Level 2 NVQ Certificate in Highway Electrical Systems

Level 2 NVQ Diploma in Highway Electrical Systems

Level 3 NVQ Diploma in Servicing and Commissioning Highway Electrical Systems

Level 3 NVQ Diploma in Servicing Highway Electrical Systems

Qualification Specification

Version 1.2

Acknowledgements

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- The Highway Electrical Association (HEA)

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Qualification Specification

Lantra Awards Level 2 NVQ Certificate in Highway Electrical Systems
Lantra Awards Level 2 NVQ Diploma in Highway Electrical Systems
Lantra Awards Level 3 NVQ Diploma in Servicing and Commissioning Highway Electrical Systems
Lantra Awards Level 3 NVQ Diploma in Servicing Highway Electrical Systems

Contents

1 Why have these qualifications been developed?

These qualification specifications apply to the following qualifications:

- **Lantra Awards Level 2 NVQ Certificate in Highway Electrical Systems**
- **Lantra Awards Level 2 NVQ Diploma in Highway Electrical Systems**
- **Lantra Awards Level 3 NVQ Diploma in Servicing and Commissioning Highway Electrical Systems**
- **Lantra Awards Level 3 NVQ Diploma in Servicing Highway Electrical Systems**

These National Vocational Qualifications (NVQs) are nationally recognised and based on National Occupational Standards. They have been designed in conjunction with the Highway Electrical Association (HEA) to measure the competence of operatives in the highway electrical sector. These NVQs satisfy the requirements for competency as stipulated in the National Highway Sector Scheme (NHSS) 8 Quality Management document.

Learners must be assessed against all the learning outcomes and assessment criteria set out in the qualification.

This qualification specification provides information for approved Lantra provider employees, assessors, IQAs and Provider Managers involved in the planning, delivery and assessment of the qualifications listed above.

2 Who are the qualifications for?

These qualifications are aimed at operatives installing and/or maintaining highway electrical equipment, ensuring that they work safely, effectively and efficiently in the workplace. It provides an opportunity to achieve a recognised national qualification which reflects the national standards for the role(s) they perform.

These qualifications are available for learners aged 16+.

2.1 Prerequisites

There are no formal prerequisites for these qualifications.

3 What do these qualifications cover?

Lantra Awards Level 2 NVQ Certificate in Highway Electrical Systems

This qualification aims to assess the learner's knowledge and understanding in the following areas:

- Health and safety, environmental and working practices
- Establish effective working relationships
- Prepare for the installation and maintenance of highway electrical systems and equipment
- Identify and correct faults in electrical systems, equipment and components
- Install and connect highway electrical systems, equipment and components
- Install highway electrical infrastructure equipment
- Maintain highway electrical systems, equipment and components
- Carry out emergency work on highway electrical systems
- Apply surface protection to highway electrical systems
- Mechanical maintenance of highway electrical systems and equipment
- Co-ordinate the work of others.

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- Co-ordinate the work of others.

Lantra Awards Level 3 NVQ Diploma in Servicing and Commissioning Highway Electrical Systems

This qualification aims to assess the learner's knowledge and understanding of, and ability to:

- Apply health and safety and environmental legislation and working practices
- Maintain effective working relationships
- Plan and prepare for the installation and maintenance of highway electrical systems and equipment
- Inspect and test highway electrical systems, equipment and components
- Identify and correct faults in electrical systems, equipment and components
- Install and connect highway electrical systems, equipment and components
- Maintain highway electrical systems, equipment and components
- Commission highway electrical systems, equipment and components
- Carry out emergency work on highway electrical systems
- Co-ordinate the work of others.

Lantra Awards Level 3 NVQ Diploma in Servicing Highway Electrical Systems

This qualification aims to assess the learner's knowledge and understanding of, and ability to:

- Apply health and safety and environmental legislation and working practices
- Maintain effective working relationships
- Plan and prepare for the installation and maintenance of highway electrical systems and equipment
- Inspect and test highway electrical systems, equipment and components
- Identify and correct faults in electrical systems, equipment and components
- Install and connect highway electrical systems, equipment and components
- Maintain highway electrical systems, equipment and components
- Carry out emergency work on highway electrical systems
- Co-ordinate the work of others.

4 Lantra Awards Level 2 NVQ Certificate in Highway Electrical Systems

4.1 Qualification overview

		Where to look for further details
Qualification title	Lantra Awards Level 2 NVQ Certificate in Highway Electrical Systems	Ofqual's Register of Regulatory Qualifications http://register.ofqual.gov.uk/
Qualification number	603/1948/3	
Qualification aim	This NVQ has been developed to measure the competence of operatives installing and/or maintaining highway electrical equipment. This qualification satisfies the requirements for competency as stipulated in the National Highway Sector Scheme (NHSS) 8 Quality Management document.	
Qualification purpose	This qualification aims to give learners the opportunity to develop their skills and demonstrate competence across the full range of activities that highway electrical systems operatives require as part of their everyday work. The qualification is flexible by design to meet the sector requirements.	
Qualification start date	1 September 2017	
Level	2	
Credits	20	
GLH	73	
TQT	200	
Quartz ID numbers	Units: 10455 – Health and Safety, Environmental and Working Practices 10456 – Establish Effective Working Relationships 10457 – Prepare for the Installation and Maintenance of Highway Electrical Systems and Equipment 10458 – Identify and Correct Faults in Electrical Systems, Equipment and Components 10459 – Install and Connect Highway Electrical Systems, Equipment and Components 10460– Install Highway Electrical Infrastructure Equipment	

<table>
<tr><td></td><td>10461 – Maintain Highway Electrical Systems, Equipment and Components
10463 – Carry Out Emergency Work on Highway Electrical Systems
10464 – Apply Surface Protection to Highway Electrical Systems
10465 – Mechanical Maintenance of Highway Electrical Systems and Equipment
10466 – Co-ordinate the Work of Others

Programme IDs:
• 5653 - Cameras
• 5654 - Communications/VMS
• 5655 – Public Lighting
• 5656 – Slot Cutting
• 5657 – Traffic Signals

Qualification - 282</td><td></td></tr>
<tr><td rowspan="14">Unit numbers and titles</td><td colspan="2">Core mandatory units</td><td rowspan="14">Pages 10-30</td></tr>
<tr><td>K/615/8491 (HE2/1C)</td><td>Health and Safety, Environmental and Working Practices</td></tr>
<tr><td>M/615/8492 (HE2/2C)</td><td>Establish Effective Working Relationships</td></tr>
<tr><td>T/615/8493 (HE2/3C)</td><td>Prepare for the Installation and Maintenance of Highway Electrical Systems and Equipment</td></tr>
<tr><td colspan="2">Group A optional units</td></tr>
<tr><td>A/615/8494 (HE2/4C)</td><td>Identify and Correct Faults in Electrical Systems, Equipment and Components</td></tr>
<tr><td>F/615/8495 (HE2/5C)</td><td>Install and Connect Highway Electrical Systems, Equipment and Components</td></tr>
<tr><td>J/615/8496 (HE2/6C)</td><td>Install Highway Electrical Infrastructure Equipment</td></tr>
<tr><td>L/615/8497 (HE2/7C)</td><td>Maintain Highway Electrical Systems, Equipment and Components</td></tr>
<tr><td>R/615/8498 (HE2/8C)</td><td>Carry Out Emergency Work on Highway Electrical Systems</td></tr>
<tr><td>Y/615/8499 (HE2/9C)</td><td>Apply Surface Protection to Highway Electrical Systems</td></tr>
<tr><td>F/615/8500 (HE2/10C)</td><td>Mechanical Maintenance of Highway Electrical Systems and Equipment</td></tr>
<tr><td>J/615/8501 (HE2/11C)</td><td>Co-ordinate the Work of Others</td></tr>
<tr><td>Qualification structure</td><td>This qualification comprises:

3 core mandatory units
8 Group A optional units.</td><td></td></tr>
</table>

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<tr><td></td><td colspan="3">Learners must achieve a minimum of 20 credits: 16 credits from the core mandatory units and a minimum of 4 credits (1 unit) to a maximum of 20 credits (4 units) from the Group A optional units.</td><td></td></tr>
<tr><td rowspan="2">Age group</td><td>Pre-16</td><td>16-18</td><td>18+</td><td>19+</td></tr>
<tr><td>☒</td><td>☑</td><td>☑</td><td>☑</td></tr>
<tr><td>Entry requirements</td><td colspan="3">Learners must be working as an operative within the highway electrical sector installing and/or maintaining highway electrical equipment. They must be able to read and interpret information which is provided in English. It is recommended that learners have a basic knowledge of first-aid procedures.</td><td></td></tr>
<tr><td>Prerequisites</td><td colspan="3">There are no formal prerequisites for this qualification.</td><td></td></tr>
<tr><td>Recognition of prior learning (RPL)</td><td colspan="3">RPL can be provided to evidence completion (in full or in part) in accordance with the Highway Electrical Training Specification. RPL must be agreed in line with the provider’s internal quality-assurance procedures.</td><td></td></tr>
<tr><td>Assessment methodologies</td><td colspan="3">Multiple-choice questioning
Practical observation of assessment activities
Verbal questioning.</td><td rowspan="3"></td></tr>
<tr><td>Assessment model</td><td colspan="3">This qualification is internally assessed with external quality assurance. This means that providers will appoint assessors and an internal quality assurer (IQA) is required to provide internal quality assurance prior to external quality assurer (EQA) review.</td></tr>
<tr><td>Grading</td><td colspan="3">Pass/Fail</td></tr>
<tr><td>Is there a skills card available?</td><td colspan="3">No (However the qualification can be used to support the ECS HERS Card available as part of NHSS 8)</td><td>Provider handbook</td></tr>
<tr><td>Fees</td><td colspan="3">Registration and certification fees can be found in the product directory. Prices are subject to review on an annual basis so please contact the sales team if you do not have an up-to-date copy (sales@lantra.co.uk).</td><td>Product directory; sales team</td></tr>
<tr><td>How do I register learners?</td><td colspan="3">Via Quartzweb https://ordering.lantra.co.uk/Login.aspx</td><td>Quartzweb user guide</td></tr>
</table>

4.2 Content of qualification

This qualification comprises:

3 core mandatory units
8 Group A optional units

Learners must achieve a minimum of 20 credits: 16 credits from the core mandatory units and a minimum of 4 credits (1 unit) to a maximum of 20 credits (4 units) from the Group A optional units.

Unit title	M/O	GLH	Credits
Core mandatory			
Health and Safety, Environmental and Working Practices	M	30	10
Establish Effective Working Relationships	M	15	3
Prepare for the Installation and Maintenance of Highway Electrical Systems and Equipment	M	14	3
Group A optional			
Identify and Correct Faults in Electrical Systems, Equipment and Components	O	22	5
Install and Connect Highway Electrical Systems, Equipment and Components	O	37	6
Install Highway Electrical Infrastructure Equipment	O	15	4
Maintain Highway Electrical Systems, Equipment and Components	O	32	6
Carry Out Emergency Work on Highway Electrical Systems	O	20	5
Apply Surface Protection to Highway Electrical Systems	O	15	4
Mechanical Maintenance of Highway Electrical Systems and Equipment	O	25	6
Co-ordinate the Work of Others	O	25	5

4.3 Units

Unit title:	Health and Safety and Environmental Working Practices
Unit level:	2
Unit credit value:	10
Internal Unit reference:	HE2/1C
Regulator Unit reference number:	K/615/8491

Learning outcome The learner will:	Assessment criteria The learner can:
1. Be able to follow organisational health and safety and environmental procedures before starting work.	1.1. Locate relevant workplace health and safety and environmental statements / procedures.
	1.2. Comply with duties and obligations as defined by the organisation.
	1.3. Present self in the workplace suitably prepared for the activities to be undertaken.
	1.4. Name the relevant person(s) in the workplace, to whom hazards should be reported.
2. Be able to follow safe working practices.	2.1. Follow a risk assessment and method statement.
	2.2. Follow the organisation's instructions for the safe use and maintenance of tools, plant, materials and equipment.
	2.3. Identify health and safety hazards within own role.
	2.4. Ensure personal conduct does not endanger the health and safety of self or others.
	2.5. Carry out the work safely.
	2.6. Identify and comply with health and safety signs.
3. Understand the factors affecting the original on site risk assessment.	3.1. Identify site conditions which might change the original risk assessment significantly including the handling of potentially hazardous materials, tools and equipment.
	3.2. Identify additional action(s) where site conditions might change original risk assessment significantly.
4. Know how to apply organisational procedures for emergencies and accidents.	4.1. Follow the organisation's procedures in the event of injuries to self and others.
5. Understand the environmental implications of own actions or omissions at work.	5.1. Follow organisational instructions.
	5.2. Identify and control those environmental hazards within own job responsibility limits

Learning outcome The learner will:	Assessment criteria The learner can:
	5.3. Identify and follow appropriate waste management procedures.
6. Understand individual and organisational responsibilities and safe working practices.	6.1. State key roles and responsibilities in respect of health and safety.
	6.2. State where to locate relevant health and safety and environmental information
	6.3. State where to get health and safety assistance if needed.
7. Understand safe working practices.	7.1. State where to find information on risks which may be present in own job role and the instructions for managing these risks.
	7.2. Describe how own work activities may affect the public.
8. Understand hazards, risks and control measures.	8.1. Give examples of hazards in the workplace.
	8.2. State how to work to risk assessments and method statements.
	8.3. Identify the meaning of relevant health and safety signs on site.
	8.4. Identify personal protective equipment that is available for own activities.
	8.5. State the consequences of not remaining alert to the presence of hazards in the workplace.
9. Know about organisational emergency and accident procedures.	9.1. Locate emergency instructions / procedures in the workplace.
	9.2. Identify the first aid facilities available and the procedures to be followed in the case of accidents involving injury.

