SIERRA LEONE CIVIL AVIATION AUTHORITY

ADVISORY CIRCULAR

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Airline Transport Pilot - Helicopter Skill Test Standards

Director General
Sierra Leone Civil Aviation Authority

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FORWORD

The Sierra Leone Civil Aviation Authority (MCAA) has developed skill test standards for airmen licences and ratings and these are published as Advisory Circulars (ACs). This AC establishes the standards for the Airline Transport Pilot Licence – Helicopter Skill Test and the Helicopter Type Rating Skill Test. Sierra Leone inspectors and designated pilot flight test examiners shall conduct skill tests in compliance with these standards. Flight instructors and applicants should find these standards helpful in skill test preparation. Other ACs have been developed for other airmen licences and can be obtained from the SLCAA website: http://www.slcaa.gov.sl

Information considered directive in nature is described in this skill test AC in terms such as "shall" and "must," indicating the actions are mandatory. Guidance information is described in terms such as "should" and "may" indicating the actions are desirable or permissive, but not mandatory.

The Sierra Leone Civil Aviation Regulations (SLCARs) can be obtained from the SLCAA at the address listed below. SLCAR Part 1A covers the requirements for Personnel Licensing.

This skill test standard may be downloaded from the SLCAA website at http://www.slcaa.gov.sl Subsequent changes to the skill test standard will also be available on the SLCAA website.

Comments regarding this publication should be sent to:

Sierra Leone Civil Aviation Authority
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21/23, Siaka Stevens Street.
Freetown, Sierra Leone

SECTION ONE: INSTRUCTIONS

1. GENERAL

The SLCAA has developed this skill test AC as the standard that shall be used by SLCAA inspectors and designated flight test examiners when conducting ATPL – Helicopter Skill Tests and Helicopter Type Rating Skill Tests. Flight instructors are expected to use this document when preparing applicants for skill tests. Applicants should be familiar with this document and refer to these standards during their training.

1.1 PURPOSE

The purpose of this AC is to prescribe the standards that shall be used by SLCAA inspectors and designated flight test examiners when conducting the Airline Transport Pilot Licence (ATPL) – Helicopter Skill Test and Helicopter Type Rating Skill Test. Flight instructors are expected to use this document when preparing applicants for skill tests. Applicants should be familiar with this document and refer to these standards during their training.

1.3 SKILL TEST STANDARD CONCEPT

SLCAR Part 1A specifies the areas in which knowledge and skill must be demonstrated by the applicant before the issuance of a licence or rating. SLCARs provide the flexibility to permit the SLCAA to publish skill test standards (STSs) containing the AREAS OF OPERATION and specific TASKS in which pilot competency shall be demonstrated. The SLCAA will revise this STS whenever it is determined that changes are needed in the interest of safety. Adherence to the provisions of the regulations and the STS is mandatory for evaluation of pilot applicants.

1.4 SKILL TEST DESCRIPTION

(1) This AC contains STSs for the Airline Transport Pilot Licence – Helicopter and Helicopter Type Rating including the AREAS OF OPERATION and TASKS for the initial issuance of an airline transport pilot licence and for the addition of category, class, and aircraft type ratings to that licence.

(2) The AREAS OF OPERATION are divided into two sections. The first AREA OF OPERATION in each section is conducted on the ground to determine the applicant's knowledge of the aircraft, equipment, performance, and limitations. The eight AREAS OF OPERATION in the second section are considered to be in-flight. All eight AREAS OF OPERATION in the second section test the applicant's skill and knowledge.

(3) If TASKS of the skill test are not completed on one date, all remaining increments of the test must be satisfactorily completed not more than 60 calendar days after the date on which the applicant began the test.

(4) AREAS OF OPERATION are phases of the skill test arranged in a logical sequence within each standard. They begin with pre-flight preparation and end with post-flight procedures. The examiner may conduct the skill test in any sequence that results in a complete and efficient test; **however, the ground portion of the skill test shall be accomplished before the flight portion.**

(5) TASKS are titles of knowledge areas, flight procedures, or manoeuvres appropriate to an AREA OF OPERATION.

(6) NOTE is used to emphasise special considerations required in the AREA OF OPERATION or TASK.

(7) REFERENCE identifies the publication(s) that describe(s) the TASK. Descriptions of TASKS are not included in the standards because this information can be found in the current issue of the listed references. Publications other than

those listed may be used for references if their content conveys substantially the same meaning as the referenced publications. The STSs are based on the following references:

SLCARs Part 1A	Personnel Licensing
SLCARs Parts 6	Operations
SLCARs Part 8	Airworthiness
SLCARs Part 22	General Policies, Procedures, and Definitions
SLCARs Part 25	Instruments and Equipment
SLCARs Part 26	Air Operator Certification
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SID	Standard Instrument Departure
STARS	Standard Terminal Arrival Routes
NOTAMS	Notices to Airmen
IAP	Instrument Approach Procedure Charts
RESERVED	

(8) The OBJECTIVE lists the important elements that must be satisfactorily performed to demonstrate competency in a TASK. The OBJECTIVE includes:

(a) Specifically what the applicant should be able to do

(b) The conditions under which the TASK is to be performed

(c) The acceptable standards of performance

(9) The following abbreviations have the meanings shown:

ADF	Automatic Direction Finder
ADM	Aeronautical Decision Making
AIRMETs	Airmen's Meteorological Advisories
APV	Approach with Vertical Guidance
ATC	Air Traffic Control
ATIS	Automatic Terminal Information Service
ATS	Air Traffic Service
SLCARs	Sierra Leone Civil Aviation Regulations
CDI	Course Deviation Indicator

CFIT	Controlled Flight into Terrain
CRM	Crew Resource Management
DA	Decision Altitude
DH	Decision Height
DME	Distance Measuring Equipment
DP	Departure Procedure
SLCAA	Sierra Leone Civil Aviation Authority
FDC	Flight Data Center
FMS	Flight Management System
FSTD	Flight Simulation Training Device
GLS	GNSS Landing System
GNSS	Global Navigation Satellite System
GPS	Global Positioning System
GPWS	Ground Proximity Warning System
IAP	Instrument Approach Procedure
IFR	Instrument Flight Rules
ILS	Instrument Landing System
IMC	Instrument Meteorological Conditions
IPC	Instrument Proficiency Check
LAHSO	Land and Hold Short Operations
LCD	Liquid Crystal Display
LDA	Localizer-type Directional Aid
LED	Light Emitting Diode
LOC	ILS Localizer
LORAN	Long Range Navigation
MAP	Missed Approach Point
ACA	Minimum Descent Attitude
METAR	Aviation Routine Weather Report
MLS	Microwave Landing System
NAVAID	Navigational Aid
NDB	Non-Directional Beacon
NOTAM	Notice to Airmen
NPA	Non precision Approach
PA	Precision Approach
RAIM	Receiver Autonomous Integrity Monitoring
RMI	Radio Magnetic Indicator
RNAV	Area navigation
SAS	Stability Augmentation System
SDF	Simplified Directional Facility
SIGMETS	Significant Meteorological Advisory
SRM	Single Pilot Resource Management
STAR	Standard Terminal Arrival
STS	Skill Test Standards
TCAS	Traffic Alert and Collision Avoidance System
VDP	Visual Descent Point
VHF	Very High Frequency
VNAV	Vertical Navigation
VOR	Very High Frequency Ominidirectional Range

(10) This STS uses the term "examiner" to refer to either a qualified MCAA inspector or designated pilot examiner when giving a skill test.

1.5 USE OF THE SKILL TEST STANDARDS

(1) The skill test standards are designed to evaluate competency in both knowledge and skill. The TASKS in this skill test standard are for helicopters. These TASKS apply to the applicant who seeks an airline transport pilot licence; the addition of a category, class, or aircraft type rating on that licence; and to the applicant who holds a private or commercial pilot licence (must have proper category/class rating) and is seeking the addition of an aircraft type rating on that licence.

(2) With certain exceptions, some described by notes, all TASKS are required. However, when a particular ELEMENT is not appropriate to the aircraft or its equipment, that ELEMENT, at the discretion of the examiner, may be omitted. Examples of ELEMENT exceptions are integrated flight systems for aircraft not so equipped, operation of landing gear in fixed gear aircraft, multi-engine tasks in single-engine aircraft, or other situations where the aircraft operation is not compatible with the requirement of the ELEMENT.

(3) Examiners must develop a written plan of action that includes the order and combination of TASKS to be demonstrated by the applicant in a manner that results in an efficient and valid test. Although TASKS with similar OBJECTIVES may be combined to conserve time, the OBJECTIVES of all TASKS must be demonstrated and evaluated at some time during the skill test. It is of utmost importance that the examiner accurately evaluates the applicant's ability to perform safely as a pilot in the National Airspace System. The examiner may simulate/act as air traffic control (ATC) while conducting the skill test.

