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NAMIBIA CIVIL AVIATION AUTHORITY

PERSONNEL LICENSING

DESIGNATED EXAMINERS MANUAL

AME EXAMINERS

MARCH 2025

Foreword

This Designated Examiners Manual has been prepared by the Personnel Licensing Department of the Namibia Civil Aviation Authority for the use and guidance of AME examiners (AMEE) that are designated in terms of Part 66 to:

- conduct trade testing on students and issue trade test reports.
- conduct practical skills assessments after students or license holders complete type rating courses or on-the-job training.
- issue certificates of competency to applicants who meet the appropriate training, theoretical knowledge examination and practical assessment requirements for the issuing or the renewal of aircraft maintenance engineer licenses or for a Grade I or II aircraft maintenance instructor rating.
- certify in the record of experience logbook of an applicant for the issuing or the renewal of a Class I or a Class II aircraft maintenance engineer license with a similar rating or of a Grade I or II aircraft maintenance instructor rating, that the applicant has complied with the appropriate experience requirements; and
- conduct oversight on instructors.

This Manual contains policies, procedures, guidelines, information, and instructions on the way those duties are to be performed. All designated examiners are performing their duties on behalf of the Executive Director in accordance with regulation 66.01.12 and are required to apply the policies and procedures contained in this Manual.

Any comments and recommendations should be forwarded to the Senior Manager: PEL Personnel Licensing section in the Department: Safety and Security of the Namibian Civil Aviation Authority.

Toska Sem
Executive Director

amendments made to original content. For up-to-date information, contact the Senior Manager of Personnel Licensing.

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Record of Amendments

The Executive Director is the only person who may authorize amendments to this AME Designated Examiner Manual.

Amendment No.	Date	Pages Affected	Date Entered	Initials

Definitions

Aircraft Maintenance Engineer License (AMEL) means an attestation granted to individual by the Civil Aviation Authority to act as the aircraft maintenance engineer with all attached privileges of the license

Aircraft Maintenance Organization (AMO) means an organisation approved to perform specific aircraft maintenance activities by the Authority. These activities may include the inspection, overhaul, maintenance, repair and/or alteration and release to service of aircraft or aeronautical product.

Authorized person means a person who is authorized by the Director in terms of Section 37 of the Civil Aviation Act, 2016 and the NAMCAR Parts 13 and 185 to issue, renew, or suspend ratings for Category A, B, C, D, W or X, review proficiency checks and competency certificates in accordance with the conditions specified in that person's delegation of authority document.

Civil Aviation Authority (NCAA). Statutory body set up by the act of parliament to oversight the aviation activities in a Country.

DE Monitor means the passive observance by a NCAA Inspector of the way a DE conducts a proficiency/competency check/test/demonstration, assesses the results and processes as necessary

NCAA Inspector means Inspector representing the Executive Director, who is an employee of the NCAA and is authorized to conduct flight checks, skills tests, proficiency/competency tests practical/theoretical examinations or assessments and monitors.

Designated Examiner (**DE)** means and refers in this Manual to all aircraft maintenance engineer examiners designated in accordance with Part 66 of the Namibian Civil Aviation Regulations (NAMCAR).

Delegate means a physical or legal person, body, or organization to whom authority has been delegated.

Director means the Director appointed in terms of Section 12 of the Act.

Manuals of Procedures (MOP). An operator or aircraft maintenance organization (AMO) MOE produced manual in which the operator states the procedures, processes, responsibilities of various individuals as well as, ways of conducting business by the particular operator.

Namibian Civil Aviation Authority (NCAA). Statutory body set up by the act of parliament to oversight the aviation activities in Namibia territory.

Nominee means a person nominated by an Air Operator or Aircraft Maintenance Organization as a candidate for DE approval by NCAA.

Operator means the holder of an Air Operator Certificate authorizing Commercial Air Transport operations.

Professional suitability means a demonstrated willingness to work cooperatively with the NCAA to uphold the principles of aviation safety.

Qualified person means a qualified aircraft maintenance instructor, on the same type of aircraft for which the candidate is being checked on;

A scripted test means a document that governs the events presented to candidates during the practical test that is conducted. The script provides a detailed plan for the execution of mandatory exercises.

Practical test means any practical test conducted towards the issuance or re-issuance of a license and/or rating.

Acronyms

AMEL - Aircraft Maintenance Engineer License
AMO – Aircraft Maintenance Organization
AOM - Aircraft Operating Manual
NCAA - Civil Aviation Authority**.**
AMEE - Aircraft Maintenance Engineer Examiner
DE - Designated Examiner,
MOP - Manuals of Procedures
NNCAA - Namibian Civil Aviation Authority**.**
NAMCAR – Namibian Civil Aviation Regulation.
PLI - Personnel Licensing Inspector
ASI (A)- Aviation Safety Inspector (Airworthiness)

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Chapter 1 – General

1.1 Purpose

1.1.1 This Manual outlines the policies, practices, and procedures to be followed by all designated AME examiners within NCAA. Adherence to the procedures and guidelines contained herein are mandatory as all examiners are carrying out their duties on behalf of Executive Director of the Namibian Civil Aviation Authority, which is their foremost responsibility.

1.1.2 This chapter provides general introductory information, as well as other general information, the nature and scope of which does not lend itself to be incorporated into other chapters of this Manual.

1.2 Application

1.2.1 This Manual will apply to *AME examiners designated in accordance with Part 66 of the Namibian Civil* Aviation Regulations *(NAMCARS).*

1.2.2 The policies, procedures and instructions contained in this Manual cannot cater for all situations, therefore, good judgment must be applied by examiners in the use of this Manual.

1.3 Preparation and Distribution

1.3.1 This Manual has been prepared by the Personnel Licensing (PEL) section. Preparation, distribution, amendment and cancellation of the material contained in this Manual will continue to be carried out by the PEL section in line with the procedures contained in the PEL Handbook, Volume 5 Part 1. A copy of this Manual and amendments thereto will be issued to inspectors and designated AME examiners.

1.4 Revisions

1.4.1 To keep pace with civil aviation advancements, good regulations and directives require continuous updating. All amendments must be made in accordance with the procedures contained in the PEL Handbook, Volume 5 Part 1.

1.5 Applicability of Statutory Requirements

1.5.1 A designated examiner carries out practical skill and proficiency tests on behalf of the Executive Director and each examiner is designated based upon the particular individual's experience.

1.5.2 The public's protection is safeguarded by the *Namibian Civil Aviation Regulations* (NAMCARS) requirements and the associated technical standards. It is the designated examiner's responsibility to be familiar with all statutory requirements and to ensure that they ensure during the course of their duties that they are complied with. No deviation from safety standards is permitted.

1.6.3 Nothing in this Manual should be taken as contravening or superseding any statutory requirement. Designated AME examiners must refrain from expressing opinions, which could be construed as being in disagreement with any statutory document.

Chapter 2 – Delegation and responsibilities

2.1 Program description

2.1.1 The Executive Director is responsible for the conduct of all qualification theoretical/ practical/skills/recurrent examination for the purposes of personnel licensing. In accordance with the Namibian Civil Aviation Regulation NAM–CARs 66.01.12 *the Executive Director may* designate an examiner to -

2.1.1.1 conduct practical/skills/recurrent examination,

2.1.1.2 conduct trade testing on students and issue trade test reports.

2.1.1.3 conduct practical skills assessments after students or license holders completed type rating courses or on-the-job training.

2.1.1.4 issue a certificate of competency to an applicant who meets the appropriate training, theoretical knowledge examination and practical assessment requirements prescribed in this part for the issuing or the renewal of a Class I or a Class II aircraft maintenance engineer license with a similar rating.

2.1.1.5 certify in the record of experience logbook of an applicant for the issuing or the renewal of a Class I or a Class II aircraft maintenance engineer license with a similar rating, that the applicant has complied with the appropriate experience requirements prescribed in this Part.

2.1.1.6 issue a certificate of competency to an applicant who meets the appropriate training, theoretical knowledge examination and practical assessment requirements prescribed in this part for the issuing or the renewal of a Grade One or a Grade Two aircraft maintenance instructor rating with a similar valid rating.

2.1.1.7 certify in the record of experience logbook of an applicant for the issuing or the renewal of a Grade One or a Grade Two aircraft maintenance instructor rating with a similar valid rating, that the applicant has complied with the appropriate experience requirements prescribed in this part; and

2.1.1.8 conduct oversight on instructors.

2.1.2 A designated examiner authorization is an official authorization and is conditional upon the qualification and experience of the person and the continued requirements for assistance to carry out the powers, duties and functions of the Executive Director. This designation is given to qualified individuals on completion of the training required to conduct a particular type of theoretical and practical examination. It is, thereafter, the

DE's obligation to continue to meet the requirements of the delegation.

2.1.3 A DE may be authorized to conduct practical tests/checks on any aircraft operating under NAMCAR 121, 127, 135 and 145 in which they hold a category and type rating, where applicable. The Executive Director may limit the number of aircraft types on a DE's delegation of Authority, or restrict aircraft models within a type, group, or category, for any of the following reasons:

(a) Differences within/between the Type classes,

(b) Differences within/between Groups.

2.1.4 The number of DEs and their conduct of theoretical/practical tests/checks are closely monitored by and at the option of Executive Director. An inspector may conduct any of the theoretical/practical tests referred to in this manual and an inspector or other designated person may monitor any DE conducting any theoretical/practical test.

Theoretical/practical tests conducted outside Namibia by inspectors will be subject to cost recovery.

2.2 DE Categories

2.2.1 The following categories of designation are allowed in terms of regulations 66.01.11

- Designated Aircraft Maintenance Engineer Examiner (DAMEE) – Airframes (Categories A & B);
- Designated Aircraft Maintenance Engineer Examiner (DAMEE) – Engines (Categories C & D);
- Designated Aircraft Maintenance Engineer Examiner (DAMEE) – Categories W and X;
- Designated Aircraft Maintenance Engineer Examiner (DAMEE)- Aircraft Structure

2.2.2 Designation requirements for this category is prescribed in the above-mentioned regulations and in this Manual.

2.2.3 Some DEs will be designated to conduct a theoretical/practical examination for the operator's engineers after initial training or recurrent training. Regardless of the DEs employee status with the Air Operator, the DE requires the authority of the Executive Director of the NCAA to conduct these theoretical/practical examinations.

