



# Level 2 and 3 NVQs in Highway Electrical Systems

## **Qualification Specification**

Version 3

## Notice to users

The contents of this document have been carefully researched and are believed to be correct; however, due to the rapid nature of changes to industry, technology and working practices etc. Lantra cannot guarantee the accuracy or completeness of any interpretation or statement made in this document and does not accept liability for such statements or for any incorrect information provided.

This document has been produced to accompany the specified Lantra Awards' course. It is written to give broad guidance and support to users.

It is recommended that users ensure that they remain up to date with changes in industry and working practices by attending regular training or undertaking further CPD.

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# Qualification Specification

## Lantra Awards Level 2 and 3 NVQs in Highway Electrical Systems

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## **Acknowledgements**

Lantra gratefully acknowledges the help and support of the following organisations and individuals in supplying information and illustration materials:

- The Highway Electrical Association (HEA).

# 1 Why have these Qualifications been Developed?

This Qualification Specification applies 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.

These qualifications have been developed by the Highways Electrical Skills Academy (HESA) and are designed to meet the requirements of the National Highway Sector Scheme (NHSS) 8.

These qualifications include pathways that reflect the sub-sectors of the highway electrical sector, including Cameras, Communications and Variable Messaging Signs (VMS), Public Lighting, Slot Cutting, Traffic Signals, Variable Message Signs and Electric Vehicle Charging.

Learners must be assessed against all the learning outcomes and assessment criteria set out in the qualifications with site assessments covering the criteria on at least two occasions.

This Qualification Specification provides information for approved Lantra Provider employees, Assessors, Internal Quality Assurers (IQAs) and Provider Managers involved in the planning, delivery and assessment of the qualifications listed above.

## **2 Who are these 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**

Entry for these qualifications is available to any individual who is capable of achieving the required standard. Provider staff should understand the demands of these qualifications and match Learners based on their individual capabilities and future progression requirements.

These qualifications have been developed to promote equal opportunities by eliminating any avoidable barriers which have the potential to restrict access or progression.

There are no formal requirements for entry to these qualifications.

## 3 What do these Qualifications Cover?

Learners undertaking these qualifications will be able to demonstrate their skills and knowledge to be able to work safely and effectively in the highway electrical sector.

### 3.1 Lantra Awards Level 2 NVQ Certificate in Highway Electrical Systems

This qualification aims to assess the Learner's knowledge and understanding of:

- Health and safety, environmental and working practices
- Effective working relationships
- Preparing for the installation and maintenance of highway electrical systems and equipment
- Identifying and correcting faults in electrical systems, equipment and components
- Installing and connecting highway electrical systems, equipment and components
- Installing highway electrical infrastructure equipment
- Maintaining highway electrical systems, equipment and components
- Carrying out emergency work on highway electrical systems
- Applying surface protection to highway electrical systems
- Mechanical maintenance of highway electrical systems and equipment
- Coordinating the work of others.

### 3.2 Lantra Awards Level 2 NVQ Diploma in Highway Electrical Systems

This qualification aims to assess the Learner's knowledge and understanding of:

- Health and safety, environmental and working practices
- Effective working relationships
- Preparing for the installation and maintenance of highway electrical systems and equipment
- Identifying and correcting faults in electrical systems, equipment and components
- Installing and connecting highway electrical systems, equipment and components
- Installing highway electrical infrastructure equipment
- Maintaining highway electrical systems, equipment and components
- Carrying out emergency work on highway electrical systems
- Applying surface protection to highway electrical systems
- Mechanical maintenance of highway electrical systems and equipment
- Coordinating the work of others.

### **3.3 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:

- Applying health and safety and environmental legislation and working practices
- Maintaining effective working relationships
- Planning and preparing for the installation and maintenance of highway electrical systems and equipment
- Inspecting and testing highway electrical systems, equipment and components
- Identifying and correcting faults in electrical systems, equipment and components
- Installing and connecting highway electrical systems, equipment and components
- Maintaining highway electrical systems, equipment and components
- Commissioning highway electrical systems, equipment and components
- Carrying out emergency work on highway electrical systems
- Coordinating the work of others.