Unit title:	Establish Effective Working Relationships
Unit level:	2
Unit credit value:	3
Internal Unit reference:	HE2/2C
Regulator Unit reference number:	M/615/8492

Learning outcome The learner will:	Assessment criteria The learner can:
1. Be able to communicate effectively.	1.1. Inform the relevant person(s) about the works.
	1.2. Communicate effectively without causing undue disruption to normal working activities.
2. Be able to establish and maintain positive working relationships.	2.1. Establish and maintain productive working relationships with relevant people.
	2.2. Identify the expected behavioural requirements of the organisation.
	2.3. Respond appropriately to requests for assistance or information which fall within own job.
	2.4. Identify the appropriate person to speak to when requests for assistance fall outside own area of responsibility.
	2.5. Contribute to effective team working.
	2.6. Identify potential issues which may cause problems with productivity.
3. Understand relevant organisational procedures for communication and behaviour.	3.1. Follow organisational standards for appearance and behaviour.
	3.2. Communicate in accordance with organisational instructions.
4. Be able to provide relevant functional and technical information to the relevant person.	4.1. Respond effectively to requests for job information from the relevant person(s).
	4.2. Identify the relevant person(s) that need to be supplied with technical and functional information.
	4.3. Obtain current and relevant information required for the work.
	4.4. Identify where the work might not be carried out as requested

Learning outcome The learner will:	Assessment criteria The learner can:
5. Understand how to communicate effectively.	5.1. Explain why it is important to communicate effectively and give an example.
	5.2. Identify the importance of considering others' opinions.
6. Know about establishing positive working relationships.	6.1. State characteristics of good working relationships and why such relationships may break down.
	6.2. State the importance of establishing positive working relationships.
7. Know about relevant organisational procedures for communication and behaviour.	7.1. Identify organisational instructions for communicating with customers.
	7.2. Describe the organisational policy in relation to the handover and demonstration of a product or equipment.
8. Know how to provide relevant functional and technical information to the relevant person(s).	8.1. Identify the types of job information that may be required by others in the workplace.
	8.2. Identify technical and functional information sources which may be considered.
	8.3. Identify what technical and functional information is being provided.
	8.4. Give an example of the safety implications and functional consequences of supplying inaccurate or incomplete information.

Unit title:	Prepare for the Installation and Maintenance of Highway Electrical Systems and Equipment
Unit level:	2
Unit credit value:	3
Internal Unit reference:	HE2/3C
Regulator Unit reference number:	T/615/8493

Learning outcome The learner will:	Assessment criteria The learner can:
1. Understand individual responsibilities, organisational requirements and scope of works.	1.1. Identify what work is required.
	1.2. Ensure job information and documentation is appropriate and relevant.
	1.3. State own responsibilities to the employer
	1.4. Identify the organisational requirements for the carrying out of work operations, how the site should be left and the recording / reporting of the works carried out.
2. Understand what resources are required.	2.1. Identify the material requirements and confirm they have the right type and quantity for work to commence and be completed cost-efficiently. .
	2.2. Describe the transport and storage requirements for the materials.
	2.3. Ensure all resources are undamaged after transportation.
	2.4. Identify the relevant person(s) in the workplace, for resolving issues.
3. Know how to work safely.	3.1. Locate the organisational documentation including relevant risk assessment(s).
	3.2. Seek authorisation from the relevant person(s) prior to commencing work, that it is safe to undertake the work as specified.
4. Understand the importance of carrying out the work to the required programme.	4.1. Define what time is allocated for the work to be done.
	4.2. Record or report to the relevant person(s) any pre-work damage or defects to existing equipment.
	4.3. Identify and report where the time allocated for the work may be exceeded.
5. Know how to work safely.	5.1. State the importance of carrying out the work safely.

Learning outcome The learner will:	Assessment criteria The learner can:
	5.2. Explain the importance of carrying out visual inspections, and tests where required.
	5.3. Identify secure storage procedures for tools, equipment, materials and components.

Unit title:	Identify and Correct Faults in Highway Electrical Systems, Equipment and Components
Unit level:	2
Unit credit value:	5
Internal Unit reference:	HE2/4C
Regulator Unit reference number:	A/615/8494

Learning outcome The learner will:	Assessment criteria The learner can:
1. Understand and apply the organisational procedures for identifying and correcting faults.	1.1. Advise the relevant person(s) clearly and accurately about any potential disruption.
	1.2. Identify the consequences of the identification and correction of the fault.
	1.3. Follow appropriate and safe procedures for identifying faults.
	1.4. Agree appropriate repairs, removals and replacements with relevant people.
2. Be able to carry out identification and correction of faults in accordance with technical / functional and safety requirements.	2.1. Obtain information about the reported faults and any components which need to be replaced and where applicable including the system specification.
	2.2. Perform suitable tests on the installed electrotechnical systems and equipment to identify the fault.
	2.3. Follow the correct procedure for carrying out a safe and secure isolation.
	2.4. Identify the fault and/or remove and replace components to correct the fault.
	2.5. Leave the electrotechnical systems, equipment and components in a safe condition.
3. Be able to carry out relevant final tests and report as required.	3.1. Confirm the repaired electro technical systems and equipment are functioning correctly.
	3.2. Inform the relevant person(s) about the work and complete documentation clearly and accurately.
4. Know the organisational procedures for identifying and correcting faults.	4.1. State the information necessary for carrying out a successful fault repair.
	4.2. State the implications for relevant parties of carrying out identification and rectification of faults.
	4.3. Identify organisational reporting and recording procedures.
	5.1. Identify the hazards associated with the working conditions and environment.

Learning outcome The learner will:	Assessment criteria The learner can:
5. Know the technical and safety implications of identifying and correcting faults.	5.2. State the sequence of tests for locating faults.
	5.3. State the correct procedures for a safe and secure isolation.
	5.4. State the method for correcting faults.
	5.5. Describe how to interpret diagrams and drawings to enable the correct positioning and fixing of electrotechnical systems, equipment and components.
	5.6. Identify how to ensure components are electrically and mechanically sound and identified clearly and correctly.
6. Know the relevant final tests and reporting requirements.	6.1. Describe the correct methods for checking test instruments are functional and, where applicable, in calibration.
	6.2. Identify how to inform relevant person(s) about the test results and the completion of relevant documentation in accordance with organisational instructions / procedures.
	6.3. Describe the method for functional testing, and where applicable inspection and testing, following the rectification of faults in electrotechnical systems.

Unit title:	Install and Connect Highway Electrical Systems, Equipment and Components
Unit level:	2
Unit credit value:	6
Internal Unit reference:	HE2/5C
Regulator Unit reference number:	F/615/8495

Learning outcome The learner will:	Assessment criteria The learner can:
1. Understand the correct procedures for the work(s).	1.1. Implement a safe system of work during the installation and connection activities.
	1.2. Follow agreed procedures to ensure the co-ordination with the activities of others.
	1.3. Use tools and equipment safely.
	1.4. Follow, where applicable, safe and secure isolation procedures.
	1.5. When unable to complete specified work, report the matter to the relevant person(s) clearly and accurately.
	1.6. Complete and maintain up to date work records and ensure that they are passed to the relevant person(s) promptly.
2. Be able to carry out the installation of highway electrical equipment in accordance with organisational procedures.	2.1. Follow the correct procedures for installing equipment.
	2.2. Install highway electrical components and associated equipment in accordance with organisational requirements.
3. Know about the connection of and appropriate tests for the installed equipment.	3.1. Ensure connections made are electrically and mechanically sound and they are identified in accordance with organisational requirements.
	3.2. When appropriate, take safe and suitable action to remedy any identified defects.
4. Understand the correct procedures for the work(s).	4.1. State the correct procedures for a safe and secure isolation
	4.2. Describe the correct procedures for dealing with Distribution Network Operator supplies and highway authority / privately owned supplies.
	4.3. Identify organisational requirements for reporting and recording.
	5.1. Identify the method for fixing equipment in accordance with organisation requirements.

Learning outcome The learner will:	Assessment criteria The learner can:
5. Know the information required for the installation of highway electrical equipment.	5.2. Describe how to interpret diagrams and drawings to enable the correct positioning, fixing and connection of equipment.
6. Know about the connection of and appropriate tests for the installed equipment.	6.1. Identify the requirements for the connection of components.
	6.2. State the method for ensuring a connection is electrically and mechanically sound and identified clearly and correctly.
	6.3. Identify the appropriate tests to be carried out on completion.
	6.4. Identify action to be taken in the event of component, equipment or system defects.

Unit title:	Install Highway Electrical Infrastructure Equipment
Unit level:	2
Unit credit value:	4
Internal Unit reference:	HE2/6C
Regulator Unit reference number:	J/615/8496

Learning outcome The learner will:	Assessment criteria The learner can:
1. Understand and apply the correct procedures for installation work(s).	1.1. Comply with organisation requirements for reporting and recording.
	1.2. Comply with organisational requirements for the use of equipment and materials.
2. Be able to ensure safe site working including monitoring of site conditions.	2.1. Review the work site and working conditions for any changes which might impact on the work due to take place.
	2.2. Identify any variances in the working conditions which might impact on the work taking place.
	2.3. Determine the position of relevant site services using relevant information and suitable cable avoidance equipment.
	2.4. Confirm details of infrastructure equipment to be installed including for lifting operations.
	2.5. Confirm any lifting equipment to be used is suitable for the work to be undertaken.
3. Carry out the installation of highway electrical equipment.	3.1. Identify and confirm the scope of the work to be carried out.
	3.2. Confirm details of foundations or fixings for the infrastructure equipment to be installed.
	3.3. Identify, where applicable, the appropriate foundation / reinstatement materials for the work to be completed.
	3.4. Ensure correct alignment and orientation of infrastructure equipment.
4. Understand the correct procedures for installation work(s).	4.1. Identify how to confirm the appropriate method of installation for the work to be carried out.
	4.2. Identify, where applicable, the correct method and choice of reinstatement methods and materials.
	4.3. Identify the organisational requirements for the disposal of surplus site materials.
	4.4. State the organisational requirements for correct temporary traffic management.
	4.5. Identify organisational requirements relevant to lifting operations.

Learning outcome The learner will:	Assessment criteria The learner can:
5. Know the information required for the safe installation of highway electrical equipment.	5.1. Describe how to confirm the suitability of materials and equipment for the work to be carried out.
	5.2. Explain how to identify the position of and avoid damage to existing site services.
	5.3. Identify, where applicable, the correct foundation or fixing methods.
6. Know about the requirements for correct lifting of highway electrical equipment.	6.1. State how to confirm the safe working load in the lifting operations.
	6.2. State how to ensure stability in the lifting operation.
	6.3. State how to carry out lifting operations in accordance with organisational requirements.
	6.4. Describe, where applicable, the correct selection and use of lifting accessories (e.g. slings / chains).
	6.5. Describe, where applicable, the methods of inspecting lifting accessories (e.g. slings / chains) prior to use.
	6.6. State how to determine that the weights to be lifted are within the safe working load requirements.

Unit title:	Maintain Highway Electrical Systems, Equipment and Components
Unit level:	2
Unit credit value:	6
Internal Unit reference:	HE2/7C
Regulator Unit reference number:	L/615/8497

Learning outcome **The learner will:**	**Assessment criteria** **The learner can:**
1. Understand and apply the correct procedures for installation work(s).	1.1. Follow agreed maintenance procedures to ensure the effective co-ordination of activities by the relevant person(s).
2. Be able to carry out the maintenance of highway electrical equipment.	2.1. Identify, where necessary, relevant sources of technical information to support maintenance activities.
	2.2. Locate the correct wiring systems and equipment as specified in the maintenance instructions.
	2.3. Follow safe and secure isolation to comply with organisational requirements.
	2.4. Identify the electrical systems and equipment to be maintained.
3. Identify and carry out appropriate tests and reporting where maintenance is complete or has not been effective.	3.1. Advise the relevant person(s) clearly and accurately about the potential consequences of the results of the maintenance activity.
	3.2. Notify promptly the relevant person(s), where maintenance activities may vary from those instructed.
	3.3. Use suitable testing methods to evaluate the relevant performance of the equipment and systems.
	3.4. Ensure maintenance records are accurate, complete and promptly given to the relevant person(s) in the required format.
	3.5. Report promptly where necessary, any expected delays in completion to the relevant persons(s).
4. Understand the correct procedures for maintenance work(s).	4.1. Identify organisational requirements for a safe and secure isolation
	4.2. Identify organisational requirements for carrying out maintenance.
	4.3. State the importance of, documenting information and reporting findings.