2.3 DE Privileges

2.3.1 DEs may conduct theoretical/practical examination and issue theoretical/practical examination reports for AME's as authorized in their designation letters in accordance with regulation 66.01.12.

2.3.2 DEs will qualify for their privileges after receipt of their designation letters. The designation is issued for 1 year initially after which it may be re-issued for a period of 2 years thereafter if the DE complies with the requirements of this Manual.

2.4 AMEE authorities

2.4.2 An AMEE will be authorized in accordance with his/her qualifications and experience and as specified on his designation.

2.4.2 An aircraft maintenance engineer in training is considered to have met all knowledge and theoretical/practical requirements necessary for the issuance of a trade test reports or for the issuing or the renewal of a Class I or a Class II aircraft maintenance engineer license in appropriate group/ratings, or issued a certificate of competency; when applicable standard as contained in NAMCATS 66.02.2 has been successfully accomplished and signed off by DE.

2.5 DE nomination/application criteria

2.5.1 Requirements

2.5.1.1 All AMEE applicants must meet the following requirements –

(a) hold a valid Grade 1 AME Instructor rating

(b) ~~hold~~(held) a valid Aircraft Maintenance Engineer Licence with the appropriate (valid) type on the specific category/ies (airframe/engine/avionics/electrical/etc) .~~to be designated on with a Grade I AME Instructor rating, Strict limitations on privileges~~

(c)~~(b)~~ Must have held an AME license and Instructors ratings for instruction of ab-initio courses.

(c) meet the qualification and experience requirements specified in NAMCATS 66.01.12.

(d) be in good standing with the Namibian Civil Aviation Authority;

(e) be of good character and standing acceptable to the aviation industry;

(f) declare any conflict of interest with respect to the Part 141 aviation training organisation or operator or aircraft maintenance organisation or the person to be tested;

(g) be an active AMEL holder working with the rating for which the designation is sought at a certified air operator or aircraft maintenance organisation;

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(h) prior to initial appointment, appear before and be approved by a panel constituted for the purpose by the Executive Director; and

(i) complete the initial designation course as provided by the N~~N~~CAA, complete the mentoring phase and the oversight monitor.

2.5.2 Supervision by Mentor AMEE

(a) The prospective examiner must work under supervision of a mentor aircraft maintenance engineer examiner and once the prospective examiner is able to conduct the required tests on his/her own, the mentor DE must prepare a recommendation letter that must accompany the application for designation.

(b) Once the panel interview is successfully completed, the prospective examiner must attend an AMEE seminar/workshop arranged by the Namibia NCAA that covers the following content:

(i) the regulatory requirements relevant to the examination duties;

(ii) fundamentals of human performance and limitations relevant to examination;

(iii) fundamentals of evaluation;

(vii) constructing and conducting theoretical/practical examination; and

(viii) performance assessment.

2.5.3 Skill/Practical

2.5.3.1 An AMEE nominee or applicant must have conducted at least one theoretical/practical examination in the role of a candidate examiner for which designation is sought, which is documented and assessed by the mentor AMEE and included with the application documentation.

2.5.3.2 This examination must be observed by the NCAA Inspector or Authorized Person appointed for the purpose by the Executive Director.

2.5.3.3 Where the AMEE nominee/applicant is seeking authority for more than one type of aircraft, the nominee/applicant must demonstrate practical skill to conduct such practical examination on the largest aircraft type within the category for which DE authority is requested.

2.5.4 Unsatisfactory performance

If a DE nominee/applicant cannot attain a satisfactory standard in the theoretical/practical examination the candidate will be briefed on the areas to improve before re-applying for a subsequent theoretical/practical examination.

2.6 AMEE designation

2.6.1 Letter of Delegation

The Executive Director NCAA may issue a Designation Letter delegating authority to the AMEE following the successful completion of the examiner seminar/workshop and the test mentioned in 2.5.1 above and when in compliance with the requirements for designation. The designation allows the AMEE to act on the Executive Director's behalf with conditions specified on the designation. The designation will normally include the following:

(a) the NAMCARs subpart under which the AMEE is authorized to conduct theoretical/practical examination;

(b) the airframe types, engine types or the avionics equipment for which the AMEE is authorized to conduct theoretical/practical examination;

(c) a statement that delegation as an AMEE may be cancelled or suspended for breach of conditions of issuance, administrative reason or in the interest of safety*;*

(d) a statement that when privileges of the delegation are exercised, a valid license and required rating must be held;

(e) that the person understands, accepts and will carry out the privileges, duties and functions of the Executive Director in accordance with all requirements and test standards, including the procedures contained in this Manual;

(f) any other appropriate conditions of issuance; and

(g) the expiry date of the Delegation of Authority Letter.

2.6.2 Duration of Delegation

An initial designation as examiner is valid for a maximum period of one year from the date of designation.

2.6.3 Re-designation

2.6.3.1 The responsibility to request re-designation prior to expiration of their current designation rests with the AMEE. The application must be made 90 days prior to the beginning of the month in which the current designation expires.

2.6.3.2 Submission of such application does not automatically entitle the applicant to continue to exercise the privileges of a designated AME examiner after the expiry date.

2.6.3.3 Re-designation of applicants is at the discretion of the Executive Director and the following requirements must be met. Applicants must have -

(a) attended at least one conference/workshop under the auspices of the Namibian Civil Aviation Authority during the preceding 12 months;

(b) been subjected to the annual oversight monitoring of theoretical/practical examination and

(c) have complied with the examiner duties specified in NAMCATS 66.01.12 and in this Manual.

2.6.3.4 Examiners will be re-designated for a period of 2 years.

2.6.4 Administrative revocation of designation

The Executive Director NCAA will issue a Letter of Revocation to an AMEE where the AMEE advises the NCAA that the authority is no longer required, or the NCAA determines that an AMEE authority is no longer required. This provision may only be exercised where revocation of the DE authority is non-contentious.

2.6.5 Cancellation, Suspension, Refusal to Re-designate or Refusal to Issue

2.6.5.1 The Executive Director may, in accordance with regulation Civil Aviation Act,2016 42.(1), Page 48 suspends, a AMEE's authority to conduct theoretical/practical examination. Normally such action could be on the basis of any of the following examples, which is not exhaustive:

(a) a record of conviction of an offence in terms of Part 185 of the NAMCAR;

(b) in the interest of safety; or

(c) evidence of misconduct during the use of the designation.

2.6.5.2 The Executive Director may refuse to issue a designation or re-designate an AMEE even after an applicant meets the requirements, provided that reasons are provided to the applicant.

2.6.5.3 Failure to meet any of the designation or re-designation requirements will result in the refusal of the designation.

2.6.5.4 When it has been alleged that any DE has acted in a manner contrary to the expected standards and code of ethics, the Executive Director must, prior to making a final decision in the matter, ensure that:

(a) a comprehensive report from an inspector who has investigated the matter has been submitted for consideration; and

(b) the DE and where applicable, the company in question have been given a formal opportunity to respond to the allegations, either verbally or in writing. (Where verbal response is made, a record must be kept.)

2.6.5.5 If the decision of the Executive Director is to suspend or cancel the DE's authority, a notice of suspension or cancellation must be issued directly to the individual DE in accordance with the provisions of Part 185.

2.6.6 Right to appeal

2.6.6.1 The holder of a designated examiner authorization whose authorization has been suspended may appeal against such suspension to the Executive Director, within 30 days after such holder becomes aware of such suspension.

2.6.6.2 The Executive Director may confirm, vary, or set aside the suspended designation after reviewing all facts presented by the NCAA inspector and the DE.

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2.7 DE responsibilities

2.7.1 Service

2.7.1.1 A DE is a professional who is experienced in assessing AMEL holder's performance against a set standard and who ensures that all persons seeking trade testing,

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issuance of trade test reports, a license or rating for which theoretical/practical examination are required, meet the theoretical/practical examination requirements.

2.7.1.2 DEs are appointed to provide a prompt service to any candidate who meets the requirements for theoretical/practical examination and who has been recommended for theoretical/practical examination by an instructor or training organization.

2.7.1.3 An examiner is expected to honor appointments unless circumstances warrant cancellation or postponement. It is the examiner's responsibility to reschedule a theoretical/practical examination if the postponement is at the examiner's request.

2.7.1.4 If a DE cancels a theoretical/practical examination without rescheduling, the DE should recommend another DE or instruct the candidate to contact the Senior Manager of Personnel Licensing exercising for appointment of another DE.

2.7.1.5 The DE must conduct the practical examination a private area free from distractions.

2.7.1.6 The DE must give the candidate undivided attention during the theoretical/practical examination and ensure that any discussion of the results with the candidate is in private unless, by mutual agreement, a person other than the candidate is present e.g. the recommending Chief Engineer or Quality Manager.

2.7.1.7 An examiner must not allow personal prejudices to interfere with objective evaluation of an applicant.

2.7.1.8 An examiner is responsible for maintaining personal recurrent training, for remaining up to date with regulatory and procedural changes, and for demonstrating aviation knowledge on quality/safety at all times.

2.7.1.9 If the performance of an AMEL member who has successfully passed a theoretical/practical examination by an examiner, is found unsatisfactory due to a mistake, negligent, incident, or other significant event, or if other evidence reveals deficient performance by an examiner, a theoretical/practical examination/ test/monitor of that examiner may be required by an Inspector of the NCAA or person authorized by the Executive Director NCAA.

2.7.2 Prompt forwarding of theoretical/practical examination Reports

2.7.2.1 A DE must ensure that the original Test Forms are submitted to the NCAA

Personnel Licensing Department and that a copy is provided to the candidate.

2.7.2.2 A duplicate copy is to be retained in a file maintained by the DE for a period of 24 months after the trade testing on students and issuance of trade test reports or the theoretical/practical examination date. This file is subject to review by a NCAA inspector and will be made available upon reasonable notice.

2.7.2.3 In the event of a failed trade testing, theoretical/practical examination, the DE must submit the original failed examination form to the Senior Manager of Personnel Licensing, give the candidate a copy and retain a copy as indicated in 2.7.2.2.

