

CAA Nepal Guidance on Components, Engines and APU certifying staff

0.1 Scope and applicability

CAA Nepal is the Competent Authority for maintenance organisations having their principal place of business located inside Nepal, as established by NCAR Part 145.1 “General” and is therefore responsible for the final approval of these maintenance organisations and for establishing procedures detailing how NCAR Part-145 applications and approvals are managed.

This guidance is applicable to NCAR Part-145 applicant and NCAR Part-145 AMOs’ (hereafter referred as maintenance organisations) having their principal place of business located inside Nepal.

The provisions of this guidance are complementary to the requirements of NCAR Part-145 “as amended” and does not supersede or replace the associated regulatory requirements.

This CAA Nepal guidance on Components, Engines and APU certifying staff will come into force after approval from Director General, CAA Nepal.

The CC/s authorized by maintenance organization before this guidance came into effect shall continue to utilize their privilege granted by maintenance organization. Such previously authorized CC/s shall fulfill all the requirements for renewal laid down in this guidance prior to renewal of their authorization.

New CC/s to be authorized by maintenance organization after the effectivity of this guidance shall fulfil all the requirements laid down in this guidance.

The maintenance organization should take initiatives to fulfil the initial issuance requirements laid down in guidance to such CC/s who has previously been authorized to uplift the standards of such personnel.

0.2 Purpose

This guidance is designed to be used by maintenance organisation and the assigned inspector when: The maintenance organisation is:

- Defining the Component Certifying Staff qualification procedure in the MOE;
- Assessing each Component Certifying Staff authorisation granted.

The Assigned inspector is - As a comparison document for:

- Evaluating the Component Certifying Staff qualification procedure;
- ensuring by sampling that Component Certifying Staff authorisation granted are compliant with the minimum criteria addressed in this guidance.

0.3 Definitions and abbreviations

A/C	Aircraft
AMC	Acceptable Means of Compliance
AMO	Approved Maintenance Organisation
AMTO	Approved Maintenance Training Organisation
C/S	Certifying Staff
CC/S	Component Certifying staff
CAA Nepal	Civil Aviation Authority of Nepal
EASA	European Aviation Safety Agency
MOE	Maintenance Organisation Exposition
MOR	Mandatory Occurrence Reporting
S/S	Support Staff

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1. Component certifying staff

1.1 Component certifying staff definition

Component Certifying Staff (CC/S) means staff authorised by the maintenance organisations to release Engines, APU and components under the NCAR Part-145 approval.

1.2 Component certifying staff authorization procedures

For a standardisation purpose, when a maintenance organisations is nominating component certifying staff, the maintenance organisations shall detail in its Maintenance Organisation Exposition (MOE) the relevant CC/S authorisation procedures (initial and renewal) together with the adequate qualification criteria depending on the complexity of the component and the assessment process.

1.2.1 Initial authorization procedure

- The maintenance organisation shall detail in its Maintenance Organisation Exposition the established prerequisites to be eligible as NCAR Part-145 Component Certifying Staff as per the Minimum qualification criteria detailed in the paragraph from 1.3.1 to 1.3.4 of this guidance: In addition, the maintenance organisation shall also explain in Maintenance Organisation Exposition Part 3.4 the Assessment procedure for granting A/C CC/S authorization which shall at least specify:
 - The person responsible for this process;
 - when the assessment shall take place;
 - the validation of qualification records;
 - procedures for the initial assessment (i.e. methods, including actions to be taken when the assessment is not satisfactory);
 - recording of assessment results;
 - The management of the C/S List and individual authorizations;
 - The C/S records (responsibility, content of the (C/S) files, etc,..)Further guidance on the assessment of the CC/S is addressed in the paragraph 1.4 of this guidance.

