.8	103.0					105.3	345.1	120.2	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)

(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
Single Engine Night				Multi Engine Day				Multi Engine Day			
Dual	PIC	PICUS	Co-Pilot	Dual	PIC	PICUS	Co-pilot	Dual	PIC	PICUS	Co-pilot
12.0	4.5										
	3.0										

				9.1	2.0			2.0	1.0		
2.0	50.7	20.2	138.4								
				7.0	237.0	120.0	572.0	3.1	9.4	2.7	15.8
				4.0	120.0	60.0	420.0	2.0	4.7	3.2	45.8
				12.0		230.0	952.0	10.0		15.0	158.0
14.0	58.2	20.2	138.4	32.1	359.0	410.0	1944.0	17.0	15.1	20.9	219.6
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
Total Flight Time			3809.1		Hours						

61.11.4 SKILLS TEST

The practical test standard must be conducted in accordance with Appendix 9.0 to NAM-CATS-FCL 61

61.12.1 REQUIREMENTS FOR GLIDER PILOT LICENCE

(1) Training

1. *Aim of training course*

   1.1 The aim of the course is to train a candidate to the level of proficiency required for the issue of a glider pilot licence, and provide the training necessary to act, but not for remuneration, as pilot-in-command or as co-pilot of any glider for which he or she holds a valid class or type rating, engaged in non-revenue flights under visual flight rules.

2. *Contents and requirements of training course*

   2.1 The applicant must complete a training course with an aviation training organisation approved by the Executive Director in terms of Part 141. However, the theoretical knowledge course and the practical training course may be completed at different aviation training organisations.

   2.2 The course comprises –

   (a) theoretical knowledge course; and

   (b) practical training course.

3. *Theoretical knowledge course*

4. *Theoretical knowledge course syllabus*

   4.1 The detailed theoretical knowledge syllabus is contained in Appendix 1.0 to Document NAM-CATS-FCL.

   4.1 The practical training syllabus is contained in Appendix 1.1A to Document NAM-CATS-FCL.

5. *Radio Telephony*

   5.1 To be eligible for the RTC a candidate must prove his knowledge of the ITU (International Telecommunications Union), and Authority requirements in both written and oral tests. The requirements are –

(a) ITU: Knowledge of radiotelephony operation and procedures, ability to transmit and receive messages by radio and knowledge of the radio communication regulations (e.g. use of different appropriate frequencies, interference, etc.) and especially those relating to the safety of human life.

(b) Communications Regulating Authority of Namibia: Proficiency in operating a radio installation including changing frequency, transmitting and receiving messages using the prescribed procedures, identification of Morse code beacons and clearing minor external faults.

(c) The Authority: requirements are based on documents issued by the International Civil Aviation Organisation (ICAO) dealing with procedures, abbreviations and flight planning, the various aeronautical information circulars (AIC) in force, the Namibian Aeronautical Information Publication (AIP), Civil Aviation Regulations (CAR) and Civil Aviation Technical Standards (CATS) and also other relevant regulations or rules in force.

(d) Applicants for a Restricted Radio Certificate must pass a theoretical Restricted Radio Examination at an approved CAA examination centre. The training syllabus for a Restricted Radio Certificate is contained in Appendix 1.5 to Document NAM-CATS-FCL.

5.2. Applicants for a Restricted Radio Certificate must in addition to the theoretical knowledge examination pass a practical communication test including the identification of radio beacons using morse code conducted by a Designated Radio Examiner. The practical test must include the full completion of an ATC Flight Plan and examine at minimum the following aspects:

(a) Use of Radio on the Ground.

(i) Obtaining and complying with taxi instructions.

(ii) Knowing what to expect from the Air Traffic Control (ATC).

(iii) The importance of reading back all “hold short of instructions”.

(iv) The avoidance of runway incursions.

(v) Meaning of “give way to other aircraft”.

(vi) Obtaining and complying with take-off instructions.

(vii) Importance of understanding “line up behind”.

(viii) Importance of reading back the take-off clearance.

(ix) Importance of reading back any other required instructions.

(x) Radio procedures at unmanned/uncontrolled aerodromes.

(b) Departure procedures.

(i) Knowing what to expect in respect of departure procedures.

(ii) Required calls to be made on leaving the aerodrome circuit area.

(c) *En route* procedures.

(i) Knowing what call should be made to which station and when according to the airspace requirements.

(ii) Knowing the required in-flight broadcast procedure applicable to uncontrolled airspace.

(iii) Making a position report.

(iv) Obtaining relevant weather information, use of ATIS.

(v) Making appropriate weather reports (PIREPS).

(vi) Knowing the difference between positively controlled airspace as opposed to a Flight Information Service (FIS).

(vii) Transponder use.

(viii) Procedure to obtain bearings, headings and position from air traffic control/FIS Altimeter setting procedures.

(ix) Relaying messages for other stations.

(d) Arrival and traffic pattern procedures.

(i) Knowing what to expect.

(ii) Arrival clearance/instructions.

(iii) Calls and ATC instructions whilst joining the traffic pattern.

(iv) Calls to be made in the circuit.

(v) Calls to be made on vacating the runway.

5.3. Applicants for a Restricted Radio Certificate must attach a certificate of competency from the Communications Regulating Authority of Namibia when applying for a private pilot licence.

(2)Theoretical Knowledge Examination

The knowledge acquired must be sufficient for the candidate to pass examinations in the following theoretical knowledge subjects –

(a) Aviation Meteorology (duration: 60 min);

(b) Flight Performance and Planning (duration: 90 min);

(c) General Navigation (duration: 90 min);

(d) Aircraft General (duration: 45 min);

(e) Principles of Flight (duration: 45 min);

(f) Human Performance and Limitations (duration: 45 min);

(g) Air Law (duration: 60min).

(3)Practical Flight Test Standard

The Practical Flight Test Standard is found in Appendix 1.2A to Document NAM-CATS-FCL.

61.12.2 APPLICATION FOR, AND ISSUE OF A GLIDER PILOT LICENSE

1. The application for a glider pilot licence must be made on Form FSS PEL 61-02.
2. The logbook summary must be completed in the format indicated at the next page and submitted together with the application form.
3. The skills test report form to be used is form FSS PEL 61-38.

Logbook Summary

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
A/C Class or Type	Instrument			Instructor		FSTD	Single Engine Day			
	Actual Time	FSTD Time	SE	ME	FSTD		Dual	PIC	PICUS	Co-Pilot
PA 160							4.3	4.3		
C 172	3.0						15.2	12.9		
FNPT 1		3.8					18.0	4.3		
	3.0	3.8					37.5	21.5		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)

(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
Single Engine Night				Multi Engine Day				Multi Engine Day			
Dual	PIC	PICUS	Co-Pilot	Dual	PIC	PICUS	Co-pilot	Dual	PIC	PICUS	Co-pilot
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
Total Flight Time			59.0		Hours						

61.12.4 SKILLS TEST

1. The Skills Test must be conducted in accordance with Appendix 1.2A to NAM-CATS-FCL 61. Guidance to Designated Flight Examiner is provided on page 2 of the skills test form, Form FSS PEL 61-38, in respect of retesting. The skills test Form FSS PEL 61-38, completed by the Designated Flight Examiner, must accompany the application form.

2. The navigation element of the skills test administered for the issuing of a glider pilot licence may be conducted as a separate flight within a maximum period of 14 days.

3. The cross-country navigation flight of the skills test must not be less than 25 nautical miles total distance and must include 20 launches and landings. At least one of the landing strips from which the aircraft takes off for this flight must be an aerodrome at which an Air Traffic Services Unit (ATSU) is in operation.

61.13.1 REQUIREMENTS FOR FREE BALLOON PILOT LICENCE

(1)Training

1. *Aim of training course*

   1.1 The aim of the course is to train a candidate to the level of proficiency required for the issue of a free balloon pilot licence, and provide the training necessary to act, but not for remuneration, as pilot-in-command or as co-pilot of any free balloons for which he or she holds a valid class or type rating, engaged in non-revenue flights under visual flight rules.

2. *Contents and requirements of training course*

   2.1 The applicant must complete a training course with an aviation training organisation approved by the Executive Director in terms of Part 141. However, the theoretical knowledge course and the practical training course may be completed at different aviation training organisations.

   2.2 The course comprises –

   (a) theoretical knowledge course; and

   (b) practical training course.

3. *Theoretical knowledge course*

4. *Theoretical knowledge course syllabus*

   4.1 The detailed theoretical knowledge syllabus is contained in Appendix 1.0 to Document NAM-CATS-FCL.

   4.1 The practical training syllabus is contained in Appendix 1.1B to Document NAM-CATS-FCL.

5. *Radio Telephony*

   5.1 To be eligible for the RTC a candidate must prove his knowledge of the ITU (International Telecommunications Union), and Authority requirements in both written and oral tests. The requirements are –

   (a) ITU: Knowledge of radiotelephony operation and procedures, ability to transmit and receive messages by radio and knowledge of the radio communication regulations (e.g. use of different appropriate frequencies, interference, etc.) and especially those relating to the safety of human life.

   (b) Communications Regulating Authority of Namibia: Proficiency in operating a radio installation including changing frequency, transmitting and receiving messages using the prescribed procedures, identification of Morse code beacons and clearing minor external faults.

(c) The Authority: requirements are based on documents issued by the International Civil Aviation Organisation (ICAO) dealing with procedures, abbreviations and flight planning, the various aeronautical information circulars (AIC) in force, the Namibian Aeronautical Information Publication (AIP), Civil Aviation Regulations (CAR) and Civil Aviation Technical Standards (CATS) and also other relevant regulations or rules in force.

(d) Applicants for a Restricted Radio Certificate must pass a theoretical Restricted Radio Examination at an approved CAA examination centre. The training syllabus for a Restricted Radio Certificate is contained in Appendix 1.5 to Document NAM-CATS-FCL.

5.2. Applicants for a Restricted Radio Certificate must in addition to the theoretical knowledge examination pass a practical communication test including the identification of radio beacons using morse code conducted by a Designated Radio Examiner. The practical test must include the full completion of an ATC Flight Plan and examine at minimum the following aspects:

(a) Use of Radio on the Ground.

(i) Obtaining and complying with taxi instructions.

(ii) Knowing what to expect from the Air Traffic Control (ATC).

(iii) The importance of reading back all "hold short of instructions".

(iv) The avoidance of runway incursions.

(v) Meaning of "give way to other aircraft".

(vi) Obtaining and complying with take-off instructions.

(vii) Importance of understanding "line up behind".

(viii) Importance of reading back the take-off clearance.

(ix) Importance of reading back any other required instructions.

(x) Radio procedures at unmanned/uncontrolled aerodromes.

(b) Departure procedures.

(i) Knowing what to expect in respect of departure procedures.

(ii) Required calls to be made on leaving the aerodrome circuit area.

(c) *En route* procedures.

(i) Knowing what call should be made to which station and when according to the airspace requirements.

(ii) Knowing the required in-flight broadcast procedure applicable to uncontrolled airspace.

(iii) Making a position report.

(iv) Obtaining relevant weather information, use of ATIS.

(v) Making appropriate weather reports (PIREPS).

(vi) Knowing the difference between positively controlled airspace as opposed to a Flight Information Service (FIS).

(vii) Transponder use.

(viii) Procedure to obtain bearings, headings and position from air traffic control/FIS Altimeter setting procedures.

(ix) Relaying messages for other stations.

(d) Arrival and traffic pattern procedures.

(i) Knowing what to expect.

(ii) Arrival clearance/instructions.

(iii) Calls and ATC instructions whilst joining the traffic pattern.

(iv) Calls to be made in the circuit.

(v) Calls to be made on vacating the runway.

5.3. Applicants for a Restricted Radio Certificate must attach a certificate of competency from the Communications Regulating Authority of Namibia when applying for a free balloon pilot licence.

(2)Theoretical Knowledge Examination

The knowledge acquired must be sufficient for the candidate to pass examinations in the following theoretical knowledge subjects –

(a) Aviation Meteorology (duration: 60 min);

(b) Flight Performance and Planning (duration: 90 min);

(c) General Navigation (duration: 90 min);

(d) Aircraft General (duration: 45 min);

(e) Principles of Flight (duration: 45 min);

(f) Human Performance and Limitations (duration: 45 min);

(g) Air Law (duration: 60min).

(3)Practical Flight Test Standard

The Practical Flight Test Standard is found in Appendix 1.2B to Document NAM-CATS-FCL.

61.13.2 APPLICATION FOR, AND ISSUE OF A FREE BALLOON PILOT LICENCE

1. The application for a free balloon pilot licence must be made on Form FSS PEL 61-02.
2. The logbook summary must be completed in the format indicated at the next page and submitted together with the application form.
3. The skills test report form to be used is form FSS PEL 61-39.

Logbook Summary

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
A/C Class or Type	Instrument			Instructor		FSTD	Single Engine Day			
	Actual Time	FSTD Time	SE	ME	FSTD		Dual	PIC	PICUS	Co-Pilot
PA 160							4.3	4.3		
C 172	3.0						15.2	12.9		
FNPT 1		3.8					18.0	4.3		
	3.0	3.8					37.5	21.5		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)

(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
Single Engine Night				Multi Engine Day				Multi Engine Day			
Dual	PIC	PICUS	Co-Pilot	Dual	PIC	PICUS	Co-pilot	Dual	PIC	PICUS	Co-pilot
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
Total Flight Time			59.0		Hours						

61.13.4 SKILLS TEST

1. The Skills Test must be conducted in accordance with Appendix 1.4B to NAM-CATS-FCL. Guidance to the instructor is provided on page 2 of the skills test form, Form FSS PEL 61-39, in respect of retesting. The skills test Form FSS PEL 61-39, completed by the Grade I Instructor must accompany the application form.

2. The navigation element of the skills test administered for the issuing of a free balloon pilot licence may be conducted as a separate flight within a maximum period of 14 days.

3. The cross-country flight of the skills test must include using visual reference and dead reckoning.

61.14.1 REQUIREMENTS FOR COMMERCIAL FREE BALLOON PILOT LICENCE

(1)Training

1.1 *Aim of training course*

The aim of the course is to train a candidate to the level of proficiency required for the issue of a Commercial Free Balloon Pilot licence, and provide the training necessary to act as pilot-in-command or as co-pilot of any free balloon for which he or she holds a valid class or type rating, engaged in commercial operations.

1.2 *Contents and requirements of training course*

(a) The applicant must complete a training course with an aviation training organisation approved by the Executive Director in terms of Part 141. However, the theoretical knowledge course and the practical training course may be completed at different aviation training organisations.

(b) The course comprises –

i. theoretical knowledge course; and

ii. practical training course. The syllabus for the practical training is contained in Appendix 2.1A. to Document NAM-CATS-FCL.

2. *Theoretical Knowledge Examination*

The knowledge acquired must be sufficient for the candidate to pass examinations in the following theoretical knowledge subjects:

2.1 In the case of CPL VFR:

(a) Aviation Meteorology;

(b) Flight Performance and Planning;

(c) Radio Aids and Communication;

(d) General Navigation;

(e) Instruments and Electronics;

(f) Aircraft Technical and General;

(g) Human Performance and Limitations;

(h) Air Law.

3. *Theoretical knowledge course syllabus*

The detailed theoretical knowledge syllabus is contained in Appendix 2.0 to Document NAM-CATS-FCL.

4. *Radio Telephony*

4.1 To be eligible for the RTC a candidate must prove his knowledge of the ITU (International Telecommunications Union), and Authority requirements in both written and oral tests. The requirements are:

(a) ITU: Knowledge of radiotelephony operation and procedures, ability to transmit and receive messages by radio and knowledge of the radio communication regulations (e.g. use of different appropriate frequencies, interference, etc.) and especially those relating to the safety of human life.

(b) Communications Regulating Authority of Namibia: Proficiency in operating a radio installation including changing frequency, transmitting and receiving messages using the prescribed procedures, identification of Morse code beacons and clearing minor external faults.

(c) The Authority: requirements are based on documents issued by the International Civil Aviation Organisation (ICAO) dealing with procedures, abbreviations and flight planning, the various aeronautical information circulars (AIC) in force, the Namibian Aeronautical Information Publication (AIP), Civil Aviation Regulations (CAR) and Civil Aviation Technical Standards (CATS) and also other relevant regulations or rules in force.

(d) Applicants for a General Radio Certificate must pass a theoretical General Radio Examination at an approved Authority examination centre. The training syllabus for a General Radio Certificate is contained in Appendix 1.5a to Document NAM-CATS-FCL.

4.2 Applicants for a General Radio Certificate must in addition to the theoretical knowledge examination pass a practical communication test including the identification of radio beacons using morse code conducted by a Designated Radio Examiner (General). The practical test must include the full completion of an ATC IFR Flight Plan and examine, at minimum, the following aspects for an IFR flight departing on a standard or non-standard departure from a controlled aerodrome, into a CTR/TMA, flying in both controlled and uncontrolled airspace en route to a controlled airfield as destination, complying with a standard arrival (STAR) and the completion of an instrument approach procedure (precision or non-precision):

(a) Use of Radio on the Ground –

(i) Obtaining start clearance

(ii) Obtaining taxi clearance

(iii) Acceptance and read back of ATC departure clearance (Standard/non-standard)

(b) Departure procedure –

(i) Take-off clearance

(ii) Use of SID chart/compliance with non-standard departure procedure

(iii) Selection of departure frequency and contact with relevant ATSU

(iv) Use of area chart if applicable

(c) En route procedures –

(i) Use of radio navigation chart

(ii) Selection of frequencies appropriate to the route

(iii) Passing and revising estimates

(iv) Complying with onward clearance time (OCT)

(d) Arrival procedures –

(i) Use of area chart if applicable

(ii) Acceptance and review of STAR and instrument approach charts

(iii) Radar vectors to ILS localiser or

Holding beacon for non-precision approach including expected approach time (EAT)

(iv) Establishing weather minima at landing aerodrome and compliance with Approach Ban

(v) Completion of instrument approach procedure using IAC and correct radio procedures

(e) Radio communication failure –

Emphasis must be placed on correct use of aviation words and phrases as well as the avoidance of slang terms.

61.14.2 APPLICATION FOR, AND ISSUE OF A COMMERCIAL FREE BALLOON PILOT LICENCE

1. The application for a Commercial Free Balloon Pilot Licence must be made on Form FSS PEL 61-03.
2. The logbook summary must be completed in the format indicated on the following page and submitted together with the application form.
3. Guidance to Designated Flight Examiner is provided on page 2 of the skills test form, Form FSS PEL 61-39, in respect of retesting. The skills test Form FSS PEL 61-39, completed by the Designated Flight Examiner, must accompany the application form.

Logbook Summary

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
A/C Class or Type	Instrument			Instructor		FSTD	Single Engine Day			
	Actual Time	FSTD Time	SE	ME	FSTD		Dual	PIC	PICUS	Co-Pilot
PA 160							40.0	27.2		
C 172	15.0.0						53.3	67.2		
FNPT 1		21.0								
BE 55	5.0									
	20.0	21.0					93.3	94.4		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)

(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)

Single Engine Night				Multi Engine Day				Multi Engine Day			
Dual	PIC	PICUS	Co-Pilot	Dual	PIC	PICUS	Co-pilot	Dual	PIC	PICUS	Co-pilot
12.0	4.5										
	3.0										
				9.1	2.0			2.0	1.0		
12.0	7.5			9.1				2.0	1.0		
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
Total Flight Time			219.3		Hours						

61.14.4 SKILLS TEST

The practical test standard must be conducted in accordance with Appendix 2.1B to NAM-CATS-FCL 61

61.15.1 REQUIREMENTS FOR AIRSHIP PILOT LICENCE

(1) Training

1. *Aim of training course*

1.1 The aim of the course is to train a candidate to the level of proficiency required for the issue of an airship pilot licence, and provide the training necessary to act, but not for remuneration, as pilot-in-command or as co-pilot of any airships for which he or she holds a valid class or type rating, engaged in non-revenue flights under visual flight rules.