2.7.3 Standardization

DEs must conduct all theoretical/practical examinations in accordance with the applicable test standards contained in the NAMCATS 66.02.2. A DE must not allow personal prejudices to interfere with objective evaluation of a candidate's skills.

2.7.4 Limits of Authority for DEs while conducting trade testing and the theoretical/ practical examination

2.7.4.1 A DE must not conduct a trade test or theoretical/practical examination in an un-conducive environment. A DE may conduct a re-test of a failed trade test or theoretical /practical examination as per the guidance provided on the examination test sheet and must submit the failed test form to the Senior Manager of Personnel Licensing, within 7 days after the theoretical/practical examination has been concluded.

2.7.4.2 A DE will not conduct a trade test or theoretical/practical examination on a candidate to whom he/she has given aircraft maintenance training.

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2.7.4.3 A DE will not conduct a trade test or theoretical/practical examination on an inspector unless the NCAA has granted written authority.

2.7.5 DE's trade test or theoretical/practical examination

A DE will have their trade test conducted when required and theoretical/practical examination at the frequency indicated by the company with which they are associated. Where a DE is operating independently of an Air Operator or AMO, the DE requires a theoretical/practical examination at the frequency indicated by the most

restrictive subpart under which they operate. A DE may conduct another DE's trade test or theoretical/practical examination.

Where a DE maintains recurrent training on more than one aircraft type, the aircraft type upon which trade test or theoretical/practical examination is conducted must be done in accordance with the requirements of the respective regulations of the NAMCAR.

2.7.6 DE Records

The responsibility rests with the DE to ensure that their authority is valid before conducting a trade test or theoretical/practical examination. A DE will maintain records where applicable to show the following:

(a) The records referred to in 2.7.2;

(b) the last date that the DE attended a DE seminar/workshop and when the next DE (recurrent) seminar/workshop is due;

(c) the last date that the DE had their theoretical/practical examination renewed;

(d) the last date when the DE was monitored conducting a trade test or theoretical/practical examination by an inspector or other delegate of the Executive Director and when their next DE monitor is due; and

(e) a list of the trade test or theoretical/practical examination conducted by the DE.

All DE records are to be maintained for a period of at least two years and will be made readily available to the NCAA for inspection and auditing purposes.

2.7.7 DE's Notification Responsibilities

DEs will advise the NCAA when they no longer meet the requirements to hold a DE authority or when they will not exercise the authority in the coming 24 months period.

Where the DE's trade test or theoretical/practical examination renewal or DE monitor becomes due, the DE will advise the Senior Manager of Personnel Licensing and arrange for a trade test or theoretical/practical examination or DE monitor at least 60 days in advance of the expiry date.

2.7.8 Recurrent Monitoring Process

2.7.8.1 The purpose of recurrent monitoring is to verify a uniform standard is applied during the conduct of trade test or theoretical/practical examination, the application of

performance standards and the method of evaluating a candidate's skills.

2.7.8.2 An annual DE monitor is required in order for the DE to retain his/her designated authority.

2.7.8.3 The NCAA may extend the validity period of a DE monitor by up to 60 days. Where the validity period of a DE monitor has been extended and the DE monitor is renewed after the initial expiry date, the new monitor expires on the first day of the month following the month in which the DE monitor was completed.

2.7.8.4 DEs are required to contact the Senior Manager of Personnel Licensing to arrange for a monitor of their DE skills. Where a DE is authorized to conduct theoretical/practical examination on more than one aircraft type/group, the aircraft type/group upon which the monitor is conducted will be at the discretion of the NCAA. One monitor will cover all types unless the NCAA requests otherwise.

2.7.8.5 Before scheduling a DE's Monitor, the Senior Manager of Personnel Licensing will review the nominee's file and records to ensure compliance to standards. The inspector or other person delegated by the Director for this purpose and DE shall meet before the theoretical/practical examinationto discuss the DE's previous yearly performance using data collected from the DE's file. The meeting will also establish the sequence of procedures to be demonstrated and to delineate the extent of the inspector or other delegate's input.

2.7.8.6 During a DE monitor, the inspector/delegate will ensure that:

(a) the DE's Test Reports are complete, accurate and meaningful;

(b) where applicable, the DE's administrative procedures with regards to the issuance of a rating conform with requirements specified in the relevant parts of the NAMCAR;

(c) the DE covers the required theoretical/practical examination sequences as per the appropriate test standard;

(d) the DE's conduct of theoretical/practical examination is fair and in compliance with the standards and procedures described in the NAMCATS 66.02.2 as well as this manual; and

(e) the DE is acting within the limits of his/her authority.

2.7.8.7 Upon completion of the aircraft/engines/equipment hand-on practical examination,

the inspector/delegate and DE will meet privately to review and concur on the results of the practical examination. Should a disagreement arise between the inspector/delegate and DE on the outcome of the evaluation, the inspector/delegate's evaluation will take precedence over the DE. The inspector/delegate's evaluation will be used to debrief the candidate.

2.7.8.8 After each DE monitor, inspector/delegate will complete a DE Monitor Report and will ensure that a copy of the report is provided to the DE and the original copy placed on the DE's NCAA file.

2.7.8.9 During recurrent aircraft training DE monitors, the inspector/delegate will also review the Air Operator's/AMO's utilization of the DE.

2.7.8.10 Where a DE fails to meet the required practical assessment during the monitor, the DE's designated authority will be deemed to have lapsed. DE privileges will be suspended in terms of 2.6.5 until remedial training as determined by the NCAA is completed and a subsequent monitor successfully completed. Section 2.6.6 Request for appeal, of this manual also applies.

2.7.8.11 The NCAA may take appropriate action, and document that action, if a DE is observed:

(a) not complying with the testing training standards, which may include, but is not limited to:

(i) passing consistently well above or below the national averages;

(ii) theoretical/practical test times that are consistently much shorter or longer than the national averages;

(iii) theoretical/practical examination remarks that do not support the mark awarded the subject of a substantiated public complaint.

(b) is involved in a mistake, negligent, incident or a violation under the Civil Aviation Act or the Namibian Civil Aviation regulations.

2.7.8.12 If a monitor indicates a deficiency in the conduct of theoretical/practical examination or application of standards, the supervising inspector/delegate will note the deficiency and document educational or remedial action taken to remedy the matter. Suspension of the DE's authority, if considered, must be recommended to the NCAA.

2.8.9 Liability - Delegated Authority

DEs receive their authority to exercise privileges on behalf of the Executive Director by means of a “designation letter”. DEs are working under the auspices of the Executive Directorate: NCAA and as such they are indemnified against personal liability incurred by reason of any act or omission within the scope of their duties, only if the DE acted within the scope of the delegation, honestly, without malice, and with a standard of care like every other reasonable person in their position engaged in the same activity would take.

2.7.10 Conflict of Interest

2.7.10.1 “*Conflict of Interest*” is defined as any relationship, whether family, financial or otherwise, that might influence a DE to act, either knowingly or unknowingly, in a manner that does not hold the safety of the flying public as the primary and highest priority.

2.7.10.2 All DEs are held to be in a *“perceived conflict of interest*’ if they are simultaneously employees (regular or contract) of the company and delegates of the Executive Director when performing their NCAA delegated duties. To avoid a *“real conflict of interest',* it is imperative that DEs strictly adhere to the policy and guidelines contained in the NAMCAR and in this manual. Lack of adherence to the manual may result in a suspension or cancellation of a DE's designation. The following are examples (not exhaustive) of situations that could be considered conflict of interest between the DE and his/her delegated authority:

(a) the DE's level of financial interest in the company;
(b) the DE's direct involvement in company ownership;
(c) the DE owning a substantial number of voting shares of the company;
(d) the DE’s level of involvement with a staff union or association;
(e) the relationship between the DE and the pupil to be examined;
(f) the DE having family ties with company owners; and
(g) any privileges or favours which could bias the DE's ability to conduct his or her duties.

2.7.10.3 In order to determine whether a candidate’s conflict of interest is real or perceived, each candidate will declare on their resume (which must be attached to their application form), any conflict of interest of which they have knowledge, and will be

prepared to discuss at each annual monitoring thereafter, any change to their status in this regard. Furthermore, a company will periodically review the status of each DE in its employ to ensure that they are not in any real conflict of interest.

2.7.10.4 Should any DE come into a situation that they feel might constitute a “real conflict of interest”, a full report of the circumstances must be immediately submitted to the NCAA for review.

2.7.10.5 The final authority for deciding whether there is any conflict of interest that might affect the DE’s ability to conduct trade test or theoretical/practical examination in an impartial manner rests with the Senior Manager of Personnel Licensing. Interest in a company will not automatically disqualify a candidate from receiving DE authority. The NCAA will assess every case with consideration to all circumstances involved.

2.7.10.6 It must be stressed that any effort by an Operator or organization employing the services of a DE to influence or obstruct the DE in the course of fulfilling their obligations to the Executive Director will result in the invalidation of the trade test, theoretical/practical examination conducted by the DE and may result in enforcement action.

Chapter 3 – Application Procedures

3.1 Submitting the DE application form

The DE Application Form FSS PEL 66-05 can be obtained from the personnel Licensing Department at the NCAA or can be downloaded from the NCAA website. DE applicants must complete and forward the form to the Personnel Licensing Department with the following documentation attached:

(a) a resume outlining the applicant's background, qualifications and experience, including previous trade test, theoretical/practical conducted or supervisory experience;

(b) Proof of current technical experience as contained in Logbook, certified showing the servicing and overhaul experience written up in a manner that clearly specifies where, when and what maintenance constitutes the experience with the summary on a separate page,

(c) Proof of involvement in the issuing of course, or the management of programs, leading to the issuing of course certificates, or the development of training standards and material;

(d) Proof of Grade I instructional experience, Grade II instructor and 5 years experience,

(e) Letter of recommendation by employer or other DE attesting to experience, knowledge and integrity;

(f) justification for any deviations from the qualifications and experience requirements specified in this manual, and

(g) a declaration of any interest in the company or other condition that could result in a conflict of interest.

(h) A letter of recommendation from the mentor DE;

(i) If applying to be airframe/engine/avionics/electrical examiner, a valid AME license as applicable; and

(j) Proof of payment.