1.2.2 Authorization renewal process

The maintenance organisation shall detail in its MOE the CC/S authorization renewal prerequisites such as but not limited to:

- The continuation training requirements (maintenance organisation procedures, update on the technology to be serviced, human factor issues);
- The maintenance experience requirements (6 months of relevant experience in the last 2 year period) and the associated records of evidence;
- The assessment procedure for renewing the CC/S authorization which shall at least specify:
 - The persons responsible for this process;
 - when the assessment shall take place;
 - the validation of qualification records;
 - means and methods for the continuous control of competence;
 - actions to be taken when assessment is not satisfactory;
 - recording of assessment results;
- The management of the CC/S List and individual CC/S authorizations;
- The CC/S records (responsibility, record of experience, content of the CC/S files).

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1.3 Component certifying staff qualification criteria

1.3.1 Basic requirements

1.3.1.1 Educational Requirements

The minimum educational level shall be a 10+2 level or apprenticeship evidenced by the appropriate certificates.

1.3.1.2 Basic Training Requirements

The CC/S shall be able to demonstrate he/she received a basic training on the appropriate field:

- an aeronautical school diploma or certificate or relevant engineering degree
- a technical school diploma / certificate or relevant engineering degree, if the intended scope of work concerns non-complex electrical components or instruments and cabin and safety equipment;

Depending on the complexity of the intended scope of authorization, a higher level of the basic training shall be considered.

1.3.1.3 Aeronautical Experience Requirements

The CC/S shall be able to demonstrate at least:

- 2 years of Aeronautical experience in the field of aviation maintenance including at least 12 months of practical experience preferably in specific component or in Workshop environment (for non-complex components);
- 3 years in the field of aviation maintenance for complex components with complexity of intended work scope such as overhaul/repair of engine/APU and Landing gears including 24 Months of practical experience in the specific component maintenance area / Workshop;

1.3.2 Technical Training Requirements

1.3.2.1 Component Training

Depending on the complexity and the technology of the component, the CC/S shall be able to demonstrate he/she received appropriate¹ theoretical and practical component training from:

- the OEM or;
- the OEM recognized training organization or Approved Training Organization by CAA Nepal;
- An appropriately rated maintenance organisation (for non-complex components) provided:
 - the person nominated to carry out the training can demonstrate he/she has received training to an appropriate level for the subject component;
 - the person nominated to carry out the training is appropriately authorized by the maintenance organisation and is able to demonstrate a significant experience on the relevant component maintenance;
 - the training syllabus has been reviewed by the Maintenance Manager and/or the Quality Manager;
 - the component is available for practical training purpose;

For simple component, the maintenance organisation may take credit of the CC/S experience and/or a previous training on a component from the same family and same technology.

Note 1: "appropriate training" means that the training level/detail is proportional to the maintenance level granted to the concerned certifying staff as identified in his/her certification authorisation.

1.3.2.2 Bench Test Training

Where there is a need to use Bench test (e.g. engine or ATEC bench test), the CC/S shall be able to demonstrate he/she received appropriate training. This training for the use of specific tools

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required by the OEM maintenance data shall be received from:

- The OEM or;
- The bench test manufacturer or;
- An appropriately rated maintenance organisation.

1.3.2.3 Specific Equipment Training

Where there is a need to use specific equipment, the CC/S shall be able to demonstrate he/she received the appropriate training. This training for the use of specific tools required by the OEM maintenance data shall be received from:

- The OEM or;
- The specific tool manufacturer or;
- An appropriately rated maintenance organisation.

1.3.2.4 Additional Training

The C/S shall be able to demonstrate he/she received, as appropriate, training on:

- Initial Human Factor training according to NCAR 145.A.30(e) and GM 1 145.A.30 (e) syllabus²;
- MOE and internal procedures applicable to CC/S (including issuance of CAAN Form 1).

In addition, where needed, the CC/S shall demonstrate he/she received appropriate training on:

- Fuel Tank Safety items, CDCCL level 1, or level 2 (refer to Appendix IV to AMC to 145.A.30(e) and 145.B.10(3) for further details);
- Electrical Wiring Interconnection System (refer to EASA AMC 20-22 for further details);
- Any additional training(s) justified during the assessment performed by the maintenance organisation (e.g. human factor, aviation legislation, etc..).