2. *Contents and requirements of training course*

2.1 The applicant must complete a training course with an aviation training organisation approved by the Executive Director in terms of Part 141. However, the theoretical knowledge course and the practical training course may be completed at different aviation training organisations.

2.2 The course comprises –

(a) theoretical knowledge course; and

(b) practical training course.

3. *Theoretical knowledge course*

4. *Theoretical knowledge course syllabus*

4.1 The detailed theoretical knowledge syllabus is contained in Appendix 1.0 to Document NAM-CATS-FCL.

4.1 The practical training syllabus is contained in Appendix 1.2C to Document NAM-CATS-FCL.

5. *Radio Telephony*

5.1 To be eligible for the RTC a candidate must prove his knowledge of the ITU (International Telecommunications Union), and Authority requirements in both written and oral tests. The requirements are –

(a) ITU: Knowledge of radiotelephony operation and procedures, ability to transmit and receive messages by radio and knowledge of the radio communication regulations (e.g. use of different appropriate frequencies, interference, etc.) and especially those relating to the safety of human life.

(b) Communications Regulating Authority of Namibia: Proficiency in operating a radio installation including changing frequency, transmitting and receiving messages using the prescribed procedures, identification of Morse code beacons and clearing minor external faults.

(c) The Authority: requirements are based on documents issued by the International Civil Aviation Organisation (ICAO) dealing with procedures, abbreviations and flight planning, the various aeronautical information circulars (AIC) in force, the Namibian Aeronautical Information Publication (AIP), Civil Aviation Regulations (CAR) and Civil Aviation Technical Standards (CATS) and also other relevant regulations or rules in force.

(d) Applicants for a Restricted Radio Certificate must pass a theoretical Restricted Radio Examination at an approved CAA examination centre. The training syllabus for a Restricted Radio Certificate is contained in Appendix 1.5 to Document NAM-CATS-FCL.

5.2. Applicants for a Restricted Radio Certificate must in addition to the theoretical knowledge examination pass a practical communication test including the identification of radio beacons using morse code conducted by a Designated Radio Examiner. The practical test must include the full completion of an ATC Flight Plan and examine at minimum the following aspects:

(a) Use of Radio on the Ground.

(i) Obtaining and complying with taxi instructions.

(ii) Knowing what to expect from the Air Traffic Control (ATC).

(iii) The importance of reading back all “hold short of instructions”.

(iv) The avoidance of runway incursions.

(v) Meaning of “give way to other aircraft”.

(vi) Obtaining and complying with take-off instructions.

(vii) Importance of understanding “line up behind”.

(viii) Importance of reading back the take-off clearance.

(ix) Importance of reading back any other required instructions.

(x) Radio procedures at unmanned/uncontrolled aerodromes.

(b) Departure procedures.

(i) Knowing what to expect in respect of departure procedures.

(ii) Required calls to be made on leaving the aerodrome circuit area.

(c) *En route* procedures.

(i) Knowing what call should be made to which station and when according to the airspace requirements.

(ii) Knowing the required in-flight broadcast procedure applicable to uncontrolled airspace.

(iii) Making a position report.

(iv) Obtaining relevant weather information, use of ATIS.

(v) Making appropriate weather reports (PIREPS).

(vi) Knowing the difference between positively controlled airspace as opposed to a Flight Information Service (FIS).

(vii) Transponder use.

(viii) Procedure to obtain bearings, headings and position from air traffic control/FIS Altimeter setting procedures.

(ix) Relaying messages for other stations.

(d) Arrival and traffic pattern procedures.

(i) Knowing what to expect.

(ii) Arrival clearance/instructions.

(iii) Calls and ATC instructions whilst joining the traffic pattern.

(iv) Calls to be made in the circuit.

(v) Calls to be made on vacating the runway.

5.3. Applicants for a Restricted Radio Certificate must attach a certificate of competency from the Communications Regulating Authority of Namibia when applying for an airship pilot licence.

(2)Theoretical Knowledge Examination

The knowledge acquired must be sufficient for the candidate to pass examinations in the following theoretical knowledge subjects –

(a) Aviation Meteorology (duration: 60 min);

(b) Flight Performance and Planning (duration: 90 min);

(c) General Navigation (duration: 90 min);

(d) Aircraft General (duration: 45 min);

(e) Principles of Flight (duration: 45 min);

(f) Human Performance and Limitations (duration: 45 min);

(g) Air Law (duration: 60min).

(3) Practical Flight Test Standard

The Practical Flight Test Standard is found in Appendix 1.1C to Document NAM-CATS-FCL.

61.15.2 APPLICATION FOR, AND ISSUE OF AN AIRSHIP PILOT LICENCE

1. The application for an airship pilot licence must be made on Form FSS PEL 61-02.
2. The logbook summary must be completed in the format indicated at the next page and submitted together with the application form.
3. The skills test report form to be used is form FSS PEL 61-40.

Logbook Summary

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
A/C Class or Type	Instrument			Instructor		FSTD	Single Engine Day			
	Actual Time	FSTD Time	SE	ME	FSTD		Dual	PIC	PICUS	Co-Pilot
PA 160							4.3	4.3		
C 172	3.0						15.2	12.9		
FNPT 1		3.8					18.0	4.3		
	3.0	3.8					37.5	21.5		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)

(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
Single Engine Night				Multi Engine Day				Multi Engine Day			
Dual	PIC	PICUS	Co-Pilot	Dual	PIC	PICUS	Co-pilot	Dual	PIC	PICUS	Co-pilot
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
Total Flight Time			59.0		Hours						

61.15.4 SKILLS TEST

1. The Skills Test must be conducted in accordance with Appendix 1.2C to NAM-CATS-FCL 61. Guidance to the Instructor is provided on page 2 of the skills test form, Form FSS PEL 61-40, in respect of retesting. The skills test Form FSS PEL 61-40, completed by the Grade I Instructor must accompany the application form.
2. The navigation element of the skills test administered for the issuing of an airship pilot licence may be conducted as a separate flight within a maximum period of 14 days.
3. The cross-country navigation flight of the skills test must not be less than 25 nautical miles total distance and must include five ascents and landings.

61.16.1 REQUIREMENTS FOR COMMERCIAL AIRSHIP PILOT LICENCE

(1) Training

1.1 *Aim of training course*

The aim of the course is to train a candidate to the level of proficiency required for the issue of a Commercial Airship Pilot licence, and provide the training necessary to act as pilot-in-command or as co-pilot of any airship for which he or she holds a valid class or type rating, engaged in commercial operations.

1.2 *Contents and requirements of training course*

(a) The applicant must complete a training course with an aviation training organisation approved by the Executive Director in terms of Part 141. However, the theoretical knowledge course and the practical training course may be completed at different aviation training organisations.

(b) The course comprises –

i. theoretical knowledge course; and

ii. practical training course. The syllabus for the practical training is contained in Appendix 2.1. to Document NAM-CATS-FCL.

(2) Theoretical Knowledge Examination

The knowledge acquired must be sufficient for the candidate to pass examinations in the following theoretical knowledge subjects:

2.1 In the case of CPL VFR only:

(a) Aviation Meteorology;

(b) Flight Performance and Planning;

(c) Radio Aids and Communication;

(d) General Navigation;

(e) Instruments and Electronics;

(f) Aircraft Technical and General;

(g) Human Performance and Limitations;

(h) Air Law.

2.2 In the case of CPL with IFR:

(a) Aviation Meteorology;

(b) Flight Performance and Planning;

(c) Radio Aids and Communication;

(d) General Navigation;

(e) Instruments and Electronics;

(f) Aircraft Technical and General;

(g) Human Performance and Limitations;

(h) Air Law

(i) Operational Procedures.

(3) Theoretical knowledge course syllabus

The detailed theoretical knowledge syllabus is contained in Appendix 2.0 to Document NAM-CATS-FCL.

(4) Radio Telephony

4.1 To be eligible for the RTC a candidate must prove his knowledge of the ITU (International Telecommunications Union), and Authority requirements in both written and oral tests. The requirements are:

(a) ITU: Knowledge of radiotelephony operation and procedures, ability to transmit and receive messages by radio and knowledge of the radio communication regulations (e.g. use of different appropriate frequencies, interference, etc.) and especially those relating to the safety of human life.

(b) Communications Regulating Authority of Namibia: Proficiency in operating a radio installation including changing frequency, transmitting and receiving messages using the prescribed procedures, identification of Morse code beacons and clearing minor external faults.

(c) The Authority: requirements are based on documents issued by the International Civil Aviation Organisation (ICAO) dealing with procedures, abbreviations and flight planning, the various aeronautical information circulars (AIC) in force, the Namibian Aeronautical Information Publication (AIP), Civil Aviation Regulations (CAR) and Civil Aviation Technical Standards (CATS) and also other relevant regulations or rules in force.

(d) Applicants for a General Radio Certificate must pass a theoretical General Radio Examination at an approved Authority examination centre. The training syllabus for a General Radio Certificate is contained in Appendix 1.5a to Document NAM-CATS-FCL.

4.2 Applicants for a General Radio Certificate must in addition to the theoretical knowledge examination pass a practical communication test including the identification of radio beacons using morse code conducted by a Designated Radio Examiner (General). The practical test must include the full completion of an ATC IFR Flight Plan and examine, at minimum, the following aspects for an IFR flight departing on a standard or non-standard departure from a controlled aerodrome, into a CTR/TMA, flying in both controlled and uncontrolled airspace en route to a controlled airfield as destination, complying with a standard arrival (STAR) and the completion of an instrument approach procedure (precision or non-precision):

(a) Use of Radio on the Ground –

(i) Obtaining start clearance

(ii) Obtaining taxi clearance

(iii) Acceptance and read back of ATC departure clearance (Standard/non-standard)

(b) Departure procedure –

(i) Take-off clearance

(ii) Use of SID chart/compliance with non-standard departure procedure

(iii) Selection of departure frequency and contact with relevant ATSU

(iv) Use of area chart if applicable

(c) En route procedures –

(i) Use of radio navigation chart

(ii) Selection of frequencies appropriate to the route

(iii) Passing and revising estimates

(iv) Complying with onward clearance time (OCT)

(d) Arrival procedures –

(i) Use of area chart if applicable

(ii) Acceptance and review of STAR and instrument approach charts

(iii) Radar vectors to ILS localiser or

Holding beacon for non-precision approach including expected approach time (EAT)

(iv) Establishing weather minima at landing aerodrome and compliance with Approach Ban

(v) Completion of instrument approach procedure using IAC and correct radio procedures

(e) Radio communication failure –

Emphasis must be placed on correct use of aviation words and phrases as well as the avoidance of slang terms.

61.16.2 APPLICATION FOR, AND ISSUE OF A COMMERCIAL AIRSHIP PILOT LICENCE

1. The application for a Commercial Airship Pilot Licence must be made on Form FSS PEL 61-03.
2. The logbook summary must be completed in the format indicated on the following page and submitted together with the application form.
3. Guidance to Designated Flight Examiner is provided on page 2 of the skills test form, Form FSS PEL 61-40, in respect of retesting. The skills test Form FSS PEL 61-37, completed by the Designated Flight Examiner, must accompany the application form.

Logbook Summary

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
A/C Class or Type	Instrument			Instructor		FSTD	Single Engine Day			
	Actual Time	FSTD Time	SE	ME	FSTD		Dual	PIC	PICUS	Co-Pilot
PA 160							40.0	27.2		
C 172	15.0.0						53.3	67.2		
FNPT 1		21.0								
BE 55	5.0									
	20.0	21.0					93.3	94.4		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)

(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
Single Engine Night				Multi Engine Day				Multi Engine Day			
Dual	PIC	PICUS	Co-Pilot	Dual	PIC	PICUS	Co-pilot	Dual	PIC	PICUS	Co-pilot
12.0	4.5										
	3.0										
				9.1	2.0			2.0	1.0		
12.0	7.5			9.1				2.0	1.0		
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
Total Flight Time			219.3		Hours						

61.16.4 SKILLS TEST

The practical test standard must be conducted in accordance with Appendix 2.2B to NAM-CATS-FCL 61

61.17.1 REQUIREMENTS FOR AND THE ISSUE OF CLASS AND TYPE RATINGS

(1) Licence endorsements

The list of class and type ratings for endorsement are set out below: ICAO continuously updates the licence endorsements, in the event of variations between the endorsements below and the ICAO endorsements,

1.1 Issuing of class and type ratings

Class and Type ratings must be issued as an endorsement in the pilot's logbook and licence on submission of the applicable skill test forms, namely FSS PEL 61-30, FSS PEL 61-31, FSS PEL 61-32, FSS PEL 61-33, FSS PEL 61-34, FSS PEL 61-35, FSS PEL 61-36, FSS PEL 61-37, FSS PEL 61-38, FSS PEL 61-39, FSS PEL 61-40, , which must be forwarded to the Executive Director within 30 days of completion of the training. The endorsement in the logbook must contain the following particulars -

a. an indication of the type or class of aircraft in respect of which the endorsement is made;
b. the type (and variant if applicable) and registration marks of the aircraft in which the skills test referred to in regulation 61.17.3, was performed;
c. the name, licence number, designation and signature of the person making the endorsement;
d. the date.

1.2 Establishment of Type Ratings

Criteria: For the establishment of type ratings for aeroplanes other than those included in Tables 4 – 8, all of the following must be considered –

(a) airworthiness type certificate;

i. handling characteristics;

ii. certificated minimum flight crew complements; and

iii. level of technology.

(b) High performance single-pilot aeroplanes.

Criteria: For the establishment of a class or type rating of a single-pilot aeroplane designated as high performance, all the following must be considered –

i. type of power plant;

ii.provision and capabilities of airframe systems;

iii.cabin pressurisation;

iv.capabilities of navigation systems;

v.performance both airfield and en route;

vi.handling characteristics.

1.3 List of Classes and Types of aeroplanes

(a) Class of Aeroplane

Explanation of how to use Tables 1, 2 and 3.

i. the symbol (D) in column 3 indicates that differences training is required when moving between variants or other types of aeroplane which are separated by the use of a line in column 2;

ii. Although the licence endorsement (column 4) contains all aeroplanes listed in column 2, the required familiarisation or differences training has still to be completed and endorsed in the pilot's logbook by the instructor or Namibia Civil Aviation Authority authorised person;

iii. The symbol HPA /HPP (High Performance Aeroplane/High Performance Powered-lift) in column 3 indicates that additional knowledge instruction is required for this type of aeroplane if the applicant for the type rating is not the holder of an ATPL (A/P) or has no theoretical knowledge credit at ATPL (A/P) level.

Note: Aeroplanes not listed may be entered into a Namibian CAR-FCL licence, but the rating privileges are restricted to aeroplanes on the Namibian register. At the time of publication of these Technical Standards every attempt was made to ensure that the information in respect of types was correct. Corrections and new entries will be made available on the Authority. The tables will be updated from time to time.

Table 1
Single/multi-engine piston aeroplanes land/sea – Single-pilot (SP) (A)

1 Manufacturer	2 Aeroplanes	3	4 Licence Endorsement
All Manufacturers	Single-engine piston (land)	(D)	SEP (land)
	Single-engine piston (land) with variable pitch propellers (VP)		
	Single-engine piston (land) with Retractable undercarriage (RU)		
	Single-engine piston (land) with Turbo/super charged engines (T)		
	Single-engine piston (land) with cabin pressurisation (P)		
	Single-engine piston (land) with Tail wheel (TW)		
	Single-engine piston (sea)	(D)	SEP (sea)
	Single-engine piston (sea) variable pitch propellers (VP)		
	Single-engine piston (sea) with Turbo/super charged engines (T)		

1 Manufacturer	2 Aeroplanes	3	4 Licence Endorsement
	Single-engine piston (sea) with cabin pressurisation (P)		
	Multi-engine piston (land)	(D)	MEP (land)
	Multi-engine piston (sea)	(D)	MEP (sea)

Table 2
Single-engine turboprop (land) – Single-pilot

1 Manufacturer	2 Aeroplanes	3	Licence Endorsement
Aerospatiale (Socata)	TBM 700	(HPA)	Aerospatial SET
Snow/Rockwell/ Ayres	S2R turbo thrush		Snow/Ayres SET
Cessna	206 A/T Soloy 207 A/T Soloy	(D)	Cessna SET
	208		
De Havilland (Air Tech Canada)	DHC-3 Turbo-Otter		DHC3
(Bombadier)	DHC-2 Turbo-Beaver		DNC2
Gulfstream	AM.G-164D		Gulfstream SET
Pilatus	PC06 Series PC6 82H2	(D)	Pilatus SET
	PC-7		
Rhein Flugzeugbau	FT 600		Rhein Flugzeugbau SET

Table 3
Single-engine piston touring motor gliders (land) – Single-pilot

1 Manufacturer	2 Aeroplanes	3	Licence Endorsement
All Manufacturers	All touring Motor Gilders having integrally mounted non-retractable engine and a non-retractable propeller		TMG

1.3.2 List of aeroplane types – Tables 4 to 8

These tables include aeroplanes type certificated under FAR/JAR 25, FAR/JAR 23, FAR/JAR 23 Commuter Category, FAR/JAR 25, BCAR or AIR 2051, and aeroplanes type certificated by another competent authority acceptable to the Executive Director, but does not include –

(a) aeroplanes not type certificated in accordance with FAR/JAR 23, FAR/JAR 23 Commuter Category, FAR/JAR 25, BCAR or AIR 2051;

(b) aeroplanes type certificated in Namibia under special registration such as military, ex-military, experimental (NTCA) or vintage aeroplanes.

Aeroplanes not listed in the tables may be entered into a Namibian licence subject to any specific requirements that may be laid down by the Executive Director from time-to-time.

Explanation of tables

(a) the symbol (D) in column 3 indicates that differences training is required when moving between variants or to other types of aeroplane which are separated by the use of a line in column 2.

(b) although the licence endorsement (column 4) contains all aeroplanes listed in column 2, the required familiarisation or differences training has still to be completed.

(c) the specific variant on which the skills test for the type of rating has been completed will be recorded according to NAM-CATS-FCL 61.17.10.

(d) the symbol HPA/HPP (High Performance Aeroplane/High Performance Powered-lift) in column 3 indicates that additional knowledge instruction is required for this type of aeroplane if the applicant for the type rating is not the holder of an ATPL (A/P) or has no theoretical knowledge credit at ATPL (A/P) level.