3.2 Revisions to the DE authority

If a revision to an existing DE designation letter is required, the DE will submit the following to the NCAA:

(a) where the request is for an additional authority, a DE application form containing only the additional information pertaining to the requested authority;

(b) where an additional type is requested, a written request;

(c) where the request is for removal of an authority, written notification identifying the DE and detailing the authorities to be removed.

3.3 DE application form review

3.3.1 The NCAA Personnel Licensing Department will, upon receipt of the DE Application Form, confirm that the DE applicant:

(a) is acceptable in terms of experience, and competency; and

(b) meet the qualifications and experience requirements set out in regulation and in this manual, as applicable, or that any deviation is justified and acceptable.

3.3.2 The NCAA may approve an applicant not meeting all of the stated requirements based on justification provided in the DE applicant's resume (that accompanies the application form) may be considered in making this determination.

3.3.3 A DE applicant requesting designation should be prepared to demonstrate a need to the Executive Director considering:

(a) the number and variety of aircraft to conduct theoretical/practical examination on;

(b) the location of Operator/AMO bases and accessibility and;

(c) the type of examination to be conducted.

3.3.4 NCAA will contact the DE applicant to arrange a meeting between the DE applicant and the Senior Manager of Personnel Licensing for an initial appointment briefing.

3.4 DE application approval

3.4.1 Based on the applicant's qualifications, experience and demonstrated ability, the Senior Manager of Personnel Licensing will complete the 'approved' block on the DE application form (FSS PEL 66-05).

3.4.2 Where the DE applicant is considered satisfactory, the Senior Manager of Personnel Licensing will correspond with the DE applicant indicating that his initial review was

successful and providing him/her with details for attending the DE course together with details of the inspector/delegate that would complete his initial DE monitoring.

3.4.3 Once the DE applicant has successfully completed the DE seminar/workshop and the DE monitor, he/she is required to submit proof of successful completion to the Senior Manager of Personnel Licensing after which the DE's designation letter will be prepared and his/her designation recommended to the Executive Director.

3.4.4 The NCAA will then ensure that a file is opened, and the following designation information has been placed in the appropriate file:

(a) a copy of the DE Application Form, including attachments;

(b) the DE course certificate including confirmation that the practical portion of the training has been completed;

(c) the DE Monitor Report form; and

(d) the DE Letter of Delegation.

Chapter 4 – Principles of Evaluation

4.1 Aim of the aircraft maintenance examination

4.1.1 Theoretical/practical examination are required for the issuance and renewal of licenses and ratings in terms Part 66 and for the assessment of recurrent training under Parts 121, 127, 135 and 145

The aim of these theoretical/practical examinations are to:

(a) determine that the candidate meets the skill/practical requirements to fulfill their assigned responsibilities in a safe, quality and competent manner;

(b) improve the standards of instruction and training through feedback of information from the air operator or AMO or training organization of those tasks, policies and procedures that are weak or commonly overlooked;

(c) to ensure acceptable levels of quality/safety are maintained and, where possible, improved throughout the aviation industry.

4.1.2 The role of a DE is to evaluate the knowledge/practical and skills of candidates to determine whether they meet the required standard trade test, theoretical/practical examination for issuance of their licenses and ratings. DEs are professional, experienced AMEL holders and have demonstrated they possess the knowledge of the theoretical/practical examination criteria.

4.2 Evaluation process

4.2.1 Evaluation is the process of defining, observing and measuring a candidate's performance during a trade test or theoretical/practical examination. When the DE conducts a trade test or theoretical/practical examination, it is for the purpose of determining whether the applicant meets all the criteria as outlined in the applicable test standard.

4.2.2 Analysis of this evaluation, as recorded on the Test Report form, provides information that is used to identify:

(a) candidate deficiencies;

(b) specific degrees of skill;

(c) areas of weak instruction; and

(d) areas of the training syllabus requiring improvement.

4.2.3 This information along with input from other sources such as omission, mistake and negligent reports, is then integrated into the training program in the form of revisions to training manuals, examinations and test standards. This improves the quality of training and enhances maintenance quality/safety.

4.3 Evaluation cycle

The evaluation process has the following 5-stage cycle:

4.3.1 Stage 1 (Aim)

The first stage determines the objective of the trade test or theoretical/practical examination item. Since it would be meaningless to evaluate the candidate's performance without considering what that performance should be, the process of evaluation should begin with clearly defined objectives set around performance.

4.3.2 Stage 2 (Standards)

To be proficient in evaluating a candidate's performance during a trade test or theoretical/practical examination, the DE must be completely familiar with the performance and test standards for each item. Performance criteria are specified in the test standards.

4.3.3 Stage 3 (Performance)

During the trade test or theoretical/practical examination, the DE assigns the task in accordance with their *Description* and observes the candidate's performance in response to the situations presented.

4.3.4 Stage 4 (Observation)

The DE observes the performance and compares it to the performance criteria in the test standards contained in the NAMCATS 66.02.2. and 66.02.3

4.3.5 Stage 5 (Assessment)

Based on observation of the candidate's performance under existing conditions, the DE assesses the performance and assigns a mark. When a candidate commits significant errors during the performance, the DE must state the nature of the problem(s), in the *Remarks* column of the Test Report. However, to be useful, the

remarks must be clear and they must support the mark that has been assigned.

4.4 Characteristics of evaluation

An evaluation may become useless if certain criteria are not respected. The following five characteristics, if used carefully when conducting a trade test or theoretical/practical examination, will result in an accurate and effective form of evaluation.

4.4.1 Reliability

4.4.1.1 Reliability ensures consistent results. As applied to the theoretical/practical examination, this would mean that two identical performances should result in the same theoretical/practical examination score. Human factors can have a significant effect on theoretical/practical examination reliability. Some of these factors are:

(a) **Fatigue:** insufficient sleep or rest prior to the theoretical/practical examination.

(b) **Emotions:** work or home personal problems.

(c) **Health:** cold or flu etc.

(d) **Time of Day:** very early in the morning, or late in the night (during overtime0.

(e) **Distractions:** noise, interruptions etc.

4.4.1.2 DEs should be conscious of these factors and attempt to reduce as many variables as possible. The DE may accept some of these factors as a reason for some lack of smoothness or accuracy in the candidate's performance. DEs should also be aware that their ability to accurately assess the candidate's performance could be affected by these same factors.

4.4.1.3 Another factor that may affect the reliability of an evaluation is to allow learning to take place during the practical examination. It must be emphasized that testing for the purpose of licensing must remain clearly removed from teaching. For example, oral questions, if worded improperly, may lead the candidate to the correct answer. In practical examination items, if given a second or third attempt, the candidate may demonstrate ~~a~~some knowledge adequately because of the immediate practice. For this reason, an exercise of trade test or theoretical/practical examination will not be repeated unless a re-assessment is allowed (see Guidance to examiners on the test form) or when one of the following conditions applies:

(a) **Discontinuance:** Discontinuance of a trade test or theoretical/practical examination for valid quality/safety reasons; i.e., a procedure carried out

incorrectly that could have poor quality implications.

(b) **Misunderstood Request:** A legitimate instance when a candidate does not understand a DE's request to perform a specific practical test. A candidate's failure to know the requirements of a specified theoretical/practical test is not grounds for repeating a task or theoretical/practical test.

(c) **Other Factors:** Any condition where the DE was distracted to the point that the candidate's performance of the practical test could not adequately be observed or certified.

4.4.1.4 These provisions have been made in the interest of fairness quality and safety and do not mean that instruction, practice, or the repeating of a trade test or theoretical/practical examination item that is unacceptably demonstrated, are permitted during the trade test or theoretical/practical examination evaluation process.

4.4.2 Validity

Theoretical/practical examination or trade test are valid if they measure what they are supposed to measure and nothing else. Assessment must remain within the bounds of the appropriate test standard. The scope of the trade test or theoretical/practical examination must be such that when candidates pass, they have met the required standards.

4.4.3 Comprehensive

A trade test or theoretical/practical examination is comprehensive if it contains a sample of all course material and measures each area of skill and knowledge required to ensure the skill requirements are met.

4.4.4 Discrimination

In theoretical/practical examination or trade test, discrimination enables the DE to detect different levels of achievement among candidates. Discrimination separates standard performance from above and below standard performance. A 1 to 4 marking scale is designed to reveal how candidates perform and allows for a greater degree of discrimination than one that simply distinguishes between pass and fail.

4.4.5 Objectivity

Objectivity ensures the DE's personal opinions will not affect the outcome or assessment of the trade test, theoretical/practical examination. Marks awarded must be made in accordance with the applicable trade test or theoretical/practical examination criteria. Theoretical/practical examinations are marked to some degree on a subjective basis. Subjective assessments will be more valid if the DE is an experienced AMEL holder, has a sound and adequate background knowledge of the evaluation process and the expertise to accurately assess candidates for trade test or theoretical/practical examination without prejudice.

4.5 Evaluation errors

In order to test effectively, the DE requires not only a sound knowledge of the characteristics of evaluation, but also a firm understanding of the possible errors that can occur throughout the evaluation process. Errors in evaluation fall into several categories. They are:

4.5.1 Personal Bias Error

Personal bias is indicated by a tendency of a DE to rate candidates or a particular group of candidates the same.

4.5.2 Central Tendency Errors

Central tendency errors are indicated by a tendency to rate all or most candidates as average. The DE really "feels" that the performance of most candidates is not as good as it should be and therefore underscores a candidate's good performance. On the other hand, the DE is reluctant to cope with the possible emotional response of a candidate or a recommending instructor. This results in padded or inflated assessments of poor performance.

This error may also occur because a DE does not want to put effort into making a decision. An average mark is easier to make.

4.5.3 Generosity Errors

Generosity errors are indicated by a tendency to rate all individuals at the high end of the scale and are probably the most common type of personal bias. This could be caused by a DE's desire to be known as a nice person.

4.5.4 Severity Errors

In this case, all or most candidates are graded at the low end of the marking scale. DE's may feel that the published standards are too high and score the test against their own set of standards. This type of DE feels that few people can perform the maintenance task as well as they can.