1.5.1 Aircraft Type Ratings Limited to "VFR Only"

Pilot applicants who wish to add a type rating, limited to VFR, to their licence must take a skill test that includes the following items:

SECTION TWO: AIRLINE TRANSPORT PILOT LICENCE – HELICOPTER AND HELICOPTER TYPE RATING SKILL TEST STANDARDS

I. AREA OF OPERATION: PRE-FLIGHT PREPARATION

A. Equipment examination

B. Performance and limitations

II. AREA OF OPERATION: PRE-FLIGHT PROCEDURES

A. Pre-flight inspection

B. Powerplant start

C. Taxiing

D. Pre-take-off checks

III. AREA OF OPERATION: TAKE-OFF AND DEPARTURE PHASE

A. Normal and crosswind take-off

B. Instrument take-off

C. Powerplant failure during take-off

D. Rejected take-off

E. Instrument departure

IV. AREA OF OPERATION: IN-FLIGHT MANOEUVRES

A. Steep turns

B. Powerplant failure – multi-engine helicopter

C. Powerplant failure – single-engine helicopter

D. Recovery from unusual attitudes

E. Settling-with-power

V. AREA OF OPERATION: INSTRUMENT PROCEDURES. (Not applicable)

A. Instrument arrival

B. Holding

C. Precision instrument approaches
D. Non-precision instrument approaches
E. Missed approach
VI. AREA OF OPERATION: LANDINGS AND APPROACHES TO LANDINGS
A. Normal and crosswind approaches and landings
B. Approach and landing with simulated powerplant failure – multi-engine helicopter
C. Rejected landing
VII. AREA OF OPERATION: NORMAL AND ABNORMAL PROCEDURES
VIII. AREA OF OPERATION: EMERGENCY PROCEDURES
IX. AREA OF OPERATION: POST-FLIGHT PROCEDURES
A. After-landing procedures
B. Parking and securing

1.6 SPECIAL EMPHASIS AREAS

(1) Flight test examiners shall place special emphasis upon areas of aircraft operations considered critical to flight safety. Among these are:
   (a) Positive aircraft control
   (b) Positive exchange of the flight controls procedure (who is flying the aircraft)
   (c) Collision avoidance
   (d) Wake turbulence avoidance
   (e) Use of available automation
   (f) Crew resource management (CRM)
   (g) Aeronautical decision making (ADM)
   (h) Other areas deemed appropriate to any phase of the skill test
(2) Although these areas may not be specifically addressed under each TASK, they are essential to flight safety and will be critically evaluated during the skill test. In all instances, the applicant's actions must relate to the complete situation.
(3) Prior to the test, the examiner must explain, and the applicant must understand, the examiner's role regarding air traffic control, crew resource management, and the duties and responsibilities of the examiner through all phases of the skill test.

1.7 SKILL TEST PREREQUISITES

1.7.1 Airline Transport Pilot

An applicant for an ATPL – Helicopter Skill Test is required to:
(1) Meet the applicable requirements in SLCAR Part 1A for an ATPL – Helicopter rating;
(2) Hold the appropriate medical certificate;
(3) Pass the required knowledge test; and
(4) **Instructor Authorisation:** Obtain a written endorsement from an authorised instructor certifying that the applicant has met the flight training requirements for the skill test. The endorsement shall also state that the instructor finds the applicant competent to pass the skill test and that the applicant has satisfactory knowledge of the subject area(s) in which a deficiency was indicated by the Airman Knowledge Test Report.

1.7.2 Aircraft Type Rating

(1) An applicant for a type rating in a helicopter is required by SLCAR Part 1A to have:
   (a) The applicable experience;
   (b) A minimum of a second-class medical certificate, if a medical certificate is required (not required for simulator);
   (c) The appropriate category and class rating;

(d) Received and logged ground training from an authorised ground or flight instructor and flight training from an authorised flight instructor, on the AREAS OF OPERATION in this skill test standard that apply to the aircraft type rating sought; and

(e) Received a logbook endorsement from the instructor who conducted the training, certifying that the applicant completed all the training on the AREAS OF OPERATION in this skill test standard that apply to the aircraft type rating sought.

(2) If the applicant is an employee of an air operator certificate holder under the SLCARs, the applicant may present a training record that shows the satisfactory completion of that certificate holders approved pilot-in -command training programme for the aircraft type rating sought, instead of the requirements of (d) and (e) above.

(3) An applicant who holds the private pilot or limited commercial pilot licence is required to have passed the appropriate instrument rating knowledge test since the beginning of the 24th month before the skill test is taken if the test is for the concurrent issuance of an instrument rating and an aircraft type rating.

(4) If an applicant is taking a skill test for the issuance of a private or commercial pilot licence with a helicopter rating, in an aircraft that requires a type rating, Private Pilot Licence Skill Test Standards or Commercial Pilot Licence Skill Test Standards, as appropriate to the licence, must be used in conjunction with this STS. Also, the current Instrument Rating Skill Test Standard should be used in conjunction with this STS if the applicant is concurrently taking a skill test for the issuance of an instrument rating and a type rating. The TASKS that are in the Private Pilot, Commercial Pilot, or

Instrument Rating STSs (and not in this skill test standard) must be accomplished.

1.8 AIRCRAFT AND EQUIPMENT REQUIRED FOR THE SKILL TEST

The applicant is required to provide an appropriate and airworthy helicopter for the skill test. Its operating limitations must not prohibit the TASKS required on the skill test. Flight instruments are those required for controlling the aircraft without outside references. The aircraft must have radio equipment for communications with air traffic control and the performance of instrument approach procedures.

Note: The skill test must be performed in actual or simulated instrument conditions, unless the skill test cannot be accomplished under instrument flight rules because the aircraft's type certificate makes the aircraft incapable of operating under instrument flight rules.

1.9 USE OF SLCAA-APPROVED FLIGHT SIMULATION TRAINING DEVICE

(1) In the AREA OF OPERATION labelled "PRE-FLIGHT PREPARATION," the TASKS are knowledge only. These TASKS do not require the use of a flight simulation training device (FSTD) or an aircraft to accomplish, but they may be used.

(2) Each in-flight manoeuvre or procedure must be performed by the applicant in an FTD, flight simulator, or an aircraft. Appendix 1 of this skill test standard should be consulted to identify the manoeuvres or procedures that may be accomplished in an FSTD. The level of FSTD or flight simulator required for each manoeuvre or procedure will also be found in Appendix 1.

(3) When accomplished in an aircraft, certain task elements may be accomplished through "simulated" actions in the interest of safety and practicality, but when accomplished in an FSTD or flight simulator, these same actions would not be

"simulated." For example, when in an aircraft, a simulated engine fire may be addressed by retarding the throttle to idle, simulating the shutdown of the engine, simulating the discharge of the fire suppression agent, and simulating the disconnection of associated electrics, hydraulics, pneumatics, etc.

(4) However, when the same emergency condition is addressed in an FSTD or a flight simulator, all TASK elements must be accomplished as would be expected under actual circumstances. Similarly, safety of flight precautions taken in the aircraft for the accomplishment of a specific manoeuvre or procedure (such as altitude in powerplant failure, setting maximum airspeed for a rejected take-off) need not be taken when an FSTD or a flight simulator is used.

(5) It is important to understand that whether accomplished in an aircraft, flight simulator, or flight training device, all TASKS and elements for each manoeuvre or procedure shall have the same performance standards applied equally for determination of overall satisfactory performance.

1.10 FLIGHT INSTRUCTOR RESPONSIBILITY

(1) An appropriately rated flight instructor is responsible for training the pilot applicant to acceptable standards in all subject matter areas, procedures, and manoeuvres included in the TASKS within the appropriate skill test standard.

(2) Because of the impact of their teaching activities in developing safe, proficient pilots, flight instructors should exhibit a high level of knowledge, skill, and the ability to impart that knowledge and skill to students. Additionally, the flight instructor must certify that the applicant is able to perform safely as a pilot and is competent to pass the required skill test.

(3) Throughout the applicant's training, the flight instructor is responsible for emphasising the performance of effective visual scanning, collision avoidance, and runway incursion avoidance procedures

1.11 EXAMINER RESPONSIBILITY

(1) The examiner who conducts the skill test is responsible for determining that the applicant meets the standards outlined in the OBJECTIVE of each TASK within the AREAS OF OPERATION, in the skill test standard. The examiner shall meet this responsibility by determining that the applicant's knowledge and skill meet the OBJECTIVE in all required TASKS.

(2) In accordance with the requirements of SLCAR Part 1A 2.2 and ICAO English Language Proficiency Requirements at ICAO Annex 1: 1.2.9., the examiner must accomplish the entire application process and test in the English language. The English language component of crew coordination and communication skills can never be in doubt for the satisfactory outcome of the test. Normal restatement of questions as would be done for a native English speaking applicant is still permitted and not grounds for disqualification.

(3) The equipment examination in Section Two: AREA OF OPERATION, I. Pre-Flight Preparation, must be closely coordinated and related to the flight portion of the skill test in the remaining AREAS OF OPERATION, but must not be given during the flight portion of the skill test. The equipment examination should be administered prior (it may be the same day) to the flight portion of the skill test. The examiner may accept written evidence of the equipment exam if the exam is approved by the Administrator and administered by an individual authorised by the Administrator. The examiner shall use whatever means deemed suitable to determine that the applicant's equipment knowledge meets the standard.

(4) The AREAS OF OPERATION in Section Two contain TASKS which include both "knowledge" and "skill" ELEMENTS. The examiner shall ask the applicant to perform the skill ELEMENTS. Knowledge ELEMENTS not evident in the demonstrated skills may be tested by questioning, at any time, during the flight event. This specifically should include meanings and limitations of aeroport, taxiway, and runway signs, lights, and markings. Questioning in-flight should be used judiciously so that safety is not jeopardised. Questions may be deferred until after the flight portion of the test is completed.

(5) For aircraft requiring only one pilot, the examiner may not assist the applicant in the management of the aircraft, radio communications, tuning and identifying navigational equipment, and using navigation charts. If the examiner, other than a SLCAA inspector, is qualified and current in the specific make and model aircraft that is certified for two or more crew members, he or she may occupy a duty position.

(6) If the examiner occupies a duty position on an aircraft that requires two or more crew members, the examiner must fulfill the duties of that position. Moreover, when occupying a required duty position, the examiner shall perform crew resource management (CRM) functions as briefed and requested by the applicant except during the accomplishment of steep turns and approach to stalls. During these two TASKS the applicant must demonstrate their ability to control the aircraft without the intervention from the non-flying pilot.