Learning outcome The learner will:	Assessment criteria The learner can:
	4.4. Identify organisational requirements for the completion of necessary documentation.
5. Know the information required for the maintenance of highway electrical equipment.	5.1. State which information sources are relevant and appropriate to own maintenance activities.
	5.2. Describe how to use specifications, diagrams and drawings to find the location of the highway electrical equipment, and to identify the type of highway electrical equipment being maintained
6. Know about repairing and replacing equipment.	6.1. Give an example of what action is appropriate if the maintenance activity cannot be completed or if it has been completed and the unit is not functioning.
	6.2. State the reasons for regular inspection, adjustment and replacement of, or to, electrical systems and equipment.

Unit title:	Carry Out Emergency Work on Highway Electrical Systems
Unit level:	2
Unit credit value:	5
Internal Unit reference:	HE2/8C
Regulator Unit reference number:	R/615/8498

Learning outcome The learner will:	Assessment criteria The learner can:
1. Understand organisational procedures covering emergency attendance on site.	1.1. Prepare for the emergency work by confirming its nature and location.
	1.2. Check that appropriate equipment is available.
	1.3. Follow organisational requirements to ensure co-ordination as appropriate with relevant person(s).
2. Be able to carry out an assessment of hazards and risks and apply appropriate corrective actions whilst carrying out emergency works.	2.1. Carry out an assessment of the site to determine the hazards and risks at the site.
	2.2. Carry out appropriate actions to ensure safe isolation.
	2.3. Make safe the highway electrical equipment to prevent immediate danger.
	2.4. Identify appropriate actions in the event that the site cannot be made safe initially.
3. Understand organisational reporting requirements and procedures.	3.1. Inform the relevant person(s) of actions taken and required
	3.2. Identify organisational requirements to obtain technical back-up and additional resources where necessary.
	3.3. Complete records about the work and ensure that they are passed to the relevant person(s) promptly.
4. Know about organisational procedures covering emergency attendance on site	4.1. Identify how to prepare for attending to emergency work In accordance with organisational requirements
	4.2. Identify how co-ordination with emergency service work and other relevant persons is carried out in accordance with organisational requirements.
	4.3. State own responsibilities in accordance with organisational requirements.
5. Know about hazards and risks and corrective actions on site.	5.1. Describe how to carry out a safe assessment of the site and plan site working.

Learning outcome The learner will:	Assessment criteria The learner can:
	5.2. Describe the method for identifying damage, including structural and electrical damage.
	5.3. State what the organisational requirements are to make the site safe.

Unit title:	Apply Surface Protection to Highway Electrical Systems
Unit level:	2
Unit credit value:	4
Internal Unit reference:	HE2/9C
Regulator Unit reference number:	Y/615/8499

Learning outcome **The learner will:**	**Assessment criteria** **The learner can:**
1. Understand the scope and procedures for carrying out work.	1.1. Confirm with the relevant person the scope of the work to be carried out.
	1.2. Confirm with the relevant person the materials and equipment to be used are correct.
2. Be able to carry out surface preparation and surface protection in accordance with procedures.	2.1. Check that the access equipment is suitable for the work to be undertaken.
	2.2. Confirm the surface preparation and application of surface protection requirements.
	2.3. Take adequate precautions to prevent damage to property, persons and the environment
	2.4. Prepare the surface and apply the surface protection in accordance with organisational and where relevant manufacturer's instructions
3. Understand the scope and procedures for assessing work to be carried out.	3.1. State the scope of the work to be carried out.
	3.2. Describe how to confirm the suitability of access equipment.
	3.3. Identify how to determine the surface preparation required.
	3.4. Describe how to confirm the system and colours of surface protection material to be used.
	3.5. Identify how to apply organisational requirements.
4. Understand what work needs to be carried out and the associated safety requirements.	4.1. Describe how to determine the correct tools / equipment for the application of surface protection materials.
	4.2. Identify the correct temporary traffic management appropriate to the site and in accordance with organisational requirements.

Unit title:	Mechanical maintenance of highway electrical systems and equipment
Unit level:	2
Unit credit value:	6
Internal Unit reference:	HE2/10C
Regulator Unit reference number:	F/615/8500

Learning outcome The learner will:	Assessment criteria The learner can:
1. Understand and use the correct procedures for maintenance work(s).	1.1. Follow agreed maintenance procedures to ensure the effective co-ordination of activities by the relevant person(s).
	1.2. Ensure the maintenance activities conform to the organisation's requirements.
	1.3. Complete maintenance activities within the agreed timescale.
2. Be able to carry out the maintenance of highway electrical equipment.	2.1. Identify as necessary relevant sources of technical information to support maintenance activities
	2.2. Locate the correct equipment as specified in the maintenance instructions.
	2.3. Follow the agreed safe system of work.
	2.4. Identify the electrical systems and equipment to be maintained.
3. Identify and carry out appropriate tests and reporting where maintenance is complete or has not been effective.	3.1. Advise the relevant person(s) clearly and accurately about the potential consequences of the results of the maintenance activity.
	3.2. Notify promptly the relevant person(s), where maintenance activities may vary from those instructed.
	3.3. Use suitable testing methods to evaluate the relevant performance of the equipment and systems.
	3.4. Ensure maintenance records are accurate, complete and promptly given to the relevant person(s) in the required format.
	3.5. Report promptly where necessary, any expected delays in completion to the relevant persons(s).
4. Understand the correct procedures for maintenance work(s).	4.1. Identify organisational safe working practices.
	4.2. State the importance of, documenting information and reporting findings.

Learning outcome The learner will:	Assessment criteria The learner can:
	4.3. Identify organisational requirements for the completion of necessary documentation.
5. Know the information required for the maintenance of highway electrical equipment.	5.1. State which information sources are relevant and appropriate to own maintenance activities.
	5.2. Describe how to use specifications, diagrams and drawings to find the location of the highway electrical equipment, and to identify the type of highway electrical equipment being maintained.
6. Know about repairing and replacing equipment.	6.1. Give an example of what action is appropriate if the maintenance activity cannot be completed
	6.2. State the reasons for regular inspection, adjustment and replacement of, or to, highway electrical systems and equipment.

Unit title:	Coordinate the Work of Others
Unit level:	2
Unit credit value:	5
Internal Unit reference:	HE2/11C
Regulator Unit reference number:	J/615/8501

Learning outcome **The learner will:**	**Assessment criteria** **The learner can:**
1. Understand the responsibilities and requirements of team leaders.	1.1. Allocate duties and responsibilities in order to make best use of skills and competence.
	1.2. Instruct others about their duties and responsibilities clearly and concisely and confirm the instructions are understood, where relevant.
	1.3. Ensure that safe and appropriate action is taken promptly where non-compliance is identified during the programme of work.
2. Understand the principles of effective communication and coordination.	2.1. Ensure own communications are clear, accurate, appropriate to the situation and understood.
	2.2. Ensure effective co-ordination with the work of other contractors, where relevant.
3. Be able to apply safety, quality and productivity requirements.	3.1. Follow relevant risk assessments and method statements and review to ensure they are appropriate for the site and other activities and provide these to the relevant people
	3.2. Monitor, where relevant that the work of others is in accordance with working practices and is: • **safe and fit for purpose** • **cost-effective** • **complies with organisation and industry standards.**
	3.3. Ensure that documentation is in accordance with the organisational requirements and industry standards and is legible, accurate and timely.
	3.4. Identify the limits of the job role and explain the process for liaising with the relevant person to resolve issues which are outside the scope of their job role.
	3.5. Ensure that the equipment, accessories (if any) and materials are fit for purpose

Learning outcome The learner will:	Assessment criteria The learner can:
	3.6. Ensure that the work on completion is safe and complies with the organisational requirements.
4. Understand the responsibilities and requirements of team leaders.	4.1. Define own role and responsibilities towards other staff, the employer, customers, and any sub-contractors.
	4.2. Define own role and responsibilities when monitoring the work of others.
	4.3. Identify where relevant the competence of others.
	4.4. Identify the relevant organisational procedures for work carried out.
	4.5. Identify organisational requirements for completing the necessary documentation and how to ensure clarity, accuracy and completion within schedule.
5. Understand the principles of effective communication and coordination.	5.1. Identify how to communicate effectively with others including other operatives and, where appropriate, other staff and any sub-contractors.
	5.2. Identify how to motivate others
	5.3. Identify how to coordinate activities on site
6. Know about safety, quality and productivity requirements.	6.1. Identify safety requirements regarding others.
	6.2. State how to apply and communicate a risk assessment and method statement.
	6.3. Identify how to monitor health and safety on site including possible changing conditions in the workplace.
	6.4. Describe where relevant, how to plan the work allocations, duties and responsibilities of operatives for whom they are responsible.
	6.5. Describe how to confirm that the materials are fit for purpose and that the works on completion are safe and comply with organisational requirements.

5 Lantra Awards Level 2 NVQ Diploma in Highway Electrical Systems

5.1 Qualification overview

		Where to look for further details
Qualification title	Lantra Awards Level 2 NVQ Diploma in Highway Electrical Systems	Ofqual's Register of Regulatory Qualifications http://register.ofqual.gov.uk/
Qualification number	603/1949/5	
Qualification aim	This NVQ has been developed to measure the competence of operatives installing and/or maintaining highway electrical equipment. This qualification satisfies the requirements for competency as stipulated in the National Highway Sector Scheme (NHSS) 8 Quality Management document.	
Qualification purpose	This qualification aims to give learners the opportunity to develop their skills and demonstrate competence across the full range of activities that highway electrical systems operatives require as part of their everyday work. The qualifications are flexible by design to meet the sector requirements.	
Qualification start date	1 September 2017	
Level	2	
Credits	37	
GLH	162	
TQT	370	
Quartz ID numbers	Units: 10455 – Health and Safety, Environmental and Working Practices 10456 – Establish Effective Working Relationships 10457 – Prepare for the Installation and Maintenance of Highway Electrical Systems and Equipment 10458 – Identify and Correct Faults in Electrical Systems, Equipment and Components 10459 – Install and Connect Highway Electrical Systems, Equipment and Components 10460– Install Highway Electrical Infrastructure Equipment 10461 – Maintain Highway Electrical Systems, Equipment and Components	

<table>
<tr><td></td><td>10463 – Carry Out Emergency Work on Highway Electrical Systems
10464 – Apply Surface Protection to Highway Electrical Systems
10465 – Mechanical Maintenance of Highway Electrical Systems and Equipment
10466 – Co-ordinate the Work of Others

Programme IDs:
• 5658 - Cameras
• 5659 - Communications/VMS
• 5660 – Public Lighting
• 5661 – Slot Cutting
• 5662 – Traffic Signals

Qualification - 283</td><td></td></tr>
<tr><td rowspan="13">Unit numbers and titles</td><td colspan="2">Core mandatory units</td><td rowspan="13">Pages 10-30</td></tr>
<tr><td>K/615/8491 (HE2/1C)</td><td>Health and Safety, Environmental and Working Practices</td></tr>
<tr><td>M/615/8492 (HE2/2C)</td><td>Establish Effective Working Relationships</td></tr>
<tr><td>T/615/8493 (HE2/3C)</td><td>Prepare for the Installation and Maintenance of Highway Electrical Systems and Equipment</td></tr>
<tr><td colspan="2">Group A optional units</td></tr>
<tr><td>A/615/8494 (HE2/4C)</td><td>Identify and Correct Faults in Electrical Systems, Equipment and Components</td></tr>
<tr><td>F/615/8495 (HE2/5C)</td><td>Install and Connect Highway Electrical Systems, Equipment and Components</td></tr>
<tr><td>J/615/8496 (HE2/6C)</td><td>Install Highway Electrical Infrastructure Equipment</td></tr>
<tr><td>L/615/8497 (HE2/7C)</td><td>Maintain Highway Electrical Systems, Equipment and Components</td></tr>
<tr><td>R/615/8498 (HE2/8C)</td><td>Carry Out Emergency Work on Highway Electrical Systems</td></tr>
<tr><td>Y/615/8499 (HE2/9C)</td><td>Apply Surface Protection to Highway Electrical Systems</td></tr>
<tr><td>F/615/8500 (HE2/10C)</td><td>Mechanical Maintenance of Highway Electrical Systems and Equipment</td></tr>
<tr><td>J/615/8501 (HE2/11C)</td><td>Co-ordinate the Work of Others</td></tr>
<tr><td>Qualification structure</td><td>This qualification comprises:

3 core mandatory units
8 Group A optional units</td><td></td></tr>
</table>

	Learners must achieve a minimum of 37 credits: 16 credits from the core mandatory units and a minimum of 21 credits (4 units) to a maximum of 30 credits (6 units) from the Group A optional units.			
Age group	Pre-16	16-18	18+	19+
	☒	☑	☑	☑
Entry requirements	Learners must be working as an operative within the highway electrical sector installing and/or maintaining highway electrical equipment. They must be able to read and interpret information which is provided in English. It is recommended that learners have a basic knowledge of first-aid procedures.			
Prerequisites	There are no formal prerequisites for this qualification.			
Recognition of prior learning (RPL)	RPL can be provided to evidence completion (in full or in part) in accordance with the Highway Electrical Training Specification. RPL must be agreed in line with the provider's internal quality-assurance procedures.			
Assessment methodologies	Multiple choice questioning Practical observation of assessment activities Verbal questioning Practical Performance Assessment by an Independent Assessor			
Assessment model	This qualification is internally assessed with external quality assurance. This means that providers will appoint assessors and an IQA is required to provide internal quality assurance prior to EQA review.			
Grading	Pass/Fail			
Is there a skills card available?	No (However the qualification can be used to support the ECS HERS Card available as part of NHSS 8)			Provider handbook
Fees	Registration and certification fees can be found in the product directory. Prices are subject to review on an annual basis so please contact the sales team if you do not have an up-to-date copy (sales@lantra.co.uk).			Product directory; sales team
How do I register learners?	Via Quartzweb https://ordering.lantra.co.uk/Login.aspx			Quartzweb user guide

5.2 Content of qualification

Learners must achieve a minimum of 37 credits: 16 credits from the core units and a minimum of 21 credits (4 units) to a maximum of 30 credits (6 units) from the Group A units.