4.5.5 Halo Effect

This occurs when a DE's impression of a candidate is allowed to influence the assessment of performance. Halo error can result in rating an applicant too high or too low. One form of halo error is the error of leniency. Leniency has its source in an examiner's likes, dislikes, opinions, prejudices, moods and political or community influence of people. For example, when examining a friend, acquaintance, or high-profile individual, a DE may give undeservedly high marks or, conversely the error of stereotype.

4.5.6 Stereotype

As with the error of leniency, the error of stereotype has its source in likes, dislikes, opinions, prejudices, etc. In this case, however, a DE may allow personal opinion or prejudice to influence the assessment of the candidate and award undeservedly low marks.

4.5.7 Logical Error

Logical error occurs when a DE assumes that a high degree of ability in one area means a similar degree of competence in another. This is especially true if the two aircraft being assessed a candidate on are similar or related. A good mark on one or two aircraft does not mean the candidate is also qualified on all tasks or maintenance activities. The full theoretical/practical examination must be completed and marked.

4.5.8 Error of Narrow Criterion

This may occur when a DE has a group of candidates to examine. The DE may, under this condition, rate each applicant against the others within the group instead of against the standards. If the group to be tested is above average, a candidate who is above average ability may be awarded an undeservedly low mark.

If the group of candidates to be tested is below average, then the candidate who performs the best within this group may be awarded a higher assessment than actually deserved.

4.5.9 Error of Delayed Grading

Should a delay occur in awarding the assessment for an item, there might be a tendency to award average marks due to the lack of information and/or poor recall. By not making an assessment immediately after the event, DE's may award assessments based upon an overall impression of all practical examinations. This results in an erroneous assessment and a Test Report that is of little value to the training system.

4.5.10 Standards Error

All the errors we have discussed result in a standards error. However, if a DE is not thoroughly familiar with established performance criteria, it is virtually impossible to conduct an evaluation to that standard.

While these errors are presented here on paper in a clear and obvious way, under examination conditions this is not always so. Normally it is a combination of two or more of the errors and clear and obvious is not an apparent trait. Therefore, DE's must be aware of these errors and consciously prevent such errors from entering, to any degree, into the assessment of theoretical/practical examination they conduct to ensure the validity of the marks they award.

4.6 Oral questions

4.6.1 The DE measures and evaluates the extent of practical aeronautical knowledge and determines if the candidate meets the requirements for the trade test as well as practical maintenance examination required by using oral questions.

4.6.2 This is an important part of the practical test/check, and it is the portion of checking that results in the greatest variance in standardization. For this reason, it is essential that questions be prepared beforehand to ensure that the questions are good, worded correctly, relevant and valid.

4.6.3 It is recommended that the DE have a bank of questions prepared on all the required items or areas for the oral portion of the theoretical/ practical examinations. It is not intended that the candidate be asked all of the questions prepared but the additional questions are available if required. Also, a bank of questions will allow the DE to vary the oral test somewhat from candidate to candidate.

4.6.4 The prepared questions should be of a practical operational nature based upon the aircraft and the trip assigned for the theoretical/ practical. Theoretical type questions are not recommended during practical tests as this area is covered on the written

examinations.

4.6.5 In preparing questions, it is recommended that DE's first write down the correct answer, then write a question which will elicit only that answer.

4.6.6 Questions should be carefully worded and not ambiguous. A good question is one that is easily understood and composed of common words. Questions are to be designed to measure knowledge of a subject, not the use of language. The use of sophisticated or high grammar may be a chance for the DE to display command of language and vocabulary but this will only confuse the applicant especially students. Remember, if the candidates do not understand the meaning of the words they will not be able to answer the question. DEs should always keep the vocabulary within the grasp of the candidate.

4.6.7 The candidate must understand the question. Use familiar terms and words. The situation and conditions should be clear so the candidate knows exactly what type of answer is required.

4.6.8 A question should center on one idea only. The DE can guide the candidate through a complex technical procedure by asking "what", "why", "where", "when" and "how" questions after the basic question has been asked.

4.6.9 Keep questions as practical as possible. A trade test or practical test is an operational exercise where the candidate demonstrates his/her knowledge and skill by going through an actual hand on maintenance activities.

4.6.10 Questions should get the candidate thinking. Asking a question that requires a YES/NO answer doesn't really tell the DE much about the candidate's level of understanding.

4.6.11 It is more effective to guide the candidate's thoughts toward the area to be questioned and then ask the question. In this way, the candidate can visualize the situation and then think about the answer to the specific question. Knowing that something happens is not as important as understanding WHY it happens.

4.6.12 Avoid trick or irrelevant questions. Formulate detailed questions that challenge the candidate's intellect.

4.7 Handling candidate answers

4.7.1 An instructor explains, demonstrates, allows the candidate to practice, observes the practice and finally evaluates what the candidate has learned. The DE observes and evaluates a candidate and the effectiveness of the operator's training system. The DE should;

(a) avoid affecting the candidate's self-confidence with statements such as "Yes, you got that right," "Are you sure?" or "No, that's not right,"

(b) not lead the candidate to the correct answer after an incorrect one; instead, ask the candidate to clarify his or her answer. For example: Asked "What would happen if one of the three engine mounts are weak?" Answered, "The rate of vibration will increase and it may lead to…." The DE might follow up by asking the candidate to demonstrate what he/she means or to explain the consequences.

4.7.2 If appropriate, use guided questioning when a candidate gives an incomplete answer. For example, asked "what safety equipment are required on board before aircraft is released for flight?" answered, "Fire extinguishers". The DE could ask the candidate if there is more equipment required.

Chapter 5 – Conducting Trade Test/Theoretical/Practical Examination

5.1 Trade Test Theoretical/Practical Test/Examination

5.1.1 Technologies employed in the design, manufacture and maintenance of aircraft have resulted in improved aircraft maintenance activities safety management hence aviation safety. While the introduction of human factors training and safety management system have had a positive effect on quality of aircraft maintenance activities as well as contributing to realize a reduction in the number of aircraft incidents/accidents during flight operations.

5.1.2 Today's strategies continue to focus on both the ground support and flight crew yet more attention is now focused on organizational factors (within the aviation company as well as outside organizations such as air traffic control) as indicated by the introduction of safety management system requirements for all service providers.

5.1.3 Evaluators must focus on how the ground engineers and flight crew:

(a) recognizes threats (poor maintenance culture, unqualified personnel, unserviceable equipment, suspicious behavior, etc);

(b) use procedures effectively to deal with these threats (personal discipline, knowledge, use of SOPs, MOP, awareness, communication of threat, use of resources, etc);

(c) avoid maintenance errors using MOP/MOE/MM and good CRM teamwork;

(d) recognize errors when they occur (using good maintenance planning, good judgement during maintenance, communication, monitoring feedback etc); and

(e) take appropriate action in-line with MOP/MOE/MM (Company manual of procedures), quality/safety manuals as well as obtaining the assistance of additional resources to deal with the situation, when required.

5.1.5 Assessment techniques require the DE to go beyond simple error detection. Today's evaluators must recognize the potential safety threat for any given situation or commission of errors, and then determine the required actions in managing the situation so as not to jeopardize quality of production that may affect aircraft safety.

5.2 Admission to the Trade test/ theoretical/practical examination - initial/renewal

5.2.1 The candidate will require:

(a) photo identification;

(b) a valid AMEL for with category and/or rating, if applicable;

(c) training achievement certificate duly signed as evidence of successful completion of training required;

(d) Records of training topics covered; and

(e) written recommendation from the AMEL instructor, dated within 30 days prior to the test/examination date.

5.2.2 Except where company procedures have been established and accepted by NNCAA, a trade test/practical examination will not be conducted if licensing and/or training documents are not presented, are not valid, or if the company has failed to provide all relevant training for the candidate as specified in the AMO or air operator's approved training program.

5.2.3 For trade test training, or theoretical/practical training conducted abroad or where training documents are not available due to impracticality, the candidate must provide documentation signed by the representative of the training school in form of certificate/attestation, recommending the candidate for the trade test/theoretical /practical examination and certifying that the relevant training is completed. Relevant training is the initial training required for the aircraft type to be issued or endorsed on existing license.

5.3 The recurrent training for AMEL

5.3.1 The recurrent training for AMEL holder, though not meant for certification its own purpose, namely to ensure that the individual has completed his/her initial or recurrent training and is found to be satisfactory in terms of the AMO/AOC holder’s system.

5.3.2 DEs will refrain from teaching or briefing the candidate on the correct completion of a practical examination item or from taking any action that will prompt the candidate towards a specific action. Practical ~~test~~tests may induce tension and feelings of apprehension in even the most experienced senior engineer. The DE must create an environment conducive to a true demonstration of the maintenance engineer's ability. In order to minimize sources of stress and distraction during a practical examination

or a DE monitor, the presence of people to the practical area must be reduced to the following individuals, as required:

(a) maintenance engineer/trade test applicant being tested;

(b) company representative, if so required;

(c) designated inspector or DE conducting the trade test/practical examination;

(d) designated inspector monitoring the trade test/practical examination;

(e) DE under training, approved at the discretion of the inspector or DE;

5.3.3 The practical examination evaluates both the individual and the AMO/AOC holder's training system. An error committed by individual being examined may be indicative of a systemic problem. Companies must evaluate the results of practical test/examination with the view to improve company-wide performance.

5.3.4 Practical examination conducted on an Aircraft

(a) Except as otherwise noted, aircraft used for practical examination:

i. May not have a valid and current Certificate of Airworthiness or equivalent document; and

ii. all required may not necessarily be serviceable.

(b) Any items covered by the DE must be completed in line with company MOP to ensure adequate observation of the AMO procedures, techniques and performance.

5.3.5 PT/check length

PTs/checks should follow a planned sequence that results in an effective use of time. With effective pre-planning, a DE can combine various items to minimize test time. The DE must carefully balance efficiency against rushing the candidate.

5.4 Scripted Practical Examination/Checks for Maintenance Engineer

5.4.1 The use of a NCAA accepted scripted practical examination/check is mandatory for all tests and examination required for the issuance of a license or addition of ratings.

5.4.2 A scripted practical test/examination is a document that governs the events presented

to candidates during a practical test/examination. It is the detailed plan for the execution of test standards.