(7) SAFETY OF FLIGHT shall be the prime consideration at all times. The examiner, applicant, and crew shall be constantly alert for other traffic.

1.12 SATISFACTORY PERFORMANCE

The ability of an applicant to safely perform the required TASKS is based on:

(1) Perform the TASKS specified in the AREAS OF OPERATION for the licence or rating sought within the approved standards;

(2) Demonstrate mastery of the aircraft with the successful outcome of each TASK performed never seriously in doubt;

(3) Demonstrate satisfactory proficiency and competency within the approved standards;

(4) Demonstrate sound judgement and ADM; and

(5) Demonstrate single-pilot competence if the aircraft is type certificated for single-pilot operations.

(6) "Knowledge" means the applicant can describe in general or specific terms a response to the examiner's question.

(7) "Satisfactory knowledge" means the applicant's answer contains at least 70 percent of the reference answer to the examiner's question ("textbook answer") and if the applicant's actions followed his/her response, the safety of the aeroplane would never seriously be in doubt.

1.13 UNSATISFACTORY PERFORMANCE

(1) Consistently exceeding tolerances stated in the TASK objective, or failure to take prompt, corrective action when tolerances are exceeded, is indicative of unsatisfactory performance. The tolerances represent the performance expected in good flying conditions. Any action or lack thereof, by the applicant which requires corrective intervention by the examiner to maintain safe flight shall be disqualifying.

Note: It is vitally important that the applicant, safety pilot, and examiner use proper and effective scanning techniques to observe all other traffic in the area to ensure the area is clear before performing any manoeuvres.

(2) If, in the judgement of the examiner, the applicant's performance of any TASK is unsatisfactory, the associated AREA OF OPERATION is failed and therefore, the skill test is failed. Examiners shall not repeat TASKS that have been attempted and failed. The examiner or applicant may discontinue the test at any time after the failure of a TASK which makes the applicant ineligible for the licence or rating sought. The skill test will be continued only with the consent of the applicant. In such cases, it is usually better for the examiner to continue with the skill test to complete the other TASKS. If the examiner determines that the entire skill test must be repeated, the skill test should not be continued but should be terminated immediately. If the skill test is either continued or discontinued, the applicant is entitled to credit for those AREAS OF OPERATION satisfactorily performed, if the remainder of the skill test is completed within 60 days of when the skill test was discontinued. However, during the retest and at the discretion of the examiner, any AREA OF OPERATION may be reevaluated including those previously passed. Whether the remaining parts of the skill test are continued or not after a failure, a notice of disapproval must be issued.

(3) When the examiner determines that a TASK is incomplete, or the outcome uncertain, the examiner may require the applicant to repeat that TASK, or portions of that TASK. This provision has been made in the interest of fairness and does not mean that instruction or practice is permitted during the licensing process. When practical, the remaining TASKS of the skill test phase should be completed before repeating the questionable TASK. If the second attempt to perform a questionable TASK is not clearly satisfactory, the examiner shall consider it unsatisfactory.

(4) If the skill test must be terminated for unsatisfactory performance and there are other AREAS OF OPERATION which have not been tested or still need to be repeated, a notice of disapproval shall be issued listing the specific AREAS OF OPERATION which have not been successfully completed or tested.

(5) In the case of a retest after failure, an applicant may be given credit for those areas of operations successfully completed on the previous skill test, provided the previous test was conducted within 60 days before the retest. If the previous test was conducted more than 60 days before the retest, the examiner must test the applicant in all AREAS OF OPERATION and all TASKS.

1.13.1 Recording Unsatisfactory Performance

This skill test standard uses the terms "AREA OF OPERATION" and "TASK" to denote areas in which competency must be demonstrated. When a disapproval notice is issued, the examiner must record the applicant's unsatisfactory performance in terms of "AREA OF OPERATION" appropriate to the skill test conducted.

1.14 DISCONTINUANCE OF A SKILL TEST

When a skill test is stopped for reasons other than unsatisfactory performance (i.e., equipment failure, weather, or illness) SLCAA Airman Licence and/or Rating Application, and, if applicable, the Airman Knowledge Test Report, shall be returned to the applicant. The examiner at that time shall prepare, sign, and issue a Letter of Discontinuance to the applicant. The Letter of Discontinuance should identify the AREAS OF OPERATION and their associated TASKS of the skill test that were successfully completed. The applicant shall be advised that the Letter of Discontinuance

shall be presented to the examiner when the skill test is resumed, and made part of the applicant's licensing file.

1.15 AERONAUTICAL DECISION MAKING AND RISK MANAGEMENT

(1) The examiner shall evaluate the applicant's ability throughout the skill test to use good aeronautical decision making procedures in order to evaluate risks. The examiner shall accomplish this requirement by developing scenarios that incorporate as many TASKS as possible to evaluate the applicants risk management in making safe aeronautical decisions. For example, the examiner may develop a scenario that incorporates weather decisions and performance planning.

(2) The applicant's ability to utilise all of the assets available in making a risk analysis to determine the safest course of action is essential for satisfactory performance. The scenarios should be realistic and within the capabilities of the aircraft used for the skill test.

1.16 CREW RESOURCE MANAGEMENT (CRM)

(1) CRM refers to the effective use of all available resources, human resources, hardware, and information. Human resources include all other groups routinely working with the cockpit crew (or if it is a single-pilot operation, the pilot) who are involved in decisions that are required to operate a flight safely. These groups include, but are not limited to: flight operations officers, cabin crew members, maintenance personnel, and air traffic controllers. CRM is not a single TASK. CRM is a set of skill competencies which must be evident in all TASKS in this skill test standard as applied to the single-pilot or the multi-crew operation. CRM competencies, grouped into three clusters of observable behaviour, are:

(a) COMMUNICATIONS PROCESSES AND DECISIONS

1. Briefing/debriefing
2. Inquiry/advocacy/assertiveness
3. Self-critique
4. Communication with available personnel resources
5. Decision making

(b) BUILDING AND MAINTENANCE OF A FLIGHT TEAM

1. Leadership/followership
2. Interpersonal relationships

(c) WORKLOAD MANAGEMENT AN SITUATIONAL AWARENESS

1. Preparation/planning
2. Vigilance
3. Workload distribution
4. Distraction avoidance
5. Wake turbulence avoidance

(2) CRM deficiencies almost always contribute to the unsatisfactory performance of a TASK. Therefore, the competencies provide an extremely valuable vocabulary for debriefing.

(3) The standards for each CRM competency as generally stated and applied are subjective. Conversely, some of the competencies may be found objectively stated as required operational procedures for one or more TASKS. Examples of the latter include briefings, radio calls, and instrument approach callouts. Whether subjective or objective, application of CRM competencies is dependent upon the composition of the crew.

1.17 SINGLE-PILOT RESOURCE MANAGEMENT (SRM)

Single-Pilot Resource Management refers to the effective use of ALL available resources: human resources, hardware, and information. It is similar to Crew Resource Management (CRM) procedures that are being emphasised in multi-crew member operations except that only one crew member (the pilot) is involved. Human resources in the single-pilot environment include all other groups routinely working with the pilot who are involved in decisions that are required to operate a flight safely. These groups include, but are not limited to: dispatchers, weather briefers, maintenance personnel, and air traffic controllers. Pilot Resource Management is not a single TASK; it is a set of skill competencies that must be evident in all
TASKS in this skill test standard as applied to single-pilot operation.

1.18 HOW THE EXAMINER APPLIES CRM/SRM

(1) Examiners are required to exercise proper CRM competencies in conducting tests as well as expecting the same from applicants.

(2) Pass/Fail judgements based solely on CRM issues must be carefully chosen since they may be entirely subjective. Those pass/fail judgements which are not subjective apply to CRM-related procedures in SLCAA-approved operations manuals that must be accomplished, such as briefings to other crew members. In such cases, the operator (or the aircraft manufacturer) specifies what should be briefed and when the briefings should occur. The examiner may judge objectively whether the briefing requirement was or was not met. In those cases where the operator (or aircraft manufacturer) has not specified a briefing, the examiner shall require the applicant to brief the appropriate items. The examiner may then judge objectively whether the briefing requirement was or was not met.

(3) The majority of aviation accidents and incidents are due to resource management failures by the pilot/crew; fewer are due to technical failures. Each applicant shall give a crew briefing before each take-off/departure and approach/landing. If the operator or aircraft manufacturer has not specified a briefing, the briefing shall cover the appropriate items, such as runway, SID/STAR/IAP, power settings, speeds, abnormals or emergency prior to or after take-off, emergency return intentions, missed approach procedures, FAF, altitude at FAF, initial rate of descent, DH/MDA, time to missed approach, and what is expected of the other crew members during the take-off/SID and approach/landing. If the first take-off/departure and approach/landing briefings are satisfactory, the examiner may allow the applicant to brief only the changes, during the remainder of the flight.

1.19 APPLICANT'S USE OF CHECKLISTS

Throughout the skill test, the applicant is evaluated on the use of an appropriate checklist. Proper use is dependent on the specific TASK being evaluated. The situation may be such that the use of the checklist, while accomplishing elements of an OBJECTIVE, would be either unsafe or impracticable, especially in a single-pilot operation. In this case, a review of the checklist after the elements have been accomplished would be appropriate. Division of attention and proper visual scanning should be considered when using a checklist.

1.20 USE OF DISTRACTIONS DURING SKILL TESTS

Numerous studies indicate that many accidents have occurred when the pilot has been distracted during critical phases of flight. To evaluate the pilot's ability to utilise proper control technique while dividing attention both inside and/or outside the cockpit, the

examiner shall cause a realistic distraction during the flight portion of the skill test to evaluate the applicant's ability to divide attention while maintaining safe flight.