A: Single-pilot aeroplanes

Table 4
Multi-engine turboprop aeroplane (land) – single-pilot (SP) (A)

1 Manufacturer	2 Aeroplanes	3	Licence Endorsement
Asla GAF	Nomad - 22B 24A		AslaMET
Beechcraft	90 series	(HPA) (D)	BE90.99.100/200
	99 series		
	100 series		
	200 series		
	300 series	(HPA) (D)	BE300/1900
	1900 series		
Cessna-Rheims Aviation	F406 425	(HPA)	C406/425
	441		C441

1 Manufacturer	2 Aeroplanes	3	Licence Endorsement
De Havilland Canada (Bombardier)	DHC6 Series		DHC6
Dornier	DO-128-6		D128
	DO 228 series		D228
Embraeer	Bandeirante EMB 110		EMB110
Grumman	Tracker S2FT		S2FT
Mitsubishi	MU2B series	(HPA)	MU2B
Piaggio	P165		Piaggio 165
	P180	(HPA)	Piaggio 180
Pilatus Britten	BN2T Turbine Islander	(D)	BN2T
	BN2T-4R MSNAMIBIAN BN2T-4S Defender		
Piper	PA31 series Cheyenne	(HPA)	PA31/42
	PA42 series Cheyenne	(D)	
Rockwell	AC680 T AC690 series AC900 series	(HPA)	Rockwell MET
Short (Bombardier)	SC7Skyvan		SC7Skyvan
Swearingen/ Fairchild	226 T 226 T (B)	HPA (D)	SA226/227
	226AC 226TC		
	227TF		
	227AC 227AT 227BC		

Table 5
Single-engine – single-pilot

1 Manufacturer	2 Aeroplanes	3	Licence Endorsement
Pilatus	PC-7MkII PC-9P C-9(M)	(HPA)	FC9/PC7MkII
	PC12 series	(HPA)	
Piper	PA-46 Malibu PA-46 Malibu Turbine	HPA (D)	PA-15
Weider Extra	Extra 400	(HPA)	Extra 400

Table 6
Multi-engine turbo-prop (sea) – single-pilot

1 Manufacturer	2 Aeroplanes	3	Licence Endorsement
Canadair (Bombardier)	CL215T		CL215T

Table 7
Multi-engine turbo-jet (land) – single-pilot (SP)

1 Manufacturer	2 Aeroplanes	3	Licence Endorsement
Aerospatiale	MS 760 Paris	(HPA)	S760
Cessna	C501/500SP	(HPA) (D)	C501/551
	C651/500SP*		
	C525	(HPA)	C525

B: Multi-pilot aeroplanes

Table 8

1 Manufacturer	2 Aeroplanes	3	Licence Endorsement
	SN601 Corvette		SN601
Aerospatiale/Sud Aviation	SE210III IIIR VIN	(D)	SE210/10B3/11/12
	SE 10B3		
	SE 11		
	SE 12		
Aerospatiale/BAC	Concorde		Concorde
Aerospatiale/Nord Aviation	Nordiatlas 2501		ND25
	C160 P Transall		ND16
	260A Nord 262A-B-C Nord		ND 26

Aero-Spaceline	377 SGTF Super Guppy		Super Guppy
Airbus	A300-B1 B2 series 4 series C4-200 series F4-200 series		A300
	A300-FFCC		A300FFCC
	A310-100 series 300 series A300-B4 600 series C4 600 series F4 600 series		A310/300-600
	A318 A319-100 series A320-100 series 200 series A321-100 series 200 series		A320

1 **Manufacturer**	**2** **Aeroplanes**	**3**	**Licence Endorsement**
	A330-300 series 200 series		A330
	A340-200 series 300 series 500 series 600 series		A340
	A300 – 600 series ST/Beluga		A300-600ST
ATR	ATR42 200/30/400	(D)	ATR42.72
	ATR42 500 72 Series		
Mitsubshi/ Beech/Raytheon	Beechjet 400 series MU300		Beech400/MU300
	B707-100 series 200 series	(D)	B707/720

Boeing	B720		
	B717 series		B717
	B727-100 series 200 series		B727
	B737-100 series 200 series		B737 100-200
	B737-300 series 400 series 500 series	(D)	B737 300-900
	600 series 700 series 800 series 900 series		
	B747-100 series 200 series 300 series	(D)	B747 100-300
	B747SP		
	B747-400 series		B747-400
	B757-200 series 300 series	(D)	B757/767
	767-200 series 300 series		
	B767-400ER*		
	B777-200 series 300 series		B777

* The differences training course is valid from the B757/767 ‘classic’ to the B767-400ER for crew members previously qualified on the B757/767 ‘classic variants’. The 767-400ER to B757/767 ‘classic’ differences training must be evaluated or the full type rating training must be accomplished.

1 **Manufacturer**	**2** **Aeroplanes**	**3**	**Licence Endorsement**
Bombardier	Global Express 1-A-10 1-A-11		BD700
British Aerospace Avro	ATP Jetstream 61		BAe/ATP/Jetstream 61
	AVROTO RJ series 146-100 series 200 series 300 series		AVROTORJ/Bae46
British Aerospace Avro	BAC1-11-200 series 400 series 500 series		BAC1-11
Hawker Siddeley/ BAe/ Raytheon	HS125	(D)	HS125
	Bae 125-800 series 1000 series		

Hawker Siddeley/BAe	Jetstream 3100 series 3200 series		Jetstream31/32
BAe/Avro	Jetstream 41		Jetstream41
Canadair (Bombardier)	CL145		CL145
	(Challenger Series) CL 600 CL 601-1A CL 601-3A		CL600/501
	(Challenger) CL604		CL604
	(Regional Jet series) CRJ 100 200	(D)	CRJ100
	700 900		
1 **Manufacturer**	**2** **Aeroplanes**	**3**	**Licence Endorsement**
Casa	C212 series		C212
	CN-235		CN235
Cessna	C 500	(D)	C500/550/560
	C 550 CS 550		
	CS 550 Bravo		
	C 560 Encore		
	C 560XL		C560XL
	C650 Citation III Citation VI Citation VII		C650
	C750 Citation X		C750
Consolidated Vultee Aircraft	CV 240-4	(D)	CV240/340/440
	CV 340 CV 440		
	CV 580		CV580

Dassault	Falcon 10		Falcon 10/100
	Falcon 100		
	Falcon 20 series	(D)	Falcon 20/200
	Falcon 200		
	Falcon 50	(D)	Falcon 50/900
	Falcon 900		
	Falcon 900 EX		
	Falcon 2000	(D)	Falcon 2000/2000 EX
	Falcon 2000 EX (2)		
	Falcon 2000 EX EASy		Falcon 2000EX EASy

(1) The differences training course is valid from the Falcon 2000 to the Falcon 2000EX for crew members previously qualified on the Falcon 2000. The Falcon 2000EX to the Falcon 2000 differences training must be evaluated or the full type rating training must be accomplished.

1 **Manufacturer**	**2** **Aeroplanes**	**3**	**Licence Endorsement**
Havilland Canada (Bombardier)	DHC7		DHC7
	DHC8-100 series 200 series 300 series	(D)	DHC8
	DHC8 400 series		
Dornier	DO 328-100		DO 328-100
	DO328-200		DO328-200
McDonnel-Douglas	Douglas A-26B		DCA26
	Douglas -3A-51C3G		DC3
	DC4		DC4
	DC6 series		DC6
	DC7C		DC7
McDonnel-Douglas/Boeing	DC8-33 50,60,70 series		DC8
	DC9 10-50 series		DC9 10-50
	DC9 60 series	(D)	DC9 50/MD58/MD90
	MD 58 series MD 90 series		
	DC10 series		DC10
	MD11		MD11
Embraer	EMB120 Brasillia		EMB120
	EMB 145 135 145 series		EMB 135/145
	EMB 170-100		EMB170
	FH227 F27/A/F/J F27 series		F27

Fokker/Fairchild	F28 series		F28
	F50		F50
	F70 F100		F70/100
Grumman Gulfstream	Grumman G-159		Gulfstream I
	Grumman G1159	(D)	Gulfstream II/III
	Grumman G1159A		
	Gulfstream 1159C/GIV		Gulfstream IV
	Gulfstream V	(D)	G-V
	G550/G500/G V-SP		
Handley Page	Herald series		Herald
Israel Aircraft Industry	IAI-1121 Jetcommander 1123 Commander Jet 1124 Westwind		IAI1121/23/24
	IAI 1124 Astra		IAI1125
Junkers	Junkers 52		JU52
Lockheed	L188 Electra series A	(D)	L188 Electra
	L185 Electra series C		
	L382 G(C 130)		Hercules
	L1011 series		L1011
	L1329		Jetstar
Learjet (Bombardier)	Learjet-20 series	(D)	Learjet20/30
	30 series		
	Learjet-45 series		Learjet45
	Learjet-55 series		Learjet55
	Learjet-60 series		Lerajet60
Leteckee	L410UVP		LetL410
MBB	HFB320		HFB320
	VFW 614		VFW-614
PI Industry	IPTN CN 235-110		IPTNCN235
Rockwell International	NA-265 series		NA265
Saab	SAAB SF340 series		SAAB340

	SAAB 2000		SAAB2000
Short Brothers (Bombardier)	SD3-30	(D)	SD3-30/60
	60		
	Belfast		Belfast
Vickers-Armstrong	Vanguard		Vanguard
	Viscount		Viscount

1.3.3 List of class/type of helicopters – Table 9

This table includes helicopters type certificated under FAR/JAR 27, BCAR and helicopters type certificated by another competent authority acceptable to the Executive Director, but does not include:

(a) helicopters not type certificated in accordance with FAR/JAR 27, BCAR; or

(b) helicopters type certificated in Namibia under special registration such as military, ex-military, experimental (NTCA) or vintage helicopters;

Helicopters not listed in the table may be entered into a Namibian licence subject to any specific requirements that may be laid down by the Executive Director from time-to-time.

Explanation of the Table

1. If a dividing line exists in column 2, this indicates a variant.
2. The symbol (D) between variants of types of helicopter used in column 3 indicates that differences training is required.
3. Although the licence endorsement (column 4) contains all helicopters listed in column 2, the required familiarisation or differences training has still to be completed (details of differences training can be found in NAM-CATS-FCL 61.17;
4. The specific variant on which the skills test for the type rating has been completed will be recorded according to NAM-CATS-FCL 61.17.

Table 9

1 Manufacturer	2 Aeroplanes	3	4 Licence Endorsement
Augusta			
SE Turbine	A 119 Koala		A119
ME Turbine	A 109A A 109A II A 109C	(D)	A109/109K/109E
	A 109K		
	A 109E		
Augusta-Bell			
SE Piston	Augusta Bell 47G-2		Bell 47
	Augusta Bell 47G-2A-1		
	Augusta Bell 47G-3B.1		
	Augusta Bell 47G-4		
	Augusta Bell 47G-4A		
	Augusta Bell 47J		

1 **Manufacturer**	2 **Aeroplanes**	3	4 **Licence Endorsement**
	Augusta Bell 47J-2		
	Augusta Bell 47J-3		
SE Turbine	Augusta Bell 206A Augusta Bell 206B	(D)	Bell206/206L
	Augusta Bell 206L		
	Augusta Bell 204	(D)	Bell204/205/UH-1D
	Augusta Bell 205		
ME Turbine	Augusta Bell 212		Bell212/412
	Augusta Bell 412		
	Augusta Bell 412 SP		
Augusta Sikorsky			
ME Turbine	Augusta S-61N1		SK-61
Bell Helicopters			
SE Piston	Bell 47D Bell 47G Bell 47G-1 Bell 47G-2 Bell 47G-3B-1 Bell 47G-4 Bell 47G-4A Bell 47G-5 Bell 47H-1 Bell 47J Bell 47J-2 Bell 47J-2A		Bell47
SE Turbine	Bell 47T		Bell47T
	Bell 47TA		
	Bell 204		Bell204/205/UH-1D
	UH-1D		

1 Manufacturer	2 Aeroplanes	3	4 Licence Endorsement
	Bell 206 A Bell 206 B Bell 206 B 2 Bell 206 B 3 Bell 206 L Bell 206 L-1 Bell 206 L-3 Bell 206 L-4		Bell206/206L
	Bell 214 B Bell 214 B 1		Bell214
	Bell 407		Bell407
ME Turbine	Bell 206 LT Twinranger		Bell 206LT
	Bell 212		Bell212/412
	Bell 412 SP Bell 412 HP Bell 412 EP	(D)	
	Bell 214 ST		Bell214ST
	Bell 222 Bell 222 A Bell 222 B Bell 222 UT Bell 222 SP	(D)	Bell222/230/430
	Bell 230		
	Bell 430		
	Bell 427		Bell427
Boeing-Vertol			
ME Turbine	Boeing 234 LR		BV234
Bristol Aircraft			
SE Piston	B-171-B		Bristol 171B
Brantly			
SE Piston	B-2 B-2 B		Brantly B2
Breda Nardi			
SE Piston	Breda Nardi 269		HU269
SE Turbine	Breda Nardi 369		HU369
EH Industries			
ME Turbine	EH101		EH101
Enstrom			

1 Manufacturer	2 Aeroplanes	3	4 Licence Endorsement
SE Piston	F28 A-D F28 C 2 F280C F280F F280FX F280D		EN28
SE Turbine	F480		ENF480
Eurocopter			
SE Turbine	AS350B AS350B 1 AS350B 2 AS350D AS350B A AS350B B	(D)	AS350/350B3
	AS350B 3		
	EC130B 4		EC130B4
	EC120		EC120
	SA341 G SA42 J		SA 341/342
	SA 3180 SA 318 B SA 318 C SE3130 SE313 B		SA 318/SE313
	SE3160 SE316 B SE316 C	(D)	SA 316/319/315
	SA 319 B		
	SA 315 B		
	SA 360		SA 360
	SO1221		SO1221

1 Manufacturer	2 Aeroplanes	3	4 Licence Endorsement
ME Turbine	AS332 C AS332 C 1 AS332 L AS332 L 1	(D)	AS332/332L2
	AS332 L 2		
	EC 225 L P		EC 225LP
	AS355 E AS355 F AS355 F 1 AS355 F 2	(D)	AS355/355N
	AS355 N		
	BO105 A BO105 C BO105 D BO105 LS A-1 BO105 LS A-3 BO105 S BO105 CBS		BO105/105LS/105CBS
	EC135 T1 CDS EC135 P1 CDS	(D)	EC135
	EC135 T1 CPDS EC135 P1 CPDS EC135 T2 CPDS EC135 P2 CPDS		
	MBB-BK 117 A-1 MBB-BK 117 A-3 MBB-BK 117 A-4 MBB-BK 117 B-1 MBB-BK 117 B-2	(D)	BK117
	MBB-BK 117 C-1		
	MBB-BK 117 C-2		
	SA 330 F SA 330 G SA 330 J		SA 330
	SA 365 SA 365 C 1 SA 365 C 2 SA 365 C 3	(D)	SA 365/365N
	SA 365 N SA 365 N 1 SA 365 N 2		
	EC155		EC155
Hiller			

1 Manufacturer	2 Aeroplanes	3	4 Licence Endorsement
SE Piston	UH12 A UH12 B UH12 E		UH12
Hughes/Schweitzer			
SE Piston	269 A 269 B 269 C 300 C 300 CB		HU269
SE Turbine	330SP		SC330
Kaman			
SE Turbine	Kaman K 1200		K1200
McDonnell Douglas Helicopters			
SE Turbine	Hughes 369 D Hughes 369 E Hughes 369 HE Hughes 369HS MD500 N (NOTAR) MD520 N	(D)	HU369/MD500N/ 600
	MD600		
ME Turbine	MD900	(D)	MD900/902
	MD902		
Robinson			
SE Piston	R22 R22 A R22 B		R22
	R44		R44
Silvercraft			
SE Piston	SV 4		SV4
Sikorsky			
SE Piston	S55		SK55
	S58		SK58

1 Manufacturer	2 Aeroplanes	3	4 Licence Endorsement
ME Piston	S58T		SK58T
	S76 A	(D)	SK76/76B/76C/76C+
	S76 A+		
	S76 A++		
	S76 B		
	S76 C		
	S76 C+		
	SN-61 N		SK61
	SN-61 S		
Westland			
SE Piston	Westland Bell 47 G3 B-1		Bell 47
Westland Helicopters			
SE Piston	Westland S55 Series 1	(D)	WHS55
SE Turbine	Westland S55 Series 3		
Ministry of Aviation Industry of Russia			
ME Piston	Kamov KA26 D		KA26D
ME Turbine	KA32 A		KA32
	MIL Mi-8 MIL Mi 17 MIL Mi 171 MIL Mi 172		Mi8
P.Z.L Swidnik, Poland			
ME Turbine	MIL Mi-2		Mi-2
	PZL Kania		KANIA
	PZL W-3	(D)	W-3SOKOL
	PZL W-34		

1.3.4 Table 10 – Warbird Type Rating Standards

Standards for the issue of a Warbird Type Rating for the following aircraft are detailed below –

1 Manufacturer	2 Aeroplanes	3	4 Licence Endorsement
Boomerang			
	CAC CA-12 (all models)		
	CAC CA-13 (all models)		
	CAC CA-19 (all models)		
	A 109E		
Canberra			
	Handley Page Canberra TT18		
	English Electric Canberra (all models)		

1 Manufacturer	2 Aeroplanes	3	4 Licence Endorsement
Cessna			
	Cessna A37 Dragonfly (all models)		Cessna A37
L-39			
	Aero Vodochnyody L-39 Albatross (all models)		
L-29			
	Aero Vodochnyody L-29 Delphin (all models)		
Firefly			
	Fairey Firefly (all models)		
Fiat G59			
	Fiat G59 (all models)		
Fury			
	Hawker Sea Fury (all models) Hawker Fury (all models)		
Hunter			
	Hawker Hunter (all models)		
Iskra			
	PZL TS-11 Iskra		
Kittyhawk			
	Curtis P-40 (all models)		
Hudson			
	Lockheed 414 Hudson (all models)		
Ventura			
	Lockheed PV-1 (all models)		
ME109			
	Messerschmit BF 109 (all models)		
Meteor			

1 Manufacturer	2 Aeroplanes	3	4 Licence Endorsement
	Gloster Meteor (all models)		
MIG 15			
	Mikoyan MIG-15 (all models)		
MIG 17			
	Mikoyan MIG-17 (all models)		
MIG 21			
	Mikoyan MIG-21 (all models)		
Mustang			
	CAC CA-17 (all models) CAC CA-18 (all models) North American P-51 (all models)		
Sabre			
	CAC CA-27 (all models)		
North American			
	F-86 (all models)		
Spitfire			
	Supermarine Spitfire (all models) Supermarine Seafire (all models)		
Strikemaster			
	BAC-167 (all models) BAC Jet Provost (all models)		
Trojan			
	North American T28 (all models)		
Avenger			
	Grumman TBM Avenger (all models)		
Beaufort			
	Bristol Beaufort (all models)		
Vampire			
	De Havilland DH-115 Vampire (all models)		
YAK 3			
	Yakovlev YAK 3 (all models)		
All ex-military aircraft			

(2) Class and Type Rating Training

1. Theoretical knowledge instruction requirements for class/type ratings

1.1 The theoretical knowledge instruction must be conducted by competent persons having appropriate experience in aviation and knowledge of the aircraft concerned, eg. flight instructor, flight engineer, maintenance engineer.

1.2 The theoretical knowledge instruction must cover the syllabus in Appendix 8.0 to NAM-CATS-FCL as appropriate to the aircraft class/type concerned. Depending on the equipment and systems installed, the instruction must include but is not limited to the following content

(a) *Aircraft structure and equipment, normal operation of systems and malfunctions*

(i) Dimensions;

(ii) Engine including auxiliary power unit;

(iii) Fuel system;

(iv) Pressurisation 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.

