



Practical Performance Assessment for the Competency Based Qualifications in the Highway Electrical Sector

- **Level 2**
 - **Level 2 NVQ Certificate in Highway Electrical Systems (QCF)**
 - **Level 2 NVQ Diploma in Highway Electrical Systems (QCF)**
- **Level 3**
 - **Level 3 NVQ Diploma in Servicing Highway Electrical Systems (QCF)**
 - **Level 3 NVQ Diploma in Servicing and Commissioning Highway Electrical Systems (QCF)**

Information for Learners, Employers and CBQ Centres

1. Introduction

This document provides information to Learners, Employers and CBQ Centres on the requirements for this mandatory level of independent assessment.

The primary aim of the PPA is to ensure, through a system of quality control, that learners have valid, reliable and quality-assured evidence of their competence in the safety critical and technically critical aspects of the relevant qualification units.

The PPA will also take into account the expected level of Learners attitude and behaviour traits to the works/assessment criteria.

The Highway Electrical sector includes a number of different functional areas and occupational competencies. The qualifications are so written that associated learner evidence depends on the specialist part of the sector they are working within.

The PPA applies to both the level 2 and the level 3 qualification.

2. Applicability of the PPA to CBQ-NVQ Levels 2 and 3

CBQ-NVQ Level 2

For the CBQ-NVQ Level 2 (other than including inspection and testing data collection), there are three options for a CBQ-NVQ Centre to implement, where the PPA applies (see the CBQ-NVQ Workbook Summary Sheet). These are:

- i. Using an existing level 3 PPA assessment facility (following level 2 certification parts)
- ii. A record and declaration by another assessor from direct observation in the workplace (for faults, install and connections) and professional discussion for the emergency works
- iii. A 100% Internal Verification of the assigned (normal) assessor's observation (for faults, connections) / professional discussion (for emergency work) either in person or using unedited video evidence

Level 2 learners carrying out Electrical Inspection & Testing Data Collection only, must also be assessed against the PPA.

Where option (i) is chosen – or for Electrical Inspection and Testing Data Collection, there must be a Lantra Awards certificate to evidence the successful completion of the PPA

CBQ-NVQ Level 3

The level 3 PPA assessments must be carried out at an independent approved assessment centre. Your chosen CBQ-NVQ centre will advise on this.

To complete the qualification there must be a Lantra Awards certificate to evidence the successful completion of the PPA

3. The Independent Assessment Centre

An Independent Assessment Centre is one that:

- a) is independent of a candidate's normal place of on /off-the-job learning but can include site working
- b) is sector specific (e.g. public lighting, traffic signals, communications or other specialist area)
- c) meets the criteria for assessment in terms of Health & Safety, tools, equipment, commercial conditions, and location as set out and approved by the HESA / SummitSkills.
- d) Provides simulated conditions approved by the HESA / SummitSkills.

The Independent Assessment Centre will provide facilities for activities using tools and equipment which model those found in the real workplace. The centre will also facilitate assessment of the candidate's ability to apply knowledge to the practical work (applied knowledge) that they are being asked to do. This will most likely be by approved forms of questioning. Therefore, the independent assessor will be assessing both the candidate's skill and knowledge. The independent assessor is an appropriately qualified and occupationally competent assessor, who is not involved in the learner's CBQ-NVQ assessment, other than through the PPA.

Whilst the assessment is carried out by the independent assessor, the specification of the assessment in terms of its requirements, the areas to be covered, the level of questioning and marking system will all be independently verified and meet approved criteria set out by SummitSkills and administered by the Highway Electrical Academy.

The PPA can be carried out within a PPA facility at an existing Lantra Awards NVQ Centre or as a completely separate facility - approved by the HESA in partnership with SummitSkills.

Each PPA Centre is treated as a satellite centre of the HESA for administrative purposes. The approved facility must meet the following requirements:

- a. Be appropriate for carrying out the required practical tests.
- b. Be sited so that interruptions or distractions do not inhibit confidentiality or freedom of assessment.
- c. Not used for any other purposes other than PPA assessment

The installation should include a range of highway electrical systems, components and circuits appropriate to the assessment. The installation is designed to assess a learner's proficiency in particular aspects of highway electrical work, to include isolation, fault diagnosis, test and inspection at Level 3.

The electricity supply will be provided from a 230 volt system, preferably using an isolating transformer, and with an emergency stop switch.

Part 1 Safety-Critical Assessment Components (Target time 3 hours)

Part 1 of the PPA requires Learners to demonstrate occupational competence in accordance with, current applicable legislation, and approved industry best working practices.

a. Isolation of Electrical Equipment (20mins)

Each learner prior to the commencement of the works will be required to demonstrate the safe isolation of the assessment area and the isolation of individual circuits to ensure and to verify that they are safe to work on.

b. Emergency Works (30mins)

Learners should have described to them, either in descriptive writing or with the aid of photographs, a “typical” emergency call-out situation (other than a door or other component missing). The learner will be required to complete an assessment of safe working practice (risk assessment) sheet together with a method statement for making the situation safe, in order to demonstrate the application of knowledge. Suitable questioning will also be used where appropriate to establish the level of underpinning knowledge.

c. Fault Diagnosis (60mins)