1.21 POSITIVE EXCHANGE OF FLIGHT CONTROLS

(1) During flight, there must always be a clear understanding between pilots of who has control of the aircraft. Prior to flight, a briefing should be conducted that includes the procedure for the exchange of flight controls. A positive three-step process in the exchange of flight controls between pilots is a proven procedure and one that is strongly recommended.

(2) When one pilot wishes to give the other pilot control of the aircraft, he or she will say, "You have the flight controls." The other pilot acknowledges immediately by saying, "I have the flight controls." The first pilot again says "You have the flight controls." When control is returned to the first pilot, follow the same procedure. A visual check is recommended to verify that the exchange has occurred. There should never be any doubt as to who is flying the aircraft.

SECTION TWO: AIRLINE TRANSPORT PILOT LICENCE – HELICOPTER AND HELICOPER TYPE RATING SKILL TEST STANDARDS

1.1 APPLICANT'S SKILL TEST CHECKLIST APPOINTMENT WITH EXAMINER

EXAMINER'S NAME:

LOCATION:_____

DATE/TIME:_____

ACCEPTABLE AIRCRAFT

Aircraft Documents

Airworthiness Certificate

Registration Certificate

Operating Limitations

Aircraft Maintenance Records

Logbook Record of Airworthiness Inspections and AD Compliance

Pilot's Operating Handbook

SLCAA-Approved Aircraft Flight Manual

PERSONAL EQUIPMENT

Current Aeronautical Charts

Computer and Plotter

Flight Plan Forms

Flight Logs

Current AIM, Airport Facility Directory, and Appropriate Publications

View-Limiting Device if Applicable

PERSONAL RECORDS

Identification (Government Issue ID with Photo/Signature, Date of Birth, Actual Residential Address)

Personnel Licence if applicable

Current and Appropriate Medical Certificate

Completed Application Form (for a Licence and/or Rating with Instructor's Signature If applicable)

Computer Test Report

Knowledge Test Report if applicable

Logbook with appropriate Instructor Endorsements

Notice of Discontinuance if applicable

Notice of Disapproval (if applicable)

Approved Training Organisation Certificate (if applicable)

Certificate of Language Proficiency (From Language Learning or Testing Centre) if applicable

Radiotelephony Licence if applicable

Examiner's Fee (if applicable)

1.2 EXAMINER'S SKILL TEST CHECKLIST

APPLICANT'S NAME:_____

LOCATION:_____

DATE/TIME:_____

I. PREFLIGHT PREPARATION

- **A.** Equipment Examination
- **B.** Performance and Limitations

II. PREFLIGHT PROCEDURES

- **A.** Preflight Inspection
- **B.** Powerplant Start
- **C.** Taxiing
- **D.** Pre-Take-Off Checks

III. TAKE OFF AND DEPARTURE PHASE

- **A.** Normal and Crosswind Takeoff
- **B.** Instrument Take-Off
- **C.** Powerplant Failure During Take-Off
- **D.** Rejected Take-Off
- **E.** Instrument Departure

IV. IN-FLIGHT MANOEUVRES

- **A.** Steep Turns
- **B.** Powerplant Failure-Multi-Engine Helicopter
- **C.** Powerplant Failure-Single Engine Helicopter
- **D.** Recovery from Unusual Altitudes
- **E.** Settling-with-Power

V. INSTRUMENT PROCEDURES

- **A.** Instrument Arrival
- **B.** Holding
- **C.** Precision Instrument Approaches
- **D.** Non-Precision Instrument Approaches
- **E.** Missed Approach

VI. LANDINGS AND APPROACHES TO LANDINGS

- **A.** Normal and Crosswind Approaches and Landings
- **B.** Approach and Landing with Simulated Powerplant Failure –Multi-Engine-Helicopter
- **C.** Rejected Landing

VII. NORMAL AND ABNORMAL PROCEDURES

VIII. EMERGENCY PROCEDURES

IX. POST FLIGHT PROCEDURES

A. After Landing Procedures

B. Parking and Securing

1.3 AREAS OF OPERATION: PRE-FLIGHT PREPARATION

I. AREA OF OPERATION: PRE-FLIGHT PREPARATION

A. TASK: EQUIPMENT EXAMINATION

References: SLCAR Part 1A

Objective: To determine that the applicant:

(1) Exhibits adequate knowledge appropriate to the helicopter; its systems and components; its normal, abnormal, and emergency procedures; and uses the correct terminology with regard to the following items:

(a) Landing gear – indicators, brakes, tires, nosewheel steering, skids, and shocks.

(b) Powerplant – controls and indications, induction system, carburettor and fuel injection, exhaust and turbocharging, cooling, fire detection/protection, mounting points, turbine wheels, compressors, and other related components.

(c) Fuel system – capacity; drains; pumps; controls; indicators; crossfeeding; transferring; jettison; fuel grade, colour and additives; fuelling and defueling procedures; and emergency substitutions, if applicable.

(d) Oil system – capacity, grade, quantities, and indicators.

(e) Hydraulic system – capacity, pumps, pressure, reservoirs, grade, and regulators.

(f) Electrical system – alternators, generators, battery, circuit breakers and protection devices, controls, indicators, and external and auxiliary power sources and ratings.

(g) Environmental systems – heating, cooling, ventilation, oxygen and pressurisation, controls, indicators, and regulating devices.

(h) Avionics and communications – autopilot; flight director; Electronic Flight Indicating

1. Systems (EFIS); Flight Management System(s) (FMS); Long-Range Navigation
2. (LORAN) systems; Doppler Radar; Inertial Navigation Systems (INS); Global Positioning System (GPS/DGPS/WGPS); VOR, NDB, ILS/MLS, RNAV systems and components; indicating devices; transponder; and emergency locator transmitter.

(i) Ice protection – anti-ice, de-ice, pitot-static system protection, windshield, airfoil surfaces, and rotor protection.

(j) Crew member and passenger equipment – oxygen system, survival gear, emergency exits, evacuation procedures and crew duties, and quick donning oxygen mask for crew members and passengers.

(k) Main/tail rotor systems – transmissions, gear boxes, oil/fluid levels, tolerances, rotor brake if installed, and limitations.

(l) Pitot-static system with associated instruments and the power source for the flight instruments.

(2) Exhibits adequate knowledge of the contents of the Pilot's Operating Handbook or RFM with regard to the systems and components listed in paragraph 1 (above); the minimum equipment list (MEL), if appropriate; and the operations specifications, if applicable.

B. TASK: PERFORMANCE AND LIMITATIONS

References: SLCAR Parts 1A and 6; Pilots Operating Handbook; RFM

Objective: To determine that the applicant:

(1) Exhibits adequate knowledge of performance and limitations, including a thorough knowledge of the adverse effects of exceeding any limitation.

(2) Demonstrates proficient use of (as appropriate to the helicopter) performance charts, tables, graphs, or other data relating to items such as:
   (a) Take-off performance – all engines, engine(s) inoperative
   (b) Climb performance – all engines, engine(s) inoperative, and other engine malfunctions
   (c) Service ceiling – all engines, engines(s) inoperative
   (d) Cruise performance
   (e) Fuel consumption, range, and endurance
   (f) Descent performance
   (g) Go-around from rejected landings
   (h) Hovering in and out of ground effect
   (i) Other performance data (appropriate to the helicopter)

(3) Describes (as appropriate to the helicopter) the performance airspeeds used during specific phases of flight.

(4) Describes the effects of meteorological conditions upon performance characteristics and correctly applies these factors to a specific chart, table, graph or other performance data.

(5) Computes the centre-of-gravity location for a specific load condition (as specified by the examiner), including adding, removing, or shifting weight.

(6) Determines if the computed centre-of-gravity is within the forward, aft, and lateral (if applicable) centre-of-gravity limits for take-off and landing.

(7) Demonstrates good planning and knowledge of procedures in applying operational factors affecting helicopter performance.

II. AREA OF OPERATION: PRE-FLIGHT PROCEDURES

A. TASK: PRE-FLIGHT INSPECTION

References: SLCAR Parts 1A and 6; Pilots Operating Handbook; RFM

Objective: To determine that the applicant:

(1) Exhibits adequate knowledge of the pre-flight inspection procedures, while explaining briefly:
   (a) The purpose of inspecting the items which must be checked
   (b) How to detect possible defects
   (c) The corrective action to take

(2) Exhibits adequate knowledge of the operational status of the helicopter by locating and explaining the significance and importance of related helicopter documents such as:
   (a) Airworthiness and registration certificates
   (b) Operating limitations, handbooks, and manuals
   (c) Minimum equipment list (MEL) (if appropriate)
   (d) Weight and balance data
   (e) Maintenance requirements, tests, and appropriate records applicable to the proposed flight or operation; and maintenance that may be performed by the pilot or other designated crew member

(3) Uses the approved checklist to systematically inspect the helicopter externally and internally.