5.4.3 The aim of the scripted practical test/examination is to:

(a) provide consistent, fair and effective maintenance engineer assessment scenarios,

(b) provide a positive and realistic experience for maintenance engineer,

(c) utilize available technology to the maximum,

(d) enhance and encourage effective quality/safety management in the planning, application of procedure during practical activities, and

(e) encourage effective training through standardized evaluation processes.

5.5 Pre-practical examination/test briefing

5.5.1 The DE's attitude during the pre-practical examination/test briefing can greatly affect the outcome of the examination/test. It is important to always be respectful of the candidate and to remember that most candidates are apprehensive of examination/test. DEs should conduct themselves in a professional manner and avoid adding to the stress of the examination/test. A detailed pre-examination/test briefing will prevent misunderstandings and is mandatory.

5.5.2 The pre-examination/test briefing will include where applicable:

i. the mandatory items to be demonstrated during the practical examination/test;

ii. the probable duration of the examination/test;

iii. any restrictions or limits imposed;

iv. the role of the DE;

v. the company MOP/SOPs pertaining to the required aspects of the practical test;

vi. the manner in which specific instructions will be introduced by the DE;

vii. The DE will not give multiple instructions, but the candidate is expected to take corrective action on scenario created by DE.

viii. the candidate is liable to demonstrate any normal procedure as applicable in the manual and reference to the appropriate instructions in the aircraft maintenance manual is part of understanding of maintenance procedure, since in most cases maintenance engineers are not expected to perform aircraft maintenance from their head. The candidate's performance will be assessed in accordance with the

AMO MOP, relevant CAR and CATS provisions

5.6 Assessment of Maintenance Engineer Performance.

5.6.1 The DE will assess all Practical examination/test using the marking scale found in the applicable examination/test form.

5.6.2 DEs must apply their knowledge and experience in conjunction with the rating definitions to arrive at an assessment. The candidate will demonstrate the required procedures in accordance with the Aircraft Maintenance Manual, MOP, NAMCAR and NAMCATS.

5.6.3 It is important for a DE to apply a tolerance for unusual circumstances outside the control of the candidate. A DE may also tolerate a deviation from specified limits in the performance criteria if the candidate correct himself in a timely manner. However, deviation from prescribed legal limits, with or without a timely correction, is unacceptable.

5.6.4 The DE will evaluate each required procedure of the examination/test and assess any errors or mistakes, against established criteria in the test standards.

5.6.5 There are adjectives used to describe common errors and rating assessments. Terms such as unacceptable, unsatisfactory, timely, safe, minor, slight, brief, lack, inadequate and excessive describe the candidate's performance. It is difficult to objectively define these adjectives; however, the dictionary definitions provide amplification of meaning. Terms such as incomplete, incorrect, exceed and failure are normally more finite and objectively described in the appropriate regulations, or manual of procedures (MOP).

5.6.6 It is difficult to write clear and concise remarks during examination/test. DEs should make notes during the practical examination/test and use them to complete the final copy of the examination/Test Report. DE may take time to refer to the appropriate examination/test standards for writing the final comments.

5.6.7 In line with the Guidance to Examiners on the test form, the demonstration of one procedure or aspect that would normally rate "fail"" may be repeated later during practical examination/test, at the discretion of the DE if the procedure or aspect is or not clearly below standard.

5.7 General Principles of Skills/Testing for Aircraft Maintenance Engineer

5.7.1 A DE's principle function during a practical examination/test is that of an examiner assigned by the Director to assess an individual's performance. DEs should make a concerted effort to be relaxed and non-threatening. DEs will refrain from making personal remarks and inappropriate motions such as shaking their heads, stiffening to rigidity or gasping at inappropriate times, laughing at performance or commenting subsequent to a poorly conducted exercise.

5.7.2 Apply the standards in the test standard regardless of the training and experience of the candidate.

5.7.3 Assess the candidate against what would be an "ideal performance under existing conditions". Ideal does not necessarily mean perfect.

5.7.4 Give credit where credit is due, and do not be influenced by poor performance on a previous practical examination/test item when assessing a subsequent practical examination/test item.

5.7.5 Rate each exercise as soon as possible after it has been completed. For a practical examination/test, a "fail" rating requires a written remark to justify the rating.

5.8 Post-test debriefing procedures

5.8.1 A debriefing is mandatory following every practical examination/test. Conduct the debriefing in a positive, non-confrontational manner and highlight the strengths and weaknesses of the candidate(s). The debriefing should promote learning and increase the knowledge and confidence of the candidate(s).

5.8.2 Debriefings should be comprehensive and of reasonable length corresponding to the performance. Use the appropriate test standard and practical test form to explain the assessment of major deviations or unacceptable performance.

5.8.3 As soon as the DE knows the outcome of the practical examination/test, he or she should advise the candidate(s). Some empathy and discretion may be required for unsatisfactory assessments.

5.8.4 The following items are mandatory to debrief after every practical examination/test:

(a) any item assessed as either "fail" in a practical examination/test;

(b) anything written on the Test Report; and

(c) anything the DE considers to be a quality/safety issue.

5.8.5 DEs should highlight strengths and reward good performance during their debriefings. While it is sometimes easier to concentrate on the negative, the debriefing will have more impact if good performance is recognized and individual complimented. This will often set a positive tone for the debriefing and open the engineer minds to suggestions where their performance can improve.

5.8.6 During the Debrief for a passed practical examination/test, the DE's role is to facilitate discussion and bring out those omissions that lead to errors or poor performance. Normally, technical errors have a root cause in failure to follow manuals, workload management, communication, decision-making, monitoring and feedback and conflict resolution. Therefore, the identification of and discussion of the root causes will help the maintenance personnel avoid these errors in the future.

5.8.7 Inform the candidate(s) when the debriefing is complete and ask if there are questions concerning the conduct of the practical examination/test or other related topics.

5.8.8 The debriefing for a failed practical examination/test cannot be the self-debrief method. When a failure occurs, debrief the candidate on the reason for the failure and where applicable, on the administrative suspension procedures that may follow including the candidate's rights to appeal to the Director. In the event of an unsatisfactory performance, the DE must advise the candidate of the following:

(a) the candidate must receive additional training and may not be tested within specific period in accordance with the regulation;

(b) the re-test will be very similar to the original test and may be conducted by either a NCAA Inspector or another DE;

(c) the DE must offer to provide a copy of the Test Report form to the candidate(s); and

(d) where applicable and if known, any part of the maintenance manual or company-specific procedures or MOP to be followed.

5.9 General assessment "failed"

5.9.1 In order for a practical examination/test to receive a General Assessment of "Failed", at least one sequence or item must be assessed a 'fail' mark. It also follows that, when any individual sequence has been assessed a 'fail' mark, the practical examination/test must receive a General Assessment of "Not satisfactory or Not

competent".

5.9.2 When a DE decides that a candidate has failed during the course of a practical examination/test, the practical examination/test must be immediately terminated. DE's and candidates should keep in mind that it is not the DE who fails the candidate, but rather it is the candidate whose performance on that day has not met the minimum required standards needed to either pass the candidate for issuance of trade test positive report, license or additional rating. Candidates may become aware or assume that a practical examination/test item has been performed "Below Standard".

5.9.6 The DE completes Test Report form assessed as "failed" or "not satisfactory" o "not competent" and submits the original to NCAA.

Chapter 6 – Administrative Responsibilities

6.1 Follow-up and administration

6.1.1 After the conduct of a practical examination/test the DE must complete follow-up and administrative duties. These include the following:

(a) submit the Test Report form to NCAA Personnel Licensing no later than 5 working days after the practical examination/test;

(b) provide feedback to the recommending Instructor or Training Manager of the AMO/ATO/Air Operator if they were not present during the post-test debriefing regarding the practical examination/test;

(c) if applicable, confirm and clarify with the AMO/ATO/Air Operator any recommended re-training requirements; and

(d) if applicable, discuss any identified problems which may require the provision of extra training by the AMO/ATO/Air Operator.

6.1.2 Upon completion of the Test Report, both the DE and the candidate must sign the report and the DE must provide a copy to the candidate. The DE will keep a file copy and submit the original to the NCAA Personnel Licensing Department. Copies of all Test Reports must be kept for a period of at least two years by DEs.

6.1.3 In the case of aircraft type ratings, the DE will complete the temporary authorization certificate on the type rating application form following the completion of all documentation to be submitted to the NCAA Personnel Licensing.

6.1.4 It is important to note the following when using these forms to make application for licences and or ratings:

(a) AME Licences expires every 2 years.

(b) For an initial license application, the license and rating application form must be used (FSS PEL 66-01) and the skill test form (FSS PEL 66-27) per aircraft type must be completed and submitted.

(c) For renewal of the license and ratings, form FSS PEL 66-02 must be submitted with the skill test form (FSS PEL 66-27).

(d) For an instructor rating, application form FSS PEL 66-03 must be submitted with skill test form FSS PEL66-27.

(e) For a validation of a foreign aircraft maintenance engineer license, application form FSS PEL 66-04 must be submitted together with the skill test form (FSS PEL 66-27).

6.2 Practical Examination/Test Administrative Procedures

6.2.1 A DE will carry out the following administrative procedures after failure of a practical examination/test by a candidate:

(a) notify the Training Manager and/or Engineer Manager/Quality manager of failed items and recommendations as to corrective action;

(b) complete the skill test form, sign it and provide a copy to the candidate and

(c) immediately notify the NCAA that the individual candidate has not met the standards for a practical examination/test. If unable to reach the Senior Manager of Personnel Licensing via telephone, a voice message, a facsimile or an email is considered to be an acceptable means of notification.

6.2.2 An inspector will carry out the following administrative procedures after failure of a practical examination/test by a candidate:

(a) meet with the DE to discuss the elements of the test that were substandard;

(b) meet with the candidate to discuss the elements of the test that were substandard;

6.3 Practical Examination/Test Results

6.3.1 The confidentially of test results are important and specific information about the results of a practical examination/test will not be given by NNCAA to anyone but the individuals named on the Test Report form.

6.3.2 Records of personal information and as such the test results must be treated as confidential information by parties that are privy to the results. Appropriate security measures must be taken to ensure that access to the documents are restricted to those rightfully in possession of them.