Unit title	M/O	GLH	Credits
Core mandatory			
Health and Safety, Environmental and Working Practices	M	30	10
Establish Effective Working Relationships	M	15	3
Prepare for the Installation and Maintenance of Highway Electrical Systems and Equipment	M	14	3
Group A optional			
Identify and Correct Faults in Electrical Systems, Equipment and Components	O	22	5
Install and Connect Highway Electrical Systems, Equipment and Components	O	37	6
Install Highway Electrical Infrastructure Equipment	O	15	4
Maintain Highway Electrical Systems, Equipment and Components	O	32	6
Carry Out Emergency Work on Highway Electrical Systems	O	20	5
Apply Surface Protection to Highway Electrical Systems	O	15	4
Mechanical Maintenance of Highway Electrical Systems and Equipment	O	25	6
Co-ordinate the Work of Others	O	25	5

5.3 Units

For the detailed unit content for this qualification please refer to pages 10-30.

6 Lantra Awards Level 3 NVQ Diploma in Servicing and Commissioning Highway Electrical Systems

6.1 Qualification overview

		Where to look for further details
Qualification title	Lantra Awards Level 3 NVQ Diploma in Servicing and Commissioning Highway Electrical Systems	Ofqual's Register of Regulatory Qualifications http://register.ofqual.gov.uk/
Qualification number	603/1822/3	
Qualification aim	This NVQ has been developed to measure the competence of operatives installing and/or maintaining highway electrical equipment. This qualification satisfies the requirements for competency as stipulated in the National Highway Sector Scheme (NHSS) 8 Quality Management document.	
Qualification purpose	This qualification aims to give learners the opportunity to develop their skills and demonstrate competence across the full range of activities that highway electrical systems operatives require as part of their everyday work. The qualification is flexible by design to meet the sector requirements.	
Qualification start date	1 September 2017	
Level	3	
Credits	55	
GLH	285	
TQT	545	
Quartz ID numbers	Units: 10467 – Apply Health and Safety and Environmental Legislation and Working Practices 10468 – Maintain Effective Working Relationships 10469 – Plan and Prepare for the Installation and Maintenance of Highway Electrical Systems and Equipment 10470 – Inspect and Test Highway Electrical Systems, Equipment and Components 10471 – Identify and Correct Faults in Electrical Systems, Equipment and Components 10472 – Install and Connect Highway Electrical Systems, Equipment and Components	

<table>
<tr><td></td><td colspan="2">10473 – Maintain Highway Electrical Systems, Equipment and Components
10474 – Commission Highway Electrical Systems, Equipment and Components
10475 – Carry Out Emergency Work on Highway Electrical Systems
10476 – Co-ordinate the Work of Others

Programme IDs:
• 5663 - Cameras
• 5664 - Communications/VMS
• 5665 – Public Lighting
• 5666 – Traffic Signals

Qualification - 284</td><td></td></tr>
<tr><td rowspan="13">Unit numbers and titles</td><td colspan="2">Core mandatory units</td><td rowspan="13">Pages 39-62</td></tr>
<tr><td>R/615/7688 (HE3/1C)</td><td>Apply Health and Safety and Environmental Legislation and Working Practices</td></tr>
<tr><td>Y/615/7689 (HE3/2C)</td><td>Maintain Effective Working Relationships</td></tr>
<tr><td>L/615/7690 (HE3/3C)</td><td>Plan and Prepare for the Installation and Maintenance of Highway Electrical Systems and Equipment</td></tr>
<tr><td>R/615/7691 (HE3/4C)</td><td>Inspect and Test Highway Electrical Systems, Equipment and Components</td></tr>
<tr><td colspan="2">Group A optional units</td></tr>
<tr><td>Y/615/7692 (HE3/5C)</td><td>Identify and Correct Faults in Electrical Systems, Equipment and Components</td></tr>
<tr><td>D/615/7693 (HE3/6C)</td><td>Install and Connect Highway Electrical Systems, Equipment and Components</td></tr>
<tr><td>H/615/7694 (HE3/7C)</td><td>Maintain Highway Electrical Systems, Equipment and Components</td></tr>
<tr><td>K/615/7695 (HE3/8C)</td><td>Commission Highway Electrical Systems, Equipment and Components</td></tr>
<tr><td colspan="2">Group B optional units</td></tr>
<tr><td>M/615/7696 (HE3/9C)</td><td>Carry Out Emergency Work on Highway Electrical Systems</td></tr>
<tr><td>T/615/7697 (HE3/10C)</td><td>Co-ordinate the Work of Others</td></tr>
<tr><td>Qualification structure</td><td colspan="2">This qualification comprises:

4 core mandatory units
4 Group A mandatory optional units
2 Group B optional units</td><td></td></tr>
</table>

	Learners must achieve a minimum of 55 credits: 31 credits from the core mandatory units and 24 credits from the Group A mandatory optional units. Two additional units can be chosen from the Group B optional units to enhance the qualification; these cannot be added to the certification for the qualification unless the minimum number of credits for achievement has already been achieved.			
Age group	Pre-16	16-18	18+	19+
	☒	☑	☑	☑
Entry requirements	Learners must be working as an operative within the highway electrical sector installing and/or maintaining highway electrical equipment. They must be able to read and interpret information which is provided in English. It is recommended that learners have a basic knowledge of first-aid procedures.			
Prerequisites	There are no formal prerequisites for this qualification.			
Recognition of prior learning (RPL)	RPL can be provided to evidence completion (in full or in part) in accordance with the Highway Electrical Training Specification. RPL must be agreed in line with the provider's internal quality-assurance procedures.			
Assessment methodologies	Multiple-choice questioning Practical observation of assessment activities Verbal questioning.			
Assessment model	This qualification is internally assessed with external quality assurance. This means that providers will appoint assessors and an IQA is required to provide internal quality assurance prior to EQA sign-off.			
Grading	Pass/Fail			
Is there a skills card available?	No (However the qualification can be used to support the ECS HERS Card available as part of NHSS 8)			Provider handbook
Fees	Registration and certification fees can be found in the product directory. Prices are subject to review on an annual basis so please contact the sales team if you do not have an up-to-date copy (sales@lantra.co.uk).			Product directory; sales team
How do I register learners?	Via Quartzweb https://ordering.lantra.co.uk/Login.aspx			Quartzweb user guide

6.2 Content of qualification

Learners must achieve a minimum of 55 credits: 31 credits from the core units and 24 credits from the Group A units.

Two additional units can be chosen from the Group B optional units to enhance the qualification; these cannot be added to the certification for the qualification unless the minimum number of credits for achievement has already been achieved.

Unit title	M/O	GLH	Credits
Core mandatory			
Apply Health and Safety and Environmental Legislation and Working Practices	M	80	15
Maintain Effective Working Relationships	M	15	4
Plan and Prepare for the Installation and Maintenance of Highway Electrical Systems and Equipment	M	34	6
Inspect and Test Highway Electrical Systems, Equipment and Components	M	25	6
Group A optional units			
Identify and Correct Faults in Electrical Systems, Equipment and Components	OM	37	6
Install and Connect Highway Electrical Systems, Equipment and Components	OM	37	6
Maintain Highway Electrical Systems, Equipment and Components	OM	32	6
Commission Highway Electrical Systems, Equipment and Components	OM	25	6
Group B optional units			
Carry Out Emergency Work on Highway Electrical Systems	O	20	5
Co-ordinate the Work of Others	O	25	5

6.3 Units

Unit title:	Apply Health and Safety and Environmental Legislation and Working Practices
Unit level:	3
Unit credit value:	15
Internal Unit reference:	HE3/1C
Regulator Unit reference number:	R/615/7688

Learning outcome **The learner will:**	**Assessment criteria** **The learner can:**
1. Be able to implement organisational health and safety and environmental procedures before starting work.	**1.1. Identify relevant workplace health and safety and environmental procedures.**
	1.2. Present self in the workplace suitably prepared for the activities to undertaken.
	1.3. Identify the relevant person(s) in the workplace, to whom hazards should be reported.
2. Be able to apply safe working practices.	**2.1. Prepare a risk assessment and identify control measures.**
	2.2. Follow the organisation's policies and procedures for the safe use and maintenance of tools, plant, materials and equipment.
	2.3. Control health and safety hazards within job responsibility limits.
	2.4. Ensure personal conduct does not endanger the health and safety of self or others.
	2.5. Carry out work processes which comply with health and safety requirements.
	2.6. Identify and comply with health and safety signs.
3. Be able to monitor and review safety on site.	**3.1. Review own working practices and working environment for hazards which could cause serious harm, including the handling of potentially hazardous materials, tools and equipment.**

Learning outcome The learner will:	Assessment criteria The learner can:
	3.2. Identify remedial action(s) where site conditions might change the original risk assessment significantly.
4. **Understand how to apply organisational procedures for emergencies and accidents.**	**4.1. Identify how to apply the organisation's procedures in the event of injuries to self and others.**
5. Understand the environmental implications of their actions or omissions at work.	**5.1. Carry out work processes which comply with organisational environmental requirements.**
	5.2. Control those environmental hazards within own job responsibility limits.
	5.3. Identify appropriate waste management procedures.
6. Understand individual and organisational responsibilities and safe working practices.	**6.1. Describe key roles and responsibilities under current organisational requirements under health and safety and environmental legislation.**
	6.2. Identify how to locate relevant health and safety and environmental information and where to get assistance if needed.
	6.3. Identify whom to report health and safety and environmental matters.
7. Understand safe working practices.	**7.1. Identify the hazards and risks which may be present in own job role and the control measures for managing these risks.**
	7.2. Identify the effects on the public of own work activities.
	7.3. Describe how to locate relevant health and safety and environmental information for work tasks and where to get assistance if needed.
8. Understand hazards, risks, control measures and monitoring.	**8.1. Explain what constitutes a hazard in the workplace.**
	8.2. Explain how to identify and complete risk assessments.
	8.3. Identify the warning signs for the main groups of hazardous substances.

Learning outcome The learner will:	Assessment criteria The learner can:
	8.4. Identify personal protective equipment that is available for own activities.
	8.5. Outline the importance of remaining alert to the presence of hazards in the whole workplace.
9. Know about organisational emergency and accident procedures.	**9.1.** Describe emergency procedures in the workplace, including procedures for summoning emergency services and the information they will require.
	9.2. Identify the first aid facilities available and the procedures to be followed in the case of accidents involving injury.
10. Understand the environmental implication of actions or omissions at work.	**10.1.** Describe the methods of protecting property that might be affected by the work activities.
	10.2. Identify the potential implications for the environment of the work procedures used in installing or maintaining systems or components.
	10.3. Describe the materials and products that are classed as hazardous to the environment and how to identify them.
	10.4. Explain the importance of reporting hazards to the environment that arise from work procedures within the scope of own area of responsibility and of ensuring that appropriate actions are taken.
11. Understand the procedures for waste management.	**11.1.** Identify the organisation's requirements for dealing with waste, including hazardous materials and waste reduction.
	11.2. Describe the materials and products that are classed as recyclable, how to identify them, and organisational requirements for dealing with them.

Unit title:	Maintain Effective Working Relationships
Unit level:	3
Unit credit value:	4
Internal Unit reference:	HE3/2C
Regulator Unit reference number:	Y/615/7689

Learning outcome **The learner will:**	**Assessment criteria** **The learner can:**
1. Be able to communicate effectively.	**1.1. Ensure others are informed about work plans or activities which affect them or their work.**
	1.2. Communicate effectively without causing undue disruption to normal working activities.
2. Be able to develop and maintain positive working relationships.	**2.1. Establish and maintain productive working relationships with relevant people.**
	2.2. Identify how to deal with disagreements in an amicable and constructive way.
	2.3. Identify the needs and expectations of colleagues and, where appropriate, customers.
	2.4. Respond appropriately to requests for help or information which fall within the limits of their own job responsibilities and capabilities.
	2.5. Refer to the appropriate person when requests for assistance fall outside own area of responsibility.
	2.6. Contribute to effective team working.
3. **Understand relevant organisational standards for communication and behaviour.**	**3.1. Demonstrate the application of organisational standards for appearance and behaviour.**
	3.2. Pass on information in a timely, courteous and professional manner and in accordance with organisational requirements.
	3.3. Confirm the supplied product or equipment is in accordance with organisational requirements.