(4) Uses the challenge-and-response (or other approved) method with the other crew member(s), where applicable, to accomplish the checklist procedures.
(5) Verifies the helicopter is safe for flight by emphasising (as appropriate to the helicopter) the need to look at and explain the purpose of inspecting items such as:
  (a) Powerplant, including controls and indicators
  (b) Fuel quantity, grade, type, contamination safeguards, and servicing procedures
  (c) Oil quantity, grade, and type
  (d) Hydraulic fluid quantity, grade, type, and servicing procedures
  (e) Oxygen quantity, pressures, servicing procedures, and associated systems and equipment for crew and passengers
  (f) Skidtubes or landing gear, brakes, and steering system, where applicable
  (g) Tires for condition, inflation, and correct mounting, where applicable
  (h) Fire protection/detection systems for proper operation, servicing, pressures, and discharge indications
  (i) Pneumatic system pressures and servicing
  (j) Ground environmental systems for proper servicing and operation
  (k) Auxiliary power unit (APU) for servicing and operation
  (l) Flight control systems including trim, rotor blades, and associated components
  (m) Main rotor and anti-torque systems
  (n) Anti-ice, de-ice systems, servicing, and operation
(6) Coordinates with ground crew and ensures adequate clearance prior to moving any devices such as doors or hatches.
(7) Complies with the provisions of the appropriate operations specifications, if applicable, as they pertain to the particular helicopter and operation.
(8) Demonstrates proper operation and verification of all helicopter systems.
(9) Notes any discrepancies, determines if the helicopter is airworthy and safe for flight, or takes the proper corrective action.
(10) Checks the general area around the helicopter for hazards to the safety of the helicopter and personnel.

B. TASK: POWERPLANT START

References: SLCAR Part 1A; Pilots Operating Handbook; RFM
Objective: To determine that the applicant:
(1) Exhibits adequate knowledge of the correct powerplant start procedures including the use of an external power source, starting under various atmospheric conditions, normal and abnormal starting limitations, and the proper action required in the event of a malfunction.
(2) Ensures the ground safety procedures are followed during the before-start, start, and afterstart phases.
(3) Ensures the use of appropriate ground crew personnel during the start procedures.
(4) Performs all items of the start procedures by systematically following the approved checklist items for the before-start, start, and after-start phases.
(5) Demonstrates sound judgement and operating practices in those instances where specific instructions or checklist items are not published.

C. TASK: TAXIING

References: SLCAR Part 1A; Pilots Operating Handbook; RFM
Objective: To determine that the applicant:
(1) Exhibits adequate knowledge of safe and appropriate taxi procedures.

(2) Demonstrates proficiency by maintaining correct and positive helicopter control such as hover height (when within 10 feet of the surface, maintains ±½ of the hover altitude; when above 10 feet, maintains ±5 feet of the hovering altitude), turns, and speed. This includes hovering taxi (maintains within 2 feet of desired track), air taxiing (maintains altitude within 10 feet of desired); and in helicopters with wheels, includes ground taxiing. In helicopters equipped with float devices, this includes water taxiing, approaching a buoy, and docking.

(3) Maintains proper spacing on other aircraft and persons taking into consideration rotorwash and flying debris. Avoids conditions that may cause loss of tail rotor/anti torque effectiveness.

(4) Accomplishes the applicable checklist items and performs recommended procedures.

(5) Maintains desired and appropriate track and speed.

(6) Complies with instructions issued by ATC (or the examiner simulating ATC).

(7) Observes runway hold lines, localiser and glide slope critical areas, and other surface control markings and lighting.

(8) Maintains constant vigilance and control of the helicopter during taxi operation.

D. TASK: PRE-TAKE-OFF CHECKS

References: SLCAR Part 1A; Pilots Operating Handbook; RFM

Objective: To determine that the applicant:

(1) Exhibits adequate knowledge of the pre-take-off checks by stating the reason for checking the items outlined on the approved checklist and explaining how to detect possible malfunctions.

(2) Divides attention inside and outside cockpit.

(3) Ensures that all systems are within their normal operating range prior to beginning, during the performance of, and at the completion of those checks required by the approved checklist.

(4) Explains, as may be requested by the examiner, any normal or abnormal system operating characteristic or limitation; and the corrective action for a specific malfunction.

(5) Determines if the helicopter is safe for the proposed flight or requires maintenance.

(6) Determines the helicopter's take-off performance, considering such factors as wind, density altitude, helicopter weight, temperature, pressure altitude, and departure route or routing.

(7) Determines airspeeds/V-speeds and properly sets all instrument references, flight director and autopilot controls, and navigation and communications equipment.

(8) Reviews procedures for emergency and abnormal situations which may be encountered during take-off, and states the corrective action required of the pilot-in-command and other concerned crew members.

(9) Obtains and correctly interprets the take-off and departure clearance as issued by ATC.

III. AREA OF OPERATION: TAKE-OFF AND DEPARTURE PHASE

A. TASK: NORMAL AND CROSSWIND TAKE-OFF

References: SLCAR Part 1A; Pilots Operating Handbook; RFM

Objective: To determine that the applicant:

(1) Exhibits adequate knowledge of normal and crosswind take-offs and climbs including (as appropriate to the helicopter) airspeeds, configurations, and

emergency/abnormal procedures. Performs all required pre-take-off checks as required by the appropriate checklist items.

(2) Adjusts the powerplant controls as recommended by the SLCAA-approved guidance for the existing conditions.

(3) Notes any obstructions or other hazards in the take-off path.

(4) Verifies and correctly applies the existing wind component to the take-off performance.

(5) Completes required checks prior to starting take-off to verify the expected powerplant performance.

(6) Aligns the helicopter on the runway centreline, or with the take-off path.

(7) Applies the controls correctly to maintain longitudinal alignment on the centreline of the runway or intended flightpath, prior to initiating and during the take-off.

(8) Sets power smoothly and positively to a predetermined value.

(9) Monitors powerplant controls, settings, and instruments during take-off to ensure all predetermined parameters are met.

(10) Accelerates through effective translational lift to normal climb speed.

(11) Uses the applicable noise abatement and wake turbulence avoidance procedures, as required.

(12) Accomplishes the appropriate checklist items.

(13) Maintains the appropriate climb segment airspeed/V-speeds.

(14) Maintains the desired heading within ±5° and the desired airspeed/V-speed within ±5 knots.

B. TASK: INSTRUMENT TAKE-OFF

References: SLCAR Part 1APilots Operating Handbook; RFM

Objective: To determine that the applicant:

(1) Exhibits adequate knowledge of an instrument take-off with instrument meteorological conditions simulated at or before reaching an altitude of 100 feet (30 meters) AGL. If accomplished in a flight simulator, visibility should be no greater than one-quarter (1/4) mile, or as specified by operator specifications.

(2) Takes into account, prior to beginning the take-off, operational factors which could affect the manoeuvre such as helicopter characteristics, take-off path, surface conditions, wind, obstructions, and other related factors that could adversely affect safety.

(3) Accomplishes the appropriate checklist items to ensure that the helicopter systems applicable to the instrument take-off are operating properly.

(4) Sets the applicable flight instruments to the desired setting prior to initiating the take-off.

(5) Transitions smoothly and accurately from visual meteorological conditions to actual or simulated instrument meteorological conditions.

(6) Maintains the appropriate climb attitude.

(7) Maintains desired heading within ±5° and desired airspeeds within ±5 knots.

(8) Complies with ATC clearances and instructions issued by ATC (or the examiner simulating ATC).

C. TASK: POWERPLANT FAILURE DURING TAKE-OFF

References: SLCAR Part 1A; Pilots Operating Handbook; RFM

Objective: To determine that the applicant:

(1) Exhibits adequate knowledge of the procedures used during powerplant failure on take-off, the appropriate reference airspeeds, and the specific pilot actions required.

(2) Takes into account, prior to beginning the take-off, operational factors which could affect the manoeuvre such as helicopter characteristics, take-off path, surface conditions, wind, obstructions, and other related factors that could adversely affect safety.

(3) Maintains the helicopter aligned with the runway heading or take-off path appropriate for climb performance and terrain clearance when powerplant failure occurs.

(4) Single-Engine Helicopters: Establishes a power-off descent approximately straight-ahead, if the powerplant failure occurs after becoming airborne. The failure of the powerplant should be simulated during a normal take-off (no lower than 500 feet or 150 meters AGL).

(5) Multi-Engine Helicopters: Continues the take-off if the powerplant failure occurs at a point where the helicopter can continue to a specified airspeed and altitude at the end of the runway commensurate with the helicopter's performance capabilities and operating limitations. The failure of one powerplant should be simulated during a normal take-off:

(a) At an appropriate airspeed that will allow continued climb performance in forward flight, or

(b) At an appropriate airspeed that is 50 percent of normal cruise speed, if there is no published single-engine airspeed for that type helicopter.

(6) Maintains (in a multi-engine helicopter), after a simulated powerplant failure and after a climb has been established, the desired heading within ±5° and desired airspeed within ±5 knots.

D. TASK: REJECTED TAKE-OFF

References: SLCAR Part 1A; Pilots Operating Handbook; RFM

Objective: To determine that the applicant understands when to reject or continue the take-off and:

(1) Exhibits adequate knowledge of the technique and procedure for accomplishing a rejected take-off after powerplant/system(s) failure/warnings, including related safety factors.

(2) Takes into account, prior to beginning the take-off, operational factors which could affect the manoeuvre such as helicopter characteristics, take-off path, surface conditions, wind, obstructions, and other related factors that could adversely affect safety.

(3) Aligns the helicopter on the runway centreline or take-off path.

(4) Performs all required pre-take-off checks as required by the appropriate checklist items.

(5) Increases power smoothly and positively, if appropriate to the helicopter, to a predetermined value based on existing conditions.

(6) Maintains directional control on the runway heading or take-off path.

(7) Aborts the take-off if, in a single-engine helicopter, the powerplant (or other) failure occurs prior to becoming airborne; or in a multi-engine helicopter, the powerplant (or other) failure occurs at a point during the take-off where the abort procedure can be initiated and the helicopter can be safely landed and stopped.

(8) Reduces the power smoothly and promptly, if appropriate to the helicopter, when powerplant failure is simulated. In a wheeled helicopter, the failure will be simulated at a reasonable airspeed determined after giving due consideration to the helicopter's characteristics, Height Velocity Diagram, length of landing area,

surface conditions, wind direction and velocity, and any other factors that may adversely affect safety.