Note 2: Having completed a Module 9 HF training does not supersede the need to comply with the initial HF training in accordance with 145.A.30. (e). However, credit may be taken from the module 9 Human Factor training for the topics which are common in both trainings, provided the Module 9 HF training has been completed within the previous two years.

1.3.3 General Requirements

1.3.3.1 Language Knowledge

The CC/S shall be able to demonstrate a working knowledge of the language in which the maintenance data is published and English language.

1.3.3.2 Human Factor and Aviation Legislation Training

The CC/S shall be able to demonstrate he/she received training on:

- human factors referred to in module 9 of Appendix I of NCAR Part-66. The maintenance organisation shall ensure and be in a position to demonstrate that the Human factor training syllabus and the training level are compliant to the syllabus and the level (B1/B2) of training of Appendix I of NCAR Part-66. The demonstration process is left to the discretion of the maintenance organisation;
- a training on aviation legislation referred to in module 10 of Appendix I of NCAR Part- 66: The maintenance organisation shall ensure and be in a position to demonstrate that the aviation legislation training syllabus and the training level are compliant to the syllabus and the level (B1/B2) of training of Appendix I of NCAR Part-66). The demonstration process is left to the discretion of the maintenance organisation.

A proposed A/C Certifying staff (C/S) or support staff (S/S) is considered compliant with the above requirements without further need of investigation, if one of the following evidences is available:

- examination Certificate of Recognition (CoR) issued by an NCAR Part-147 AMTO for the relevant module 9 or 10, or;

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- when only a statement issued by an NCAR Part-147 AMTO can be provided, stating that the person has attended the relevant module 9 or 10 according to the corresponding NCAR Part-66 syllabus, then the maintenance organisation shall also ensure that that the course is carried out according to a detailed syllabus including level of training as per NCAR Part-66 Module 9 and/or 10 as applicable (the duration of the course need to be specified to demonstrate the adequacy to cover all subjects).

When selecting a non-NCAR Part-147 AMTO to provide the Human Factor training and/or Aviation Legislation, the maintenance organisation quality department shall be in a position to demonstrate as a minimum that:

- the course is carried out according to a detailed syllabus including level of training as per NCAR Part- 66 Module 9 and/or 10 as applicable (the duration of the course need to be specified to demonstrate the adequacy to cover all subjects);
- the Qualification criteria for instructors is defined;
- a maximum number of training Hours per day is defined (HF principal to be considered);
- a maximum of trainees per group of trainees (28 person).

1.3.4 Recent Maintenance Experience

The maintenance organisation shall ensure that CC/S can demonstrate recent experience preferably on the specific component or in workshop environment relevant to the component type intended to be authorised.

The recent maintenance experience shall be understood as meeting the requirement of 6 month of experience in two years period preceding the intended date of issuance of the certification authorization.

1.3.5 Additional criteria for the renewal of individual authorization

The CC/S shall receive continuation training that covers Technical Development including Human Factors, FTS, EWIS and Aviation Regulation as applicable to the approval ratings and scope of work.

The CC/S shall demonstrate 6 months of experience during the two-year period preceding the renewal of authorisation.

1.4 Assessment

The aim of the assessment is to ensure compliance of the Component Certifying Staff with the relevant NCAR Part-145 requirements, with the criteria defined in this guidance and to ensure that each CC/S possesses the expected competence(s) associated to his/her job function (proposed scope of work and level of maintenance³), before granting him/her an initial NCAR Part-145 C/S individual authorisation, to renew or to extend the scope of his/her issued authorisation. This assessment shall also take into consideration attitude and behavior.