Learning outcome The learner will:	Assessment criteria The learner can:
4. Be able to provide relevant functional and technical information to the relevant person(s).	**4.1. Respond effectively to requests for job information from relevant person(s).**
	4.2. Identify the relevant person(s), such as customers, that need to be supplied with technical and functional information.
	4.3. Discuss the information needed in order for systems, equipment or components to be operated safely and effectively.
	4.4. Obtain current and relevant information required for the work.
	4.5. Demonstrate and explain the operation of the product to the relevant person(s).
	4.6. Ensure the relevant person(s) is able to operate the product and is aware of the necessary health and safety information and advice.
	4.7. Confirm the relevant person(s) involved accept that the system or equipment is in a satisfactory condition for handover to take place.
5. Understand how to communicate effectively.	**5.1. Give examples of how to communicate in a clear, inclusive and effective manner.**
	5.2. Explain how to establish that communication is effective and why clear, inclusive and effective communication is important.
6. Understand how to develop positive working relationships.	**6.1. Discuss the characteristics of good working relationships, reasons why working relationships may break down and the action to take to resolve this.**
	6.2. Explain the importance of developing positive working relationships.
	6.3. Identify how positive working relationships affect morale, productivity and company image.

Learning outcome The learner will:	Assessment criteria The learner can:
	6.4. Explain how to deal with issues that could have an adverse effect on working relationships.
7. Understand relevant organisational procedures for communication and behaviour.	**7.1.** Clarify organisational requirements for communicating with customers.
	7.2. Explain own organisation's standards for appearance and behaviour.
	7.3. Describe own authority limitations, and when agreement or permission needs to be sought from others.
	7.4. Clarify how to find organisational targets relevant to own job and explain own role in meeting them.
	7.5. Describe the organisational requirements in relation to the handover and demonstration of a product or equipment, where applicable.
8. Understand how to provide relevant functional and technical information to the relevant person(s).	**8.1.** Identify customers' requirements from the organisation.
	8.2. Identify the types of job information that may be required by others in the workplace, including where relevant, the need to keep colleagues informed about own work activities should it impact upon theirs.
	8.3. Identify sources of technical and functional information.
	8.4. Identify the technical and functional information that they are providing and its implications for the operation of equipment and components.
	8.5. Explain the safety implications and functional consequences of supplying inaccurate or incomplete information to the relevant person(s).
	8.6. Describe methods of checking the relevant person's understanding of the technical and non-technical information provided, including Health & Safety information.

Unit title:	Plan and Prepare for the Installation and Maintenance of Highway Electrical Systems and Equipment
Unit level:	3
Unit credit value:	6
Internal Unit reference:	HE3/3C
Regulator Unit reference number:	L/615/7690

Learning outcome **The learner will:**	**Assessment criteria** **The learner can:**
1. Understand individual responsibilities, organisational requirements and scope of works.	**1.1. Assess what work is required.**
	1.2. Ensure own communications are clear, accurate and appropriate to the situation.
	1.3. Ensure relevant documentation is completed in accordance with the organisational requirements.
	1.4. Ensure that job information and documentation is appropriate and relevant.
2. Understand what resources are required.	**2.1. Clarify the required amount and type of materials are available for work to commence and can be completed cost effectively.**
	2.2. Ensure all resources are undamaged after transportation.
	2.3. Identify the relevant person(s) in the workplace, for resolving issues.
3. Know how to work safely.	**3.1. Ensure sufficient and appropriate provision for the safe storage of materials and equipment is available.**
	3.2. Perform a review of the work location and identify hazards and risks which will impact on the work.
	3.3. Seek authorisation from the relevant person(s) prior to commencing work, that it is safe to undertake the work as specified.
4. Be able to assess the implications of carrying out the work to the required programme or not.	**4.1. Examine and agree what time is allocated for the work to be done.**
	4.2. Record or report to the relevant person any pre-work damage or defects to existing equipment.

Learning outcome The learner will:	Assessment criteria The learner can:
	4.3. Identify and report where the time allocated for the work may be exceeded and what actions should be taken as a result.
5. Understand individual responsibilities, organisational requirements and scope of works.	**5.1.** Describe own responsibilities to their employer.
	5.2. Clarify the scope, purpose and requirements of the work operations with which they are involved and for which they are responsible In accordance with the organisational requirements.
	5.3. Explain how to interpret the work documentation to identify the required resources.
6. Understand what resources are required.	**6.1.** Identify the material requirements and how to confirm they have the right type and quantity for work to commence and be completed cost-efficiently.
	6.2. Identify the transport and storage requirements for the materials and how to manage available storage in the work location.
7. Know how to work safely.	**7.1.** Explain the importance of carrying out the work whilst maintaining safety.
	7.2. Clarify the importance of carrying out visual inspections and tests as well as reviewing the work location for planning purposes to determine the work requirements.
8. Understand the implications of carrying out the work to the required programme or not.	**8.1.** Explain how to estimate the amount of time for completion of the work and the factors to take into account.
	8.2. Explain the importance of carrying out the work whilst maintaining cost effectiveness and remaining within the programme of work.
	8.3. Analyse the possible consequences of not carrying out the work within the estimated time and to the programme of work.

Unit title:	Inspect and Test Highway Electrical Systems, Equipment and Components
Unit level:	3
Unit credit value:	6
Internal Unit reference:	HE3/4C
Regulator Unit reference number:	R/615/7691

Learning outcome **The learner will:**	**Assessment criteria** **The learner can:**
1. Understand the procedures and requirements for electrical inspection and testing.	**1.1. Agree a programme of work with the relevant person(s) and confirm those aspects of the risk assessment and method statement which will impact upon the work.**
	1.2. Confirm that the safe system of work is appropriate to the scope of work.
	1.3. Confirm that test instruments are appropriate for the job, fit for purpose and are within calibration.
2. Be able to carry out electrical inspection and tests.	**2.1. Conduct a structural inspection in accordance with the requirements of the organisation.**
	2.2. Confirm equipment is installed and labelled to required standards.
	2.3. Check whether the earthing and bonding have been carried out in accordance with current standards.
	2.4. Follow organisational requirements for identifying and carrying out a safe isolation.
	2.5. Conduct an inspection in accordance with the organisation's requirements.
	2.6. Conduct the required electrical tests to ensure that the installation complies with the latest Industry Standards relevant to highway electrical systems and organisational requirements.
3. Carry out recording, reporting and verification of results.	**3.1. Rectify the fault or report the problems to the relevant person(s) for further instruction, where the test results might reveal problems.**

Learning outcome The learner will:	Assessment criteria The learner can:
	3.2. Carry out the correct functional tests to determine whether the system and equipment operates prior to leaving the site.
	3.3. Complete a formal record of the inspection and testing in accordance with the organisation's requirements.
4. Understand the procedures and requirements for electrical inspection and testing.	4.1. Identify the documentation required and the organisational procedures for completion.
	4.2. Describe the scope, type and requirements for the electrical inspection and testing of highway electrical systems and associated equipment.
	4.3. Explain the specific procedures and requirements for: • Initial verification • Periodic inspection and testing.
	4.4. Explain the importance of choosing the correct instruments for the particular test.
	4.5. State industry agreed practice or organisational requirements with regard to methods of testing and the sequence of testing.
5. Know the process for carrying out electrical inspection and tests.	5.1. Explain the correct procedures for safe isolation, where applicable.
	5.2. Describe the precautions necessary for testing energised equipment.
	5.3. Identify earthing and bonding and how to check this has been carried out correctly.
	5.4. Describe how to check test instruments are functioning and in calibration.
	5.5. Identify the characteristics of different types of cabling and components and how they impact on the test.
6. Understand the importance and requirement for recording and reporting results.	6.1. Explain the importance of accurate recording of the test.
	6.2. Describe required recording and reporting procedures for inspection and test results.

Learning outcome The learner will:	Assessment criteria The learner can:
	6.3. Identify legal responsibilities in accordance with current legislation and codes of practice.

Unit title:	Identify and Correct Faults in Highway Electrical Systems, Equipment and Components
Unit level:	3
Unit credit value:	6
Internal Unit reference:	HE3/5C
Regulator Unit reference number:	Y/615/7692

Learning outcome **The learner will:**	**Assessment criteria** **The learner can:**
1. Understand and apply the organisational requirements for identifying and rectifying faults.	**1.1. Inform the relevant person(s) clearly and accurately about the potential disruption and consequences of the identification and rectification of the fault.**
	1.2. Perform safe procedures for diagnosing using appropriate tools, equipment and materials.
	1.3. Justify and agree the appropriate repairs, removals and replacements with the relevant people.
2. Be able to carry out the identification and correction of faults in accordance with technical / functional and safety requirements.	**2.1. Obtain information about the reported faults and any components which need to be replaced including the system specification where applicable.**
	2.2. Perform suitable tests on the installed electrotechnical systems and equipment to identify the fault.
	2.3. Follow the correct procedures for carrying out a safe and secure isolation.
	2.4. Leave the electrotechnical systems, equipment and components in a safe condition.
3. Be able to carry out relevant final tests and report as required.	**3.1. Clarify the repaired electrotechnical systems and equipment are functioning correctly.**
	3.2. Inform the relevant person(s) about the work and complete the documentation clearly and accurately.
4. Know the organisational procedures for identifying and correcting faults.	**4.1. Identify the necessary information for carrying out a successful fault diagnosis.**

Learning outcome The learner will:	Assessment criteria The learner can:
	4.2. Clarify the implications for relevant parties of carrying out diagnosis and rectification of faults.
	4.3. Clarify organisational reporting and recording procedures.
5. Know the technical and safety implications of identifying and correcting faults.	**5.1. Identify the working conditions and the working environment.**
	5.2. Describe the sequence of tests for locating faults.
	5.3. Identify the correct procedures for a safe and secure isolation.
	5.4. Identify the methods to follow for correcting faults.
	5.5. Explain how to interpret diagrams and drawings to enable the correct positioning and fixing of electrotechnical systems, equipment and components.
	5.6. Describe how to ensure that components are electrically and mechanically sound and identified clearly and correctly.
6. Know the relevant final tests and reporting requirements.	**6.1. Explain the correct methods for checking that test instruments are functional and in calibration.**
	6.2. Describe how to provide the test results and the relevant documentation to the relevant person(s) in accordance with organisational requirements.
	6.3. Clarify the method for functional testing, and where applicable inspection and testing, following the rectification of faults in electrotechnical systems.

Unit title:	Install and Connect Highway Electrical Systems, Equipment and Components
Unit level:	3
Unit credit value:	6
Internal Unit reference:	HE3/6C
Regulator Unit reference number:	D/615/7693

Learning outcome **The learner will:**	**Assessment criteria** **The learner can:**
1. Understand the correct procedures for the work(s).	**1.1. Implement a safe system of work during the installation and connection activities.**
	1.2. Follow agreed procedures to ensure the co-ordination with the activities of others.
	1.3. Demonstrate the safe use of tools and equipment.
	1.4. Carry out safe and secure isolation procedures.
	1.5. When unable to complete work report the matter to the relevant person(s).
	1.6. Complete and maintain up to date work records and ensure that they are passed to the relevant person(s) promptly.
2. Be able to carry out the installation of highway electrical equipment in accordance with organisational procedures.	**2.1. Follow the correct procedures for installing equipment.**
	2.2. Install highway electrical components and associated equipment in accordance with organisational requirements.
3. Understand the connection of and appropriate tests for the installed equipment.	**3.1. Ensure connections made are electrically and mechanically sound and they are identified in accordance with organisational requirements.**
	3.2. Where appropriate, take safe and suitable action to remedy identified defects.
4. Understand the correct procedures for the work(s).	**4.1. Explain the correct procedures for safe and secure isolation.**
	4.2. Describe the implications for relevant parties for carrying out an isolation.

Learning outcome The learner will:	Assessment criteria The learner can:
	4.3. Explain the correct procedures for dealing with Distribution Network Operator supplies and highway authority / privately owned supplies.
	4.4. Identify and explain organisational requirements for reporting and recording.
	4.5. Assess the hazards associated with using electrical equipment and plant including their lifting, handling and fixing.
5. Understand the information required for the installation of highway electrical equipment.	**5.1. Evaluate the application of organisational requirements for fixing equipment.**
	5.2. Explain how to interpret diagrams and drawings to enable the correct positioning, fixing and connection of equipment.
	5.3. Describe, where applicable, the function of components and equipment.
6. Understand the connection of and appropriate tests for the installed equipment.	**6.1. Explain the requirements for the connection of components.**
	6.2. Describe the methods for ensuring a connection is electrically and mechanically sound and identified clearly and correctly.
	6.3. Explain the appropriate tests to be carried out on completion.
	6.4. Explain the action required in the event of system, equipment or component defects.