(9) Maintains positive control, and accomplishes the appropriate powerplant failure procedures as recommended by the appropriate checklist.

E. TASK: INSTRUMENT DEPARTURE

References: SLCAR Part 1A; Pilots Operating Handbook; RFM

Objective: To determine that the applicant:

(1) In actual or simulated instrument conditions, exhibits adequate knowledge of SIDs, En Route Low and High-Altitude Charts, STARs, and related pilot/controller responsibilities.

(2) Uses the current and appropriate navigation publications for the proposed flight.

(3) Selects and uses the appropriate communications frequencies, and selects and identifies the navigation aids associated with the proposed flight.

(4) Performs the appropriate checklist items.

(5) Establishes communications with ATC, using proper phraseology.

(6) Complies, in a timely manner, with all instructions and airspace restrictions.

(7) Exhibits adequate knowledge of two-way radio communications failure procedures.

(8) Intercepts, in a timely manner, all courses, radials, and bearings appropriate to the procedure, route, clearance, or as directed by the examiner.

(9) Maintains the appropriate airspeed within ±10 knots, headings within ±10°, altitude within ±100 feet (30 meters); and accurately tracks a course, radial, or bearing.

(10) Conducts the departure phase to a point where, in the opinion of the examiner, the transition to the en route environment is complete.

IV. AREA OF OPERATION: IN-FLIGHT MANOEUVRES

A. TASK: STEEP TURNS

References: SLCAR Part 1A; Pilots Operating Handbook; RFM

Objective: To determine that the applicant:

(1) In actual or simulated instrument conditions, exhibits adequate knowledge of steep turns (if applicable to helicopter) and the factors associated with performance; and, if applicable, angle of bank, and pitch and power requirements.

(2) Selects an altitude recommended by the manufacturer, training syllabus, or other training directive.

(3) Establishes the recommended entry airspeed.

(4) Rolls into a coordinated turn of 180° or 360° with a bank as appropriate, not to exceed 30°. Maintains the bank angle within ±5° while in smooth, stabilised flight.

(5) Applies smooth coordinated pitch, bank, and power to maintain the specified altitude within ±100 feet (30 meters) and the desired airspeed within ±10 knots.

(6) Rolls out of the turn (at approximately the same rate as used to roll into the turn) within ±10° of the entry or specified heading, stabilises the helicopter in a straight-and-level attitude or, at the discretion of the examiner, reverses the direction of turn and repeats the manoeuvre in the opposite direction.

(7) Avoids any indication of abnormal flight attitude, or exceeding any structural, rotor, or operating limitation during any part of the manoeuvre.

B. TASK: POWERPLANT FAILURE – MULTI-ENGINE HELICOPTER

References: SLCAR Part 1A; Pilots Operating Handbook; RFM

Note: When this TASK is accomplished in an approved flight simulator, the engine shutdown and restart may be performed in conjunction with another procedure or manoeuvre, and at any location or altitude at the discretion of the examiner. When this task is accomplished in the helicopter, the engine failure and restart procedure shall be simulated. This TASK shall be performed by reducing the power to idle on the selected engine. This task must be initiated at an altitude from which a safe landing can be made in the event of actual engine problems.
When authorised and conducted in a flight simulator, shutdown may be performed in conjunction with any procedure or manoeuvre, and at any location or altitude at the discretion of the examiner.

Objective: To determine that the applicant:

(1) Exhibits adequate knowledge of the flight characteristics and controllability associated with manoeuvring with powerplant(s) inoperative (as appropriate to the helicopter).

(2) Sets powerplant controls, correctly identifies and verifies the inoperative powerplant(s) after the simulated failure.

(3) Maintains positive helicopter control.

(4) Determines the reason for the powerplant(s) failure.

(5) Follows the prescribed helicopter checklist, and verifies the procedures for securing the inoperative powerplant(s). Determines if a restart is a viable option.

(6) Maintains the operating powerplant(s) within acceptable operating limits.

(7) Maintains desired altitude within ±100 feet (30 meters), when a constant altitude is specified and is within the capability of the helicopter.

(8) Maintains the desired airspeed within ±10 knots.

(9) Maintains the desired heading within ±10° of the specified heading.

(10) Demonstrates proper powerplant restart procedures in accordance with SLCAA-approved procedure/checklist or the manufacturer's recommended procedures and pertinent checklist items.

C. TASK: POWERPLANT FAILURE – SINGLE-ENGINE HELICOPTER

References: SLCAR Part 1A; Pilots Operating Handbook; RFM

Note: No simulated powerplant failure shall be given by the examiner in a helicopter when an actual touchdown could not be safely completed should it become necessary, nor when an autorotative descent might constitute a violation of the CFRs. The examiner shall direct the applicant to terminate this TASK in a power recovery at an altitude high enough to assure that a safe touchdown could be accomplished in the event an actual powerplant failure should occur during recovery procedures.

Objective: To determine that the applicant:

(1) Exhibits adequate knowledge of the flight characteristics, approach and forced (emergency) landing procedures, and related procedures to use in the event of a powerplant failure (as appropriate to the helicopter).

(2) Enters autorotation promptly when the examiner simulates a powerplant failure by:

(a) Lowering the collective as necessary to maintain rotor RPM within acceptable limits,

(b) Establishing and maintaining the recommended autorotation airspeed within ±5 knots, and

(c) Maintaining proper longitudinal trim.

(3) Selects a suitable aerodrome or landing area which is within the performance capability of the helicopter.
(4) Establishes a proper flight pattern to the selected aerodrome or landing area, taking into account altitude, wind, terrain, obstructions, and other pertinent operational factors. Avoids undershooting or overshooting the selected landing area.
(5) Determines the cause for the simulated powerplant failure (if altitude permits) and if a restart is a viable option.
(6) Performs the emergency memory checklist items appropriate to the helicopter.
(7) Maintains positive helicopter control throughout the manoeuvre.
(8) Uses helicopter configuration devices (such as landing gear) in a manner recommended by the manufacturer and/or approved by the SLCAA.
(9) Terminates the autorotation by performing a power recovery, at a safe altitude or as briefed by the examiner, prior to the flight.

D. TASK: RECOVERY FROM UNUSUAL ATTITUDES

References: SLCAR Part 1A; Pilots Operating Handbook; Flight Manual
Objective: To determine that the applicant:
(1) In actual or simulated instrument conditions, exhibits adequate knowledge of recovery from unusual attitudes.
(2) Recovers from both nose-high and nose-low unusual attitudes, using proper pitch, bank, and power techniques.

E. TASK: SETTLING-WITH-POWER

References: SLCAR Part 1A; Pilots Operating Handbook; Flight Manual
Objective: To determine that the applicant:
(1) Exhibits adequate knowledge of the conditions which contribute to, and may result in, "settling-with-power."
(2) Describes the relationship of gross weight, RPM, and density altitude to the severity of the vertical rate of descent.
(3) At an altitude above 1,500 feet (450 meters) AGL or as recommended by the manufacturer if it is higher, demonstrates entry into "settling-with-power," using the recommended procedures in the correct sequence.
(4) Recovers immediately at the first indication of "settling-with-power," using the recommended procedures in the correct sequence.
(5) Demonstrates smooth, positive helicopter control and prompt recovery techniques.

V. AREA OF OPERATION: INSTRUMENT PROCEDURES

A. TASK: INSTRUMENT ARRIVAL

References: SLCAR Part 1A; Pilots Operating Handbook; RFM
Objective: To determine that the applicant:
(1) While in actual or simulated instrument conditions, exhibits adequate knowledge of En Route Low and High-Altitude Charts, STARs, Instrument Approach Procedure Charts, and related pilot and controller responsibilities.
(2) Uses the current and appropriate navigation publications for the proposed flight.
(3) Selects and correctly identifies the appropriate navigation frequencies and facilities associated with the area arrival.
(4) Performs the helicopter checklist items appropriate to the area arrival.
(5) Establishes communications with ATC, using proper phraseology.
(6) Complies, in a timely manner, with all ATC clearances, instructions, and restrictions.

(7) Exhibits adequate knowledge of two-way communications failure procedures.
(8) Intercepts, in a timely manner, all courses, radials, and bearings appropriate to the procedure, route, ATC clearance, or as directed by the examiner.
(9) Adheres to airspeed restrictions and adjustments required by regulations, ATC, the RFM, or the examiner.
(10) Establishes, where appropriate, a rate of descent consistent with the helicopter operating characteristics and safety.
(11) Maintains the appropriate airspeed/V-speed within ±10 knots; heading ±10°; altitude within ±100 feet (30 meters), and accurately tracks radials, courses, and bearings.
(12) Complies with the provisions of the Profile Descent, STAR, and other arrival procedures, as appropriate.

B. TASK: HOLDING

References: SLCAR Part 1A; Pilots Operating Handbook; RFM
Objective: To determine that the applicant:
(1) While in actual or simulated instrument conditions, exhibits adequate knowledge of holding procedures for standard and non-standard, published and non-published holding patterns. If appropriate, demonstrates adequate knowledge of holding endurance, including, but not necessarily limited to, fuel on board, fuel flow while holding, fuel required to alternate, etc.
(2) Changes to the recommended holding airspeed appropriate for the helicopter and holding altitude, so as to cross the holding fix at or below maximum holding airspeed.
(3) Recognises arrival at the clearance limit or holding fix.
(4) Remains within protected airspace.
(5) Complies with ATC reporting requirements.
(6) Uses the proper timing criteria required by the holding altitude and ATC or examiner's instructions.
(7) Complies with the holding pattern leg length when a DME distance is specified.
(8) Arrives over the holding fix as close as possible to the "expect further clearance" time.
(9) Maintains the appropriate airspeed/V-speed within ±10 knots, altitude within ±100 feet (30 meters); headings within ±10°; and accurately tracks radials, courses, and bearings.

