

Level 3 Highway Electrician / Service Operative Apprentice Assessment Plan

Summary of Assessment

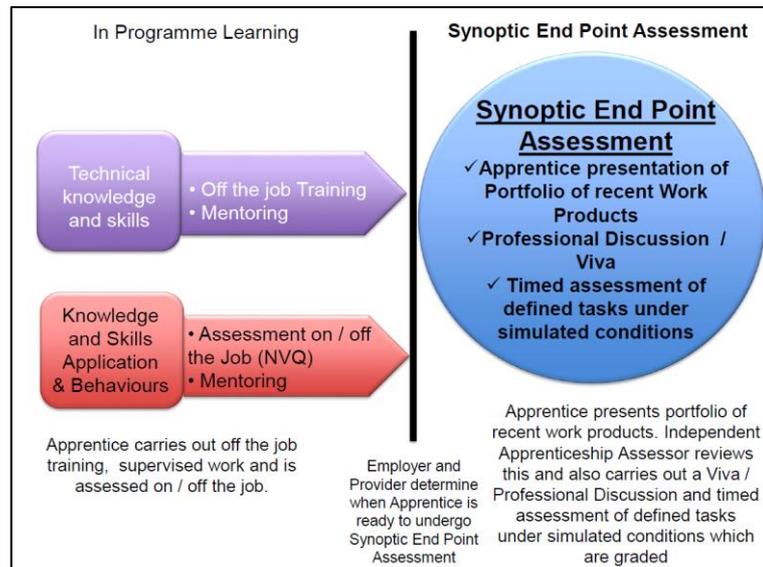
Introduction

Apprentices will be assessed for the technical knowledge, skills and behaviours required to undertake the role of a Highways Electrician / Service Operative as set out in the Highways Electrician / Service Operative Apprenticeship Standard. On-programme training and assessment is set out in Annex 1. This Assessment Plan focusses on the Synoptic End Point Independent Assessment of the Apprentice.

How the End Point Assessment will Work

The Synoptic End Point assessment consists of an holistic test of each apprentice's knowledge, skills and behaviours by an occupationally competent and qualified Independent Apprenticeship Assessor, being independent of both the Training Provider and the apprentice's employer. The Synoptic End Point assessment consists of:

1. A presentation by the apprentice using a portfolio to showcase work products (i.e. actual work carried out by the apprentice during the end part of the programme (previous three-six months) and not forming part of the on-programme assessment. The portfolio will consist of not less than two projects and will include a workbook to evidence how the work products map across to the UK-SPEC requirements for Eng. Tech. registration
2. A professional discussion / viva between the Independent Apprenticeship Assessor and the apprentice using scenarios and direct questioning to establish the apprentice's knowledge, application of knowledge and appropriate behaviours. Typical scenarios will be provided to the Independent Apprenticeship Assessor and will include examples such as (a) setting out a typical installation scenario in a highway situation; (b) setting out a typical reactive maintenance scenario in a highway situation; (c) setting out a typical emergency callout / response situation in a highway situation; carrying out electrical inspection and testing in a highway situation. The scenarios and apprentice's portfolio will be used to ensure the UK-SPEC requirements for Eng. Tech. registration have been satisfied
3. A timed practical assessment by the Independent Apprenticeship Assessor of the apprentice's skills, behaviours and application of knowledge in a simulated environment carrying out a range of defined tasks including the completion of appropriate paperwork – e.g. risk assessment and "job" paperwork.



The Training Provider and Employer will jointly determine when the apprentice is ready to take the Synoptic End Point Assessment, which is co-ordinated and delivered by an independent assessment organisation .

On-programme Assessment and Professional Qualifications

In summary, the apprentice is expected to gain the following during the apprenticeship programme:

- The Level 3 Certificate in Highway Electrical Work
- The Level 3 NVQ in Highway Electrical Systems

The detail of the on-programme assessment and professional qualifications are set out in Annex 1. Apprentices without level 2 English and maths will need to achieve this level prior to taking the end-point assessment.

Assessment Gateway

The training provider and the employer will agree when the apprentice is ready to undertake the Synoptic End-Point Assessment. This will be after the apprentice has gained the ECS Highway Electrical Health and Safety Test, the Level 3 Certificate in Highway Electrical Work and the Level 3 NVQ in Highway Electrical Systems. Apprentices without level 2 English and maths will need to

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achieve this level prior to taking the end-point assessment.