Note 3: *Level of maintenance means Overhaul, test, repair, Level 1, 2 and 3 for electronic / electric components as addressed in the CMM.*

As a consequence the maintenance organisation shall demonstrate through a competence assessment that the CC/S:

- Meets the qualification criteria addressed above;
- Has the relevant knowledge, skills and ability to perform the maintenance tasks related to his/her job function including the relevant language knowledge;
- Is able to determine when the Component is ready to release to service and when it shall not be release to service.

In the case of initial authorisation or extension of the scope of an already existing authorisation, the competence assessment must:

- Be specifically tailored to the component type (s) intended to be covered by the certifying staff

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authorization;

- The competence assessment shall include evaluation of “On the Job Performance” and/or “testing of knowledge” by appropriately qualified personnel;
- In addition, it is recommended that the assessment form contains an open text field where the person responsible for the assessment records the questions raised, comments or any other information useful to support the recommendation for the pass/fail result. A “box-ticking” exercise would be pointless.

The qualification criteria addressed above are summarized in Paragraph 1.7 “Summary table for NCAR Part-145 Component C/S qualification criteria” of this guidance. The minimum topics to be assessed during the initial NCAR Part-145 C/S individual authorisation process, the renewal or extension of his/her scope of authorisation are summarised in the table in Paragraph 1.8 “Summary of assessment for component certifying staff” of this guidance.

1.5 Management of the CC/S list and individual authorization

The management of the list of Certifying Staff and the management of the NCAR Part-145 C/S individual authorisation shall be detailed within the exposition and approved by the CAA Nepal.

The maintenance organisation is responsible to ensure that the CC/S remains current in terms of procedures, HF and technical knowledge. This continuation training should be of sufficient duration in each two-year period, the maintenance organisation is strongly advised to align the validity of the CC/S authorisation accordingly.

1.6 Records

The quality system shall review and archive in an exhaustive manner the relevant files resulting from the implementation of this guidance.

This means that the maintenance organisation shall keep records of all evidence associated to the CC/S authorisation. This means that certificates, experience logbook, continuation training evidence, assessment evidence (including assessment results which could be in a form chosen by the maintenance organisation) shall be kept.

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1.7 Summary table for EASA PART-145 Component C/S qualification criteria

		Engine/APU / Propeller	Hydraulic components (L/G assy, actuator, etc.)	Electrical components (Motors, actuators, chargers, power supplies, batteries, etc..)	Electronic components (card assy, mike, head-set, etc...)	Mechanical components (Wheel, Brake unit, structure..)	Electronic Units (computers, com/nav receiver, indicators, power supplies)	Instruments	Cabin Equipment (BFE, PSU, Pax Entertainment)	Safety equipment (Life raft, life jacket, O ² bottle, O ² masks)	
Basic requirements	Educational level	Secondary school (10+2 Level)									
	Basic training	Aeronautical & technical school or relevant engineering degree.									
	Aeronautical experience	2 years of Aeronautical experience in the field of aviation maintenance including at least 12 months of practical experience preferably in the specific component or in workshop environment (for non-complex components). For complex components such as engine/APU and Landing gears with the complex work scope as overhaul, major repair including, 3 years of Aeronautical experience is required in the field of aviation maintenance including 24 Months of practical experience in the specific component maintenance area / workshop.									
Technical training	Component training	OEM or OEM recognized Training Org. or NCAR Part-147 ATO or NCAR Part-145 AMO									
	Bench test training	OEM of the bench test or NCAR Part 145-AMO									
	Tool training	OEM or NCAR Part-145 AMO									
	Additional training	<ul style="list-style-type: none"> • Initial Human Factor training According to 145.A.30(e) and GM 1 145.A.30 (e) syllabus; • MOE and internal procedures applicable to CC/S (including issuance of CAAN Form 1). In addition, where needed, the CC/S shall demonstrate he/she received appropriate training on: • Fuel Tank Safety items, CDCCL level 1, or level 2, (refer to Appendix IV to AMC to 145.A.30(e) and 145.B.10(3) for further details); • Electrical Wiring Interconnection System (refer to EASA AMC 20-22 for further details); • Any additional training(s) justified during the assessment performed by the maintenance organisation (e.g. human factor, aviation legislation, etc..). 									
General training	Language knowledge	Working knowledge of the language in which the maintenance data is published AND working knowledge of English (for the CRS and for Airworthiness directives).									
	HF and Aviation Legislation Training	Human Factor and aviation Legislation training as detailed in the NCAR Part-66.									
	Recent Maintenance experience	6 months of experience in two years period preceding the intended date of issuance of the certification authorization preferably on the specific or in workshop environment relevant to the component type intended to be authorised.									
Renewal criteria	Continuing training	OEM or OEM recognized Training Org. or NCAR Part-147 ATO or NCAR Part-145 AMO									
	Maintenance Experience	6 months of relevant experience in the last two-year period									