C. TASK: PRECISION INSTRUMENT APPROACHES

References: SLCAR Part 1A; Pilots Operating Handbook; RFM
Note: Two precision approaches must be accomplished in actual or simulated instrument conditions. If the installed equipment and data base is current and qualified for IFR flight and LPV approaches, an LPV approach can be flown to demonstrate precision approach proficiency if the LPV DA is equal to or less than 300 feet HAT.

For a multi-engine helicopter, at least one manually controlled precision approach must be accomplished with a simulated failure of one powerplant. The simulated powerplant failure should occur before initiating the final approach segment and must continue to touchdown or throughout the missed approach procedure. As the markings on localiser/glide slope indicators vary, a one quarter scale deflection of either the localiser, or glide slope indicator is when it is displaced one fourth of

the distance that it may be deflected from the on glide slope or on localiser position.

Objective: To determine that the applicant:

(1) Exhibits adequate knowledge of the precision instrument approach procedures with all engines operating, and with one engine inoperative.

(2) Establishes two-way communications with ATC as appropriate to the phase of flight or approach segment and uses the proper communications phraseology and techniques.

(3) Accomplishes the appropriate precision instrument approach procedure as selected by the examiner.

(4) Complies, in a timely manner, with all clearances, instructions, and procedures.

(5) Advises ATC anytime the helicopter is unable to comply with a clearance.

(6) Establishes the appropriate helicopter configuration and airspeed/V-speed considering turbulence, wind shear, microburst conditions, or other meteorological and operating conditions.

(7) Completes the helicopter checklist items appropriate to the phase of flight or approach segment.

(8) Prior to beginning the final approach segment, maintains the desired altitude ±100 feet (30 meters), the desired airspeed within ±10 knots, the desired heading within ±5°; and accurately tracks radials, courses, and bearings.

(9) Selects, tunes, identifies, and monitors the operational status of ground and helicopter navigation equipment used for the approach.

(10) Applies the necessary adjustments to the published Decision Height and visibility criteria for the helicopter approach category as required, such as:

(a) FDC and Class II NOTAMs

(b) Inoperative helicopter and ground navigation equipment

(c) Inoperative visual aids associated with the landing environment

(d) National Weather Service (NWS) reporting factors and criteria

(11) Establishes a predetermined rate of descent at the point where the electronic glide slope begins which approximates that required for the helicopter to follow the glide slope.

(12) Maintains a stabilised final approach, arriving at Decision Height with no more than one quarter scale deflection of the localiser, or the glide slope indicators and the airspeed/Vspeed within ±5 knots of that desired.

(13) Avoids descent below the Decision Height before initiating a missed approach procedure or transitioning to a landing.

(14) Initiates immediately the missed approach procedure, when at the Decision Height, and the required visual references for the runway or intended landing area are not distinctly visible and identifiable.

(15) Transitions to a normal landing approach only when the helicopter is in a position from which a descent to a landing on the runway or intended landing area can be made at a normal rate of descent using normal manoeuvring.

D. TASK: NON-PRECISION INSTRUMENT APPROACHES

References: SLCAR Part 1A; Pilots Operating Handbook; RFM

Note: The applicant must accomplish at least two non-precision approaches (one of which must include a procedure turn) in simulated or actual weather conditions approach using two different approach systems. At least one non-precision approach must be flown manually without receiving radar vectors. The examiner will select non-precision approaches that are representative of that which the

applicant is likely to use. The choices must utilise two different systems; i.e., NDB and one of the following: VOR, LOC, LDA, GPS, or LORAN.

Objective: To determine that the applicant:

(1) Exhibits adequate knowledge of non-precision approach procedures representative of those the applicant is likely to use.

(2) Establishes two-way communications with ATC as appropriate to the phase of flight or approach segment and uses proper communications phraseology and techniques.

(3) Accomplishes the non-precision instrument approach procedures selected by the examiner.

(4) Complies with all clearances issued by ATC.

(5) Advises ATC or the examiner any time the helicopter is unable to comply with a clearance.

(6) Establishes the appropriate helicopter configuration and airspeed, and completes all applicable checklist items.

(7) Maintains, prior to beginning the final approach segment, the desired altitude ±100 feet (30 meters), the desired airspeed ±10 knots, the desired heading ±5°; and accurately tracks radials, courses, and bearings.

(8) Selects, tunes, identifies, and monitors the operational status of ground and helicopter navigation equipment used for the approach.

(9) Applies the necessary adjustments to the published Minimum Descent Altitude and visibility criteria for the helicopter approach category when required, such as:

(a) Notices to Airmen, including Flight Data Centre Procedural NOTAMs

(b) Inoperative helicopter and ground navigation equipment

(c) Inoperative visual aids associated with the landing environment

(d) National Weather Service (NWS) reporting factors and criteria

(10) Establishes a rate of descent that will ensure arrival at the Minimum Descent Altitude with the helicopter in a position from which a descent to a landing on the intended runway or landing area can be made at a normal rate using normal manoeuvring.

(11) Allows, while on the final approach segment, not more than quarter-scale deflection of the Course Deviation Indicator (CDI) or ±5° in the case of the RMI or bearing pointer, and maintains airspeed within ±5 knots of that desired.

(12) Maintains the Minimum Descent Altitude, when reached, within -0, +50 feet (-0, +15 meters) to the missed approach point.

(13) Executes the missed approach procedure if the required visual references for the intended runway are not distinctly visible and identifiable at the missed approach point.

(14) Executes a normal landing from a straight-in approach.

Note: If TASK D, Non-precision Instrument Approaches, is performed in a training device (other than an FTD or flight simulator) and the applicant has completed an approved training course for the helicopter type involved, not more than one of the required instrument procedures may be observed by a person qualified to act as an instructor or check airman under that approved training program. The instrument approach is considered to begin when the helicopter is over the initial approach fix for the procedure being used and ends when the helicopter touches down on the runway or landing area, or when transition to a missed approach configuration is completed.

Instrument conditions need not be simulated below the minimum altitude for the approach being accomplished.

E. TASK: MISSED APPROACH

References: SLCAR Part 1A; Pilots Operating Handbook; RFM

Note: The applicant must be required to perform at least two missed approach procedures with at least one missed approach from a precision approach (ILS, MLS, or GPS). A complete approved missed approach procedure must be accomplished at least once and a simulated powerplant failure (in a multi-engine helicopter) will be required during one of the missed approaches.
Going below the MDA or DH, as appropriate, prior to the initiation of the missed approach procedure shall be considered unsatisfactory performance, except in those instances where the required visual references for the runway or intended landing area are distinctly visible and identifiable at the MDA or DH.

Objective: To determine that the applicant:

(1) While in actual or simulated instrument conditions, exhibits adequate knowledge of missed approach procedures associated with standard instrument approaches.

(2) Initiates the missed approach procedure promptly by the timely application of power, establishes the proper climb attitude, and reduces drag in accordance with the approved procedures.

(3) Reports to ATC, beginning the missed approach procedure.

(4) Complies with the appropriate missed approach procedure or ATC clearance.

(5) Advises ATC any time the helicopter is unable to comply with a clearance.

(6) Follows the recommended helicopter checklist items appropriate to the go-around procedure for the helicopter used.

(7) Requests clearance, if appropriate, to the alternate aerodrome, another approach, a holding fix, or as directed by the examiner.

(8) Maintains the desired altitudes ±100 feet (30 meters), airspeed ±5 knots, heading ±5°, and accurately tracks courses, radials, and bearings.

VI. AREA OF OPERATION: LANDINGS AND APPROACHES TO LANDINGS

Note: Notwithstanding the authorisations for the combining of manoeuvres and for the waiver of manoeuvres, the applicant must make at least four landings to a hover or to the ground. These landings must include the types listed in this AREA OF OPERATION; however, more than one type may be combined where appropriate (i.e., crosswind and landing from a precision approach or landing with simulated powerplant failure, etc.).

A. TASK: NORMAL AND CROSSWIND APPROACHES AND LANDINGS

References: SLCAR Part 1A; Pilots Operating Handbook; RFM

Objective: To determine that the applicant:

(1) Exhibits adequate knowledge of normal and crosswind approaches and landings including recommended approach angles, airspeeds, V-speeds, configurations, performance limitations, wake turbulence, and safety factors (as appropriate to the helicopter).

(2) Establishes the approach and landing configuration appropriate for the runway or designated landing area and meteorological conditions, and adjusts the powerplant controls as required.

(3) Maintains a ground track, within ±5°, that ensures the desired traffic pattern will be flown, taking into account any obstructions and ATC or examiner instructions.

(4) Verifies existing wind conditions, makes proper correction for drift, and maintains a precise ground track.

(5) Maintains a normal approach angle and recommended airspeed and a normal rate of closure to the point of transition to a hover or touchdown.
(6) Terminates the approach in a smooth transition to a hover or to a touchdown within 2 feet (.6 meter) of the designated point. (If a hover termination is specified, it will be within ±2 feet (.6 meter) of recommended hovering altitude.)
(7) Completes the applicable after-landing checklist items in a timely manner and as recommended by the manufacturer.

B. TASK: APPROACH AND LANDING WITH SIMULATED POWERPLANT FAILURE – MULTIENGINE HELICOPTER

References: SLCAR Part 1A; Pilots Operating Handbook; RFM

Note: In a multi-engine helicopter manoeuvring to a landing, the applicant should follow a procedure that simulates the loss of one powerplant.