Learners will be required to diagnose and locate five faults introduced to the circuits by the assessor, selected from a range of common faults.

d. Inspection and Testing (70mins)

Each Learner will be required to carry out a visual inspection of the installation and establish whether the results are acceptable; and carry out prescribed pre-commissioning electrical installation tests in accordance with relevant parts of BS7671, associated guidance and industry guidance. Each Learner will be supplied with the necessary instructions, a copy of the relevant industry guidance and test result sheets. Test instruments should also be available – preferably the learner’s own; but the centre should have “standby” equipment available.

e. Aspects of Health & Safety (integrated into a-d above)

Part 2 Technically Critical Assessment Components

Part 2 of the PPA requires Learners to demonstrate their underpinning knowledge and applied knowledge on a range of sector related highway equipment. Usually this would be carried out and assessed as tasks integrated into Part 1

f. Termination of cables, conductors and cable carriers

Each Learner will be required to terminate cables, conductors, and cable carriers as particular to the associated sector specialism

g. Application and Connection of Highway Electrical wiring Systems and Equipment

Each learner will be required to explain the application and connection of highway electrical wiring systems and equipment (e.g. short circuit and over-current protective systems; earth leakage protective systems)

h. Interpretation of technical specifications and diagrams/ drawings/ plans

Each Learner will be required to explain and correctly interpret specification documents, to enable the determination of system/unit operation.

i. Functional Testing (and Commissioning)

After the installation, inspection and correct testing each learner will be required to demonstrate that circuits selected by the assessor from a prescribed list operate correctly by a series of functional testing.

Where applicable, the correct commissioning of the system/unit in isolation/part or as a larger system will be required. This may include full system operation to system/unit specification

4. Levels of Certification and Scope

Level 3 Certification

Level 3 certification award is in full, which consists of:

- Part 1 a to e
- Part 2 f to i

Level 2 Certification

Level 2 certification can be in part or in full which would consist of:

- Part 1 a and / or b and / or c and/ or e
- Part 2 g to i

Level 2 Certification- Electrical Inspection and Testing Data Collection

Level 2 certification can be in full which would consist of:

- Part 1 a, d, e (excluding verification against BS 7671), f

Each learner will be required to carry out prescribed electrical inspection and testing and record the results, against the organisation's criteria and instructions.

Each learner should satisfy the Assessor that they understand the limits of their work. (Note: this is intended for Level 2 learners only and under no circumstances are learners permitted to make judgements on the suitability of the installation in respect of BS7671 or sign off the Inspection & Test Certificate or make judgements about the future frequency of periodic Inspection and Testing).

5. Items that the Learner brings with them on the day

Learners will be advised by the CBQ-NVQ centre as to the test equipment and levels of PPE required.

In general terms the Learners should treat the PPA assessment as if they were attending a normal site, and take associated equipment with them for such tasks

At the end of the assessment, the Assessment Recording Sheets are sent to the HESA for marking and Lantra Awards for certification. The learner and employer will be notified of the result within approximately 4 weeks of the date of the assessment.

See part 6 of this document for additional information

6. The Day of the Assessment- Expectations

Learners must present themselves at the PPA centre dressed in suitable working clothes, with appropriate footwear and personal protective equipment.

Learners shall be expected to be polite and considerate and not to use mobile phones and any other similar system of communication.

Smoking during the assessment shall not be allowed.

The work must comply with the requirements of Health & Safety legislation and relevant parts of BS7671 and associated guidance.

Learners will be permitted to refer to the above documents and relevant industry guidance notes/unit specifications during the assessment.

Learners will demonstrate their ability to work on a typical installation using drawings, block diagrams, circuit diagrams and written instructions.

Learners are permitted to use Record Sheets commonly used within their own organisation, which they should bring with them. Otherwise, the PPA centre will provide forms for the learner's use.

Learners must provide personal photographic identification to the Approved PPA Centre/location prior to commencement of the assessment.

A checklist will be completed by the assessor at the PPA centre. This will form the basis of the marking of a learner's performance, which will be carried out independently by the Highway Electrical Academy, in accordance with the requirements of SummitSkills.

7. The CBQ (NVQ) Centre Requirements

The CBQ/NVQ centre must ensure that the Learner is fully prepared for the for the Practical Performance Assessment.

To ensure the learner is ready the centre must ensure that:-


- The Learner has fully completed their workbook evidence and this has been reviewed for accuracy and content.
- The learner has been appropriately assessed on site, and that the assessor has submitted appropriate evidence to support the Learners' level of achievement.
- The learner and assessor evidence has been verified by the internal CBQ/NVQ internal quality assurance as meeting the required standard.
- The learners employer is advised that the learner is now ready to take the PPA, and advises on the required PPE, test equipment and associated documents for the assessment.
- The CBQ/NVQ centre arranges the assessment whilst checking suitability with the learner and e4mployer, the centre should also advise the PPA centre of any special considerations for the Learner, and where appropriate dietary and learning needs.

The PPA centre will provide additional information as required to ensure the learner is fully prepared for the assessment, and will not be disadvantaged on the day of assessment.

The Learner will not be advised on completion of the PPA as to the level of success or non-achievement. The PPA assessments are moderated externally, based on the level of assessment evidence provided. The Centre will be advised of the outcome following the completion of this process

For further information contact:

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