6.4 Instructions for completion of test forms

It is important that the following instructions which is on the test form, is applied strictly by the examiner:

Test Instructions:

- The correct use of appropriate checklists must be applied at all times.
- If a mandatory aspect is omitted, the Testing Officer (DE) must write "NOT ASSESSED" and motivate the decision in the observations sheet.
- Standard procedures of Maintenance of and removal of components and parts for inspection, repair, overhaul and testing shall be observed throughout the practical test, as applicable.
- Rating scale

When applying the rating scale, award the mark that best describes the element(s) applicable to the candidate's performance. The final mark will be based on all items evaluated in line with the baseline score for the examination.

Pass rating

- Performance remains well within the qualification standards or only minor deviations occur from the qualification standards and performance remains within prescribed limits. Identifying components such as lines, pumps, regulators, temperature- and vacuum-indicating systems.
- Aircraft maintenance procedures are carried out positively and within specified limits.
- Technical skills and knowledge meet or exceed the required level of competency.
- Skills are effective.

Fail rating

Deviations from the qualification standards occur, which may include momentary deviation with self-correction, where these are recognized and corrected in a timely manner or deviations are beyond prescribed limitation of the maintenance manual that are not recognized or corrected by the applicant.

- Performance includes deviations that detract from the overall performance..
- Maintenance tasks are performed with limited proficiency or are rough or include uncorrected or excessive deviations from specified requirement or limit
- Technical skills and knowledge reveal limited or unacceptable levels of technical proficiency and/or depth of knowledge.
- Skills are ineffective

- .

1. Should the candidate achieve a **Fail** in only one aspect of the test, he or she must be re-assessed in that ASPECT and the Testing Officer must indicate a new grading.
   .
2. If a **Fail** is achieved on more than one aspect, the test is failed.
3. The Testing Officer must write comments in the observation sheet whenever an aspect is marked as **Fail**.
4. Should the candidate achieve a **Fail rating**, the Testing Officer must send this form to the N~~I~~CAA licensing Department.

Chapter 7 – Scripted Practical Examination/Tests for Applicants

7.1 Scripted Practical Examination/Test General

7.1.1 Before the introduction of scripted practical examination/test, the conduct of a practical examination/test (specifically the determination of the sequence of events during the practical test) was left entirely up to each DE or inspector (who developed and enhanced their own “scripts” over time). DEs were permitted to introduce whatever faults they desired and in whatever order they felt was effective.

7.1.2 For new DEs, development of effective scripts took time, and in many cases, this led to significant variations in practical examination/test duration, number and types of faults, etc. This meant that candidate could not be assured of a proven and effective scenario for those aspects of the tests requiring a scenario and that they could in fact expect just about anything to occur during a practical examination/test.

7.1.3 To the operator this meant that practical examination/test were not standardized making it more difficult to validate competence of engineer and verify the effectiveness of training programs. This was especially true for operators with a large number ground personnel.

7.1.4 To address these issues, NCAA requires the development and implementation of scripted practical examination/test for those aspects of the test that require various scenario.

7.2 Script Review and Acceptance

7.2.1 NCAA requires all DEs to develop scripted tests and to submit the draft scripts for acceptance by the NCAA Personnel Licensing Department. The Airworthiness Inspector will work cooperatively with DEs to finalize scripts for their acceptance.

7.2.2 For example, if during an inspection or audit it is noted that a script is missing mandatory events, and the script has not been accepted by NCAA, the sub-division would have no choice but to invalidate practical examination/test that had been conducted using that script. This would require the maintenance practical to be redone.

7.2.3 Required scripts

(a) A DEs are responsible for the development of scripted maintenance practical.

(b) At least two scripts will be developed for initial maintenance practical and two scripts for trade test maintenance practical for each aircraft type. In addition, one initial and one recurrent script must be developed for maintenance practical conducted for instructor ratings per aircraft type.

(c) The AMO/ATO/Operator must have a process to ensure that their personnel or candidate who may likely be examined receive these scripts. To achieve this objective, scripts must meet the following guidelines:

i. scripts must be identified by number(s) or letter(s) or a combination thereof,

ii. scripts must have a defined 12-month validity period,

(d) Where the operator does not track annual checking requirements by any other means, the script used must be identified and recorded in the staff training file, and

(e) re-qualification scripts that address all missed relevant training for additional type rating or currency of license must be available for candidates whose qualifications have lapsed.

(f) *Recurrent training must include all mandatory items and there is no extension provision.*

(g) Initial scripts and recurrent training scripts will be reviewed and amended as required but, as a minimum, must be reviewed at least annually.

(h) Those mandatory procedures that must be checked every second or third year, must be included as an addendum to the script when these checks are due.

(i) The intent of this subsection is that a maintenance practical script be **not** given to a candidate more than once in any practical examination/test. DE's will maintain copies of scripted maintenance practical/test for a period of 2 years after expiry. DEs are encouraged to develop a standard format that meets the criteria defined below:

7.3 Scripted Engineering Practical Test content

7.3.1 General

All scripts will contain the following minimum information, where applicable:

(a) company name;

(b) aircraft type;

(c) when relevant, identification of the ATO used;

(d) an identification number or letter for each script;

(e) identification of whether it is an initial or additional rating script;

(f) identification of the NAM CARs/NAM CATS or company manuals in which scripts are contained, where applicable;

(g) page numbering (i.e., 1 of 10);

(h) script activity summary page;

(i) amendment numbering (if required);

(j) briefing notes;

(k) a detailed scenario of those maintenance practical activities (See 7.3.2 below).

7.3.2 Scenario Details

7.3.2.1 Each portion of the maintenance practical where a scenario is required, should be described in sufficient detail to ensure that no doubt exists regarding the set-up of the aircraft and the information given to candidates prior to, during, and upon completion of each exercise/procedure.

7.3.2.2 Script scenarios must provide sufficient clarity to preclude any confusion that may jeopardize the successful completion of the exercises/procedures.

7.3.2.3 Scripts must be sufficiently detailed to eliminate the requirement for additional non-scripted input by the DE. These objectives facilitate the DE monitoring process by making adherence to the script a straightforward exercise.

7.3.2.4 Not all areas of the test will require fully descriptive scenarios, as some test standards requires the demonstration of proficiency with respect to standard requirements, i.e. procedure for changing the wheel,

7.3.2.5 The items listed below are provided as sample/example aspects of scenarios that will be developed by the DE in a form of a pool of questions, and during the development of these scenarios, as many as required additional information as per ATA Chapter should be covered, in some cases following the method below

i. Initial qualification scenario requirements

The objective is to clearly describe the scenario in a manner that eliminates any confusion on the part of the candidate engineer or the DE. The following items may be included in the script:

Vacuum

- Identifying different types and major sections
- Units and components used to generate, deliver and regulate negative air pressure to using systems.

- Identifying components

Hydraulics

- Identify components, such as –
- hydraulic fluid to use in the system
- tanks
- accumulators
- valves
- pumps
- actuators

Flight controls

- Mechanics of flight (low and high speed)
- Terms and definitions
- Axis of an aircraft
- Flight controls (low and high speed)
- Basic components
- Terms and definitions

Fuel systems

- Identify components such as –
- fuel tanks, metal, bladder, tip, slung, integral, reserve and other
- fuel pumps engine-driven, electrical, boost and other
- fuel-dumping components
- valves and shuttles
- selectors and cocks
- Landing gear and brakes

Identify components such as –

- steering system on ground or on water
- main gear assembly
- nose gear assembly
- tail gear assembly
- wheel assembly
- bearings

Inspections

- Inspection techniques
- Pre-flight inspections
- Between flight inspections
- After flight inspections
- Weekly inspections
- Periodic Inspections
- Special inspections after an occurrence, incident or accident per SA-CATS 43

7.4 Characteristics of effective scripts

7.4.1 Diversity

7.4.1.1 This is a significant challenge since it is in our nature to become familiar and accepting of the status quo. As discussed earlier, DE's must accept the reality that a maintenance practical permits assessment of but a few abnormal situations. DE's must therefore expect that constant repetition of the same types of scenarios will, over time, tend to shift the focus of training towards excellence in these few areas.

7.4.1.2 Scripts should attempt to cover new areas wherever and whenever possible, to ensure that the training is driven by overall proficiency, knowledge and practical skill to broaden the scope of the ground staff assessment. This may require that an exercise of lesser difficulty replace the previous fault. Provided this is part of the ongoing diversity of the scripts, this will tend to enhance the scope of training and proficiency.

7.4.2 Realism

7.4.2.1 Realistic scenarios are a top priority when reviewing or developing a script. DEs should therefore address as many real-world criteria as feasible. It is also crucial that all contact with outside agencies occurs in a realistic method and time frame.

7.4.3 Training Effects

7.4.3.1 Despite the fact that a maintenance practical examination is an assessment tool, there is always a reinforcement of training that occurred prior to the trade test/ maintenance practical. A script should therefore support effective training and safe, logical operating practices.

7.4.3.2 One of the characteristics a script must avoid at all costs is a negative training effect. This is most often the result of having a fault removed and the exercise completed before it normally would be in the aircraft. Consider, for example, the case where a ground staff reports and deals procedurally with a fire incident on a base facility. -The exercise can only be considered complete once all procedures have been carried out, and this might include the procedures to be followed during assemble of all staff at a designated location designed for an emergency situation, as the case may be, depending on the script. Was this realistic?

7.4.3.3 Maintenance practical can also reinforce negative behavior when the same question is asked and the DE expects different answer. Events requiring a decision by the ground staff should always demand that ground staff make a decision and not be lead into a repetitive regime.

7.4.4 Confidence

This characteristic speaks in many ways to the effectiveness of the script. A good script will balance the needs of the person doing the assessing, the desire of the ground personnel to be challenged, and the need to leave the ground personnel with an experience that gives them the confidence so that when they return to line duties they feel comfortable in their abilities.

7.5 Reference material

The following is a list of the required reference material to assist in the development and review of a scripted maintenance practical, as applicable.