### **3.4 Lantra Awards Level 3 NVQ Diploma in Servicing Highway Electrical Systems**

This qualification aims to assess the Learner's knowledge and understanding of:

- Applying health and safety and environmental legislation and working practices
- Maintaining effective working relationships
- Planning and preparing for the installation and maintenance of highway electrical systems and equipment
- Inspecting and testing highway electrical systems, equipment and components
- Identifying and correcting faults in electrical systems, equipment and components
- Installing and connecting highway electrical systems, equipment and components
- Maintaining highway electrical systems, equipment and components
- Carrying out emergency work on highway electrical systems
- Coordinating the work of others.



Following regulatory requirements for qualifications to have a distinct purpose, these qualifications are recognised and approved by the Office of Qualifications and Examinations Regulation (Ofqual) for:

Following Ofqual's regulatory requirements these qualifications are approved for the following purpose:

- D. Confirm occupational competence and/or 'licence to practice'

Sub Purpose:

- D1. Confirm competence in an occupational role to the standards required.

These qualifications will encourage Learners to develop their knowledge, understanding and skills and are aimed at those who are entering employment for the first time, for those who are already working in highway electrical who want to develop their knowledge and for those who wish to progress to further.

### 3.5 Progression Routes

These qualifications form part of a wider Lantra Awards offer. The table below indicates where there are opportunities for Learners to progress via accredited training and, where applicable, regulated qualifications.

Qualifications	
Lantra Awards Level 2 NVQ Certificate in Highway Electrical Systems	These qualifications give Learners the opportunity to develop their skills and demonstrate competence across the full range of activities that highway electrical systems operatives need to be able to do as part of their everyday work.
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	

## 4 Qualification Overview

		Where to look for further details
<b>Qualification title</b>	Lantra Awards Level 2 NVQ Certificate in Highway Electrical Systems	
<b>Qualification number</b>	603/1948/3	
<b>Qualification aim</b>	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.	
<b>Qualification purpose</b>	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.	
<b>Qualification start date</b>	1 September 2017	
<b>Level</b>	2	
<b>Credits</b>	20	
<b>GLH</b>	73	
<b>TQT</b>	200	
<b>Unit numbers and titles</b> Regulator reference (Internal reference)	<b>Core mandatory units</b>	
	K/615/8491 (HE2/1C)	Health and Safety, Environmental and Working Practices
	M/615/8492 (HE2/2C)	Establish Effective Working Relationships
	T/615/8493 (HE2/3C)	Prepare for the Installation and Maintenance of Highway Electrical Systems and Equipment
	<b>Group A optional units</b>	
A/615/8494 (HE2/4C)	Identify and Correct Faults in Electrical Systems, Equipment and Components	
		Ofqual's Register of Regulatory Qualifications <a href="http://register.ofqual.gov.uk">register.ofqual.gov.uk</a>
		Pages 21 - 45

	F/615/8495 (HE2/5C)	Install and Connect Highway Electrical Systems, Equipment and Components			
	J/615/8496 (HE2/6C)	Install Highway Electrical Infrastructure Equipment			
	L/615/8497 (HE2/7C)	Maintain Highway Electrical Systems, Equipment and Components			
	R/615/8498 (HE2/8C)	Carry out Emergency Work on Highway Electrical Systems			
	Y/615/8499 (HE2/9C)	Apply Surface Protection to Highway Electrical Systems			
	F/615/8500 (HE2/10C)	Mechanical Maintenance of Highway Electrical Systems and Equipment			
	J/615/8501 (HE2/11C)	Coordinate the Work of Others			
<b>Qualification structure</b>	<p>This qualification comprises:</p> <p>3 core mandatory units 8 Group A optional units.</p> <p>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.</p> <p>This qualification offers the following pathways:</p> <p>Cameras Communications/VMS Public Lighting Slot Cutting Traffic Signals Variable Message Signs Electric Vehicle Charging</p>				
	<b>Age group</b>	Pre-16	16–18	18+	
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