Note: The complexity and technology of the component shall be considered. For simple component, the maintenance organisation may take credit of the CC/S experience and/or a previous training on a component from the same family and same technology.

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1.8 Summary of Assessment for Component Certifying Staff

Purpose of the Assessment		
<input type="checkbox"/> Initial grant <input type="checkbox"/> Extension <input type="checkbox"/> Renewal		
The competence assessment shall include evaluation of "On the Job Performance" and /or "testing of knowledge" by appropriately qualified personnel		
I QUALIFICATION		
I.1.	Refer to the Summary table (1.7) for NCAR Part- 145 Component C/S qualification	X
II KNOWLEDGE		
II.1.	Knowledge of human factors, human performance and limitations	X
II.2.	Knowledge of maintenance organisation capabilities, privileges and limitations	X
II.3.	Knowledge of NCAR Part-M, NCAR Part-145 (and any other relevant regulations)	X
II.4.	Knowledge of relevant parts of the MOE and associated procedures	X
II.5.	Knowledge of safety risks linked to the working environment	X
II.6.	Knowledge on CDCCL (when relevant)	X
II.7.	Knowledge on EWIS (when relevant)	X
II.8.	Knowledge of occurrence reporting system and understanding of the importance of reporting occurrences, incorrect maintenance data and existing or potential defects	X
III UNDERSTANDING		
III.1.	Understanding of professional integrity, behavior and attitude towards safety	X
III.2.	Understanding of conditions for ensuring continuing airworthiness of aircraft and components	X
III.3.	Understanding of his/her own human performance and limitations	X
III.4.	Understanding of personnel authorisations and limitations	X
III.5.	Understanding critical task	X
IV ABILITY		
IV.1	Ability to supervise the performance of tasks carried out by non C/S personnel (i.e. mechanics, etc.)	X
IV.2	Ability to compile and control completed work cards	X
IV.3	Ability to consider human performance and limitations.	X
IV.4	Ability to determine required qualifications for task performance	X
IV.5	Ability to identify and rectify existing and potential unsafe conditions	X
IV.6	Ability to check and document proper accomplishment of maintenance tasks	X
IV.7	Ability to identify and properly plan performance of critical task	X
IV.8	Ability to prioritize tasks and report discrepancies	X
IV.9	Ability to process the work requested by the customer	X
IV.10	Ability to properly process removed, uninstalled and rejected parts	X
IV.11	Ability to properly record and sign for work accomplished	X
IV.12	Ability to determine the acceptability of parts to be installed prior to fitment	X
IV.13	Ability to understand work orders, work cards and refer to and use applicable maintenance data	X
IV.14	Ability to use information systems	X
IV.15	Ability to use, control and be familiar with required tooling and/or equipment	X
	Adequate communication and literacy skills: The Component certifying staff shall be able to demonstrate a working knowledge of the language in which the maintenance data is published. In addition, should the language of the maintenance data not be English, then English language working knowledge is required.	X
Note: This list shall not be considered as exhaustive. It remains the responsibility of the maintenance organisations to adjust it. It is recommended that the assessment form contains an open text field where the person responsible for the assessment records the questions raised, comments or any other information useful to support the recommendation for the pass/fail result.		