(b) *Limitations*

(i) General limitations;

(ii) Engine limitations;

(iii) System limitations;

(iv) Minimum equipment list.

(c) *Performance, flight planning and monitoring*

(i) Performance;

(ii) Flight planning;

(iii) Flight monitoring.

(d) *Load, balance and servicing*

(i) Load and balance;

(ii) Servicing on ground.

(e) *Emergency procedures, including upset recovery procedures.*

(f) *Special requirements for extension of a type rating for instrument approaches down to a decision height of less than 200 ft (60 m)*

(i) Airborne equipment, procedures and limitations.

(g) *Special requirements for "glass cockpit" aeroplanes*

(i) Electronic flight instrument systems (eg. EFIS, EICAS).

(h) *Flight Management systems (FMS)*

2. High Performance Aeroplane (HPA) or High Performance Powered-lift (HPP) Training Course

(Additional theoretical knowledge training for a class or type rating for high performance single-pilot aeroplane or powered-lift and warbird type endorsements.)

2.1 A number of aeroplanes or powered-lifts certificated for single-pilot operation have similar performances, systems and navigation capabilities to those more usually associated with multi-pilot types of aircraft, and regularly operate within the same airspace. The level of knowledge required to operate safely in this environment is not part of, or not included to the necessary depth of knowledge in the training syllabi for the PPL (A/P), CPL (A/P) or IR (A/P) but these licence holders may fly as pilot-in-command of such aeroplanes or powered-lifts.

2.2 The aim of the theoretical knowledge course is to provide the applicant with sufficient knowledge of those aspects of the operation of aeroplanes or powered-lifts capable of operating at high speeds and altitudes, and the aircraft systems necessary for such operation.

2.3 The holder of an ATPL (A/P) issued by a Contracting State or with a pass in the theoretical knowledge examinations at ATPL (A/P) level is credited with meeting the requirement of regulation 61.17.4(3).

2.4 A pass in any theoretical knowledge subjects as part of the HPA or HPP course will not be credited against meeting future theoretical examination requirements for issue of a CPL (A/P), IR (A/P) or ATPL (A/P).

3. HPA / HPP Course Providers

Theoretical knowledge instruction for the HPA or HPP may be provided by a Part 141 approved aviation training organisation accredited to conduct theoretical knowledge training for the ATPL (A/P). Course providers will be required to certify completion of the training and demonstration of knowledge by the applicant as a pre-requisite for training for an initial type or class rating for aeroplanes designated as high performance.

4. HPA/HPP Course Syllabus

There is no mandatory minimum or maximum duration of the theoretical knowledge instruction required for the HPA/HPP syllabus. The course material may be conducted by distance learning. The subjects to be covered in the course and written examination are given in Document NAM-CATS-FCL.

5. Multi-crew Co-operation Course

5.1 The aim of the course is to become proficient in multi-crew co-operation (MCC) in order to operate safely multi-pilot multi-engine aircraft under IFR and, for that purpose, to ensure that–

(a) The pilot-in-command fulfils his managing and decision-making functions irrespective whether he is pilot flying (PF) or pilot not flying (PNF);

(b) The tasks of PF and PNF are clearly specified and distributed in such a manner that the PF can direct his full attention to the handling and control of the aircraft;

(c) Co-operation is effected in an orderly manner appropriate to the normal, abnormal or emergency situations encountered; and

(d) Mutual supervision, information and support are ensured at all times.

6. Instructors

Instructors for MCC training must be approved as instructors for MCC training. They should be current with the latest developments in human factors training and CRM techniques.

7. Theoretical Knowledge

The theoretical knowledge syllabus is set out in Appendix 20.0 to Document NAM-CATS-FCL. An approved MCC theoretical knowledge course must comprise not less than 25 hours.

8. Flying Training

The flying training syllabus is set out in Appendix 20.0 to Document NAM-CATS-FCL.

9. Certificate of Completion

On completion of the MCC training course or upon completion of an initial multi-pilot aircraft type endorsement, the applicant must be issued with a certificate of satisfactory course completion by the CFI.

10. Cross-Crediting

A holder of a certificate of completion of MCC training on aeroplanes or helicopters must be exempted from the requirement to complete the theoretical knowledge syllabus, as set out in Appendix 20.0 to Document NAM-CATS-FCL, in the event that applicant seeks multi-crew authorisation on an alternative category of aircraft.

11. HPA/HPP Examination

11.1 Demonstration of acquisition of the HPA/HPP knowledge will be undertaken by passing an examination set by the training provider and acceptable to the Executive Director. Successfully

passing this examination will result in the issue of a certificate indicating that the course and examination have been completed. The syllabus content for theoretical training for High Performance Aircraft is set out in Appendix 8.2 to the NAM-CATS-FCL 61.

11.2 The certificate will represent a 'once only' qualification and will satisfy the requirement for the addition of all future high performance aeroplanes to the holder's licence. The certificate will be valid indefinitely and must be submitted with the application of the first HPA/HPP type or class rating.

11.3 The written examination must consist of not less than 60 multi-choice questions, and may be split into individual subject papers at the discretion of the Part 141 approved aviation training organisation. The pass mark for the examination will be 75%.

12. Class and Type Rating Examinations

12.1 Demonstration of acquisition of the class or type rating knowledge will be undertaken by passing an examination(s) set by the Part 141 training provider or an equivalent organisation acceptable to the Executive Director. Successfully passing this examination will result in the issue of a certificate indicating that the course and examination have been completed.

12.2 For the initial issue of type ratings for multi-pilot aeroplanes the written or computer based examination must at least comprise one hundred questions distributed appropriately across the main subjects of the syllabus. The pass mark is 75% in each of the main subjects of the syllabus.

12.3 For the initial issue of type and class ratings for single-pilot aeroplanes the number of questions in the written or computer based examination must depend on the complexity of the aeroplane. The pass mark is 75%.

12.4 After the examination, the candidate must review the questions answered incorrectly, with the instructor who provided the theoretical knowledge training, to correct the knowledge deficiency.

61.17.2 TRAINING

(1)Training and prior qualifications

The training and prior qualification requirements for the issuing of class and type ratings (including high performance aeroplanes) are set out in Table A.

Table A

	SE Class	**SE/SP Type**	**ME Class**	**1st ME/SP Type**	**HPA**	**Multi-pilot**
Applicable Tables *	1, 2, 3	5	1	4, 6, 7	2, 4, 5, 6, 7	8
Instrument rating (ME)	N/A	N/A	N/A	N/A	Desirable	Required
MCC training	N/A	N/A	N/A	N/A	N/A	Required
ATP theory credit	N/A	N/A see HPA	N/A	N/A	Required, or additional theory training	Required
Theoretical knowledge	Appendix 8.0 to NAMIBIAN-CATS-FCL 61	Appendix 8.0 to NAMIBIAN-CATS-FCL 61	Appendix 8.0 to NAMIBIAN-CATS-FCL 61	Appendix 8.0 to NAMIBIAN-CATS-FCL 61	Appendix 8.2 to NAMIBIAN-CATS-FCL 61	Appendix 8.1 to NAMIBIAN-CATS-FCL 61

Practical training	Appendix 10.0 to NAMIBIAN-CATS-FCL 61	Appendix 10.0 to NAMIBIAN-CATS-FCL 61	Appendix 10.2 to NAMIBIAN-CATS-FCL 61	Appendix 10.2 to NAMIBIAN-CATS-FCL 61	Appendix 10.1 to NAMIBIAN-CATS-FCL 61	Appendix 10.3 to NAMIBIAN-CATS-FCL 61

* The tables are contained in TS 61.17.9

(2)General

2.1. The type rating course, including theoretical knowledge, must be completed within the 3 months preceding the skills test.

2.2. Where the type is new to the aircraft register or a manufacturer requires specific type training, then the training done through that manufacturer or TRTO is acceptable as part of the type training requirements as referred to above.

2.3. Where the type is new to the aircraft register and the pilot is able to present a FAA/JAR skills test carried out by a pre-approved examiner and where that skills test includes the oral exam pertaining to that regulatory authority, then that skills test will be deemed as being compliant as specified below for the initial rating only.

61.17.3 SKILLS TESTS

Skills tests, the details of which can be found in Appendix 9.0, 'Guidance for the Conducting of Skills and Proficiency Tests' together with Appendices 9.1, 9.2 and 9.3 to Document NAM-CATS-FCL, must comprise the relevant elements from the following areas of operation

(1) Normal Procedures

(a) Mass and balance data;

(b) Take-off and landing distance requirements;

(c) Altitude capability/flight planning;

(d) Weather interpretation;

(e) Filing of flight plan;

(f) Pre-flight inspection;

(g) Pre-start checks;

(h) Starting procedures after start procedures;

(i) Taxiing checks;

(j) Pre- take-off procedures and checks;

(k) Crew/pilot briefing;

(l) Departure procedures;

(m) Climb procedures including best rate/maximum angle and cruise climb techniques and engine monitoring procedures;

(n) Cruise techniques;

(o) Use of navigation systems;

(p) Use of automation;

(q) Descent techniques;

(r) Approach preparation and briefings;

(s) Flying the approach and relevant procedures;

(t) Landing techniques;

(u) After-landing procedures;

(v) Shutdown procedures; and

(w) Paperwork requirements.

(2) Non-normal Procedures

(a) Operation on wet or contaminated runways;

(b) Operation in strong crosswinds;

(c) Operation in icing conditions;

(d) Windshear recovery techniques;

(e) Aborted and alternate engine start procedures;

(f) Rejected take-off;

(g) Engine failure procedures;

(h) System failure procedures;

(i) Instrument failure procedures;

(j) Avionic failure procedures;

(k) Radio failure procedures; and

(l) Declaring an emergency.

(3) Crew Procedures

(a) CRM;

(b) Threat and error identification and management;

(c) Multi-crew co-operation;

(d) Communication including ATC communications;

(e) General management of the flight;

(f) Situational awareness.

(4) Theoretical knowledge instruction and checking requirements

An applicant for a class or type rating for single- or multi-engine aircraft must have completed the required theoretical knowledge instruction and demonstrated the level of knowledge required for the safe operation of the applicable aircraft type.

(5) Flight instruction

(a) An applicant for a class/type rating for single-engine and multi-engine single-pilot aircraft must have completed a course of theory and flight instruction related to the class/type rating skills test.

(b) An applicant for a type rating for multi-pilot aeroplanes must have completed a course of theory and flight instruction related to the type rating skills test.

(6) Conduct of training courses

(a) Training courses must be conducted by an Aviation Training organisation approved by the Executive Director in terms of Part 141.

(b) Such courses must be approved by the Executive Director.

(7) Multi-crew co-operation training

7.1. . The course must provide multi-crew co-operation training for –

(a) students attending an integrated course for an airline transport pilot licence in accordance with regulation 61.01.27 (2); or

(b) the holders of a private pilot licence with instrument rating or commercial pilot licence with instrument rating, who have not graduated from an airline transport pilot integrated course but who wish to obtain an initial type rating on multi-pilot aeroplanes.

7.2. The multi-crew co-operation course must comprise at least 25 hours of theoretical knowledge instruction and exercises and 20 hours of multi-crew co-operation training. Students attending an airline transport pilot integrated course may have the practical training reduced by 5 hours. Wherever possible, the multi-crew co-operation training should be combined with the initial type rating course on multi-pilot aeroplanes or helicopters.

7.3. The multi-crew co-operation training must be conducted by an aviation training organisation approved by the Executive Director in terms of Part 141. When multi-crew co-operation training is combined with the initial type rating training for a multi-pilot aeroplane, the practical multi-crew co-operation training may be reduced to not less than 10 hours provided the same FSTD is used for both the multi-crew co-operation and type rating training.

(8) Additional training requirements for type or class ratings on High Performance Single-pilot Aeroplanes or Powered-lifts

The additional training requirements for an applicant for a class or type rating on a high performance single-pilot aeroplane or Powered-lift and who is not the holder of an Airline Transport Pilot's Licence or holds credit for the ATP theoretical knowledge examinations must be as set out in Appendix 8.2 to NAM-CATS-FCL 61.

(9) Warbird Qualification and Experience

The following qualifications and aeronautical experiences apply to warbird types of aeroplanes or Powered-lifts fitted with dual controls –

9.1. The appropriate aeroplane class rating;

9.2. Any applicable design feature endorsements;

9.3. For gas turbine engine powered warbird types of aeroplane or powered-lifts not capable of exceeding Mach 1 in level flight, aeronautical experience of at least –

(a) 300 hours of flight time as pilot-in-command in aeroplanes; or

(b) 30 hours of flight time as pilot-in-command in gas turbine engine powered aeroplanes.

9.4. For gas turbine engine powered warbird types of aeroplanes or powered-lifts capable of exceeding Mach 1 in level flight, aeronautical experience of at least 30 hours of flight time as pilot-in-command in turbojet or turbofan powered aeroplanes with a MMO of at least Mach 0.8;

9.5. In addition, for a warbird type not fitted with dual controls:

(a) for piston engine powered type, at least 30 hours of flight time as pilot-in-command in aircraft having engine power in excess of 450 hp;

(b) for a gas turbine powered type not capable of exceeding Mach 1, at least 30 hours of flight time as pilot-in-command in gas turbine powered aeroplanes or powered-lifts;

(c) for a gas turbine powered warbird type capable of exceeding Mach 1 in level flight, a minimum of 50 hours of flight time in gas turbine powered aeroplanes or powered-lifts capable of exceeding Mach 1 in level flight;

(d) for a warbird with a delta wing, at least 15 hours of flight time as pilot-in-command in aeroplanes or powered lifts fitted with a delta wing;

9.6. For multi-engine warbird aeroplane or powered-lift types, the aeronautical experience (except that mentioned in subparagraph (e) (iv) above) must be in multi-engine aeroplanes or powered-lifts.

9.7. Multi-pilot Skills Test. An applicant for a type rating for a multi-pilot aeroplane or powered-lift must have demonstrated to a Designated Flight Examiner the skills required for the safe operation of the applicable type of aeroplane or powered-lift in a multi-crew environment as a pilot-in-command or a co-pilot as applicable, as set out in Appendices 9.0 and 9.1 to Document NAM-CATS-FCL.

9.8. *Multi-engine Class Rating.* An applicant for the issuing of a multi-engine class rating must have demonstrated to a Designated Flight Examiner the competence to perform as pilot-in-command of the aircraft concerned the procedures and manoeuvres as described in Appendix 9.2 to Document NAM-CATS-FCL.

9.9. *Single-engine Class or Type Rating.* An applicant for the issuing of a single-engine class, type rating or touring motor glider class rating must have demonstrated to a Designated Flight Examiner or an appropriately rated flight instructor the competence to perform as pilot-in-command of the aircraft concerned the procedures and manoeuvres as described in Appendix 9.2 to Document NAM-CATS-FCL.

9.10. *Warbird Type Rating.* An applicant for the issuing of a warbird type rating must have demonstrated to a Designated Flight Examiner or an appropriately rated flight instructor the competence to perform as pilot-in-command of the aircraft concerned the procedures and manoeuvres as described in Appendix 9.3 to Document NAM-CATS-FCL.

9.11. *Multi-crew Co-operation.* On completion of the MCC training the applicant must either demonstrate the ability to perform the duties of a pilot on multi-pilot aeroplanes or powered-lifts by passing the type rating skills test on multi-pilot aeroplanes or powered-lifts as set out in Appendices 9.0 and 9.1 to NAM-CATS-FCL 61, or must be given a certificate of completion of MCC and have the successful completion of the course endorsed in the logbook.

9.12. The skills test must have been completed within 6 months of the date of completion of the training course.

61.17.6 APPLICATION FOR THE ISSUING OF A CLASS, TYPE OR WARBIRD RATING

1. Application

Application for a class, type or warbird rating must be made on Form FSS PEL 61-09.

2. Endorsement

Applicable class, type or warbird ratings must be endorsed in the pilot licence.

61.17.8 PRIVILEGES AND VARIANTS

1. Difference training

The differences training required is indicated in Tables 1 – 10 in TS 61.17.9. In the case of a required change to another type or variant of the aeroplane within one class rating, the following will apply:

(a) Although an applicant will have an endorsement in his licence for a class rating in his/her licence, differences training will have to be conducted as defined below, endorsed into the pilot logbook and the form FSS PEL 61-52 forwarded to the Executive Director within 30 days of completion of the training:

(b) Theoretical and Flying Training

(i) A pilot undergoing differences training must have completed a course of theory instruction relevant to the aircraft.

(ii) A pilot undergoing differences training must have completed flight instruction related to the aircraft and which must include but is not limited to:

(a) A minimum of five take-offs and landings;

(b) Upper air work appropriate to the handling characteristics and different, or more complex systems pertaining to the aircraft.

(iii) Differences training must be conducted by an aviation training organisation approved by the Executive Director in terms of Part 141.

61.18.2 REQUIREMENTS FOR AN INSTRUMENT RATING

1. Training

1. *Aim of the Instrument Rating training course*

1.1 The aim of the Instrument Rating training course is to train a candidate to the level of proficiency necessary to operate aircraft under IFR and in IMC required for the issue of an instrument rating.

1.2 The flight instructor conducting the course must hold the instrument rating instructor (IRI) endorsement and all other applicable endorsements.

1.3 The aircraft used for instrument rating training must meet the minimum equipment requirements for operations under IFR and in IMC.

1.4 The training program must be approved by the Executive Director and must include the use of an FSTD approved for the purpose of instrument training towards the IR.

1.5 The additional instrument rating training required for the multi-engine IR (MEA) may only commence once the candidate has completed the multi- engine class or type rating training.

2. *Contents and requirements of training course*

2.1 The applicant must complete a training course with an aviation training organisation approved by the Executive Director in terms of Part 141. However, the theoretical knowledge course and the practical training course may be completed at different aviation training organisations.

2.2 The course is comprised of –

(a) theoretical knowledge course; and

(b) practical training course.

3. *Theoretical knowledge course*

3.1 An instrument rating theoretical knowledge course must cover the relevant topics of the subjects listed below –

3.2 IF theoretical knowledge –

(a) Aviation Meteorology;

(b) Flight Planning and Performance;

(c) Radio Aids and Communication;

(d) General Navigation;

(e) Air Law

(f) Instruments and Electronics;

(g) Human Performance;

(h) Operational Procedures

3.3 Theoretical knowledge course syllabus

The detailed theoretical knowledge syllabus is contained in Appendix 2.0 to Document NAM-CATS-FCL.

4. *Practical Flight Training course*

4.1 The practical training syllabus for an instrument rating consists of six distinct training phases –

4.1.1 ground training

4.1.2 instrument flying skills

4.1.3 instrument flying procedures

4.1.4 operating procedures under IFR ground training

4.1.5 line oriented flight training (LOFT) and line operational evaluation (LOE)

4.1.6 route familiarisation (aircraft flight).

4.2 The detailed practical flight training syllabus is contained in Appendix 12.0.

4.3 Where the RNP APCH endorsement is sought, the RNP APCH training must be conducted in compliance with Appendix 12 of NAM-CATS-FCL 61.

4.4 Multi-engine aeroplane instrument flight training must include the operation of the aeroplane with simulated one engine inoperative, or in the case of an FSTD, one engine inoperative.