<b>Entry requirements</b>	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. Learners must have a basic knowledge of first-aid procedures.	
<b>Prerequisites</b>	There are no formal prerequisites for this qualification.	
<b>Recognition of prior learning</b>	Recognised Prior Learning (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 i.e. a copy of a certificate from the awarding organisation.	
<b>Assessment methods</b>	Review of Learner completed workbooks Practical observation of assessment activities Verbal questioning Practical Performance Assessment by an Independent Assessor in line with current HESA PPA guidance.	
<b>Assessment model</b>	This qualification is internally assessed with external verification. This means that Providers will appoint Assessors and an Internal Quality Assurer (IQA) to provide internal quality assurance prior to External Quality Assurer (EQA) sign off.	
<b>Grading</b>	Pass/Fail	
<b>Is there a skills card available?</b>	No (however the qualification can be used to support the Electrotechnical Certification Scheme (ECS) Highway Electrical Registration Scheme (HERS) card available as part of NHSS 8).	Guidance Handbook for Providers
<b>Fees</b>	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 ( <a href="mailto:sales@lantra.co.uk">sales@lantra.co.uk</a> ).	Product Directory; sales team
<b>Related documents</b>	An Assessment Strategy is available for Providers and Assessors which can be found on Quartzweb.	<a href="http://www.lantra.co.uk">www.lantra.co.uk</a>
<b>How do I register Learners?</b>	Via Quartzweb <a href="http://ordering.lantra.co.uk/Login.aspx">ordering.lantra.co.uk/Login.aspx</a>	Quartzweb User Guide

Where to look for further details

<b>Qualification title</b>	Lantra Awards Level 2 NVQ Diploma in Highway Electrical Systems		<p>Ofqual's Register of Regulatory Qualifications</p> <p><a href="http://register.ofqual.gov.uk">register.ofqual.gov.uk</a></p>
<b>Qualification number</b>	603/1949/5		
<b>Qualification aim</b>	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.		
<b>Qualification purpose</b>	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.		
<b>Qualification start date</b>	1 September 2017		
<b>Level</b>	2		
<b>Credits</b>	37		
<b>GLH</b>	162		
<b>TQT</b>	370		
<b>Unit numbers and titles</b> Regulator reference (Internal reference)	<b>Core mandatory units</b>		
	K/615/8491 (HE2/1C)	Health and Safety, Environmental and Working Practices	
	M/615/8492 (HE2/2C)	Establish Effective Working Relationships	
	T/615/8493 (HE2/3C)	Prepare for the Installation and Maintenance of Highway Electrical Systems and Equipment	
	<b>Group A optional units</b>		
A/615/8494 (HE2/4C)	Identify and Correct Faults in Electrical Systems, Equipment and Components	Pages 21 - 45	

	F/615/8495 (HE2/5C)	Install and Connect Highway Electrical Systems, Equipment and Components			
	J/615/8496 (HE2/6C)	Install Highway Electrical Infrastructure Equipment			
	L/615/8497 (HE2/7C)	Maintain Highway Electrical Systems, Equipment and Components			
	R/615/8498 (HE2/8C)	Carry out Emergency Work on Highway Electrical Systems			
	Y/615/8499 (HE2/9C)	Apply Surface Protection to Highway Electrical Systems			
	F/615/8500 (HE2/10C)	Mechanical Maintenance of Highway Electrical Systems and Equipment			
	J/615/8501 (HE2/11C)	Coordinate the Work of Others			
<b>Qualification structure</b>	<p>This qualification comprises:</p> <p>3 core mandatory units 8 Group A optional units.</p> <p>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.</p> <p>This qualification offers the following pathways:</p> <p>Cameras Communications/VMS Public Lighting Slot Cutting Traffic Signals Variable Message Signs Electric Vehicle Charging</p>				
<b>Age group</b>	Pre-16	16–18	18+	19+	
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