The training provider and employer, in conjunction with the apprentice, must have the confidence that the apprentice is competent and has met all the relevant criteria in the apprenticeship standard. The Employer notifies the appropriate Assessment Organisation who nominates the Independent Apprenticeship Assessor to assess and grade the apprentice.

Synoptic End-Point Assessment

The Synoptic End Point assessment consists of an holistic test of each apprentice's knowledge, skills and behaviours by an occupationally competent and qualified Independent Apprenticeship Assessor, being independent of both the Training Provider and the apprentice's employer. The Synoptic End Point assessment consists of:

1. A presentation by the apprentice using a portfolio to showcase work products (i.e. actual work carried out by the apprentice during the end part of the programme (previous three-six months) and not forming part of the on-programme assessment.
2. A professional discussion / viva between the Independent Apprenticeship Assessor and the apprentice using scenarios and direct questioning to establish the apprentice's knowledge, application of knowledge and appropriate behaviours.
3. A timed practical assessment by the Independent Apprenticeship Assessor of the apprentice's skills, behaviours and application of knowledge in a simulated environment carrying out a range of defined tasks including the completion of appropriate paperwork – e.g. risk assessment and "job" paperwork.

This evidence will cover the totality of the Standard, focusing on the higher order skills and associated knowledge. It will showcase the apprentice's knowledge, skills and behaviours. It covers both what the apprentice can do and how they approach the work. The Synoptic End Point Assessment process will allow the Independent Apprenticeship Assessor to:

- clarify any questions in relation to the supporting evidence directly with the apprentice
- confirm judgments relating to the quality of the apprentice's work
- explore the approach adopted by the apprentice whilst undertaking the work
- make a fully rounded assessment prior to awarding a grade.

The Synoptic End Point Assessment will take place in a controlled environment outside of the normal work environment. Items used for the practical assessment may not be used for training purposes.

The Independent Apprenticeship Assessor is an occupationally competent (in this sector) individual qualified to the TAQA Assessor qualification or equivalent. This means that they must have evidence through their CV (together with any relevant training certification), expanded as necessary, of knowledge and experience in the sector at or above Level 3 NVQ together with their assessor qualification. They will have up to date Continuing Professional Development (CPD) records and plans with typically thirty hours or more CPD p.a. to show their ongoing competence.

The following will be assessed:

Synoptic End Point Assessment of Knowledge, Skills and Behaviours

Area being	What is being assessed	How is it being assessed			Assessed By	Grading
		Apprentice Portfolio /	Professional Discussion /	Practical Assessment		

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assessed		Work Products (Weighting)	viva (Weighting)	(Weighting)		
Installation of Highway Electrical Equipment: <u>Knowledge and Skills in:</u> Health, Safety and Environmental; Highway Electrical Equipment and Systems; Planning, preparing and organising works; Installation Techniques; Effective Communication; Effective supervisory techniques. <u>Behaviours in:</u> Health, Safety and Environment; Accepting Responsibility; Supervision	The apprentice will install and connect a range of Highway Electrical equipment which will showcase installation techniques as well as provide assurance of other knowledge, skills and behaviours such as health, safety and environmental awareness; planning, preparing and organising works; effective communication; identification of highway electrical equipment and systems; accepting responsibility and effective supervision (this latter within the portfolio)	✓ (20%)	✓ (40%)	✓ (40%)	Independent Apprenticeship Assessor	Fail / Pass / Merit / Distinction
Reactive Maintenance of Highway Electrical Equipment: <u>Knowledge and Skills in:</u> Health, Safety and Environmental; Highway Electrical Equipment and Systems; Planning, preparing and organising works; Maintenance Techniques; Effective Communication; Effective supervisory techniques. <u>Behaviours in:</u> Health, Safety and Environment; Accepting	The apprentice will diagnose and rectify a range of faults on Highway Electrical equipment, including the replacement of components, which will showcase maintenance techniques as well as provide assurance of other knowledge, skills and behaviours such as health, safety and environmental awareness; planning, preparing and organising works; effective communication; identification of highway electrical equipment and systems; accepting responsibility and effective supervision (this latter within the portfolio)	✓ (20%)	✓ (40%)	✓ (40%)	Independent Apprenticeship Assessor	Fail / Pass / Merit / Distinction