4.5 <u>Phase 1 – Ground Training</u>

a. The objective of this phase is to consolidate the candidate's knowledge in the following subjects -

i. performance resulting from power settings and aircraft attitude

ii. scanning techniques and errors

iii. scanning techniques with instrument failures

iv. intercepts and tracking using VOR

v. sector entries and holding techniques

vi. procedural non-precision and procedural precision approaches

vii. radar positioning for the purpose of an instrument approach

viii. preparation for a flight under IFR

- all weather operations (AWOPS)
- fuel requirements
- ATC flight plan
- selection of route (flight levels and terrain consideration)
- airspaces
- charts (airport, SID, STAR, approach and en-route)

ix. single-pilot resource management

x.sourcing and interpretation of meteorological data

xi.publications

- AIP;
- AIP supplements;
- Pilot operating handbook;
- -NAM-CATS;
- NOTAMS;
- Aeronautical Information Circulars (AIC); and
- JEPPESEN or LIDO

b. The ground training phase must be completed prior to proceeding with the following training phases.

4.6 Phase 2 – Instrument Flying Skills

a. The objective of this phase is to teach the basic instrument flying skills in order to reach the competency level required for the next phases. This phase may be conducted in an aircraft and/or approved FSTD.

b. The training syllabus must include at least the following exercises -

(i) instrument scanning
(ii) straight and level flight using various airspeeds and aircraft configurations
(iii) climb, cruise and descent attitudes
(iv) turning onto a heading
(v) climbing and descending turns at constant and changing airspeed
(vi) steep turns at constant airspeed
(vii) aircraft handling during slow flight in various configurations
(viii) stall recovery in various aircraft configurations
(ix) recovery from unusual aircraft attitudes
(x) achieving stabilised approach criteria
(xi) go-around
(xii) instrument scanning technique adaptation using limited panel
(xiii) transition from visual flight to instrument flight on take-off
(xiv) transition from instrument flight to visual flight on landing

c. Previous instrument training experience may be credited towards the training requirements for this phase, subject to competency of the candidate. This competency must be assessed by the flight instructor conducting the instrument rating training.

4.7 Phase 3 – Instrument Flying Procedures

a. The objective of this phase is to train the candidate to the required level of competency in instrument flying procedures

b. The candidate must have passed the IR theoretical knowledge examination prior to proceeding with this phase of training.

c. This training may be conducted in an aircraft and/or approved FSTD.

d. Non-approved training devices may be used to enhance learning and skills development. In such a case the training hours may not be credited towards the hours required for an instrument rating.

e. The training syllabus must include training in at least the following procedures:

(i) standard instrument departures and arrivals (SIDs and STARs)

(ii) intercepts and tracking using VOR

(iii) sector entry and holding

(iv) onward clearance times/expected approach time

(v) radar positioning

(vi) DME arc arrival

(vii) precision instrument approach

(viii) non- precision instrument approach (conventional)

(ix) non- precision instrument approach using a continuous descent operation (CDO)

(x) missed approach procedures

(xi) circling approaches

(xii) use of GNSS equipment (if available)

(xiii) use of autopilot during various phases of flight

(xiv) use of flight director during various phases of flight (if available).

4.7 Phase 4 – Operating procedures under IFR ground training

a. This phase consists of ground training which may encompass briefings, lectures, workshops and group discussions. The objective of this phase is to equip the candidate with sufficient applied knowledge for the following phase (Line Oriented Simulation training)

b. This training must consist of the following elements:

(i) checklist and standard operating procedure (SOP) philosophy

(ii) developing an SOP and checklist system

(iii) integration of IFR procedures into the SOP including standard callouts

(iv) appropriate briefings embedded into the SOP

(v) risk analysis/assessment before flight

(vi) preparation of an IFR flight log

(vii) flight performance requirements

(viii) R/T procedures and phraseology

(ix) threat identification and management

(x) in flight event management model (including aeronautical decision making)

(xi) accident analysis

(xii) efficient cockpit management

4.8 Phase 5 – Line oriented flight training (LOFT) and line operational evaluation (LOE)

a. All previous training phases must be successfully completed by the student before he or she proceeds with this training phase

b. The objective of this phase is to expose the candidate to practical, real world scenarios during IFR/IMC operations, from departure to destination; this includes the application of normal and non-normal procedures. During this phase the candidate will also develop a proactive cockpit management culture (as opposed to reactive).

c. This phase must be conducted in an approved FSTD (FNPT II or higher), using Line Oriented Flight Training (LOFT) principles. At least one Line Operational Evaluation (LOE) must be included in the program.

d. The Line Operational Simulation (LOS) training phase must comprise a minimum of five sectors each of which has a minimum sector length of 50 nm. Each sector must start from a different aerodrome and terminate using a different instrument approach and aerodrome.

e. The following list of failures must be used when designing the LOS training for the management of non-normal events:

A. **Technical** (at least 8 of the items listed below must be included, as applicable):

i. flight instrumentation/displays (EFIS)
ii. pitot/static system
iii. electrical system
iv. engine fire or malfunction (partial or full power loss)
v. propeller systems
vi. fuel system
vii. hydraulic system
viii. flight control and trim system
ix. anti/de-icing system
x. autopilot/flight director
xi. navigation/communication system
xii. landing gear and brake system
xiii. lift augmentation devices
xiv. air conditioning and pressurisation system
xv. aircraft doors
xvi. cabin smoke or fire

B. **Environmental/operational** (All items listed below must be included, if applicable)

i. weather change/deterioration
ii. weather avoidance
iii. in flight diversion
iv. arrival/departure procedure change
v. ground station navigation/communication/airfield lighting
vi. in flight icing
vii. low fuel management
viii. wind shear
ix. EGPWS/TAWS
x. TCAS/ACAS
xi. prioritising multiple events
xii. managing distractions
xiii. recognition of marginal weather conditions

4.9 Phase 6 – Route familiarisation training (aircraft flight)

This phase of the training serves to transition the candidate to IFR operations in the aircraft. It must comprise at least two sectors, both terminating in an instrument approach

5. *Radio Telephony*

5.1 To be eligible for the RTC a candidate must prove his knowledge of the ITU (International Telecommunications Union), and Authority requirements in both written and oral tests. The requirements are:

5.1.1 ITU: Knowledge of radiotelephony operation and procedures, ability to transmit and receive messages by radio and knowledge of the radio communication regulations (e.g. use of different appropriate frequencies, interference, etc.) and especially those relating to the safety of human life.

5.1.2 Communications Regulating Authority of Namibia: Proficiency in operating a radio installation including changing frequency, transmitting and receiving messages using the prescribed procedures, identification of Morse code beacons and clearing minor external faults.

5.1.3 The Authority: requirements are based on documents issued by the International Civil Aviation Organisation (ICAO) dealing with procedures, abbreviations and flight planning, the various aeronautical information circulars (AIC) in force, the Namibian Aeronautical Information Publication (AIP), Civil Aviation Regulations (CAR) and Civil Aviation Technical Standards (CATS) and also other relevant regulations or rules in force.

5.1.4 Applicants for a General Radio Certificate must pass a theoretical General Radio Examination at an approved Authority examination centre. The training syllabus for a General Radio Certificate is contained in Appendix 1.5a to Document NAM-CATS-FCL.

5.2. Applicants for a General Radio Certificate must in addition to the theoretical knowledge examination pass a practical communication test including the identification of radio beacons using morse code conducted by a Designated Radio Examiner (General). The practical test must include the full completion of an ATC IFR Flight Plan and examine, at minimum, the following aspects for an IFR flight departing on a standard or non-standard departure from a controlled aerodrome, into a CTR/TMA, flying in both controlled and uncontrolled airspace en route to a controlled airfield as destination, complying with a standard arrival (STAR) and the completion of an instrument approach procedure (precision or non-precision):

(a) Use of Radio on the Ground –

(i) Obtaining start clearance

(ii) Obtaining taxi clearance

(iii) Acceptance and read back of ATC departure clearance (Standard/non-standard)

(b) Departure procedure –

(i) Take-off clearance

(ii) Use of SID chart/compliance with non-standard departure procedure

(iii) Radar vectors on departure

(iii) Selection of departure frequency and contact with relevant ATSU

(iv) Use of area chart if applicable

(c) En route procedures –

(i) Use of radio navigation chart

(ii) Selection of frequencies appropriate to the route

(iii) Passing and revising estimates

(iv) Complying with onward clearance time (OCT)

(d) Arrival procedures –

(i) Use of area chart if applicable

(ii) Acceptance and review of STAR and instrument approach charts

(iii) Radar vectors for the approach;

(iii) Holding beacon including expected approach time (EAT)

(iv) Establishing weather minima at landing aerodrome and compliance with Approach Ban

(v) Completion of instrument approach procedure using IAC and correct radio procedures

(e) Radio communication failure –

Emphasis must be placed on correct use of aviation words and phrases as well as the avoidance of slang terms.

61.18.3 APPLICATION FOR INSTRUMENT RATING

1. The application for an instrument rating must be made on the relevant licence application form, if the application is made together with the licence application or if made independently, then on Form FSS PEL 61-07.
2. The instrument rating must be endorsed in the applicant's license.

61.18.4 THEORETICAL KNOWLEDGE EXAMINATION

1. The applicant for an instrument rating must pass the written theoretical knowledge examinations in the subjects prescribed in TS 61.18.2 (3.2)
2. A mark of 75 % or higher is required in each of the subjects referred to in (1) above in order to achieve a pass for the examination.

61.18.5 SKILLS TEST

The Skills Test must be conducted in accordance with the Practical Test Standard contained in Appendix 2.5 to Document NAM-CATS-FCL, as appropriate, using the skills test Form FSS PEL 61-41. The skill test must include a Line Operational Evaluation (LOE). If the RNP APCH endorsement is sought, the skills test must include an RNP APCH approach.

61.18.7 PRIVILEGES

1 RNAV/GNSS requirements

RNAV/GNSS requirements are contained in Appendix 12 to NAMCATS-FCL-61.

61.18.8 REVALIDATION

1. Revalidation check

The revalidation check must be conducted in accordance with the Practical Test Standard contained in Appendix 2.5 to Document NAM-CATS-FCL, as appropriate, using the skills test Form FSS PEL 61-41. The revalidation check must include a Line Operational Evaluation (LOE). If the RNP APCH endorsement is sought, the revalidation check must include an RNP APCH approach, either LNAV or LNAV/VNAV as required

2. Theoretical knowledge examination

The theoretical knowledge examinations are the examinations indicated in TS 61.18.3.

3. Application for revalidation

The application for an instrument rating must be made on Form FSS PEL 61-07.

4. Endorsement of Logbook

The endorsement in the logbook of the applicant must contain the following –

(a) the stamp of the Designated Flight Examiner, which must indicate the name, licence number and designation of the Designated Flight Examiner;

(b) the date of the proficiency test;

(c) the description of the proficiency test;

(d) the result of the test as reflected on the test Form FSS PEL 61-41; and

(e) the signature of the Designated Flight Examiner.

61.19.1 REQUIREMENTS FOR GRADE I FLIGHT INSTRUCTOR RATING

(1) The applicant must complete a training course with a training organisation approved by the Executive Director. The detailed syllabus is contained in Appendix 18.0 to Document NAM-CATS-FCL.

(2) The applicant must undergo a ground evaluation (see Technical Standard 61.20.1) and pass an oral examination on the subjects contained in Appendix 18.0 to Document NAM-CATS-FCL.

61.19.2 APPLICATION FOR GRADE I FLIGHT INSTRUCTOR RATING

(1) The application for a Grade I flight instructor rating must be made on Form FSS PEL 61-08.

(2) The Flight Instructor Grade I rating must be endorsed in the applicant's licence on receipt of the relevant skill test Form, FSS PEL 61-42 (A), FSS PEL 61-43 (H), FSS PEL 61-45 (FB) or FSS PEL 61-46 (AS).

61.19.3 SKILLS TEST

The skills test must be conducted in accordance with the Practical Test Standard contained in the relevant skills test Form FSS PEL 61-42 (A), FSS PEL 61-43 (H), FSS PEL 61-45 (FB) or FSS PEL 61-46 (AS).

61.19.4 PERIOD OF VALIDITY OF GRADE I FLIGHT INSTRUCTOR RATING

1 The requirements for the instructor refresher seminar to be completed is set out in Technical Standard 61.19.6.

2 Application for reissue of the rating must be accompanied by the relevant skills test Form FSS PEL 61-42 (A), FSS PEL 61-43 (H), FSS PEL 61-45 (FB) or FSS PEL 61-46 (AS).

3 The competency to instruct on the ratings listed in Part 61 must be endorsed in the instructor's logbook as per subregulation 61.01.29(2) and Appendix A to this Document.

61.19.6 REVALIDATION

1. The Skills Test must be conducted in accordance with the Practical Test Standard contained in the relevant skills test Form FSS PEL 61-42 (A), FSS PEL 61-43 (H), FSS PEL 61-45 (FB) or FSS PEL 61-46 (AS). This form, completed by the Designated Flight Examiner, must accompany the application form.

2. When required by regulation 61.19.6, the applicant for a revalidation of a Grade I flight instructor rating must complete the flight instructor refresher seminar as detailed below –

2.1 *Flight Instructor refresher seminar*

2.1.1 Flight Instructor refresher seminars will be co-ordinated and arranged by the Namibian Authority at various centres, taking due regard of the distribution of instructors in Namibia.

2.1.2 The seminars will run for between one and two days, and if credit is required in terms of this Part, attendance from participants will be required for the whole duration of the seminar including breakout groups/workshops.

2.1.3 The Executive Director will make use of the services of experienced flight instructors and Designated Flight Examiners who are well versed in various levels of flying training to participate in, or to provide lectures and group discussions at the seminars.

2.1.4 The attendance form must be completed and signed by the organiser of the Seminar and must accompany the revalidation application.

2.1.5 The content of the Flight Instructor refresher seminar will generally be selected from the following topics –

(a) new and/or current rules/regulations, with emphasis on knowledge of Namibian CAR's as applicable to the job of the flight instructor;

(b) teaching and learning;

(c) instructional techniques;

(d) the role of the instructor;

(e) human factors;

(f) topical and recent accidents and their probable cause;

(g) flight safety, incident and accident prevention;

(h) airmanship;

(i) legal aspects and enforcement procedures;

(j) navigational skills including new/current radio navigation aids;

(k) teaching instrument flying;

(l) weather related topics including methods of distribution of aeronautical information; and

(m) feedback on knowledge and skills deficiencies revealed in the prescribed theoretical and practical examinations and tests, for improvement in instruction.

2.1.6 The seminar will consist of formal sessions, which will typically allow for a presentation time of 45 minutes and 15 minutes for questions. Group breakouts and discussions will be facilitated and summarised at the end of the day's proceedings.

3. The Skills Test report referred to is the relevant skills test Form FSS PEL 61-42 (A), FSS PEL 61-43 (H), FSS PEL 61-45 (FB) or FSS PEL 61-46 (AS).

4. The result of the skills test must be endorsed in the pilot logbook as per subregulation 61.1.29(2) and Appendix A to this Document.

61.20.1 REQUIREMENTS FOR GRADE II FLIGHT INSTRUCTOR RATING

1. Training

The aim of the Grade II Flight Instructor rating course is to train a candidate to the level of proficiency required for the issue of a Grade II flight instructor rating.

2. Contents and requirements of training course

1. The applicant must complete a training course with an aviation training organisation approved by the Executive Director in terms of Part 141. However, the theoretical knowledge course and the practical training course may be completed at different aviation training organisations.
2. A Namibian Air Force pilot or navigator instructor may be exempted from attending the theoretical knowledge course. The Air Force pilot instructor is furthermore exempted from the requirement to conduct 20 hours of patter.

3. Theoretical knowledge course

Theoretical knowledge syllabus is contained in Appendix 13.0 to Document NAM-CATS-FCL.

4. Practical instruction course

The detailed syllabus is contained in Appendix 13.1 to Document NAM-CATS-FCL.

5. Ground evaluation

The ground evaluation must comprise the following:

(a) a class teaching evaluation test conducted by a Designated Flight Examiner and the instructor responsible for the training of the candidate;

(b) the DFE conducting such test must be nominated by the Executive Director;

(c) the candidate must present a full briefing on a subject given to him or her in advance by the nominated Designated Flight Examiner.

6. Aerobatic rating training

6.1 In order to conduct instruction towards an aerobatic rating, the instructor must be –

6.1.1 rated on the aircraft being used for flight instruction,

6.1.2 hold an aerobatic rating in a higher class than the class for which the instruction is required, and

6.1.3 if the instruction is to carry out Manoeuvres below 3000 ft and above 1500 ft above the surface, have at least 50 hours of aerobatic flight instructor experience, or

6.1.4 if the instruction is to carry out Manoeuvres at or below 1500 ft above the surface, have at least 100 hours of aerobatic flight instructor experience.

61.20.2 APPLICATION FOR GRADE II FLIGHT INSTRUCTOR RATING

1. The application for a Grade II flight instructor rating must be made on Form FSS PEL 61-08.
2. The Grade II flight instructor rating must be endorsed in the applicant’s licence.

61.20.3 SKILLS TEST

The Skills Test must be conducted by the nominated Designated Flight Examiner in accordance with the Practical Test Standard contained in the relevant skills test forms PEL 61-42 (A), FSS PEL 61-43 (H), FSS PEL 61-44 (G), FSS PEL 61-45 (FB) or FSS PEL 61-46 (AS).

61.20.4 PERIOD OF VALIDITY OF A GRADE II FLIGHT INSTRUCTOR RATING

1. Flight Instructor refresher seminar

(a) Flight Instructor refresher seminars will be co-ordinated and arranged by the Authority at various centres, taking due regard of the distribution of instructors in Namibia.

(b) The seminars will run for between one and two days, and if credit is required in terms of this Part, attendance from participants will be required for the whole duration of the seminar including breakout groups/workshops.

(c) The Executive Director will make use of the services of experienced flight instructors and Designated Flight Examiners who are well versed in various levels of flying training to participate in, or to provide lectures and group discussions at the seminars.

(d) The attendance form must be completed and signed by the organiser of the Seminar and must accompany the revalidation application.

(e) The content of the Flight Instructor refresher seminar will generally be selected from the following topics –

(i) new and/or current rules/regulations, with emphasis on knowledge of Namibian CAR as applicable to the job of the flight instructor.

(ii) teaching and learning;

(iii) instructional techniques;

(iv) the role of the instructor;

(v) human factors;

(vi) topical and recent accidents and their probable cause;

(vii) flight safety, incident and accident prevention;

(viii) airmanship;

(ix) legal aspects and enforcement procedures;

(x) navigational skills including new/current radio navigation aids;

(xi) teaching instrument flying;

(xii) weather related topics including methods of distribution of aeronautical information; and

(xiii) feedback on knowledge and skills deficiencies revealed in the prescribed theoretical and practical examinations and tests, for improvement in instruction.

(f) The seminar will consist of formal sessions, which will typically allow for a presentation time of 45 minutes and 15 minutes for questions. Group breakouts and discussions will be facilitated and summarised at the end of the day's proceedings.

61.20.5 PRIVILEGES

The flight instructor wishing to conduct training for the ratings listed in CAR 61.20.5(1)(g) must have the applicable endorsement entered into his or her pilot logbook.

61.20.6 REVALIDATION

(1) The Flight Instructor refresher seminar is described in TS 61.20.4.

(2) The revalidation skills test must be conducted by the nominated Designated Flight Examiner in accordance with the Practical Test Standard contained in skills test Forms PEL 61-42 (A), FSS PEL 61-43 (H), FSS PEL 61-44 (G), FSS PEL 61-45 (FB) or FSS PEL 61-46 (AS).