<b>Entry requirements</b>	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. Learners must have a basic knowledge of first-aid procedures.	
<b>Prerequisites</b>	There are no formal prerequisites for this qualification.	
<b>Recognition of prior learning</b>	Recognised Prior Learning (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 i.e. a copy of a certificate from the awarding organisation.	
<b>Assessment methods</b>	Review of Learner completed workbooks Practical observation of assessment activities Verbal questioning Practical Performance Assessment by an Independent Assessor in line with current HESA PPA guidance.	
<b>Assessment model</b>	This qualification is internally assessed with external verification. This means that Providers will appoint Assessors and an Internal Quality Assurer (IQA) to provide internal quality assurance prior to External Quality Assurer (EQA) sign off.	
<b>Grading</b>	Pass/Fail	
<b>Is there a skills card available?</b>	No (however the qualification can be used to support the ECS HERS card available as part of NHSS 8).	Guidance Handbook for Providers
<b>Fees</b>	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 ( <a href="mailto:sales@lantra.co.uk">sales@lantra.co.uk</a> ).	Product Directory; sales team
<b>Related documents</b>	An Assessment Strategy is available for Providers and Assessors which can be found on Quartzweb.	<a href="http://www.lantra.co.uk">www.lantra.co.uk</a>
<b>How do I register Learners?</b>	Via Quartzweb <a href="http://ordering.lantra.co.uk/Login.aspx">ordering.lantra.co.uk/Login.aspx</a>	Quartzweb User Guide

Where to look for further details

<b>Qualification title</b>	Lantra Awards Level 3 NVQ Diploma in Servicing and Commissioning Highway Electrical Systems		Ofqual's Register of Regulatory Qualifications <a href="http://register.ofqual.gov.uk">register.ofqual.gov.uk</a>
<b>Qualification number</b>	603/1822/3		
<b>Qualification aim</b>	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.		
<b>Qualification purpose</b>	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.		
<b>Qualification start date</b>	1 September 2017		
<b>Level</b>	3		
<b>Credits</b>	55		
<b>GLH</b>	285		
<b>TQT</b>	545		
<b>Unit numbers and titles</b> Regulator reference (Internal reference)	<b>Core mandatory units</b>		
	R/615/7688 (HE3/1C)	Apply Health and Safety and Environmental Legislation and Working Practices	
	Y/615/7689 (HE3/2C)	Maintain Effective Working Relationships	
	L/615/7690 (HE3/3C)	Plan and Prepare for the Installation and Maintenance of Highway Electrical Systems and Equipment	
	R/615/7691 (HE3/4C)	Inspect and Test Highway Electrical Systems, Equipment and Components	Pages 48 - 73



	<b>Group A mandatory optional units</b>	
	Y/615/7692 (HE3/5C)	Identify and Correct Faults in Electrical Systems, Equipment and Components
	D/615/7693 (HE3/6C)	Install and Connect Highway Electrical Systems, Equipment and Components
	H/615/7694 (HE3/7C)	Maintain Highway Electrical Systems, Equipment and Components
	K/615/7695 (HE3/8C)	Commission Highway Electrical Systems, Equipment and Components
	<b>Group B optional units</b>	
	M/615/7696 (HE3/9C)	Carry out Emergency Work on Highway Electrical Systems
T/615/7697 (HE3/10C)	Coordinate the Work of Others	
<b>Qualification structure</b>	<p>This qualification comprises:</p> <ul style="list-style-type: none"> <li>4 core mandatory units</li> <li>4 Group A mandatory optional units</li> <li>2 Group B optional units</li> </ul> <p>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.</p> <p>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.</p> <p>This qualification offers the following pathways:</p> <ul style="list-style-type: none"> <li>Cameras</li> <li>Communications/VMS</li> <li>Public Lighting</li> <li>Traffic Signals</li> <li>Variable Message Signs</li> <li>Electric Vehicle Charging</li> </ul>	