NAMCAR Part 66	Aircraft Maintenance Engineer Licensing Requirements
MOP	AMO, Manual of Procedures
AMM	Aircraft Maintenance Manual (aircraft specific)
NAMCARS Part 121	Air Operators – Large Commercial Operations
NAMCARS Part 127	Air transport operations – helicopters
NAMCAR Part 135	Air Operators – Small Commercial Operations
NAMCAR Part 145	Aviation Training Organizations.
NAMCAR Part 145	Aircraft Maintenance Organization
DE Manual	This Manual
Quality Manual	Company Quality Manual (if not part of the MOP)
Company Training Manuals	Specific approved training program
SMS Manual	Safety Management Manual

7.6 Practical Maintenance Test Development Process

7.6.1 DE Responsibilities

A DE has the following responsibilities:

(a) develop scripted practical maintenance test for each aircraft type;

(b) submit scripts to the Airworthiness Inspector for review and acceptance a minimum of 30 days (90 days preferred) before the start date;

(c) make all relevant reference material available or submit it with the scripts;

(d) develop a process to test the scripts before the start date, if practicable. This may or may not be monitored by NCAA;

(e) keep a file of all the scripts each aircraft type for a period of not less than two years after the expiration date;

(f) ensure that scripts and any amendments are distributed to all other company DEs;

(g) ensure that all feedback from the company DEs regarding scripts is addressed in a timely manner;

(h) follow up on any lessons learned at the end of the usage period;

(i) ensure all company DEs are aware of the correct procedures for the use of a

script;

(j) ensure all script amendments are issued to all DEs and relevant NCAA inspectors; and

(k) ensure all DEs adhere to the script, when so authorized.

7.6.2 NNCAA Responsibilities

NNCAA has the following responsibilities:

(a) the NNCAA inspector will assign a type-qualified inspector to review the script(s);

(b) the inspector will review the script(s) and initiate feedback to the DE, keeping the Airworthiness Inspector informed, until the scripts are acceptable;

(c) the inspector should monitor a trial of all new scripts;

(d) the inspector will forward copies of the accepted scripts to the airworthiness Inspector;

(e) the airworthiness Inspector will send a letter to the DE indicating that the scripts are acceptable and specifying the validity period; and

(f) the airworthiness Inspector will ensure that copies of acceptable scripts are kept.

7.7 Developing scripts

7.7.1 General

7.7.1.1 The development process is quite demanding and requires considerable attention to detail an organized review process. DEs are encouraged to develop scripts in small teams of two or three DEs. Teams should be assigned to work on new scripts six months before the script will become effective.

7.7.1.2 Developing new scripts is best started with a review of the scripts used for the last two years. In addition, it is recommended that DE's review problem areas that they wish to include in the next training cycle.

7.7.1.3 After completion of the script it is recommended that a thorough review take place before submission to the airworthiness Inspector. The following sections will provide some information on areas common to all scripts.

7.7.2 Equipment

7.7.2.1 The choice of equipment must meet company and regulatory requirements and be available.

7.7.2.2 Differences between the aircraft types should be noted on the script and passed (for ground engineer practical), to the Chief Engineer/Quality Manager of ATO/AMO before the maintenance practical examination.

7.7.3 Content

7.7.3.1 The script must meet the NAMCARs mandatory items. It is suggested that the company operations specifications (AOC)/manual of procedures (AMO) be reviewed to determine what special requirements exist, which must be incorporated into the script.

7.7.3.2 It is suggested that the NAMCARs requirements be listed in point form for each ground personnel. The script should then be reviewed to ensure that each mandatory item is conducted. Having a well-written script summary page simplifies this process.

7.7.4 Procedures/emergencies

7.7.4.1 Review the list of procedures/emergencies assigned to each ground personnel to determine if they meet the requirements. Reviewing past scripts can provide opportunities to assign procedures/responsibility to applicants, i.e. Chief Engineer or Quality Manager, as the case may be.

7.7.4.2 Level of Detail

Does the script clearly define where activities start and stop? Is it detailed enough that the candidates have no doubt about when each activity is to be accomplished?

7.7.5 Realism

7.7.5.1 This is a difficult area to quantify but now that the basics of the script are reviewed and acceptable, the flow and pace of the script should be reviewed.

7.7.5.2 This is best done with a view to making the scenarios flow as close to reality as is possible.

7.7.6 Accuracy

This is a test of every part of the script. Is the information provided accurate and reflects the correct parameters for the procedure/equipment used in the demonstration?

7.7.7 Fairness

This review determines that the activities are set to meet the criteria but are not more

difficult than required. The script should keep the candidate challenged but not beyond the norm. Are there periods where the candidate can relax for even a minute? If not, then the script should be modified to provide some time to collect their thoughts. Time is perceived differently by ground personnel and DE and what seems like a long time of inactivity can, in fact, be only 30 seconds.

7.7.8 Timing

This is also an opportunity to ensure that events are not too rushed and that all the mandatory items are covered within a reasonable time period.

7.7.9 Script Trials

7.7.9.1 Where it is practical an inspector or authorized DE should be available during the script trial. Whether this is done by using the script to qualify ground personnel trade test or as part of a review trial is up to the DE and NCAA. Some DE's trial run the new scripts on inclusion of type-rating to a license with NCAA present. This achieves both the evaluation and the monitoring goals and works quite well. If the scripts are prepared well in advance of the introduction date this is almost always possible. It should be noted that for timing purposes the trial aircraft maintenance examination conducted by an DE(s) should be completed with at least one-half hour to spare, at least to take care of other extraneous issues.

7.7.9.2 The most important aspect of a trial is to establish an accurate time criteria and verify this during operation. As the script progresses, any areas of concern should be noted and solutions defined.

7.7.10 Acceptance Process

7.7.10.1 The cooperative nature of the script development process makes it difficult to define one process that will work for every DE and aircraft type. It should always be remembered that a proactive system would be the most rewarding and effective way to meet the significant challenges of building a script. The key is to keep the lines of communication open and always work towards the net objectives.

7.7.10.2 It is normal practice for NCAA to accept the practical maintenance scripts without reviewing minute details of the script with respect to every procedure/piece of equipment. This requires the DE to change the script as required.

<u>Just A Reminder</u>

Always try to:

(a) provide consistent, fair and effective assessment scenarios;

(b) provide a positive and realistic experience for personnel;

(c) enhance and encourage effective SMS practices, safety and quality of work; and

(d) encourage effective training through standardized evaluation processes.

APPENDIX A: Sample Practical Maintenance Examination script

ABC Airlines: Summary of Practical Maintenance Examination

Script no:	AB4 Revision 1				
Script Validity period:	1 January 2017 - 31 December 2017				
Aircraft Type:	Cessna 210				
Number:					
Model:					
Differences with a/c					
Type of script:	Initial license/rating		Trade Test	Renewal	
Activity summary:					
Briefing notes:	See Appendix B				

	Practical Maintenance Examination Scenarios:	
1	Identify, care and use of hand tools	The process was observed.
2	Standard torque's and charts	He read and correctly set the torque required for the job in accordance with the chart
3	Occupational Health and Safety Act	Occupational safety precaution observed taken in to consideration
4	Identify, care and use of hand tools	Required tools was identified in accordance with the maintenance manual procedure
5		
6		
7		
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15		
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17		
18		

APPENDIX B: Sample Briefing Guide

1 **Introductions** (if applicable)

2 **Check Documentation**

- Candidate license, type rating/s, logbook or Instructors recommendation.
- Proof of completion of training (covering all mandatory procedures/drills)
- Correct forms (initial or addition of ratings) (FSS PEL 66-01, FSS PEL 66-02, FSS PEL 66-03, FSS PEL 66-04, FSS PEL)
- Theoretical Exam completion for trade test, experience requirement met, where applicable.

3 **Purpose of examination/test**

- Trade test, to issue/renew ground personnel license/rating/instructor rating
- To give candidates a copy of information necessary for the test/ practical maintenance examination
- To provide approximate duration of the test/practical examination

- **Mandatory Items for maintenance engineer**

  Safety
  - Occupational Health and Safety Act
  - Acceptable first-aid course
  - Acceptable fire-fighting course

  Engineering practices
  - Identify, care and use of hand tools
  - Use of torque wrenches and deadweight testing (Aqua-torque)
  - Standard torque's and charts
  - Reading of engineering drawings and performing layout
  - Reading and use of measuring instruments (Vernier's, micrometers, Vernier height gauges, dial test indicators and combination sets)
  - Use of calipers and dividers
  - Use of precision gauges (cylinder bore-, radius- hole-, telescopic-, drill point-, snap-, ring-, slip-, sine- and weighting scale)

  Standard practices
  - Selection and use of information-, procedures-, overhaul-, maintenance-, illustrated parts catalogue manuals, Air Transport Association (ATA) chapters, and Civil Aviation Regulations
  - Aircraft hardware and locking procedures
  - Jacking and leveling of aircraft
  - Determining the mass of an aircraft
  - Marshalling signals
  - Aircraft towing
  - Aircraft refueling
  - Aircraft labels
  - Etc.

4 **DE Role**

- in addition to administering the maintenance examination/test, the DE will act as ground AMEL, aircraft maintenance instructor, etc., as required
- During a monitor of a test/ practical examination, Airworthiness Instructor will pass all

requests through the DE.

5 **Coordination**

- Procedures and demonstrations are carried out in accordance with the MOP, AMM, Quality Manual, SMS, Etc. requirements and within accepted standards
- normal ground engineer use of MOP, AMM, Quality Manual, SMS, etc. are expected at all times to be coordinated (work as a team)

6 **Emergency Procedures**

- Emergency situation may not be introduced, but the candidates must be prepared to take corrective action on related emergencies, such as, base maintenance incident or loss fire incident
- use of documentation and equipment will be the same as for normal operations

7 **Stress Clearly**

- ensure that candidates clearly understand all instructions,
- encourage candidates to ask/clarify any uncertainties
- candidates should not be in doubt or put in a position where they are required to make assumptions
- advise the candidates to take their time (Do Not Rush)
- emphasize the importance of error management (i.e., humans will make errors from time to time - what is most important is that the errors are identified and corrected in a timely manner)

8 **Finally**

- brief the candidates on differences in the simulated scenario where known (part of the script for scripted tests/practical maintenance examination)**.**

-END-