61.21.1 REQUIREMENTS FOR GRADE III FLIGHT INSTRUCTOR RATING

1. Training

1. *Aim*

The aim of the Grade III Flight Instructor rating course is to train a candidate to the level of proficiency required for the issue of a Grade III flight instructor rating.

2. *Contents and requirements of training course*

2.1 The applicant must complete a training course with an aviation training organisation approved by the Executive Director in terms of Part 141. However, the theoretical knowledge course and the practical training course may be completed at different aviation training organisations.

2.2 A Namibian Air Force pilot or navigator instructor may be exempted from attending the theoretical knowledge course. The Air Force pilot instructor is furthermore exempted from the requirement to conduct 20 hours of patter.

3. *Theoretical knowledge course*

Theoretical knowledge syllabus is contained in Appendix 13.0 to Document NAM-CATS-FCL.

4. *Practical Instruction course*

The detailed *syllabus* is contained in Appendix 13.1 to Document NAM-CATS-FCL.

5. *Ground evaluation*

The ground evaluation must comprise the following:

(a) a class teaching evaluation test conducted by a Designated Flight Examiner and the instructor responsible for the training of the candidate;

(b) the DFE conducting such test must be specifically nominated for FIC by the Executive Director;

(c) the candidate must present a full briefing on a subject that was given in advance to him or her by the Designated Flight Examiner;

(d) the candidate must be assessed on their basic instrument training aspects.

2. Aerobatic rating training

2.1 In order to conduct instruction towards an aerobatic rating, the instructor must be –

2.1.1 rated on the aircraft being used for flight instruction,

2.1.2 hold an aerobatic rating in a higher class than the class for which the instruction is required, and

2.1.3 if the instruction is to carry out manueuvres below 3000 ft and above 1500 ft above the surface, have at least 50 hours of aerobatic flight instructor experience, or

2.1.4 if the instruction is to carry out manoeuvres at or below 1500 ft above the surface, have at least 100 hours of aerobatic flight instructor experience.

61.21.2 APPLICATION FOR GRADE III FLIGHT INSTRUCTOR RATING

1. The application for a Grade III flight instructor rating must be made on Form FSS PEL 61-08.
2. The Grade III flight instructor rating must be endorsed in the applicant's licence.

61.21.3 THEORETICAL KNOWLEDGE EXAMINATIONS FOR GRADE III FLIGHT INSTRUCTOR RATING

The applicant for a Grade III flight instructor rating must pass the commencement of practical class and flight training the written theoretical knowledge examinations in the subjects listed below –

(a) Applied Airlaw (Legislation), Navigation and Meteorology

(b) Principles of Flight and Principles of Instruction

61.21.4 SKILLS TEST

The skills test must be conducted by the nominated Designated Flight Examiner in accordance with the Practical Test Standard contained in skills test forms PEL 61-42 (A), FSS PEL 61-43 (H), FSS PEL 61-44 (G), FSS PEL 61-45 (FB) or FSS PEL 61-46 (AS).

61.21.5 PERIOD OF VALIDITY OF A GRADE III FLIGHT INSTRUCTOR RATING

1. Flight Instructor refresher seminar

(a) Flight Instructor refresher seminars should be arranged by ATOs as part of their training programme. Attendance by a flight instructor of the bi-annual instructor seminar conducted regionally by the Authority will substitute this requirement.

(b) The seminars should run for between one and two days, and if credit is required in terms of this Part, attendance from participants will be required for the whole duration of the seminar including breakout groups or workshops.

(c) The Executive Director will make use of the services of experienced flight instructors and Designated Flight Examiners who are well versed in various levels of flying training to participate in, or to provide lectures and group discussions at the seminars.

(d) The attendance form must be completed and signed by the organiser of the Seminar and must accompany the revalidation application.

(e) The content of the Flight Instructor refresher seminar will generally be selected from the following topics –

(i) new and/or current rules/regulations, with emphasis on knowledge of Namibian CAR as applicable to the job of the flight instructor;

(ii) teaching and learning;

(iii) instructional techniques;

(iv) the role of the instructor;

(v) human factors;

(vi) topical and recent accidents and their probable cause;

(vii) flight safety, incident and accident prevention;

(viii) airmanship;

(ix) legal aspects and enforcement procedures;

(x) navigational skills including new/current radio navigation aids;

(xi) teaching instrument flying;

(xii) weather related topics including methods of distribution of aeronautical information; and

(xiii) feedback on knowledge and skills deficiencies revealed in the prescribed theoretical and practical examinations and tests, for improvement in instruction.

(f) The seminar will consist of formal sessions, which will typically allow for a presentation time of 45 minutes and 15 minutes for questions. Group breakouts and discussions will be facilitated and summarised at the end of the day's proceedings.

61.21.6 PRIVILEGES AND LIMITATIONS

1 The authorization to conduct training as per sub-regulation 61.21.5(4) must be submitted to the Namibian Authority on skill test Forms FSS PEL 61-42 (A), FSS PEL 61-43 (H), FSS PEL 61-44 (G), FSS PEL 61-45 (FB) or FSS PEL 61-46 (AS).and must be endorsed in the pilot's logbook.

2 The training syllabi for:

(a) Instrument Flight Training is contained in Appendix 13.4 to Document NAM-CATS FCL-61.

(b) Turbine Engine Training is contained in Appendix 13.3 to Document NAM-CATS FCL-61.

(c) Multi-engine Training is contained in Appendix 13.2 to Document NAM-CATS FCL-61.

(d) FSTD Instructor is contained in Appendix 19.0 to Document NAM-CATS FCL-61.

(e) Multi-crew Cooperation Training is contained in Appendix18.0 to Document NAM-CATS FCL-61.

61.21.7 REVALIDATION

1. The Flight Instructor refresher seminar is described in TS 61.21.5
2. The revalidation skills test must be conducted by the nominated Designated Flight Examiner in accordance with the Practical Test Standard contained in skills test form Forms FSS PEL 61-42 (A), FSS PEL 61-43 (H), FSS PEL 61-44 (G), FSS PEL 61-45 (FB) or FSS PEL 61-46 (AS).

61.22.1 REQUIREMENTS FOR TYPE RATING INSTRUCTOR RATING

1. Training

1. *Aim*

   The aim of the type rating instruction patter training is to train a candidate to the level of proficiency required for the issue of a Type Rating instructor rating.

2. *Contents and requirements of practical instruction (patter) training course*

   The detailed *syllabus* is contained in Appendix 13.1 to Document NAM-CATS-FCL.

3. *Ground evaluation*

   The ground evaluation must comprise the following:

   (a) a class teaching evaluation test conducted by a Designated Flight Examiner and the instructor responsible for the supervision of the candidate;

   (b) the DFE conducting such test must be specifically nominated by the Executive Director;

   (c) the candidate must present a full briefing on a subject that was given in advance to him or her by the Designated Flight Examiner;

   (d) the candidate must be assessed on their basic instrument training aspects.

61.22.2 APPLICATION FOR TYPE RATING INSTRUCTOR RATING

1. The application for a Type Rating Instructor rating must be made on Form FSS PEL 61-08.
2. The Type Rating Instructor rating must be endorsed in the applicant's licence.

61.22.3 SKILLS TEST

The skills test must be conducted by the nominated Designated Flight Examiner in accordance with the Practical Test Standard contained in the relevant skills test form FSS PEL 61-42 (A), FSS PEL 61-43 (H).

61.22.4 PERIOD OF VALIDITY OF A TYPE RATING INSTRUCTOR RATING

1. Flight Instructor refresher seminar

(a) Flight Instructor refresher seminars should be arranged by ATOs as part of their training programme. Attendance by a flight instructor of the bi-annual instructor seminar conducted regionally by the Authority will substitute this requirement.

(b) The seminars should run for between one and two days, and if credit is required in terms of this Part, attendance from participants will be required for the whole duration of the seminar including breakout groups or workshops.

(c) The Executive Director will make use of the services of experienced flight instructors and Designated Flight Examiners who are well versed in various levels of flying training to participate in, or to provide lectures and group discussions at the seminars.

(d) The attendance form must be completed and signed by the organiser of the Seminar and must accompany the revalidation application.

(e) The content of the Flight Instructor refresher seminar will generally be selected from the following topics –

(i) new and/or current rules/regulations, with emphasis on knowledge of Namibian CAR as applicable to the job of the flight instructor;

(ii) teaching and learning;

(iii) instructional techniques;

(iv) the role of the instructor;

(v) human factors;

(vi) topical and recent accidents and their probable cause;

(vii) flight safety, incident and accident prevention;

(viii) airmanship;

(ix) legal aspects and enforcement procedures;

(x) navigational skills including new/current radio navigation aids;

(xi) teaching instrument flying;

(xii) weather related topics including methods of distribution of aeronautical information; and

(xiii) feedback on knowledge and skills deficiencies revealed in the prescribed theoretical and practical examinations and tests, for improvement in instruction.

(f) The seminar will consist of formal sessions, which will typically allow for a presentation time of 45 minutes and 15 minutes for questions. Group breakouts and discussions will be facilitated and summarised at the end of the day's proceedings.

61.22.6 REVALIDATION

1. The Flight Instructor refresher seminar is described in TS 61.22.4.
2. The revalidation skills test must be conducted by the nominated Designated Flight Examiner in accordance with the Practical Test Standard contained in relevant skills test form FSS PEL 61-42 (A), or FSS PEL 61-43 (H).

61.23.1 REQUIREMENTS FOR FSTD INSTRUCTOR AUTHORISATION

1. Training

1. *Aim*

The aim of the FSTD Instructor authorisation course is to train a candidate to the level of proficiency required for the issue of a FSTD Instructor authorisation, and if Multicrew instruction is required, must include a Multicrew Cooperation Course (MCC).

2. *Contents and requirements of training course*

2.1 The applicant must complete a training course with an aviation training organisation approved by the Executive Director in terms of Part 141. However, the theoretical knowledge course and the practical training course may be completed at different aviation training organisations.

3. *Theoretical knowledge course*

Theoretical knowledge syllabus is contained in Appendix 19.0 to Document NAM-CATS-FCL.

4. *Ground evaluation*

The ground evaluation must comprise the following:

(a) a class teaching evaluation test conducted by a Designated Flight Examiner and the instructor responsible for the training of the candidate;

(b) the DFE conducting such test must be specifically nominated for FIC by the Executive Director;

(c) the candidate must present a full briefing on a subject that was given in advance to him or her by the Designated Flight Examiner;

(d) the candidate must be assessed on their basic instrument training aspects.

61.23.2 APPLICATION FOR FSTD INSTRUCTOR AUTHORISATION

1. The application for a FSTD Instructor authorisation must be made on Form FSS PEL 61-08.
2. The applicant must be issued with a FSTD Instructor authorisation.

61.23.3 THEORETICAL KNOWLEDGE EXAMINATION

The applicant for a FSTD Instructor authorisation must pass a theoretical knowledge examination upon completion of the training course syllabus contained in Appendix 19.0.

61.23.4 SKILLS TEST

The skills test must be conducted by the nominated Designated Flight Examiner in accordance with the Practical Test Standard contained in the relevant skills test form FSS PEL 61-42 (A), or FSS PEL 61-43 (H).

61.24.1 REQUIREMENTS FOR A NIGHT RATING

1. Theoretical Knowledge Instruction

1.1 *Night rating: General*

The aim of the night rating theoretical knowledge instruction syllabus referred to in sub-regulation 61.23.1(2)(a) is to ensure that the applicant has a thorough understanding of the theoretical aspects surrounding the night rating. Night flying takes place in a potentially hostile environment and applicants must understand each element of the environment in which they are operating.

(a) Air Law –

(i) The definition of night flying;

(ii) The privileges and limitations associated with the night rating;

(iii) The pilot-in-command's responsibilities;

(iv) The equipment to be carried on board for night flying;

(v) Aircraft lighting including navigation lights;

(vi) VFR differences from day flying;

(vii) Aerodrome requirements for night flying.

(b) Meteorology –

(i) The formation of fog;

(ii) Various types of fog;

(iii) Katabatic winds;

(iv) Mixing, veering and backing of winds at night;

(v) Formation of ice and frost;

(vi) Nocturnal Thunderstorms.

(c) Human performance –

(i) Factors affecting night vision; the preservation of night vision;

(ii) Visual illusions;

(iii) Hypoxia;

(iv) Vertigo;

(v) Autokinesis.

(d) Lighting systems –

(i) External aircraft lighting;

(ii) Internal cockpit lighting;

(iii) Taxiway lighting;

(iv) Runway lighting;

(v) Approach lighting systems;

(vi) Obstruction lighting;

(vii) Aerodrome identification beacons;

(viii) Where to find information on lighting systems;

(ix) Pilot-operated lighting.

2. Training

2.1 *Contents and requirements of training course*

The applicant must complete a training course with an aviation training organisation approved by the Executive Director in terms of Part 141. However, the theoretical knowledge course and the practical training course may be completed at different aviation training organisations.

3. Practical Instruction

For the detailed practical training syllabus, refer to Appendix 11.0 to Document NAM-CATS-FCL.

3.1 *Helicopter*

In the case of an applicant for a night rating for a helicopter the practical instruction referred to in paragraph (ii) of sub-regulation 61.24.2(e)(i) must include –

(a) Pre-flight Operations;

(b) Take-off Procedures;

(c) In-flight Manoeuvres;

(d) Approach and Landing; and

(e) Non-normal Emergency Operations

3.2 *Aeroplane*

In the case of an applicant for a night rating for an aeroplane the practical instruction referred to in paragraph (i) of sub-regulation 61.24.2(e)(ii) must include –

(a) Pre-flight Operations;

(b) Take-off Procedures;

(c) In-flight Manoeuvres;

(d) Approach and Landing; and

(e) Non-normal Emergency Operations.

61.24.2 APPLICATION FOR NIGHT RATING

1. The application form for the issuing of a night rating is either forms FSS PEL 61-02, FSS PEL 61-03 when the application is made together with the licence application, or Form FSS PEL 61-10 when the application is made independently.
2. The skills test report that must accompany an application for a night rating is the Form FSS PEL 61-47.
3. Successful applicant's licences will be endorsed with a night rating.

61.24.4 SKILLS TEST

1. Skills Test Standard

The Skills Test standard is incorporated in the skills test Form FSS PEL 61-47.

61.26.1 REQUIREMENTS FOR TUG PILOT RATING

1. The endorsement of the logbook shall be made in accordance with technical standard 61.01.27.
2. Notification of competency to act as a tug pilot must be made on Form FSS PEL 61-56.

61.26.2 APPLICATION FOR TUG PILOT RATING

Application for a Tug Pilot rating must be made on Form FSS PEL 61-10.

61.27.1 REQUIREMENTS FOR TOW RATING(AEROPLANE)

1. The endorsement of the logbook shall be made in accordance with technical standard 61.01.27.

2. Notification of competency to act as pilot of an aeroplane while towing must be made on Form FSS PEL 61-57.

61.27.2 APPLICATION FOR A TOW RATING(AEROPLANE)

Application for a Tow rating must be made on Form FSS PEL 61-10.

61.28.1 REQUIREMENTS FOR HELICOPTER SLING LOAD RATING

1. Training

1.1 *Aim of training course*

The aim of the training course is to train a candidate to the level of proficiency required for the issue of a helicopter sling load rating, and to provide the training necessary to act as pilot-in-command of a helicopter engaged in sling load operations.

1.2 Contents and requirements of training course

1.2.1 The candidate must have completed not less than 250 hours of flight time as pilot-in-command of a helicopter. The course must be conducted by the holder of an aviation training organisation approval, issued by the Executive Director in terms of Part 141.

1.2.2 The course comprises –

(a) a theoretical knowledge course; and

(b) a practical training course.

1.3 *Theoretical knowledge course*

The theoretical knowledge course must comprise instruction on the following –

(a) the significance of operations within and outside ground effect, and the correct use of the relevant performance charts;

(b) the possible fore and aft C of G changes when picking up and releasing sling loads;

I the pre-flight checking and correct operation of the helicopter cargo hook equipment, including the emergency release;

(d) the importance of a full and correct briefing for all flight and ground crew members participating in the operation as regards to –

(i) pick-up and drop-off points;

(ii) load preparation and flight characteristics of different loads;

(ii) oscillation characteristics and their control;

(e) the care, selection, preparation and correct use of lifting equipment, including strops of various lengths, swivels, shackles, nets, and safety harnesses for cabin crew, as applicable;

(f) responsibilities and duties of cabin crew;

(g) aircraft-generated static, use of the static discharge pole and the correct procedure in this regard;

(h) marshalling signals;

(i) correct radio procedures and terminology for intercom communications between the pilot and cabin crew;

(j) pick-up and release procedures;

(k) safety and other equipment, including hand-held transceivers, hard hats, safety goggles, durable gloves, overalls and whistles;

(l) emergency procedures, including engine failure in the hover, strops getting fouled either with the helicopter or with other items, loads becoming difficult or impossible to control in flight, and jettisoning of loads; the effects of buildings and obstruction on prevailing winds, escape routes in the event of downdrafts, turbulence and engine failure;

(m) the pre-flight briefing which is given just before each flight, and which consists of a brief summary of the principal parts of the theoretical knowledge course, together with any particular points of airmanship, air traffic control, and meteorology pertaining to the flight; and

(n) the relevant air law aspects.

1.4 *Practical training course*

1.4.1 In-flight instruction

A full briefing must be given during flight, covering the following:

(a) Airmanship –

(i) The suitability of pick-up and drop areas in respect of size, shape, surface, slope, approach and take-off paths and obstructions;

(ii) Helicopter operation with due regard to such matters as power in the hover, power limitations, hovering into the wind, position of ground crew, and obstructions;

(iii) The limits for the relevant conditions;

(iv) Good lookout at all times;

(v) Built-up areas and gatherings of people must be avoided when a load is suspended below the helicopter, provided that where the operation is to be conducted within be a built-up area, safe flight routes must be established and approved by the Executive Director and local municipality;

(vi) Cabin crew, if used, must be safely secured to the helicopter at all times by means of a safety harness or seat belt.

(b) Hook-up and transition –

(i) Demonstrate the positioning of the helicopter accurately above the load using the techniques of marshalling either by radio, visual signals, mirror or cabin crew intercom;

Note: When a cabin crew member is used for marshalling, the pilot must strictly obey his or her instructions at all times, except if the helicopter and its occupants would be placed in jeopardy by doing so;

(ii) Demonstrate the pick-up and the transition to forward flight when at a safe height;

(iii) The appropriate cruise speed must take into account the load's flight characteristics, the environment, level of turbulence and engine power available;

(iv) Demonstrate control of the load during flight and procedure to be followed if the load becomes difficult or impossible to control. For example, if the load starts oscillating, the pilot should reduce power and enter a gentle turn left or right, or bring the helicopter to a stationary hover; this generally will alleviate the condition. The load should only be jettisoned in extreme cases when the helicopter or its occupants are at risk and then only over uninhabited areas.

(c) Approach and drop-off –

(i) The approach must be cautious and fairly shallow, taking into account the distance the load is beneath the aircraft and above the surface;

(ii) The transition to the hover must be made high, to ensure adequate clearance between the load and the surface or ground obstacles;

(iii) Directional information must be provided by the radio, visual signals or cabin crew during the final stages of the approach;

(iv) Demonstrate positioning the load over the drop-off point and lowering it to the surface or its position, using the techniques of marshalling either by radio, visual signals, mirror or cabin crew intercom;

(v) Demonstrate releasing the load, using the normal release method and the emergency release method.