Age group	Pre-16	16–18	18+	19+	
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>Entry requirements</b>	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. Learners must have a basic knowledge of first-aid procedures.				
<b>Prerequisites</b>	There are no formal prerequisites for this qualification.				
<b>Recognition of prior learning</b>	Recognised Prior Learning (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 i.e. a copy of a certificate from the awarding organisation.				
<b>Assessment methods</b>	Review of Learner completed workbooks Practical observation of assessment activities Verbal questioning Practical Performance Assessment by an Independent Assessor in line with current HESA PPA guidance.				
<b>Assessment model</b>	This qualification is internally assessed with external verification. This means that Providers will appoint Assessors and an Internal Quality Assurer (IQA) to provide internal quality assurance prior to External Quality Assurer (EQA) sign off.				
<b>Grading</b>	Pass/Fail				
<b>Is there a skills card available?</b>	No (however the qualification can be used to support the ECS HERS card available as part of NHSS 8).				Guidance Handbook for Providers
<b>Fees</b>	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 ( <a href="mailto:sales@lantra.co.uk">sales@lantra.co.uk</a> ).				Product Directory; sales team
<b>Related documents</b>	An Assessment Strategy is available for Providers and Assessors which can be found on Quartzweb.				<a href="http://www.lantra.co.uk">www.lantra.co.uk</a>

**How do I  
register  
Learners?**

Via Quartzweb [ordering.lantra.co.uk/Login.aspx](http://ordering.lantra.co.uk/Login.aspx)

Quartzweb User Guide

Where to look for further details

<b>Qualification title</b>	Lantra Awards Level 3 NVQ Diploma in Servicing Highway Electrical Systems		<p>Ofqual's Register of Regulatory Qualifications</p> <p><a href="http://register.ofqual.gov.uk">register.ofqual.gov.uk</a></p>
<b>Qualification number</b>	603/1866/1		
<b>Qualification aim</b>	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.		
<b>Qualification purpose</b>	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.		
<b>Qualification start date</b>	1 September 2017		
<b>Level</b>	3		
<b>Credits</b>	37		
<b>GLH</b>	179		
<b>TQT</b>	366		
<b>Unit numbers and titles</b> Regulator reference (Internal reference)	<b>Core mandatory units</b>		
	R/615/7688 (HE3/1C)	Apply Health and Safety and Environmental Legislation and Working Practices	
	Y/615/7689 (HE3/2C)	Maintain Effective Working Relationships	
	L/615/7690 (HE3/3C)	Plan and Prepare for the Installation and Maintenance of Highway Electrical Systems and Equipment	
	R/615/7691 (HE3/4C)	Inspect and Test Highway Electrical Systems, Equipment and Components	
			Pages 48 - 73

	<b>Group A mandatory optional units</b>				
	Y/615/7692 (HE3/5C)	Identify and Correct Faults in Electrical Systems, Equipment and Components			
	D/615/7693 (HE3/6C)	Install and Connect Highway Electrical Systems, Equipment and Components			
	H/615/7694 (HE3/7C)	Maintain Highway Electrical Systems, Equipment and Components			
	<b>Group B optional units</b>				
	M/615/7696 (HE3/9C)	Carry out Emergency Work on Highway Electrical Systems			
	T/615/7697 (HE3/10C)	Coordinate the Work of Others			
<b>Qualification structure</b>	<p>This qualification comprises:</p> <p>4 core mandatory units 3 Group A mandatory optional units 2 Group B optional units</p> <p>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.</p> <p>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.</p> <p>This qualification offers the following pathways:</p> <p>Cameras Communications/VMS Public Lighting Traffic Signals Variable Message Signs Electric Vehicle Charging</p>				
<b>Age group</b>	Pre-16	16–18	18+	19+	
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