Unit title:	Maintain Highway Electrical Systems, Equipment and Components
Unit level:	3
Unit credit value:	6
Internal Unit reference:	HE3/7C
Regulator Unit reference number:	H/615/7694

Learning outcome **The learner will:**	**Assessment criteria** **The learner can:**
1. Understand the correct procedures for maintenance work(s).	**1.1. Perform agreed maintenance procedures to ensure the effective co-ordination of activities by the relevant person(s).**
	1.2. Demonstrate the maintenance activities comply with the organisation's requirements.
	1.3. Complete maintenance activities within the agreed timescale.
2. Be able to carry out the maintenance of highway electrical equipment.	**2.1. Use relevant sources of technical information to support maintenance activities, when necessary.**
	2.2. Locate the correct wiring systems and equipment as specified in the maintenance instructions.
	2.3. Demonstrate how to carry out safe and secure isolation to comply with electrical regulations and the agreed safe system of work.
	2.4. Identify the electrical systems and equipment to be maintained.
3. Be able to identify and carry out appropriate tests and reporting where maintenance is complete or has not been effective.	**3.1. Inform the relevant person(s) clearly and accurately about the potential consequences of the results of the maintenance activity.**
	3.2. Advise the relevant person(s) promptly, where maintenance activities vary from those instructed.
	3.3. Perform suitable testing methods to evaluate the relevant performance of the equipment and systems.
	3.4. Demonstrate maintenance records are accurate, complete and promptly given to the relevant person(s) in the required format.

Learning outcome The learner will:	Assessment criteria The learner can:
	3.5. Report any expected delays in completion to the relevant persons(s) promptly, where necessary.
4. Understand the correct procedures for maintenance work(s).	4.1. Identify organisational requirements for a safe and secure isolation.
	4.2. Clarify organisational requirements for carrying out maintenance.
	4.3. Describe the importance of, documenting information and reporting findings.
	4.4. Clarify organisational requirements for the completion of necessary documentation.
5. Know the information required for the maintenance of highway electrical equipment.	5.1. Explain which information sources are relevant and appropriate to their maintenance activities.
	5.2. Explain how to interpret specifications, diagrams and drawings to find the location of the highway electrical equipment, and to identify the type of highway electrical equipment being maintained.
6. Know about repairing and replacing equipment.	6.1. Explain what action is appropriate if the maintenance activity cannot be completed or the unit is not functioning.
	6.2. Evaluate where applicable, the advantages and limitations of repair versus replacement.
	6.3. Explain the reasons for regular inspection, adjustment and replacement of, or to, electrical systems and equipment.

Unit title:	Commission Highway Electrical Systems, Equipment and Components
Unit level:	3
Unit credit value:	6
Internal Unit reference:	HE3/8C
Regulator Unit reference number:	K/615/7695

Learning outcome **The learner will:**	**Assessment criteria** **The learner can:**
1. **Be able to apply the procedures associated with commissioning inspection and tests.**	**1.1. Plan and agree the commissioning requirements with relevant people.**
2. **Be able to carry out appropriate commissioning inspection and tests.**	**2.1. Confirm that an inspection in accordance with organisational requirements has been conducted.**
	2.2. Confirm that the required tests in accordance with the organisation's requirements have been carried out.
	2.3. Confirm that the highway electrical systems and equipment are in accordance with organisational requirements.
	2.4. Confirm that the highway electrical systems, equipment and components are safe and function correctly.
3. **Be able to complete appropriate records and handover.**	**3.1. Handover highway electrical systems and equipment to the relevant person(s).**
	3.2. Complete appropriate records and pass to the relevant person(s).
4. **Understand the scope, purpose and procedures associated with commissioning inspection.**	**4.1. Identify the purpose and requirements of the system to be commissioned.**
	4.2. Explain the requirements of the inspection.
5. **Understand the scope, purpose and procedures associated with commissioning tests.**	**5.1. Describe the procedures for safe isolation.**
	5.2. Identify organisational requirements for carrying out tests, their inter-relationship and sequence.
	5.3. Explain the importance of accurate documentation.

Learning outcome The learner will:	Assessment criteria The learner can:
	5.4. Identify the requirements for commissioning the system, equipment and components.
	5.5. Identify and explain potential variations and how this would be recorded.
6. **Know about commissioning handover and reporting.**	**6.1. Explain the importance of commissioning in accordance with organisational requirements.**
	6.2. Identify agreed reporting requirements.

Unit title:	Carry Out Emergency Work on Highway Electrical Systems
Unit level:	3
Unit credit value:	5
Internal Unit reference:	HE3/9C
Regulator Unit reference number:	M/615/7696

Learning outcome **The learner will:**	**Assessment criteria** **The learner can:**
1. **Understand organisational procedures covering emergency attendance on site.**	**1.1. Prepare for the emergency work by confirming its nature and location and checking appropriate equipment is available.**
	1.2. Explain organisational requirements to ensure co-ordination as appropriate with the relevant person(s).
2. **Be able to carry out an assessment of hazards and risks and apply appropriate corrective actions whilst carrying out emergency works on site.**	**2.1. Carry out an assessment of the site to determine the hazards and risks at the site.**
	2.2. Carry out appropriate actions to ensure safe isolation.
	2.3. Make safe the highway electrical equipment to prevent immediate danger.
	2.4. Explain appropriate actions in the event that the site cannot be made safe initially.
3. **Understand organisational reporting requirements and procedures.**	**3.1. Inform the relevant person(s) of t actions taken and required.**
	3.2. Explain organisational requirements to obtain technical back-up and additional resources where necessary.
	3.3. Complete records about the work and ensure that they are passed to the relevant person(s) promptly.
4. **Know about organisational procedures covering emergency attendance on site.**	**4.1. Explain how to prepare for attending to emergency work In accordance with organisational requirements.**
	4.2. Explain how co-ordination with emergency service work and other relevant persons is carried out in accordance with organisational requirements.

Learning outcome The learner will:	Assessment criteria The learner can:
	4.3. Describe own responsibilities in accordance with organisational requirements.
5. **Know about hazards and risks and corrective actions on site.**	**5.1. Explain how to carry out a safe assessment of the site and plan site working.**
	5.2. Describe the method for identifying damage, including structural and electrical damage.
	5.3. Describe the organisational requirements to make the site safe.

Unit title:	Coordinate the Work of Others
Unit level:	3
Unit credit value:	5
Internal Unit reference:	HE3/10C
Regulator Unit reference number:	T/615/7697

Learning outcome **The learner will:**	**Assessment criteria** **The learner can:**
1. **Understand the responsibilities and requirements of supervisors.**	**1.1. Allocate duties and responsibilities in order to make best use of skills and competence.**
	1.2. Instruct others about their duties and responsibilities clearly and concisely and confirm the instructions are understood, where relevant.
	1.3. Ensure that safe and appropriate action is taken promptly where non-compliance is identified during the programme of work.
2. **Understand the principles of effective communication and coordination.**	**2.1. Ensure own communications are clear, accurate, appropriate to the situation and understood.**
	2.2. Ensure effective co-ordination with the work of other contractors, where relevant.
3. **Be able to apply safety, quality and productivity requirements.**	**3.1. Review relevant risk assessments and method statements to ensure they are appropriate for the site and other activities and provide these to the relevant people.**
	3.2. Monitor, where relevant that the work of others is in accordance with working practices and is: • **safe and fit for purpose** • **cost-effective** • **complies with organisation and industry standards.**
	3.3. Ensure that documentation is in accordance with the organisational requirements and industry standards and is legible, accurate and timely.

Learning outcome The learner will:	Assessment criteria The learner can:
	3.4. Identify the limits of the job role and explain the process for liaising with the relevant person to resolve issues which are outside the scope of their job role.
	3.5. Ensure that the equipment, accessories (if any) and materials are fit for purpose.
	3.6. Ensure that the work on completion is safe and complies with the organisational requirements.
4. **Understand the responsibilities and requirements of supervisors.**	**4.1. Define own role and responsibilities towards other staff, the employer, customers, and any sub-contractors.**
	4.2. Define own role and responsibilities when monitoring the work of others.
	4.3. Evaluate the competence of others and how to allocate roles and responsibilities.
	4.4. Identify the relevant organisational procedures for work carried out.
	4.5. Identify organisational requirements for completing the necessary documentation and how to ensure clarity, accuracy and completion within schedule.
5. **Understand the principles of effective communication and coordination.**	**5.1. Explain how to communicate effectively with others including operatives and, where appropriate, other staff, employer, customers and any sub-contractors.**
	5.2. Explain how to motivate others.
	5.3. Describe how to coordinate activities on site.
6. **Understand safety, quality and productivity requirements.**	**6.1. Identify safety requirements with regard to others.**
	6.2. Describe how to interpret, apply and communicate a risk assessment and method statement.
	6.3. Explain how to monitor health and safety on site including possible changing conditions in the workplace.

Learning outcome The learner will:	Assessment criteria The learner can:
	6.4. Describe where relevant, how to agree a work programme and plan the work allocations, duties and responsibilities of operatives for whom they are responsible.
	6.5. Describe how to confirm that the materials are fit for purpose and that the works on completion are safe and comply with organisational requirements.

7 Lantra Awards Level 3 NVQ Diploma in Servicing Highway Electrical Systems

7.1 Qualification overview

		Where to look for further details
Qualification title	Lantra Awards Level 3 NVQ Diploma in Servicing Highway Electrical Systems	Ofqual's Register of Regulatory Qualifications http://register.ofqual.gov.uk/
Qualification number	603/1866/1	
Qualification aim	This NVQ has been developed to measure the competence of operatives installing and/or maintaining highway electrical equipment. This qualification satisfies the requirements for competency as stipulated in the National Highway Sector Scheme (NHSS) 8 Quality Management document.	
Qualification purpose	This qualification aims to give learners the opportunity to develop their skills and demonstrate competence across the full range of activities that highway electrical systems operatives require as part of their everyday work. The qualification is flexible by design to meet the sector requirements.	
Qualification start date	1 September 2017	
Level	3	
Credits	37	
GLH	179	
TQT	366	
Quartz ID numbers	Units: 10467 – Apply Health and Safety and Environmental Legislation and Working Practices 10468 – Maintain Effective Working Relationships 10469 – Plan and Prepare for the Installation and Maintenance of Highway Electrical Systems and Equipment 10470 – Inspect and Test Highway Electrical Systems, Equipment and Components 10471 – Identify and Correct Faults in Electrical Systems, Equipment and Components 10472 – Install and Connect Highway Electrical Systems, Equipment and Components	

<table>
<tr><td></td><td>10473 – Maintain Highway Electrical Systems, Equipment and Components
10475 – Carry Out Emergency Work on Highway Electrical Systems
10476 – Co-ordinate the Work of Others

Programme IDs:
• 5667 - Cameras
• 5668 - Communications/VMS
• 5669 – Public Lighting
• 5670 – Traffic Signals

Qualification - 285</td><td></td></tr>
<tr><td rowspan="12">Unit numbers and titles</td><td colspan="2">Core mandatory units;</td><td rowspan="12">Pages 39-62</td></tr>
<tr><td>R/615/7688 (HE3/1C)</td><td>Apply Health and Safety and Environmental Legislation and Working Practices</td></tr>
<tr><td>Y/615/7689 (HE3/2C)</td><td>Maintain Effective Working Relationships</td></tr>
<tr><td>L/615/7690 (HE3/3C)</td><td>Plan and Prepare for the Installation and Maintenance of Highway Electrical Systems and Equipment</td></tr>
<tr><td>R/615/7691 (HE3/4C)</td><td>Inspect and Test Highway Electrical Systems, Equipment and Components</td></tr>
<tr><td colspan="2">Group A optional units</td></tr>
<tr><td>Y/615/7692 (HE3/5C)</td><td>Identify and Correct Faults in Electrical Systems, Equipment and Components</td></tr>
<tr><td>D/615/7693 (HE3/6C)</td><td>Install and Connect Highway Electrical Systems, Equipment and Components</td></tr>
<tr><td>H/615/7694 (HE3/7C)</td><td>Maintain Highway Electrical Systems, Equipment and Components</td></tr>
<tr><td colspan="2">Group B optional units</td></tr>
<tr><td>M/615/7696 (HE3/9C)</td><td>Carry Out Emergency Work on Highway Electrical Systems</td></tr>
<tr><td>T/615/7697 (HE3/10C)</td><td>Co-ordinate the Work of Others</td></tr>
<tr><td>Qualification structure</td><td>This qualification comprises:

4 core mandatory units
3 Group A mandatory optional units
2 Group B optional units

Learners must achieve a minimum of 37 credits: 31 credits from the core mandatory units and a minimum of 6 credits (1 unit) to a maximum of 18 credits (3 units) from the Group A mandatory optional units.</td><td></td></tr>
</table>

	Two additional units can be chosen from the Group B optional units to enhance the qualification; these cannot be added to the certification for the qualification unless the minimum number of credits for achievement has already been achieved.			
Age group	Pre-16	16-18	18+	19+
	☒	☑	☑	☑
Entry requirements	Learners must be working as an operative within the highway electrical sector installing and/or maintaining highway electrical equipment. They must be able to read and interpret information which is provided in English. It is recommended that learners have a basic knowledge of first-aid procedures.			
Prerequisites	There are no formal prerequisites for this qualification.			
Recognition of prior learning (RPL)	RPL can be provided to evidence completion (in full or in part) in accordance with the Highway Electrical Training Specification. RPL must be agreed in line with the provider's internal quality-assurance procedures.			
Assessment methodologies	Multiple choice questioning Practical observation of assessment activities Verbal questioning Practical Performance Assessment by an Independent Assessor			
Assessment model	This qualification is internally assessed with external quality assurance. This means that providers will appoint assessors and an IQA is required to provide internal quality assurance prior to EQA review.			
Grading	Pass/Fail			
Is there a skills card available?	No (However the qualification can be used to support the ECS HERS Card available as part of NHSS 8)			Provider handbook
Fees	Registration and certification fees can be found in the product directory. Prices are subject to review on an annual basis so please contact the sales team if you do not have an up-to-date copy (sales@lantra.co.uk).			Product directory; sales team
How do I register learners?	Via Quartzweb https://ordering.lantra.co.uk/Login.aspx			Quartzweb user guide

7.2 Content of qualification

Learners must achieve a minimum of 37 credits: 31 credits from the core units and a minimum of 6 credits (1 unit) to a maximum of 18 credits (3 units) from the Group A units.