(d) Common faults –

(i) Lack of precision when hovering inside ground effect or outside ground effect;

(ii) Lack of appreciation for ground clearance with an underslung load;

(iii) Vertical drift when lifting and lowering the load;

(iv) Horizontal drift when lifting and lowering the load;

(v) Jerky pick-up and drop-off;

(vi) Pilot-induced oscillations due to over-controlling on the cyclic;

(vii) The effects of trying to counter oscillations in flight using cyclic instead of power and speed.

1.4.2 Air exercises

Exercise 1: Hook-up procedure

(a) Approach the hook-up area using –

(i) ground marshaller;

(ii) radio;

(iii) cabin crew intercom; and

(iv) helicopter mirror.

(b) Establish a steady hover using –

(i) short strop;

(ii) long strop.

(c) Once the load has been hooked up, take up the slack while monitoring the power required to hover before lifting the helicopter vertically until the load is well clear of the surface or obstacles, as communicated/established by each of the methods listed under paragraph (a) above.

(d) Once the load is clear, transit to forward flight.

Exercise 2: In-flight

(a) Observe V_{ne} as established from the flight manual or dictated by the load, while handling the controls as smoothly as possible;

(b) Reduce power and enter a gentle turn to either left or right, or bring the helicopter to a stationary hover, to demonstrate the technique for bringing an oscillating load under control;

(c) Avoid any built-up or inhabited areas during flight with a sling load.

Exercise 3: Drop-off procedure

(a) Approach the drop-off area at a shallow angle using –

(i) ground marshaller;

(ii) radio;

(iii) cabin crew intercom; and

(iv) helicopter mirror;

(b) Terminate the approach in a high hover with the load well clear of the surface or ground obstacles as communicated/established by each of the methods listed under paragraph (a) above;

(c) Maintain a steady inside ground effect hover or outside ground effect hover while monitoring the power required to hover;

(d) Position the load over the drop-off point;

(e) Once in position, lower the load vertically until it contacts the surface and then jettison it using –

(i) the normal release system; or

(ii) the emergency release system.

Note: Both normal and emergency release methods must be practised.

1.4.3 Post-flight discussion

The post-flight discussion reviews the exercise and can be used to amplify or clarify any particular point or difficulty, thus consolidating the exercise as a whole.

2. Skills test

The applicant must *demonstrate* competency in the aspects of subparagraph 1.4.2 using either form FSS PEL 61-31, FSS PEL 61-33 or FSS PEL 61-36, depending on the level of the licence held.

61.28.2 APPLICATION FOR HELICOPTER SLING LOAD RATING

(1) The application for a helicopter sling load rating must be made on Form FSS PEL 61-10.

(2) The helicopter sling load rating must be endorsed in the applicant's licence.

61.29.1 REQUIREMENTS FOR HELICOPTER WINCHING RATING

1. Training

1.1. *Aim of training course*

The aim of the training course is to train a candidate to the level of proficiency required for the issue of a helicopter winching rating, and to provide the training necessary to act as pilot-in-command of a helicopter engaged in winching operations.

1.2. *Contents and requirements of training course*

1.2.1 The candidate must have completed not less than 250 hours of flight time as pilot-in-command of a helicopter. The course must be conducted by the holder of an aviation training organisation approval, issued by the Executive Director in terms of Part 141.

1.2.2 The course comprises –

(a) a theoretical knowledge course; and

(b) a practical training course.

1.3. *Theoretical knowledge course*

1.3.1 The theoretical knowledge course must comprise instruction on the following –

(a) The significance of operations inside ground effect and outside ground effect and the correct use of the relevant performance charts;

(b) the pre-flight checking and correct operation of the helicopter winching equipment, including the emergency cable cutter;

(c) the marked lateral C of G shift that takes place when winching;

(d) the importance of a full and correct briefing for all flight and ground crew members participating in the operation as regards to –

(i) pick-up and drop-off points;

(ii) the care, selection, preparation and correct use of winching equipment, including inspection of cables, nets, strops, and safety harness for winch operator, as applicable;

(e) responsibilities and duties of cabin crew;

(f) marshalling signals;

(g) load preparation and flight characteristics of different loads;

(h) aircraft-generated static, use of the static discharge pole and the correct procedures in this regard;

(i) correct radio procedures and terminology for intercom communication between the pilot and the winch operator;

(j) pick-up and release procedures;

(k) emergency procedures, including engine failure in the hover, cables getting fouled either with the helicopter or with other items, loads becoming difficult or impossible to control in flight and cable cutting; the effects of buildings and obstruction on prevailing winds, escape routes in the event of downdrafts, turbulence and engine failure;

(l) safety and other equipment including hand held transceivers, hard hats, safety goggles, durable gloves, overalls and whistles;

(m) the relevant air law aspects;

(n) the pre-flight briefing which is given just before each flight, and which consists of a brief summary of the principal parts of the theoretical knowledge course, together with any particular points of airmanship, air traffic control, and meteorology pertaining to the flight.

1.4. *Practical training course*

1.4.1 In-flight instruction

A full briefing must be given during flight, covering the following:

(a) Airmanship –

(i) The suitability of pick-up and drop areas in respect of size and shape, surface, slope, approach and take-off paths, and obstructions;

(ii) Helicopter to be operated within its V_{ne} for winching operations at all times. Transition into forward flight should only be undertaken once the winch cable has been safely stowed;

(iii) The limits for the relevant conditions;

(iv) Good lookout at all times;

(v) Built up areas and gatherings of people must be avoided when a load is suspended below the helicopter, provided that where the operation is to be conducted within a built up area, safe flight routes must be established and approved by Executive Director and the local municipality;

(vi) Personnel must only be raised or lowered by means of the winch from a stationary hover in relation to the surface and never while the helicopter has any apparent forward, sideward or rearward speed unless deemed necessary in the interests of safety;

(vii) The winch operator must be safely secured to the helicopter by a safety harness, particularly when the doors are open during, or have been removed for the operation, and while manoeuvring people into or out of the helicopter cabin;

(viii) The helicopter should never transit to forward flight with people suspended on the winch cable unless deemed necessary in the interests of safety;

(ix) The helicopter must be operated with due regard for such matters as power limitations, hover power, hovering into the wind, and position of obstructions;

(x) While in the hover during hoisting operations, the pilot must strictly obey the hoist operator's instructions at all times, except if the helicopter and its occupants would be placed in jeopardy by doing so.

(b) Hook-up and transition

(i) Demonstrate the approach and accurate positioning of the helicopter over the pick-up point, guided via the intercom by a flight crew member acting as winch operator;

(ii) Demonstrate the pick-up and the pronounced lateral C of G shift when the winch takes up the weight;

(iii) Demonstrate the transition to forward flight only when the winching operation has been completed. The winching operation is completed when the winched persons or cargo are safely aboard, the winch cable is safely stowed and, where applicable, the cabin doors have been closed.

(c) Approach and drop-off

(i) The approach should be normal;

(ii) Control should be handed over to the winch operator when still some distance short of the drop-off point;

(iii) Demonstrate positioning the helicopter, following the instructions given by the winch operator over the intercom;

(iv) Demonstrate the drop-off and the pronounced C of G shift when the load is removed from the winch cable.

(d) Common faults

(i) Lack of precision when hovering inside ground effect or outside ground effect;

(ii) Vertical drift when lifting and lowering the load;

(iii) Horizontal drift when lifting and lowering the load;

(iv) Pilot-induced oscillations due to lateral C of G shift and over-controlling on the cyclic when hovering during the pick-up and drop-off.

1.4.2 Air exercises

1.4.2.1 Exercise 1: Pick-up procedure

(a) Approach the pick-up area guided by instructions received over the intercom from the winch operator;

(b) Establish a steady inside ground effect hover or outside ground effect hover over the pick-up point following the winch operator's instructions while he or she lowers the winch cable;

(c) Indicate the pronounced C of G shift experienced when picking up the load;

(d) Once the load has been picked up, monitor the power required to hover until the load is safely stowed inside the helicopter, the winch cable is secure and, if applicable, the cabin doors have been closed, before transitioning to forward flight.

1.4.2.2 Exercise 2: In-flight

Observe V_{ne} as established from the flight manual.

1.4.2.3 Exercise 3: Drop-off procedure

(a) Approach the drop-off area normally, following instructions by the winch operator given over the intercom;

(b) Terminate the approach in a high hover and follow the winch operator's instructions for the positioning of the helicopter while he or she is lowering the winch cable;

(c) Indicate the pronounced C of G shift when the load is released;

(d) Once the load has been released, maintain the hover until the winch is safely stowed and, if applicable, the cabin doors have been closed;

(e) Only then transit to forward flight.

1.4.3 Post-flight discussion

The post-flight discussion reviews the exercise and can be used to amplify or clarify any particular point or difficulty, thus consolidating the exercise as a whole.

(1) Skills test

The applicant must *demonstrate* competency in the aspects of subparagraph 1.4.2 using either form FSS PEL 61-31, FSS PEL 61-33 or FSS PEL 61-36, depending on the level of the licence held.

61.29.2 APPLICATION FOR HELICOPTER WINCHING RATING

1. The application for a helicopter winching rating must be made on Form FSS PEL 61-10.
2. The helicopter winching rating must be endorsed in the applicant's licence.

61.30.1 REQUIREMENTS FOR HELICOPTER GAME OR LIVESTOCK CULL RATING

1. Training

1.1. *Aim of training course*

61.31. The aim of the training course is to train a candidate to the level of proficiency required for the issue of a helicopter game or livestock cull rating, and to provide the training necessary to act as pilot-in-command of a helicopter engaged in game or livestock cull operation2. *Contents and requirements of training course*

(a) The candidate must have completed not less than 250 hours of flight time as pilot-in-command of a helicopter. The course must be conducted by the holder of an aviation training organisation approval, issued by the Executive Director in terms of Part 141.

(b) The course comprises –

i. theoretical knowledge course; and

61.31. practical training cours3. *Theoretical knowledge course*

(a) The theoretical knowledge course must comprise instruction on the following:

i. **Legislation**

Explain the privileges and limitations of a game or livestock cull rating, including regulatory provisions for low-level flying.

State the requirements for the conduct of flights below 500 ft AGL, including pilot responsibilities.

ii. **Operational planning**

1. Pre-flight and after-flight inspection

Describe the areas of the aircraft that should be inspected to ensure the safety of game or livestock cull operations, specifically at low-level.

Describe inspection and flight preparation of aircraft exposed to outside parking and harsh environmental conditions (for example, wing and control surfaces exposed to freezing conditions, engine, battery care, etc.).

Operational inspections Explain operating area inspection methods and purpose.

Explain limitations of ground inspections.

Explain the low-flying restrictions, planning notice, precautions and procedures with respect to overflying or in close proximity to buildings during game or livestock cull operations, including stating the required safety distances and minimum height from buildings.

3. Operations on, or in vicinity of, non-controlled and controlled aerodromes or airstrips

State restrictions and conditions on game or livestock cull (low level) operations at aerodromes with movements of regular public transport aircraft.

Explain the circuit requirements at various types of aerodromes and landing strips, including conditions applying to exemption from compliance with regulatory requirements.

4. **Aerial inspection**

Explain the method and purpose (i.e. how and what are you looking for?).

Describe how to locate and plan for the management of obstructions and ground undulations from the air.

5. **Weather**

Describe the effects of inversion on low-level operations.

Describe indicators of mechanical and thermal turbulence and shifting wind and explain implications for low-level operations.

Describe winds affecting low-level flying and associated flying conditions.

Describe the effect of mountainous influence on airflow and associated flying conditions.

Describe weather phenomena hazardous to low-level operations.

Recall the terrain and weather conditions that may lead to disorientation during low-level flight (for example, flight into rising ground and toward low ground, false horizons, ridgeline and valley effects) and explain pilot corrective action.

Explain typical terrain and seasonal effects on local wind direction, strength and mechanical or thermal turbulence.

6. **Planning and risk control**

Describe the process of conducting a risk assessment, including the following:

identifying potential hazards or risk;

describing what a risk assessment matrix is, and how to use it;

assessing risk — probability versus severity;

assigning priority to identified risk.

Describing risk management, including:

- using risk management hierarchy such as eliminating risk, substituting for a smaller risk, engineering and administering around risk;
- consideration of typical changing weather conditions that require monitoring, for example, wind direction and speed and estimating their magnitude and direction, inversions and changing atmospheric stability; position of the sun and the danger of its glare, and importance of maintaining a clean, clear and serviceable windscreen.

7. **Flight – low level**

- Operational techniques

A. For the area of operations, describe the methods of managing the following given factors:

1. wind direction;
2. sun glare;
3. obstructions, particularly wires and powerlines.
4. Describe hazards associated with game or livestock cull (low-level) operations, such as hilly terrain, downdraughts, turbulence, false horizon effect, high country and irregular areas.

B. Explain precautionary actions before starting a clean-up.

C. Explain how to identify wire runs, a150ecognizise associated risks, with the following:

1. preliminary inspection of operational area;
2. how to judge distance to the wire;
3. the danger and forms of distraction;
4. considerations for flying above or under the wire;
5. considerations for crossing oblique wires;
6. visual cues of wire locations such as pole runs, type, numbers and attitude of;

7. insulators, cross-stress and angle of cross-stress, supplementary or spur wires buildings;
8. characteristics and dangers of high wires and guy wires;
9. factors affecting misjudgment of wire clearance;
10. how to maintain awareness of located wires;
11. the hazards of mental overload.

D. Describe the operation of DGNSS for track guidance, including the importance of maintaining an active scan outside the cockpit while referencing the DGNSS.

8. **Human factors**

Demonstrate knowledge of the following human factors issues and their impact on the safety of a game or livestock cull operation.

Dehydration and its impact on pilot cognitive function and reaction time.

Fatigue and its impact on pilot cognitive function and situational awareness.

Stress and its short-term and long-term impact.

Drugs (particularly OTC) impact on pilot cognitive function, reaction time and coordination.

61.31. Spatial disorientation and illusions.4. *Practical training course*

(a) In-flight instruction

i. **Plan game/livestock cull low-level operations**

identify, evaluate and manage risks at low level;

complete consultation with all stake holders involved in the low-level operation to confirm task requirements;

ensure aircraft type and performance is appropriate for the task;

assess and allow for the effects of fatigue and physical health on pilot performance;

analyse and apply actual and forecast weather conditions to low-level operations;

identify area of operations using chart and geographical features;

assess geographical characteristics of the area of flying operations to ensure safe completion of the task;

identify and avoid all obstructions;

identify and avoid buildings, personnel, vehicles, animals, vegetation and nuisance areas.

ii. **Flight component**

correctly perform pre-flight inspection and determine aircraft serviceability for intended flight; initialise and check data validity of area navigation system (if fitted);

correctly operate aircraft;

correctly perform take-off.

iii. **Aircraft handling (at an altitude above 1,500 ft AGL)**

conduct pre-manoeuvre checks for each manoeuvre; demonstrate level flight, climbing and descending turns up to 60° angle of bank as follows:

- visual referenc152ecognizsed;
- (speed monitored;
- bank attitude maintained;
- pitch attitude adjusted for bank angle;desired altitude maintained;
- rollout and level off anticipated;

recognise the approach and demonstrate the recovery to retreating blade stall in level flight as follows:

- configure aircraft appropriately152ecognizeise approach to retreating blade stall conditions;
- maintain references by visual cues;
- recover by reduction of collective (AOA) (consistent with available height and power application);

(d) recognise the approach and demonstrate the recovery to retreating blade stall in turning flight as follows:

(i) configure aircraft appropriately;
(ii) recognise approach to retreating blade stall conditions;
(iii) maintain references by visual cues;
(iv) recover by AOA reduction (consistent with available height and power application);

(e) apply correct techniques for upset recovery in various configurations as follows:

(i) configure aircraft appropriately; 0
(ii) recognise upset condition;
(iii) maintain references by visual cues;
(iv) recover to level flight condition;

(f) manage the energy state of the aircraft for the following:

(i) identify high kinetic energy situations;
(ii) identify low kinetic energy situations;
(iii) identify high potential energy situations;

61.31.2.7 (iv) identify low potential energy situations..4 **Low-level handling (at an altitude of 200 ft AGL but not below 5 ft AGL)**

(a) manage the aircraft energy state;
(b) perform straight flight as follows:

(i) adjust height according to terrain to maintain assigned height above ground level;
(ii) recognise and manage the effect of rising and descending terrain on aircraft performance;
(iii) compensate for drift;

(c) perform turning at various bank angles up to 60° angle of bank at normal cruise speed as follows:

(i) adjust power as required;
(ii) recognise and manage the effect of rising and descending terrain on aircraft performance;
(iii) compensate for the effect of gradient wind;
(iv) anticipate rollout;

(d) demonstrate use of escape routes and rising ground;
(e) demonstrate flight at various speed and configurations not below (safe single-engine speed +15 KIAS for multi-engine aircraft);
(f) operate adjacent to powerlines and wires;
(g) demonstrate awareness of wind effect in the vicinity of obstructions, mountainous terrain and illusions;
(h) recognise and control the illusion of slipping and skidding during turns close to the ground;
(i) recognise the effect of rising and descending terrain on aircraft performance;
(j) maintain a constant altitude over featureless terrain or water;

(k) conduct procedure turns from a fixed ground reference point;
(l) demonstrate knowledge of the effect of false horizons;
(m) recognise and manage impact of sun glare on increased risk of collision with obstacles;
(n) identify escape routes and rising ground;
(o) identify the requirement to operate in the vicinity of powerlines and wires and assesses risk;
(p) identify and avoid powerlines (wires) by a minimum of 15 ft when crossing overhead;
(q) identify and avoid all powerlines and wires;
(r) identify poles, cross trees, wires and insulators to assist powerline and wire location;
(s) identify and avoid pole stay wires;
(t) perform quick stop manoeuvres; into wind and downwind entry as follows:

(i) identify termination point;
(ii) decelerate helicopter;
(iii) balance helicopter and maintain direction and altitude;
(iv) maintain helicopter outside height velocity diagram requirements;
(v) hover over the termination point;
(vi) perform quick stop manoeuvres, downwind entry;
(vii) identify termination point;
(viii) turn 180° by controlled corrective action (downwind entry);

(61) (ix) turn helicopter into wind and initiate decelerationx) balance helicopter and maintain direction and altitude;

(u) perform flight at various speed and configurations;
(i) identify and maintain safe distance from pole stay wires;
(ii) navigate to a predetermined destination at altitude below 500 ft AGL;
(iii) comply with airspace requirements and procedures;
(iv) demonstrate correct navigation techniques and procedures at low level;
(v) correctly perform low level circuit and landing;

61.31.2.7 (vi) correctly perform after landing and shutdown checks..5 **Execute autorotative forced landing (simulated) from below 500 ft AGL (single-engine helicopter only)**

(a) identify potential forced-landing areas prior to and during low-level operations;
(b) recognise engine failure or any other emergency requiring a forced landing and conduct recall actions;
(c) maintain control of the aircraft – select the most appropriate landing area within gliding distance while avoiding any powerlines or obstructions;
(d) manoeuvre the aircraft to a landing area that achieves the safest outcome;
(e) explain plan of action and the landing techniques that would ensure the safest outcome when committed to a forced landing on unfavourable terrain or water.