<b>Entry requirements</b>	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. Learners must have a basic knowledge of first-aid procedures.	
<b>Prerequisites</b>	There are no formal prerequisites for this qualification.	
<b>Recognition of prior learning</b>	Recognised Prior Learning (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 i.e. a copy of a certificate from the awarding organisation.	
<b>Assessment methods</b>	Review of Learner completed workbooks Practical observation of assessment activities Verbal questioning Practical Performance Assessment by an Independent Assessor in line with current HESA PPA guidance.	
<b>Assessment model</b>	This qualification is internally assessed with external verification. This means that Providers will appoint Assessors and an Internal Quality Assurer (IQA) to provide internal quality assurance prior to External Quality Assurer (EQA) sign off.	
<b>Grading</b>	Pass/Fail	
<b>Is there a skills card available?</b>	No (however the qualification can be used to support the ECS HERS card available as part of NHSS 8).	Guidance Handbook for Providers
<b>Fees</b>	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 ( <a href="mailto:sales@lantra.co.uk">sales@lantra.co.uk</a> ).	Product Directory; sales team
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<b>How do I register Learners?</b>	Via Quartzweb <a href="http://ordering.lantra.co.uk/Login.aspx">ordering.lantra.co.uk/Login.aspx</a>	Quartzweb User Guide

## 5 Content of Qualifications

### 5.1 Lantra Awards Level 2 NVQ Certificate in Highway Electrical Systems

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/MO	GLH	Credits
<b>Core mandatory</b>			
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
<b>Group A optional</b>			
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
Coordinate the Work of Others	O	25	5

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

<b>Learning outcome The Learner will:</b>	<b>Assessment criteria The Learner can:</b>
<b>1. Be able to follow organisational health and safety and environmental procedures before starting work</b>	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.
<b>2. Be able to follow safe working practices</b>	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.
<b>3. Understand the factors affecting the original on-site risk assessment</b>	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.



<b>Learning outcome</b> <b>The Learner will:</b>	<b>Assessment criteria</b> <b>The Learner can:</b>
<b>4. Know how to apply organisational procedures for emergencies and accidents</b>	4.1. Follow the organisation's procedures in the event of injuries to self and others.
<b>5. Understand the environmental implications of own actions or omissions at work</b>	5.1. Follow organisational instructions.
	5.2. Identify and control those environmental hazards within own job responsibility limits.
	5.3. Identify and follow appropriate waste management procedures.
<b>6. Understand individual and organisational responsibilities and safe working practices</b>	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.
<b>7. Understand safe working practices</b>	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.
<b>8. Understand hazards, risks and control measures</b>	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.
<b>9. Know about organisational emergency and accident procedures</b>	9.1. Locate emergency instructions/ procedures in the workplace.

<b>Learning outcome</b> <b>The Learner will:</b>	<b>Assessment criteria</b> <b>The Learner can:</b>
	9.2. Identify the first aid facilities available and the procedures to be followed in the case of accidents involving injury.

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

<b>Learning outcome The Learner will:</b>	<b>Assessment criteria The Learner can:</b>
<b>1. Be able to communicate effectively</b>	1.1. Inform the relevant person(s) about the works.
	1.2. Communicate effectively without causing undue disruption to normal working activities.
<b>2. Be able to establish and maintain positive working relationships</b>	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.
<b>3. Understand relevant organisational procedures for communication and behaviour</b>	3.1. Follow organisational standards for appearance and behaviour.
	3.2. Communicate in accordance with organisational instructions.
<b>4. Be able to provide relevant functional and technical information to the relevant person</b>	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.

<b>Learning outcome</b> <b>The Learner will:</b>	<b>Assessment criteria</b> <b>The Learner can:</b>
	4.4. Identify where the work might not be carried out as requested.
<b>5. Understand how to communicate effectively</b>	5.1. Explain why it is important to communicate effectively and give an example.
	5.2. Identify the importance of considering others' opinions.
<b>6. Know about establishing positive working relationships</b>	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.
<b>7. Know about relevant organisational procedures for communication and behaviour</b>	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.
<b>8. Know how to provide relevant functional and technical information to the relevant person(s)</b>	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.