Two additional units can be chosen from the Group B optional units to enhance the qualification; these cannot be added to the certification for the qualification unless the minimum number of credits for achievement has already been achieved.

Unit title	M/O	GLH	Credits
Core mandatory			
Apply Health and Safety and Environmental Legislation and Working Practices	M	80	15
Maintain Effective Working Relationships	M	15	4
Plan and Prepare for the Installation and Maintenance of Highway Electrical Systems and Equipment	M	34	6
Inspect and Test Highway Electrical Systems, Equipment and Components	M	25	6
Group A optional			
Identify and Correct Faults in Electrical Systems, Equipment and Components	OM	37	6
Install and Connect Highway Electrical Systems, Equipment and Components	OM	37	6
Maintain Highway Electrical Systems, Equipment and Components	OM	32	6
Group B optional			
Carry Out Emergency Work on Highway Electrical Systems	O	20	5
Co-ordinate the Work of Others	O	25	5

7.3 Units

For the detailed unit content for this qualification please refer to pages 39-62.

8 Level descriptors

These qualifications have been accredited at Levels 2 and 3. This means that, upon achieving the qualification, it can be relied upon that the learner possesses skills or knowledge appropriate to the following descriptors:

Level	Knowledge descriptor (the learner …)	Skills descriptor (the learner can …)
2	Has knowledge and understanding of facts, procedures and ideas in an area of study or field of work to complete well-defined tasks and address straightforward problems; can interpret relevant information and ideas; is aware of a range of information that is relevant to the area of study or work.	Select and use relevant cognitive and practical skills to complete well-defined, generally routine tasks and address straightforward problems; identify, gather and use relevant information to inform actions; identify how effective actions have been.
3	Has factual, procedural and theoretical knowledge and understanding of a subject or field of work to complete tasks and address problems that, while well defined, may be complex and non-routine; can interpret and evaluate relevant information and ideas; is aware of the nature of the area of study or work; is aware of different perspectives or approaches within the area of study or work.	Identify, select and use appropriate cognitive and practical skills, methods and procedures to address problems that, while well defined, may be complex and non-routine; use appropriate investigation to inform actions; review how effective methods and actions have been.

9 How are these qualifications delivered?

Lantra-approved training providers wishing to deliver these qualifications must receive a Competency-based Qualification (CBQ) approval visit and be recommended for approval by a Lantra-appointed EQA. Providers should contact Lantra's quality and standards team to register for delivery of the qualification. It is important that providers are approved on a per-qualification basis to deliver Lantra qualifications as Lantra is required to ensure that it has a quality-assurance strategy in place and it also ensures that providers receive the support they need. Upon scheme approval, you will receive the relevant documentation for delivery.

These NVQs are assessed by way of collecting a portfolio of evidence in the form of workbooks which will be supplied for each unit. In order to receive a recommendation for approval, providers must have in place:

- **Appropriate Policies and Procedures, and**
- **At least one fully qualified and occupationally competent assessor for the Qualifications and Units the Provider wishes to deliver within the relevant sub-sector(s), and**
- **At least one fully qualified and occupationally competent IQA for the Qualifications and Units the Provider wishes to deliver within the relevant sub-sector(s), who cannot be the same person as the assessor.**

Reference must be made to the Assessment Team section of the *Lantra Assessment Strategy for Units and Qualifications for the Highway Electrical Sector* document for further detail. Each member of the assessment team will need to complete an application form and provide the supporting evidence which will be reviewed by the EQA prior to approval being given or not.

Learners must be registered via Quartzweb. Details of this process are available in the Quartzweb user guide. Providers must submit the required information for learner registration. Learners should be registered on the qualification after enrolment with the provider and before assessments take place. Failure to register learners may mean assessments cannot take place. Sanctions may be imposed on providers if learners are not registered before the assessment takes place.

Learners will complete the necessary elements of the assessment and be evaluated by the internal assessor and quality assured internally by the IQA. The provider will compile and send the assessment paperwork (including the Assessment Report Form(s), Certificate Claim Form, Learner Registration and Assessment Report Form) to Lantra, where external quality assurance will take place.

Providers are not required to send learner evidence to Lantra; this should be retained by the provider. However, Lantra reserves the right to request to see learner work as part of the quality-assurance process, so this should be retained and filed so that it can be easily located.

Where a qualification is running consistently well over a period of time within a provider organisation, then Lantra may award direct-claims status (DCS), which enables certificates to be claimed in advance of external quality assurance taking place. Further details are available in section 9.53.

9.1 Delivery in the UK

The specification for these qualifications is approved for delivery in the United Kingdom. Ofqual regulates the qualifications in England, and they are accredited qualifications on the Regulated Qualifications Framework. They have been accredited with the following Qualification Accreditation Numbers: 603/1948/3, 603/1949/5, 603/1822/3 and 603/1866/1 respectively.

Regulated qualifications are subject to regular reviews to ensure their ongoing regulatory compliance and to ensure that throughout the life cycle of the qualification the content remains relevant and current.

When the qualifications are deemed to be no longer suitable, for example technology has moved on and working practices are no longer relevant, Lantra will advise providers of a qualification end date. The end date is for the end of registrations; any learners registered before this date will be allowed time to complete the qualifications. For these qualifications, that period is two years.

9.2 Who can deliver these qualifications?

Only approved Lantra providers can deliver these qualifications. For information on becoming approved, please contact Lantra via sales@lantra.co.uk or call 024 7669 6996.

Both existing and new Lantra providers will require a qualification approval visit before they can deliver these qualifications.

9.3 Key safety-critical and technically critical aspects

There are both safety-critical and technically critical aspects throughout the units within this qualification, for example highway works (including excavation or working on or near live carriageways), plant operations and working on or near electrical supplies or energised circuits.

9.4 Provider resources

The minimum resources you will need in place to deliver these qualifications are as follows:

- Documentation
  - Appropriate Policies and Procedures
  - Learner workbooks
  - Lantra Assessment Strategy for Units and Qualifications for the Highway Electrical Sector
  - CBQ information for providers

    - Assessment Report Form
    - Learner agreement and feedback
    - Summary sheet
    - Practical Performance Assessment (PPA) guidance
    - Units
- At least one occupationally competent and approved Assessor
- At least one occupationally competent and approved IQA
- A room suitable for carrying out learner inductions which includes lighting and power points
- Suitable welfare facilities
- Projector, laptop
- Suitable and correct personal protective equipment (PPE) for the task(s) being assessed, for example this may include:
    - Hard hat
    - Gloves
    - Eye protection
    - Ear defenders
    - Appropriate footwear
    - Hi-visibility clothing, as appropriate
    - Respiratory protective equipment, as appropriate
    - Any other site-specific risk-assessment requirements
- Electrical testing equipment, as applicable
- Mechanically sound plant appropriate for the task(s) being assessed, which includes but is not limited to:
    - Mobile elevated work platforms (MEWP)
    - Lorry loader/vehicle-mounted crane
    - Handheld power tools for carrying out excavation work.

9.5 Quality assurance and certification

9.5.1 Quality assurance of assessment decisions

These qualifications are internally assessed, internally quality assured and externally quality assured. This means that providers will need to appoint occupationally competent qualification assessors to assess learners and complete assessment paperwork. An occupationally competent IQA will also need to be appointed and this person will need to sample assessment decisions across the assessors. They will need to create a sampling plan that will include a cross section of assessors, learners, levels and progress taking into account any mandatory IQA requirements. They will need to carry out internal standardisation of assessors to ensure that each assessor can apply the assessment criteria consistently and accurately. The IQA will be responsible for putting this programme into place.

An EQA will be appointed to the provider and this person will be responsible for sample-checking assessment recommendations from the assessors. The suggested sample size is

10% or ten learners, whichever is the greater number; however, this can be anything up to and including 100%, e.g. new providers, assessors and IQAs will be monitored more closely initially or if issues have been identified as part of the quality-assurance process, closer scrutiny will be required. The EQA will identify which work they want to see at each visit or for Distance Monitoring activities. The sample may include a cross section of assessors, learners, levels, progress and, where applicable, IQAs if there are more than one. It is important to note that although the EQA will view only a sample of work, they may wish to widen the sample, therefore all learner work should be available for inspection.

Lantra operates both on-site and postal external quality assurance for these qualifications. You may not always have a visit from the EQA; a sample may be requested for despatch via post. The principle of quality assurance is the same either way; the EQA will review a sample of work and make a recommendation on the assessment decisions of the cohort as a whole.

Your EQA will contact you to make the necessary arrangements regarding the visit (date, venue etc.) or the despatch of a sample of work.

Where the EQA is in agreement with the findings of the IQA, this decision is communicated to Lantra and certificate claims are processed. Where the EQA is not in agreement, the reasons will be communicated to the provider with feedback to help with future assessment decisions. This may result in the need for learners to retake the assessment.

Occasionally, as part of Lantra's ongoing quality-assurance strategy, an EQA may be accompanied by either Lantra staff or another EQA. This is to ensure that integrity is assured throughout this part of the process.

Where DCS is in place, then providers will be able to claim certificates before a quality assurance visit has taken place.

Lantra will support Providers when requirements are not met, by assisting in the development of action plans, providing recommendations and, where required, implementing sanctions.

9.5.2 Claiming certification

As part of the submitted assessment documentation, providers will need to complete a certificate claim form and submit this to Lantra to process the certificates following quality-assurance approval. Where DCS is in place, the certificates will be issued prior to quality assurance taking place.

Once a learner has completed the assessment requirements and quality assurance has taken place, certificates will be issued by Lantra for providers to distribute to individual learners.

9.5.3 Direct-claims status (DCS)

Direct claims status (DCS) enables Providers to claim certification directly before an external quality assurance visit has taken place. A claim for a Provider to be given DCS status can only be made after an EQA has conducted a visit and has confirmed that assessment and IQA decisions meet the required standard on a consistent basis over a period of time. This may be twelve months or more following Provider approval to deliver the qualification and enough learners have been progressed by the Provider.

Where an EQA identifies a programme is running successfully and the provider has effective internal controls, recommendation may be made to award the provider DCS. Where this is granted, the provider must retain all assessment evidence until the EQA has quality-assured the work as meeting national standards. DCS will be withdrawn if access is not given to completed learners' evidence where certificates have already been claimed.

A system must operate within the provider organisation to ensure all assessors evaluate to the required standard. The IQA will be required to observe each assessor, retaining evidence of observations which must be made available during EQA visits. The EQA may request to sample the process and observe assessors. If the EQA is not confident of how the provider is operating they may recommend the suspension or withdrawal of DCS.

DCS does not mean that all claims are certificated without further quality-assurance checks. Quality assurance of claims will still take place, and where this suggests that certificates have been incorrectly issued this may lead to them being revoked. Providers are required to make all reasonable efforts to recover certificates which have been revoked.

Should a provider be imposed with a Level 2 sanction, DCS will automatically be removed. Further information on sanctions can be found in the provider handbook.

9.6 Enquiries about results and appeals

Lantra has an Enquiries about Results Policy and an Appeals procedure in which enquiries can be made in circumstances where a learner or provider has reason to believe that there has been an error in either the administrative processes leading to an incorrect qualification award or there has been an issue in the assessment of a learner. Fees payable for enquiries about results will be refunded in full if the enquiry is upheld or if a learner's results are changed as a result of an enquiry.

Appeals can be made following the outcome of an enquiry about results, if the learner/provider remains unhappy with the outcome or has further grounds to query the decision. Please note that appeals will not be accepted without a paid result enquiry being submitted first.

Providers must ensure that learner consent is obtained prior to an enquiry about a result being submitted. Learners must be informed that assessment outcomes can change both positively and negatively.

Please refer to the provider handbook for further details.

9.7 Malpractice and maladministration

Where malpractice is suspected, especially where there is doubt regarding the integrity of the assessment process, Lantra will immediately suspend further certification claims while an investigation is carried out. The regulatory authorities will be notified of any investigations and their outcome.

The claimant will be required to provide information about the suspected malpractice and the circumstances surrounding the matter. If found, malpractice may result in sanctions being imposed on the provider, certificates being revoked or even providers being barred from Lantra approval and reported to regulatory authorities.