Objective: To determine that the applicant:

(1) Exhibits adequate knowledge of manoeuvring to a landing with a powerplant inoperative, including the controllability factors associated with manoeuvring, and the applicable emergency procedures.
(2) Proceeds towards the nearest suitable aerodrome or landing area.
(3) Maintains, prior to beginning the final approach segment, the desired altitude ±100 feet (30 meters), the desired airspeed ±10 knots, the desired heading ±5°, and accurately tracks courses, radials, and bearings.
(4) Establishes the approach and landing configuration appropriate for the runway or landing area, and meteorological conditions; and adjusts the powerplant controls as required.
(5) Maintains a normal approach angle and recommended airspeed to the point of transition to touchdown.
(6) Terminates the approach in a smooth transition to touchdown.
(7) Completes the after-landing checklist items in a timely manner, after clearing the runway, and as recommended by the manufacturer.

C. TASK: REJECTED LANDING

References: SLCAR Part 1A; Pilots Operating Handbook; RFM

Note: The manoeuvre may be combined with instrument or missed approach procedures, but instrument conditions need not be simulated below 100 feet (30 meters) above the runway or landing area. This manoeuvre should be initiated approximately 50 feet (15 meters) above the runway and approximately over the runway threshold or as recommended by the FSB Report.

Objective: To determine that the applicant:

(1) Exhibits adequate knowledge of a rejected landing procedure, including the conditions that dictate a rejected landing, the importance of a timely decision, the recommended airspeed/V-speeds, and also the applicable "clean-up" procedure.
(2) Makes a timely decision to reject the landing for actual or simulated circumstances.
(3) Applies the appropriate power setting for the flight condition and establishes a pitch attitude necessary to obtain the desired performance.
(4) Adjusts helicopter configuration and retracts the landing gear, if appropriate, in the correct sequence and at a safe altitude, establishes a positive rate-of-climb and the appropriate airspeed/V-speed within ±5 knots.
(5) Trims the helicopter as necessary, and maintains the proper ground track, within ±5°, during the rejected landing procedure.

(6) Accomplishes the appropriate checklist items in a timely manner in accordance with approved procedures.

VII. AREA OF OPERATION: NORMAL AND ABNORMAL PROCEDURES

References: SLCAR Part 1A; Pilots Operating Handbook; RFM

Objective: To determine that the applicant:

(1) Possesses adequate knowledge of the normal and abnormal procedures of the systems subsystems, and devices relative to the helicopter type (as may be determined by the examiner).

(2) Demonstrates the proper use of the helicopter systems, subsystems, and devices (as may be determined by the examiner) appropriate to the helicopter, such as:

(a) Powerplant
(b) Fuel system
(c) Electrical system
(d) Hydraulic system
(e) Environmental system
(f) Fire detection and extinguishing systems
(g) Navigation and avionics systems
(h) Automatic flight control system, electronic flight instrument system, and related subsystems
(i) Flight control systems
(j) Anti-ice and de-ice systems
(k) Helicopter and personal emergency equipment
(l) Loss of tail rotor effectiveness
(m) Other systems, subsystems, and devices specific to the type helicopter

VIII. AREA OF OPERATION: EMERGENCY PROCEDURES

References: SLCAR Part 1A; Pilots Operating Handbook; RFM

Objective: To determine that the applicant:

(1) Possesses adequate knowledge of the emergency procedures (as may be determined by the examiner) relating to the particular helicopter type.

(2) Demonstrates the proper emergency procedures (as must be determined by the examiner) relating to the particular helicopter type, including:

(a) In-flight fire and smoke removal
(b) Emergency descent
(c) Autorotation, with a power recovery
(d) Ditching
(e) Emergency evacuation

(3) Demonstrates the proper procedure for any other emergency outlined (as must be determined by the examiner) in the appropriate approved helicopter RFM.

IX. AREA OF OPERATION: POST-FLIGHT PROCEDURES

A. TASK: AFTER-LANDING PROCEDURES

References: Pilots Operating Handbook; RFM

Objective: To determine that the applicant:

(1) Exhibits adequate knowledge of safe after-landing/taxi procedures (as appropriate to the helicopter).

(2) Demonstrates proficiency by maintaining correct and positive helicopter control. This includes hovering taxi, air taxiing; and in helicopters with wheels, includes

ground taxiing. In helicopters equipped with float devices, this includes water taxiing, approaching a buoy, and docking.

(3) Maintains proper spacing on other helicopter, obstructions, and persons.

(4) Accomplishes the applicable checklist items and performs the recommended procedures.

(5) Maintains the desired track and speed.

(6) Complies with instructions issued by ATC (or the examiner simulating ATC).

(7) Observes runway hold lines, localiser and glide slope critical areas, and other surface control markings and lighting.

(8) Maintains constant vigilance and control of the helicopter during the taxi operation.

B. TASK: PARKING AND SECURING

References: Pilots Operating Handbook; RFM

Objective: To determine that the applicant:

(1) Exhibits adequate knowledge of the parking and the securing helicopter procedures.

(2) Demonstrates adequate knowledge of the helicopter forms/logs to record the flight time/discrepancies.

APPENDIX: TASK VS. FLIGHT SIMULATION DEVICE CREDIT

A1 TASK VS SIMULATION DEVICE CREDIT

Examiners conducting the instrument rating skill tests with flight simulation devices should consult appropriate documentation to ensure that the device has been approved for training, testing, or checking. The documentation for each device should reflect that the following activities have occurred:

(1) The device must be evaluated, determined to meet the appropriate standards, and assigned the appropriate qualification level. The device must continue to meet qualification standards through continuing.

(2) The SLCAA must approve the device for training, testing, and checking the specific flight TASKS listed in this appendix.

(3) The device must continue to support the level of participant or applicant performance required by this skill test standard.

Note: Users of the following chart are cautioned that use of the chart alone is incomplete. The description and OBJECTIVE of each TASK as listed in the body of the skill test standard, including all NOTEs, must also be incorporated for accurate simulation device use.

A2 USE OF CHART

X Creditable

A Creditable if appropriate systems are installed and operating

Note:

1. Level 1 FTDs that have been issued a letter authorising their use by MCAA, may continue to be used only for those TASKS originally found acceptable. Use of Level 1, 2, or 3 FTDs may not be used for aircraft requiring a type rating.
2. If a FTD or a simulator is used for the skill test, the instrument approach procedures conducted in that FTD or simulator are limited to one precision and one non-precision approach procedure.
3. Post-flight procedures means, closing flight plans, checking for discrepancies and malfunctions, and noting them on a log or maintenance form.

A3 FLIGHT SIMULATION TRAINING DEVICE LEVEL

FLIGHT TASK	FLIGHT SIMULATION DEVICE LEVEL											
AREAS OF OPERATION	1	2	3	4	5	6	7	A	B	C	D	
II. Pre-flight Preparation												
A. Pre-Flight Inspection									X	X	X	
B. Powerplant Start									X	X	X	
C1. Taxiing – Ground									X	X	X	
C2. Taxiing – Hover										X	X	
D. Pre-Take-Off Checks									X	X	X	
III. Take-Off and Departure Phase												
A. Normal and Crosswind Take-Off									X1	X	X	
B. Instrument Take-Off									X1	X	X	
C. Powerplant Failure During Take-Off									X1	X	X	
D. Rejected Take-Off									X1	X	X	
E. Instrument Departure										X	X	X
IV. In-Flight Manoeuvres												
A. Steep Turns									X	X	X	
B. Powerplant Failure – Multi-Engine Helicopter									X	X	X	
C. Powerplant Failure – Single-Engine Helicopter									X	X	X	
D. Recovery From Unusual Attitudes									X	X	X	
E. Settling-With-Power										X	X	X
V. Instrument Procedures												
A. Instrument Arrival									X	X	X	
B. Holding									X	X	X	
C1. Precision Instrument Approach (Normal)									X	X	X	
C2. Precision Instrument Approach (Manual/Powerplant Failure)									X	X	X	
D. Non-Precision Instrument Approaches									X	X	X	
E1. Missed Approach (Normal)									X	X	X	
E2. Missed Approach (Powerplant Failure)										X	X	X
VI. Landings and Approaches to Landings												
A. Normal and Crosswind Approaches and Landings									X1	X	X	
B. Approach and Landing With Simulated Powerplant Failure – Multi-Engine Helicopter									X	X1	X	X
C. Rejected Landing									X	X	X	
VII. Normal and Abnormal Procedures (*1)												
A. Powerplant									X	X	X	
B. Fuel System									X	X	X	
C. Electrical System									X	X	X	
D. Hydraulic System									X	X	X	

E. Environmental System(s)									X	X	X	
F. Fire Detection and Extinguisher Systems									X	X	X	
G. Navigation and Aviation Systems										X	X	X
H. Automatic Flight Control System, Electronic Flight Instrument System, and Related Subsystems									X	X	X	
I. Flight Control Systems									X	X	X	
J. Anti-Ice and De-Ice Systems										X	X	X
K. Helicopter and Personal Emergency Equipment									X	X	X	
L. Loss of Tail Rotor Effectiveness										X	X	
M. Other Systems, Subsystems, and Devices Specific to the Type Helicopter												
VIII. Emergency Procedures												
A. Emergency Descent									X	X	X	
B. In-Flight Fire and Smoke Removal									X	X	X	
C. Emergency Evacuation									X	X	X	
D. Ditching										X	X	
E. Autorotation, With a Power Recovery											X	X
IX. Post-Flight Procedures												
A. After-Landing Procedures									X	X	X	
B. Parking and Securing									X	X	X	

(*1) Evaluation of normal and abnormal procedures can usually be accomplished in conjunction with other events and does not normally require a specific event to test the applicant's use of the aircraft systems and devices. An applicant's performance must be evaluated on the maintenance of helicopter control, the ability to recognise and analyse abnormal indications, and the ability to apply corrective procedures in a timely manner.