Responsibility; Supervision						
Inspection and Testing: <u>Knowledge and Skills in:</u> Health, Safety and Environmental; Highway Electrical Equipment and Systems; Planning, preparing and organising works; Inspection and Testing; Effective Communication; Effective supervisory techniques. <u>Behaviours in:</u> Health, Safety and Environment; Accepting Responsibility; Supervision	The apprentice will carry out inspection and electrical tests to enable the completion of a periodic condition report and establish the validity of the result by reference back to published Standards. This will also provide assurance of other knowledge, skills and behaviours as set out above	✓ (20%)	✓ (40%)	✓ (40%)	Independent Apprenticeship Assessor	Fail / Pass / Merit / Distinction
Emergency Attendance: <u>Knowledge and Skills in:</u> Health, Safety and Environmental; Highway Electrical Equipment and Systems; Planning, preparing and organising works; Emergency Attendance; Effective Communication. <u>Behaviours in:</u> Health, Safety and Environment; Accepting Responsibility.	The apprentice will include within their portfolio examples of emergency attendance, what work was carried out, the allocation of duties and responsibilities and effective supervision. This will also provide assurance of other knowledge, skills and behaviours as set out above	✓ (20%)	✓ (80%)		Independent Apprenticeship Assessor	Fail / Pass / Merit / Distinction
Commissioning: <u>Knowledge and Skills in:</u> Health, Safety and Environmental; Highway Electrical Equipment and Systems; Planning, preparing and	The apprentice will include within their portfolio examples where they have carried out appropriate inspection and tests and commissioned highway electrical equipment including handover to the customer. his will also	✓ (20%)	✓ (80%)		Independent Apprenticeship Assessor	Fail / Pass / Merit / Distinction

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organising works; Effective Communication; Effective supervisory techniques; Commissioning principles and practices. <u>Behaviours in:</u> Health, Safety and Environment; Accepting Responsibility; Supervision	provide assurance of other knowledge, skills and behaviours as set out above					
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End-Point Assessment Final Judgement

The final decision about whether the apprentice has passed and the applicable grade, if any, is made by the Independent Apprenticeship Assessor and is the responsibility of the independent assessment organisation. It is expected that an appeals process will be put in place and this will form part of the quality assurance and governance approach, the options for which we are working through with BIS.

Independence

The implementation of the assessment will be administered by one or more SFA registered Assessment Organisations. This, together with the contents of the last paragraph of this section, will ensure appropriate checks and balances are in place to ensure that conflicts of interest are identified and managed and that assessments are reliable and valid.

Independence and impartiality are assured through the Synoptic End Point assessment with each and every apprentice being assessed and graded by an occupationally competent and qualified Independent Apprenticeship Assessor appointed by the independent assessment organization and independent of the Centre responsible for the delivery of the apprenticeship, independent of the apprentice's employer and independent of the apprentice.

We are considering employer led approaches for quality assurance and governance, and are working through the options with BIS. Assessment Organisations who wish to deliver against the standard will need to be on the SFA register of Assessment Organisations.

End-point - Summary of roles and responsibilities

Organisation	Role
Employer	The employer is responsible for employing the apprentice and ensuring that

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	resources are available to maximise the apprentice's chances of successful completion. The employer takes responsibility for the mentoring of the apprentice in the workplace and giving them the breadth and depth of knowledge and experience. The employer liaises with the Training Provider to agree when the apprentice is ready to undertake the synoptic end-point assessment
Apprentice	The apprentice takes responsibility for their own learning and co-operates with the Training Provider and their employer to ensure they use the resources to maximum effect. The apprentice takes responsibility for preparing their portfolio of work products and for preparing themselves so they are ready for the synoptic end-point assessment
Training Provider	The Training Provider is responsible for the on-programme off the job training and assessment and the assessment of competence in the workplace
Assessment Organisation	The Assessment Organisation is responsible for the implementation of the synoptic end-point assessment created by and agreed with employers
Independent Apprenticeship Assessor	The occupationally competent and qualified Independent Apprenticeship Assessor is responsible for carrying out and grading the synoptic end-point assessment which includes reviewing and grading the apprentice's portfolio of Work Products; carrying out a professional discussion and a practical assessment of the apprentice and reviewing the evidence against the UK-SPEC requirements for Eng.Tech The Independent Apprenticeship Assessor takes responsibility for ensuring their own knowledge and competence is maintained, and for identifying and declaring any conflicts of interest