Maladministration is linked to malpractice and can result in a malpractice investigation being launched, where the maladministration could impact on the credibility of the assessment taking place or the outcomes achieved, for example the failure to investigate suspected malpractice when asked to do so by Lantra.

Typical examples of malpractice and maladministration are:

- Falsifying records
- Cheating during an assessment
- Giving deliberately misleading information
- Failing to carry out assessments as required
- Cutting short tests or giving learners answers to tests
- Loss or theft of test papers or portfolios, including copying or plagiarising of assessment materials
- Making changes to assessment materials without prior approval from Lantra
- Failing to carry out adequate internal quality assurance
- Submitting false claims
- Failing to co-operate with quality-assurance checks
- Misusing the Lantra logo or materials
- Copying Lantra copyright materials.

Please refer to the Lantra Malpractice and Maladministration Policy for further details.

9.8 Recognition of Prior Learning (RPL)

RPL is defined as ‘A method of assessment that considers whether a learner can demonstrate that they can meet the assessment requirements for a qualification through knowledge, understanding or skills they already possess and do not need to develop through a course of learning’.

It is important that providers make it clear to learners that the RPL process is associated with how the learner has acquired the knowledge, understanding or skills; it does not mean the learner will be exempt from the assessment.

It is the responsibility of the assessor to decide if evidence provided by the learner is valid, reliable and current, and meets the relevant assessment criteria. Where the assessor decides that the RPL does meet the assessment criteria, this must be clearly signposted in the tracking documentation.

It is recommended that providers refer to the Provider Handbook for further information on the implementation of RPL.

9.9 Safeguarding young people and vulnerable adults

These qualifications can be offered to learners in the 16-19 age group, as well as learners aged 19+. The Health and Safety at Work etc. Act 1974 and associated legislation requires employers to ensure the health, safety and welfare at work of their employees and for providers to safeguard learners. Young people under the age of 18, and vulnerable adults can be exposed to risk when using work equipment due to immaturity, lack of experience or lack of awareness of existing or potential risks. Therefore, young people and vulnerable adults may need closer supervision.

For more information about young people at work, see the Management of Health and Safety at Work Regulations 1999.

9.10 Additional requirements and reasonable adjustments

Providers are expected to make appropriate arrangements, including reasonable adjustments. These are detailed in the Equality and Diversity Policy within the Provider Handbook, to ensure that learners with additional needs can access assessment wherever possible. The Equality and Diversity Policy covers alternative assessment arrangements which can be made for learners.

Reasonable adjustments must not, however, result in a change to the learning outcomes and assessment criteria.

A provider must apply for reasonable adjustments to Lantra using the Reasonable Adjustments Request Form. Lantra recommends that reasonable adjustment requests are submitted no later than six weeks prior to the assessment taking place so a decision on their suitability can be made before the assessment. However, Lantra recognises that this may not always be possible, and will do its best to process requests received after this point. Please note that no reasonable adjustment should be implemented without the prior approval of Lantra.

10 What does a provider need to do?

10.1 Management support

Experience has shown that qualification programmes run more effectively when given support by senior management. This can be achieved by appointing a person from the senior management team, or a designated Qualification Manager, and ensuring they are given the authority to monitor the quality management systems for the programme and to implement any required changes. This role is separate from the required role of IQA.

Management support can be demonstrated by ensuring that appropriate team members are allocated to the programme and given sufficient time and resources to carry out their role(s) effectively.

10.2 Provider records

Providers are required to retain learner records, which include the details listed below. Providers may already have their own systems which could be used to store records. Provided that the information required is accessible and conforms to the legislative requirements and those set out below, then it will not be necessary to create any additional records. Lantra does not prescribe the format in which records are kept.

Provider records must include:

- Data about individual learners, including any reasonable adjustments
- Assessment and action plans
- Learner registration
- Learner induction plan
- Achievement of units including learner evidence
- Feedback given to learners by assessors
- Evidence sampled by IQA
- Feedback given to assessors by IQA
- Actions identified by the EQA.

All records must be stored securely to avoid being falsified or fraudulent claims being made. All assessment records must be retained at the provider organisation for at least **three years** after the learner has completed the assessment. If the programme is subject to an EQA quality-assurance visit/approval sign-off, then the records should be retained for three years after this date. It is the responsibility of the provider to ensure that data is deleted at the appropriate time.

There is no prescribed format for these records and providers may wish to incorporate them into documentation they already maintain within their own organisation. If the provider already works to quality management systems such as ISO 9001 or is required to maintain records for government-funded training and Apprenticeship schemes, that documentation will almost certainly provide a basis for assessor records.

Providers may also need to adhere to separate requirements, where appropriate, with regard to the retention of records such as funding applications. Please refer to the specific requirements of the funding agency.

10.3 Support for learners

Learners will need to follow an induction programme when enrolled on the qualification. This should be designed around a particular element or unit of the qualification so that they become familiar with the way the qualification operates.

Many learners, particularly if they are mature adults, will already have pre-existing skills and knowledge. A system will need to be introduced to identify these skills and how evidence from prior achievements can be recorded – see section 9.8 Recognition of prior learning.

Throughout the programme, tutors and/or Instructors should aim to provide feedback to learners on how they are progressing through the qualification to ensure that on the day(s) of the assessment(s) they are ready. Feedback should be positive, constructive and used for future planning.

Some providers will have staff working in education support; in others, assessors may offer this support. It is important each learner has appropriate guidance and is directed towards additional information as required. Guidance on career opportunities may also be appropriate.

Learners with particular characteristics may need additional support from the Provider/Instructor. Reference should be made to Lantra's Equality and Diversity Policy for further information relating to reasonable adjustments/special considerations. Learners with certain protected characteristics should not be discriminated against or prohibited from assessment where adjustments can be made to the assessment evidence requirements which would allow them to demonstrate competence or knowledge in different ways.

Learners must be informed when they have been registered on a qualification. It is also a regulatory requirement that Lantra is informed if a learner withdraws from the qualification after they have started. Providers must also ensure that learners are informed when they have been withdrawn from a qualification for any reason and retain evidence of this.

Learners will not be recognised by Lantra until they have been registered and Lantra will have no obligation to the learners if there is a problem with them completing the qualification, such as the Provider ceasing operations.

If for any reason a Provider is not intending to renew their membership whilst they still have uncertified learners registered on a qualification, regulatory requirements stipulate that the learners' interests must be maintained. The Provider may choose to transfer learners (e.g. to another awarding organisation) or the Provider will be liable for the completion of the assessment of learners with Lantra and pay any costs and fees which are due.

11 Administration and other important information

11.1 Administration process for registration and certification

The Quartzweb user guide contains instructions on how to register learners.

Learners may transfer registration from one unit/qualification to another, provided they are both offered by Lantra. This will incur an administrative fee. If the registration fee is higher for the subsequent qualification, Providers will be invoiced for the difference. No refunds will be made if the registration fee for the subsequent qualification is lower. Learners transferring to a different Provider must re-register with the new Provider. Lantra may need to charge an administration fee to the learner's new Provider.

Learners must be informed when they have been registered onto the qualification.

11.1.1 Registering the learner

Learners **must** be registered for the qualification prior to an assessment taking place. Please refer to the Quartzweb user guide for details on how to register learners.

For each learner, the surname/family name, first name, date of birth and postcode are mandatory. The date of birth is important to distinguish between learners with the same name. Awarding organisations are required to provide data to the regulatory bodies about learner characteristics, which is why you are being asked to provide details of gender, ethnic origin and whether they have requested any reasonable adjustments. This is so that achievements can be monitored for equal opportunities purposes and to ensure that fair access to training and qualifications is achieved.

11.1.2 Certificate claims

Certificates can only be claimed for learners who are registered on Quartzweb. All certificate claims are checked against provider approval records and learner registration records, (unless DCS is in place). Certificates will not be issued for learners who are not registered prior to the assessment taking place.

The learner name entered on Quartzweb is how it will appear on the certificate.

11.1.3 Regulatory authorities

Occasionally, Ofqual (the qualification regulator) may visit providers and require access to premises, meetings, learner assessment records, internal verification records, documents, data, learners and staff. If providers refuse access, Lantra will be required to suspend all future certificate claims until the requirements of the regulatory visit have been satisfied.

11.2 Assessment strategy

Refer to the Lantra Assessment Strategy for Units and Qualifications for the Highway Electrical Sector for details on the specific criteria for assessing these qualifications.

11.3 Funding

Approved qualifications may be eligible for funding from either the Education and Skills Funding Agency or the Skills Funding Agency, or equivalent bodies in Wales and Northern Ireland. The qualification is listed on the Ofqual Register of Regulated Qualifications and the Learning Records Service (LRS). Funding may be available to organisations that meet the requirements of the relevant agency.

In order that the funding may be linked to the learner a Unique Learner Number (ULN) must be provided. The ULN should be entered in the ULN field when registering the learner on Quartzweb. For information on how to obtain ULNs for your learners, please refer to the LRS guidance at www.gov.uk/government/publications/lrs-unique-learner-numbers.

11.4 Feedback, compliments and complaints

Lantra recognises that from time to time providers, learners, assessors and other personnel may have reason to provide feedback on a process, or have grounds for a complaint. Lantra also welcomes compliments when aspects of its courses have been well received so that it can seek to implement ‘best practice’ across its suite of products.

Appendix 1 Glossary of Terms

Knowledge	Factual information that can be recalled as required. Individual can (for example) 'identify' and/or 'describe' key information which is relevant to the subject area.
Understanding	The application and extension of knowledge allowing organised thought; the generation of original ideas and critical thinking. Individual can (for example) 'explain', 'analyse' and/or 'evaluate'.
Skill	The application of knowledge and/or understanding in a practical context demonstrating practical competency. Individual can (for example) 'operate', 'use' and/or 'carry out'.
Learning outcome	How the learner will be changed by the learning/assessment process. That which the learner will, due to learning experiences, newly know, understand or be able to do.
Assessment criteria	Discreet criteria which holistically deliver on the promised objective of the qualification and which must all be evidenced to a unified (and/or graded) standard.
Qualification objective	A succinct summation of the overarching development of the learner in terms of tangible work or further developmental opportunities available as a result of achieving these qualifications.
Qualification aim	A succinct summation of why the qualification is of value to the learner (without reference to assessment).
Transferable	Knowledge, understanding or skills that can be applied beyond the context in which they were taught to benefit the learner in different job roles, industries, contexts and/or personal situations.
Assessment guidance	Guidance used to advise centres on a general level of expectation rather than to prescribe a definitive list of evidence.
Guided learning hours (GLH)	Approximate number of hours under immediate guidance or supervision of a lecturer, supervisor, tutor or teacher.
Total qualification time (TQT)	Guided learning hours + directed study An estimate of the number of hours a learner will reasonably be likely to spend in preparation, study or any other form of participation in education or training, including assessment, which is directed by (but not under immediate guidance or supervision of) an instructor, assessor, supervisor, tutor or teacher.
Arrangements for reasonable adjustments	Adjustments made to an assessment for a qualification that enable a learner with additional requirements to demonstrate his/her attainment of the level required.
Arrangements for special consideration	Special consideration might be given to a learner who has temporarily experienced: • An illness or injury • Some other event outside their control which has had a material effect on their ability to take an assessment or demonstrate their attainment.
Recognition of prior learning	A method of assessment that considers whether a learner can demonstrate that they can meet the assessment requirements for a unit through knowledge, understanding or skills they already possess and do not need to develop through a course of learning.

Appendix 2 Census Ethnic Group Classifications (2011)

Please use the code(s) in the following table to indicate ethnicity when completing the learner registration:

England and Wales		Northern Ireland		Scotland	
	White:		**White:**		**White:**
01	English/Welsh/Scottish/ Northern Irish/British	19	White	30	Scottish
		20	Irish Traveller	31	British
02	Irish		**Asian/Asian British:**	32	Irish
03	Gypsy or Irish Traveller	21	Indian	33	Any other White background
04	Any other White background	22	Pakistani		**Mixed:**
	Mixed/multiple ethnic groups:	23	Bangladeshi	34	Any mixed/multiple Ethnic background
		24	Chinese		
05	White and Black Caribbean		**Black, Black Irish or Black British:**		**Asian, Asian Scottish or Asian British:**
06	White and Black African				
07	White and Asian	25	Black Caribbean	35	Indian
08	Any other Mixed/multiple ethnic background	26	Black African	36	Pakistani
		27	Black other	37	Bangladeshi
	Asian/Asian British:		**Mixed:**	38	Chinese
09	Indian	28	Mixed ethnic group	39	Any other Asian background
10	Pakistani		**Other ethnic group:**		**Black, Black Scottish or Black British:**
11	Bangladeshi	29	Any other ethnic group		
12	Chinese			40	Caribbean
13	Any other Asian background			41	African
	Black/African/Caribbean/ Black British:			42	Any other Black background
					Other ethnic group:
14	African			43	Any other ethnic group
15	Caribbean				
16	Any other Black/African/ Caribbean background				
	Other ethnic group:				
17	Arab				
18	Any other ethnic group				

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