1.4.1.6 **Execute engine failure (simulated) from below 500 ft AGL (multi-engine helicopter only)**

(a) identify potential escape routes prior to and during low-level operations;
(b) recognise engine failure or any other emergency and conduct recall actions;
(c) maintain control of the aircraft – initiate climb to safe altitude;
(d) manoeuvre the aircraft via escape route to a safe altitude;
(e) complete check system items;
(f) explain plan of action.

1.4.1.7 Operate at low level in hilly terrain

(a) safely manipulate the aeroplane at low level in hilly terrain;
(b) establish and maintain safe height relevant to application type;
(c) demonstrate safe contour flying;
(d) identify and select appropriate natural markers to aid situational awareness;
(e) demonstrate safe approaches to higher ground, including identification of escape routes;
(f) demonstrate safe turns in hilly terrain;
(g) demonstrate awareness and management of the effects of wind and turbulence in hilly terrain, including lee effects;

61.31.2 (h) demonstrate awareness of illusions in hilly terrain, including false horizon effect and shadows..**2 Range of variables**

(a) activities are performed in accordance with published procedures;
(b) day VFR;
(c) approved helicopter with dual controls, electronic intercom and dual control brakes if fitted;
(d) aerodromes or HLS;
(e) hazards may include variable terrain and weather, surface conditions, other aircraft, lose objects, personnel, animals, birds propeller wash, rotor wash, jet blast and negative 'g' in teetering rotor systems;

61.31.2 (f) limitations may be imposed by local noise abatement procedures and curfews..**3 Underpinning knowledge of the following:**

(a) the topics mentioned in Section 2.5, Low-level rating in Schedule 3 of this MOS;
(b) maximum rate and minimum rate turn criteria;
(c) the effect of wind velocity in low-level operations;
(d) the effect of aircraft inertia at low level;
(e) effects of illusions;
(f) obstruction avoidance techniques;
(g) critical operational conditions, including retreating blade stall, vortex ring, over pitching loss of anti-torque effectiveness and negative 'g' effects;
(h) meteorological factors affecting helicopter performance at low level;
(i) terrain following techniques;
(j) safety hazards and risks of low-level operations and methods of control.

2. Skills test

The applicant must demonstrate competency in the aspects of paragraph 1.4 using either form FSS PEL 61-31, FSS PEL 61-33 or FSS PEL 61-36, depending on the level of the licence held.

61.30.2 APPLICATION FOR HELICOPTER GAME OR LIVESTOCK CULL RATING

(1) The application for a helicopter game or livestock cull rating must be made on Form FSS PEL 61-10.

(2) TS 61.31.2(3) helicopter game or livestock must be endorsed in the applicant's licence.

61.31.2 APPLICATION FOR AGRICULTURAL PILOT RATING

(1) The application for an agricultural rating must be made on Form FSS PEL 61-10.

(2) Either one of the skills test Forms FSS PEL 61-30, FSS PEL 61-31, FSS PEL 61-32, FSS PEL 61-33, FSS PEL 61-34, FSS PEL 61-35, FSS PEL 61-36 or FSS PEL 61-37, completed by the Designated Flight Examiner, must accompany the application form, depending on the level of the licence held.

(3) Agricultural rating must be endorsed in the applicant's licence.

61.31.3 SKILLS TEST

(1) Conducting the Skills Test

The person conducting the skills test must test an applicant for the issuing of an agricultural pilot rating on his or her ability to perform as pilot-in-command of an aeroplane, helicopter or microlight aeroplane, as the case may be, in the following procedures and manoeuvres with a degree of competency appropriate to the privileges granted to the holder of an agricultural pilot rating:

1.1 The skills test must be conducted in accordance with the skills test Forms Forms FSS PEL 61-30, FSS PEL 61-31, FSS PEL 61-32, FSS PEL 61-33, FSS PEL 61-34, FSS PEL 61-35, FSS PEL 61-36 or FSS PEL 61-37, depending on the level of the licence held and must include the following –

(a) Assessment of area to be sprayed

(b) Load sheet

(c) Weather report

1.2 In the case of aeroplanes –

(a) Short-field take-off and landings

(b) Cross-wind and down-wind take-offs and landings;

(c) Flight manoeuvres at minimum air speed;

(d) Accelerated stalls;

(e) Maximum-rate turns;

(i) Incipient spin recoveries entered into inside of and from outside of turns;

(ii) Precision landings, normal, down-wind and cross-wind;

(iii) Exit from application area, turn around and re-entry to application area under various wind conditions;

(iv) Simulated application runs at appropriate heights;

(v) Entry to and exit from applications over obstructions;

- Avoidance of obstructions;
- Emergency procedures.

(vi) Low-level forced landing technique

(vii) Dump load

1.3 In the case of helicopters –

(a) Take-offs and landings at maximum certificated mass for aerial applications;

(b) Cross-wind and down-wind take-offs and landings;

(c) Flight manoeuvres at minimum air speed;

(d) Maximum-rate turns;

(i) recoveries entered into inside of and from outside of turns;

(ii) Precision landings, normal, down-wind and cross-wind;

(iii) Exit from application area, turn around and re-entry to application area under various wind conditions;

(iv) Simulated application runs at appropriate heights;

(v) Entry to and exit from applications over obstructions;

- Avoidance of obstructions;
- Emergency procedures;

(vi) Low-level autorotation technique;

(vii) Dump load.

(2) Skills Test Standard

The skills test must be conducted in accordance with the standard contained in the skills test Form.

61.32.2 GENERAL REQUIREMENTS FOR DESIGNATED FLIGHT EXAMINERS

(1) Conditions for designation

5.1 The following conditions are applicable to designation.

A person applying for designation as a flight examiner must:

(a) be in good standing with the Authority.;

(b) be of good character and standing acceptable to the aviation industry;

(c) declare any conflict of interest with respect to the Part 141 aviation training organisation or operator or the person to be tested.

1.2 A designation reference number will be allocated to each examiner. The reference number must be reflected on all documents signed by the examiner.

1.3 Once appointed, an examiner must be issued a stamp that reflects the following:

(a) Name of examiner

(b) Licence number

(c) Designation reference number.

(2) Assessment course

A Designated Flight Examiner is required to successfully complete the flight examiner assessment course, the contents of which are stated below.

2.1 Flight examiner assessment course

(a) An applicant for his or her first designation as a flight examiner (DFE) or for approval as a person to act as flight examiner (OFE) must have completed an approved flight examiner assessment course within the 12 months immediately preceding such application;

(b) The assessment course, referred to in paragraph (a), must be conducted by the Authority or by the holder of an aviation training organisation approval issued in terms of Part 141, and must include – as appropriate to the role of the examiner – at least the following subjects –

(i) the regulatory requirements specified in NAMCAR61.32.2;

(ii) fundamentals of human performance and limitations relevant to flight examination;

(iii) fundamentals of evaluation relevant to examiner's performance;

(iv) NAMCAR Part 61, related technical standards, AIP, published flight guides, and AICs;

(v) quality system as related to NAMCAR Part 61;

(vi) multi-crew co-operation, and human performances and limitations, if applicable;

(vii) constructing and conducting a skills test or proficiency check; and

(viii) performance assessment.

61.32.4 APPLICATION FOR DESIGNATION AS FLIGHT EXAMINER

The application for a Designated Flight Examiner Authorisation must be made on Form FSS PEL 61-11.

61.32.5 ISSUING OF DESIGNATION AS DESIGNATED FLIGHT EXAMINER

Designation will be in the format of a letter of authorisation issued by the Executive Director.

61.32.6 RE-DESIGNATION AS DESIGNATED FLIGHT EXAMINER

(1) Form

Application for re-designation must be made annually on the prescribed Form FSS PEL 61-11 and submitted to the Executive Director together with the non-refundable fee as prescribed in Part 187.

(2) Duties

1.3 Designated examiners are required to:

(a) ensure that the original form for each test conducted, whether such test was successful or not, is submitted to the Executive Director;

(b) provide a copy of the test to the person tested;

(c) keep a record of each test carried out with suitable notes explaining the outcome of the test;

(d) submit an annual report of tests conducted on the appropriate form FSS PEL 61-59 within 60 days preceding the anniversary date of the designation or within 60 days preceding expiry of the designation;

(e) have access to the current CAR, CATS and for flight tests, the AIP, AIC, applicable NOTAMS and the current DFE Manual including applicable flight test standards, or current language proficiency standards, if applicable;

(f) administer all flight tests in accordance with the flight test standards as contained in the appendices of document NAMCATS FCL;

(g) sign and stamp all forms, clearly indicating the DFE reference number and date of the test;

(h) sign the appropriate sections of the tested pilot's logbook and licence, indicating the nature, date and outcome of the test;

(i) comply with the Code of Ethics for designated examiners;

(j) ensure that he/she conducts no more than 3 consecutive tests or checks on the same candidate, unless approval has been granted by the Executive Director.

(k) if a candidate fails, notify the failed items and recommendations to the Chief Flight Instructor, Chief Pilot or Operations Manager, whichever is applicable;

(l) if a candidate fails to meet the required proficiency standard for the licence or rating, notify the Executive Director and submit a copy of the failed test report and detailed written comments on the failed items; and

(m) if a candidate fails the instrument rating test and the rating is still valid, draw a line through the instrument rating endorsement on the licence and inscribe 'instrument rating invalid' on the licence with signature and date.

(3) Cirscumstances in which applicant will not be re-designated

3.1 If evidence supports that designated examiners did not comply with the requirements of the NAMCARS and NAMCATS or with the applicable test standards and procedures provided by the Executive Director, the Executive Director may decide not to re-designated the applicant.

3.2 The applicant shall be provided with a letter, containing written reasons of the decision not to re-designate him/her, and would have an opportunity to respond to the letter, once received.

61.32.10 CONDUCTING OF SKILLS TEST AND PROFICIENCY CHECK BY DESIGNATED FLIGHT EXAMINERS

The guidelines for the conducting of a Skills Test or Proficiency Check are contained in Appendix 9.0 to NAM-CATS-FCL 61.

61.33.1 REQUIREMENTS FOR AEROBATICS RATING(GRADUATE)

(1) General

Notification of competency to act as an aerobatic pilot must be issued by the Grade I or II instructor or the designated examiner and endorsed in the pilot logbook.

Training for aerobatic ratings must include a training programme combining both ground and flight training. Part 141 Aviation Training Organisations offering aerobatic rating training, must ensure that the content adequately reflects the difficulty levels appropriate to the class of aerobatic rating applicable (see technical standard 61.33.3 for the specific manoeuvres for each class).

(2)Aerobatic Sport Controlling Body

An aerobatic sport controlling body, in terms of Part 149 Subpart 2, may be approved by the Executive Director, upon application. The main aim of such a body must be to promote the sport and through competition flying, develop skills required for a higher level of aerobatic rating achievement.

(3) Ground Training

The Ground Training syllabus must at least contain the following content:

- **Legislation:**

Applicable requirements within the NAMCARS

- **Human Factors and Human Physiological Effects of G-loading**

- Pilot: I'M SAFE procedure.Physical fitness, currency, free of performance inhibitors (medication, alcohol, sleep deprivation, occupational and social stress), adrenaline and peer pressure effects.
- Aircraft: Pockets empty, aircraft free of loose articles or articles that could come loose, mechanical inspection (aerobatics is most intolerant of airworthiness fault).
- Parachutes: fitting and use (as applicable).
- Physiological limitations: "G" Force - physiological effects (grey-out, black-out, G induced loss of consciousness, red out), how it is sensed, emphasis on early recognition and prevention of its effects, recovery, becoming adjusted through currency.
- Causes of nausea: pilot and passenger monitoring techniques.
- Visual illusion: at low level, in poor light, over water; depth of vision.
- Disorientation and loss of horizon.
- Airsickness
- Disorientation
- Altitude awareness during manoeuvres.
- Situational awareness and maintenance of special orientation.

- **Planning and Management of Flight Sortie**
  - Aircraft Limitations
  - Flying Areas and people settlement considerations (Noise Pollution)
  - Line Feature
  - HASELLL Checks
  - Trimming the Aircraft
  - Lookout before and during manoeuring
  - Engine Considerations
  - Instrument Limitations
  - Spectator Considerations
  - Drift Compensation
  - Energy Management
  - Safety Altitude
  - Hard Deck
  - Calling Off Manoeuvre
  - Communication

- **Considerations, Inadvertent Manoeuvres and Emergencies**
  - Balance and use of Controls
  - Control defection Vs speed limitations
  - Inadvertent Stall, Spin or Unusual Attitudes
  - Emergency procedures:
    - Engine failure, control failure, fire, loss of control of passenger, escape manoeuvres and recovery from unusual attitudes, height preservation.
    - Propeller overspeed
    - Structural failure
    - Vacating the aircraft in flight (as applicable).

- **Post Flight Evaluation**
  - Any activity outside limits of legislation, airframe, engine and pilot.
  - Medium term post flight effects of aerobatics, disorientation and G force.
- **General**
  - Aresti Aerocriptographic System

- Display/Competition Briefings
- Ground Walk and Talk Sequence

- **Airframe and Aerodynamics**
  - Va – Design Manoeuvring Speed
  - Vne – Velocity not Exceed
  - Vs – Stalling Speed
  - Vm - Manoeuvre Stall Speed
  - Vn Diagram
  - Load factor
  - Rolling-g Limit
  - Unusual Attitudes and Recovery
  - Effect of Power on Stall
  - Slipstream
  - Centre of Gravity
  - G progression and G-meter
  - Torque Effect
  - Control Effectiveness
  - Recovery from Stall and Autorotation
  - Momentum
  - Centripetal and Centrifugal Forces
  - Effect of Density Altitude
  - Aileron Effectiveness
  - Adverse Aileron Yaw
  - Effect of Wind
  - G-LOC
  - Airspeed: dive and recovery, escape manoeuvres, limitations, recommended entry speeds, relationship of IAS and control.
  - High and low speed flight.

- **Basic Aerobatic manoeuvres**
  - Maximum rate steep turn
  - Inspection Turn, Wing-Over and Dive
  - Loop
  - Straight Roll (Aileron)
  - Barrel Role
  - Stall Turn
  - Spin
  - Horizontal “8” (Cuban Eight)
  - Roll-Off-The-Top (Half Loop)

- **Aircraft Engine and Mechanical Limitations:**
  - Operational envelope of specific aircraft: effect of speed and weight, gravitational limitations, anticipated height loss/gain, rolling and pitching under load, overstress, and effect of turbulence.
  - Limits of engine RPM and redline: temperatures and pressures.
  - Propellers: forces, effect at high and slow speed, fixed pitch and constant speed.
  - Fuel and oil system: controls and limitations.

- **Flight Controls Limitations (Deflection/Speed) and Effects:**
  - Ailerons and elevator.
  - Rudder.
  - Throttle.
  - Slipstream.
  - Torque.

- **Maintenance:**
  Abilities and restrictions in accordance with Parts 43 or 44 as applicable.

(1) Flight Training

2.1 The flight training course should provide an introduction to the basic aerobatic manoeuvres with an emphasis on their safe and accurate execution, appropriate to the class of aerobatic Manoeuvres.
2.2 The flight training course should consist of dual instruction, solo practice and consolidation.
2.3 The flight training course should cover in practice all the elements of the ground course.
2.4 Particular attention should be given to engine management, the aerodynamic and loading affects of aerobatic flight on the aircraft, disorientation effects on the pilot, and the elemental need for safety, particularly recovery from unusual attitudes, the management of energy, height above the ground and situational awareness.
2.5 The course must consider aircraft of different performance and capabilities and how to plan and fly within the specific aircraft limitations.

61.33.2 APPLICATION FOR AEROBATICS RATING (GRADUATE)

Application for an aerobatics rating must be made on Form FSS PEL 61-10.

61.33.3 AEROBATICS RATING AND CLASSES

The Aerobatic Rating applies to aeroplanes, light sport aeroplanes and gliders. The following requirements and authorisations are applicable to the aerobatic rating and rating classes:

Rating and Classes	*Requirements*	*Authorisation*
Aerobatic Rating	Valid Pilot Licence Aeroplane category rating Aerobatic Rating (Basic) course completed with a minimum of 5 hours or 20 flights of aerobatic instruction completed. Tested by a test rated aerobatic instructor and an aerobatic Rating issued	Conduct aerobatic manoeuvres in an aeroplane above 3 000 ft AGL for recreational and private purposes only
Sportsman class	Member of an Aerobatics Sport Organisation. Aeroplane category rating Aerobatic rating with at least 15 hours experience. Sportsman aerobatic course completed Achieve 70% average competition score	Conduct aerobatic manoeuvres in an aeroplane above 2000 ft AGL Participate in aerobatic championships May be considered for an aerobatic display rating

Intermediate class	Aeroplane category rating Aerobatic rating Sportsman Intermediate aerobatic course completed At least 30 hours aerobatic experience Achieve 70% average competition score	Conduct aerobatic manoeuvres in an aeroplane above 1000 ft AGL Participate in aerobatic championships May be considered for an aerobatic display rating
Advanced class	Aeroplane category rating Aerobatic rating Intermediate Advanced aerobatic course completed At least 50 hours aerobatic experience Achieve 75% average competition score	Conduct aerobatic manoeuvres in an aeroplane above 500 ft AGL. Participate in aerobatic championships. May be considered for an aerobatic display rating. Participate in display flying at suitable venues
Unlimited class	Aeroplane category rating Aerobatic rating Advanced At least 80 hours aerobatic experience Unlimited aerobatic course completed Achieve 80% average competition score	Conduct aerobatic manoeuvres in an aeroplane at any height . Note minimum height is defined as 35 feet above ground level. Participate in aerobatic championships. Participate in display flying at suitable venues

***Note**: Display ratings are issued by the authority after consultation with senior display pilots who must officially recommend in writing, after observing the potential display candidate for competency*

The following manoeuvres must be included in the course for the aerobatic initial rating and specific class.

Manoeuvre	**Basic Aerobatic Rating Course**	**Sportsman (Basic) Course**	**Intermediate Course**	**Advanced Course**	**Unlimited Course**
Advanced Salling	Yes	Yes	Yes	Yes	Yes
Wing-Over	Yes	Yes	Yes	Yes	Yes
Spin – Erect	Yes	Yes	Yes	Yes	Yes
Loop	Yes	Yes	Yes	Yes	Yes
Rolling	Yes	Yes	Yes	Yes	Yes
Stall Turn	Yes	Yes	Yes	Yes	Yes
Sequences performing: Spin, Loop, stall Turn, Roll, Wing Over with exit level steep turn	Yes				
Chandelle		Yes	Yes	Yes	Yes
Barrel-Roll		Yes	Yes	Yes	Yes

Cuban Eight			Yes	Yes	Yes
Half Cuban Eight			Yes	Yes	Yes
Four Point Hesitation Roll			Yes	Yes	Yes
P-Loop			Yes	Yes	Yes
Portius Loop			Yes	Yes	Yes
Reverse Half Cuban Eight			Yes	Yes	Yes
Inverted Flying and Manoeuvring			Yes	Yes	Yes
Immelmann and Split S			Yes	Yes	Yes
Spin Inverted and Flat				Yes	Yes
Snap/Flick Rolls				Yes	Yes
Outside Loop				Yes	Yes
Rolling Turns				Yes	Yes
Climbing Rolls				Yes	Yes
Bell Tailslide				Yes	Yes
Lomcovak (Tumbling)					*Yes

*Proof of accredited international recognised course successfully completed