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

<b>Learning outcome The Learner will:</b>	<b>Assessment criteria The Learner can:</b>
<b>1. Understand individual responsibilities, organisational requirements and scope of works</b>	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.
<b>2. Understand what resources are required</b>	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.
<b>3. Know how to prepare to work safely</b>	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.

<b>4. Understand the importance of carrying out the work to the required programme</b>	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.
<b>5. Know how to work safely</b>	5.1. State the importance of carrying out the work safely.
	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.

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

<b>Learning outcome The Learner will:</b>	<b>Assessment criteria The Learner can:</b>
<b>1. Understand and apply the organisational procedures for identifying and correcting faults</b>	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.
<b>2. Be able to carry out identification and correction of faults in accordance with technical / functional and safety requirements</b>	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.
<b>3. Be able to carry out relevant final tests and report as required</b>	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.

<b>Learning outcome</b> <b>The Learner will:</b>	<b>Assessment criteria</b> <b>The Learner can:</b>
<b>4. Know the organisational procedures for identifying and correcting faults</b>	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.
<b>5. Know the technical and safety implications of identifying and correcting faults</b>	5.1. Identify the hazards associated with the working conditions and environment.
	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.	
<b>6. Know the relevant final tests and reporting requirements</b>	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.



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

<b>Learning outcome The Learner will:</b>	<b>Assessment criteria The Learner can:</b>
<b>1. Understand the correct procedures for the work(s)</b>	1.1. Implement a safe system of work during the installation and connection activities.
	1.2. Follow agreed procedures to ensure the coordination 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.
<b>2. Be able to carry out the installation of highway electrical equipment in accordance with organisational procedures</b>	2.1. Follow the correct procedures for installing equipment.
	2.2. Install highway electrical components and associated equipment in accordance with organisational requirements.
<b>3. Know about the connection of and appropriate tests for the installed equipment</b>	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.
<b>4. Understand the correct procedures for the work(s)</b>	4.1. State the correct procedures for a safe and secure isolation.

<b>Learning outcome</b> <b>The Learner will:</b>	<b>Assessment criteria</b> <b>The Learner can:</b>
	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.
<b>5. Know the information required for the installation of highway electrical equipment</b>	5.1. Identify the method for fixing equipment in accordance with organisation requirements. 5.2. Describe how to interpret diagrams and drawings to enable the correct positioning, fixing and connection of equipment.
<b>6. Know about the connection of and appropriate tests for the installed equipment</b>	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.

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

<b>Learning outcome The Learner will:</b>	<b>Assessment criteria The Learner can:</b>
<b>1. Understand and apply the correct procedures for installation work(s)</b>	1.1. Comply with organisation requirements for reporting and recording.
	1.2. Comply with organisational requirements for the use of equipment and materials.
<b>2. Be able to ensure safe site working including monitoring of site conditions</b>	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.
<b>3. Carry out the installation of highway electrical equipment</b>	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.

<b>Learning outcome</b> <b>The Learner will:</b>	<b>Assessment criteria</b> <b>The Learner can:</b>
<b>4. Understand the correct procedures for installation work(s)</b>	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.
<b>5. Know the information required for the safe installation of highway electrical equipment</b>	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.
<b>6. Know about the requirements for correct lifting of highway electrical equipment</b>	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.

<b>Learning outcome</b> <b>The Learner will:</b>	<b>Assessment criteria</b> <b>The Learner can:</b>
	6.6. State how to determine that the weights to be lifted are within the safe working load requirements.

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

<b>Learning outcome The Learner will:</b>	<b>Assessment criteria The Learner can:</b>
<b>1. Understand and apply the correct procedures for installation work(s)</b>	1.1. Follow agreed maintenance procedures to ensure the effective coordination of activities by the relevant person(s).
<b>2. Be able to carry out the maintenance of highway electrical equipment</b>	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.
<b>3. Identify and carry out appropriate tests and reporting where maintenance is complete or has not been effective</b>	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).