Quality Assurance - Internal

Internal quality assurance is by Assessment Organisations registered to the SFA. The Independent Apprenticeship Assessor carrying out the synoptic end-point assessment must be occupationally competent, qualified to the TAQA Assessor qualification or equivalent and independent of both the employer and the Training Provider. The Assessment Organisation would be expected to ensure that the Apprenticeship Assessor maintains up to date CPD records and plans, that minuted standardization meetings are held and that effective communication of relevant information takes place within the organization.

Quality Assurance - External

We are considering employer led approaches for quality assurance and governance, and are working through the options with BIS. Assessment Organisations who wish to deliver against the standard will need to be on the SFA register of Assessment Organisations.

End-point - Grading

The Independent Apprenticeship Assessor will grade the Synoptic End Point Assessment. There are four grades available for the apprenticeship: -

Grading	Measure
Fail (0 – 45%)	Apprentice cannot demonstrate that they can perform at the expected level within their job role.

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Pass (46 – 75%)	Apprentice can perform at the expected level within their job role and demonstrate this through the evidence gathered.
Merit (75 – 85%)	Apprentice performs at a significant level above that expected within their job role in sufficient areas – but not in all (see below)
Distinction (> = 86%)	Apprentice can perform consistently at a significant level above that expected within their job role and demonstrate this through the evidence gathered.

The grading will be based on how the evidence contributes to: -

- What the apprentice has shown they know against the Standard
- What the apprentice has shown they can do against the Standard
- How the apprentice has approached the tasks and the way they have completed designated tasks.

Weighting

The Synoptic End Point Assessment is carried out by the Independent Apprenticeship Assessor who reviews the apprentice's evidence of achievements. Weighting is applied as follows: -

Assessment Method	Weighting
Review of work products / Question and Answer	20%
Professional Discussion	40%
Practical Assessment / Question and Answer	40%

Grading: Fail = 0 – 45%, Pass = 46% - 75%, Merit 75% - 85%, Distinction >= 86% (these grading boundaries apply to the total score of all three elements of the Synoptic End Point Assessment). In order to Pass the apprentice must achieve a Pass or above in each element. A failure in any single element will result in an overall Fail grade.

In order to achieve an overall grade of Distinction, the apprentice must achieve distinction in each of the assessment elements above.

Where an apprentice achieves a mix of Pass and Distinction grades, the Independent Apprenticeship Assessor may award a grade of Merit, where the overall grade achieved meets that criteria or where Distinction is achieved in more than 50% of the assessment

Implementation

Affordability

It is anticipated that the final Synoptic End Point assessment costs will be approximately 5% of the total apprenticeship costs.

The Assessment Plan builds on historic apprenticeship frameworks, so both implementation and affordability within the delivery network for on-programme training and assessment should not be onerous. The on-programme knowledge and performance assessments (see Annex 1) are

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developed from existing training delivery and competence assessment and incorporated into the Ofqual recognised Assessment Organisation's qualification.

There are a number of Assessment Organisations, Approved Training Organisations and approved National Vocational Qualification Assessment Centres already active in this sector across the UK. In particular, in order to encourage small and medium enterprise take up of apprenticeships and to ensure affordability across all employers, it is anticipated that the majority if not all of the off the job training will be on a block release basis.

Professional Body Recognition

Successful completion of this Apprenticeship following the Synoptic End Point Assessment, meets the requirements for full registration to the industry recognised Highway Electrical Registration Scheme (HERS).

In addition as part of their ongoing career development, the apprentice will be able to register as a Technician Member of the Institution of Engineering and Technology (with the designatory letters (TMIET)); and the standard and assessment plan are designed to meet the registration requirements of the Engineering Council for Engineering Technician (with the designatory letters EngTech).

Consistency

This Assessment Plan is designed to produce outcomes that are consistent and reliable across apprentices employed in different sizes of organisation with different specialisms.

Employers working in partnership with Assessment Organisations will produce guidance for apprentices, employers, training providers, assessment centres and Independent Apprenticeship Assessors on the synoptic end point assessment to ensure consistency and accuracy. This guidance, together with any other relevant information, will be made freely available via the industry sector body, the Highway Electrical Association, at <http://downloads.thehea.org.uk/index.php/he-apprenticeships> (Relevant documents will also be available on the UK Government Gov.uk website)

Quality assurance will be managed by the Assessment Organisations in partnership with employers in accordance with this assessment plan and externally set criteria and the requirements of Ofqual / SFA. This ensures impartiality of the Independent Apprenticeship Assessor.

Consistency of approach by Assessors will be achieved through training, approval by external quality assurance and standardization meetings.

Annex 1 – On Programme Assessment

This Assessment Plan defines on-programme and end-point assessment as follows:

- On-programme assessment - assessments carried out during the course of the apprenticeship (e.g. underpinning knowledge training course assessments)
- End-point assessment – referred to as Synoptic End Point Assessment – being the final assessment of the apprentice which if successful leads to the issuing of the Apprenticeship Certificate

Therefore in terms of this assessment plan, on-programme assessment consists of:

- Off the job training, carried out by qualified trainers, providing under-pinning knowledge leading to a Level 3 Certificate in Highway Electrical Work. The Level 3 Certificate in Highway Electrical Work is confirmation that the apprentice has successfully passed each of the training courses required and training would normally be delivered in blocks in order to ensure cost effective delivery. Course assessments are carried out by written assessments, practical assessments or a combination of both depending on the course subject matter. Each written assessment is timed and will be graded Pass or Distinction – with an overall grade from the aggregated results.
- On the job gathering of evidence by the apprentice to show learning and competence covering knowledge, skills and behaviours on more than one occasion over time, through the completion of workbooks held in a portfolio of work which is used as evidence for the gaining of the Level 3 NVQ in Highway Electrical Systems qualification. The portfolio is reviewed and assessed by an occupationally competent and qualified on-programme assessor and sampled by an occupationally competent and qualified Internal Verifier or Internal Quality Assurance person.
- Onsite assessments carried out by direct observation on site, captured on video, of the apprentice applying their knowledge, skills and behaviours carrying out a range of works by an occupationally competent and qualified on-programme assessor. This would include observation

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of a range of relevant tasks and appropriate and relevant questioning based on the prior review of the apprentice's workbooks. The on-programme assessor report will identify which detailed assessment methods are used in the direct observation – and there must be more than one. Assessment methods which will be included are direct observation of process and question and answers. This should be supplemented by detailed assessments of apprentice work products and reflective account, witness testimony and accreditation of prior achievement from the review of the workbooks. This is used as evidence for the gaining of the Level 3 NVQ in Highway Electrical Systems qualification.

- A viva or professional discussion with the apprentice, carried out and recorded by an occupationally competent and qualified on-programme assessor to assess underpinning knowledge and the application of knowledge, skills and appropriate behaviours in non-observed scenarios.
- An independently assessed Practical Performance Assessment (PPA) covering safety critical and technical critical areas carried out by an occupationally competent and qualified on-programme assessor who is not involved in any other assessments of the apprentice. The PPA is an independently set, independently marked / moderated timed practical assessment of the learner preparing to and carrying out technically critical and safety critical tasks such as safe isolation, fault diagnosis, connection of electrical equipment, electrical inspection and testing and validation of results by reference to industry standards, together with questioning from the on-programme assessor, administered by the Highway Electrical Skills Academy (HESA). Due to the nature of this assessment – being largely safety critical - it is not appropriate for this to be graded. Currently the timed assessment typically takes half a day. (Further information can be found at <http://downloads.thehea.org.uk/index.php/he-apprenticeships>)

Knowledge learning outcomes are assessed using externally set theory, practical or combined assessments, as appropriate to the subject matter of the training courses. The training courses form the Level 3 Certificate in Highway Electrical Work qualification

Performance learning outcomes - the application of the knowledge and skills and appropriate behaviours - require auditable evidence of competent performance from the workplace which will demonstrate the apprentice's ability to meet the externally set assessment criteria. These form the Level 3 NVQ in Highway Electrical Systems qualification.

Apprentices without level 2 English and maths will need to achieve this level prior to taking the end-point assessment.

It is anticipated that on-programme under-pinning knowledge training course assessments and the costs of training and assessment centre initial and ongoing approvals and auditing would add 10% to the total costs (in addition to the estimated 7% for the synoptic end-point assessment).