<b>Learning outcome</b> <b>The Learner will:</b>	<b>Assessment criteria</b> <b>The Learner can:</b>
<b>4. Understand the correct procedures for maintenance work(s)</b>	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.
	4.4. Identify organisational requirements for the completion of necessary documentation.
<b>5. Know the information required for the maintenance of highway electrical equipment</b>	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.
<b>6. Know about repairing and replacing equipment</b>	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.

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

<b>Learning outcome The Learner will:</b>	<b>Assessment criteria The Learner can:</b>
<b>1. Understand organisational procedures covering emergency attendance on-site</b>	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 coordination as appropriate with relevant person(s).
<b>2. Be able to carry out an assessment of hazards and risks and apply appropriate corrective actions whilst carrying out emergency works</b>	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.
<b>3. Understand organisational reporting requirements and procedures</b>	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.
<b>4. Know about organisational procedures covering emergency attendance on-site</b>	4.1. Identify how to prepare for attending to emergency work in accordance with organisational requirements.



<b>Learning outcome</b> <b>The Learner will:</b>	<b>Assessment criteria</b> <b>The Learner can:</b>
	<p>4.2. Identify how coordination with emergency service work and other relevant persons is carried out in accordance with organisational requirements.</p> <p>4.3. State own responsibilities in accordance with organisational requirements.</p>
<b>5. Know about hazards and risks and corrective actions on-site</b>	<p>5.1. Describe how to carry out a safe assessment of the site and plan site working.</p> <p>5.2. Describe the method for identifying damage, including structural and electrical damage.</p> <p>5.3. State what the organisational requirements are to make the site safe.</p>

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

<b>Learning outcome The Learner will:</b>	<b>Assessment criteria The Learner can:</b>
<b>1. Understand the scope and procedures for carrying out work</b>	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.
<b>2. Be able to carry out surface preparation and surface protection in accordance with procedures</b>	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.
<b>3. Understand the scope and procedures for assessing work to be carried out</b>	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.
<b>4. Understand what work needs to be carried out and the associated safety requirements</b>	4.1. Describe how to determine the correct tools/equipment for the application of surface protection materials.

<b>Learning outcome</b> <b>The Learner will:</b>	<b>Assessment criteria</b> <b>The Learner can:</b>
	4.2. Identify the correct temporary traffic management appropriate to the site and in accordance with organisational requirements.

<b>Unit title:</b>	Mechanical Maintenance of Highway Electrical Systems and Equipment
<b>Internal unit reference:</b>	HE2/10C
<b>Regulator unit reference number:</b>	F/615/8500
<b>Unit level:</b>	2
<b>Unit credit value:</b>	6

<b>Learning outcome The Learner will:</b>	<b>Assessment criteria The Learner can:</b>
<b>1. Understand and use the correct procedures for maintenance work(s)</b>	1.1. Follow agreed maintenance procedures to ensure the effective coordination 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.
<b>2. Be able to carry out the maintenance of highway electrical equipment</b>	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.
<b>3. Identify and carry out appropriate tests and reporting where maintenance is complete or has not been effective</b>	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.

<b>Learning outcome</b> <b>The Learner will:</b>	<b>Assessment criteria</b> <b>The Learner can:</b>
	3.5. Report promptly where necessary, any expected delays in completion to the relevant persons(s).
<b>4. Understand the correct procedures for maintenance work(s)</b>	4.1. Identify organisational safe working practices.
	4.2. State the importance of, documenting information and reporting findings.
	4.3. Identify organisational requirements for the completion of necessary documentation.
<b>5. Know the information required for the maintenance of highway electrical equipment</b>	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.
<b>6. Know about repairing and replacing equipment</b>	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.

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

<b>Learning outcome The Learner will:</b>	<b>Assessment criteria The Learner can:</b>
<b>1. Understand the responsibilities and requirements of team leaders</b>	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.
<b>2. Understand the principles of effective communication and coordination</b>	2.1. Ensure own communications are clear, accurate, appropriate to the situation and understood.
	2.2. Ensure effective coordination with the work of other contractors, where relevant.
<b>3. Be able to apply safety, quality and productivity requirements</b>	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: <ul style="list-style-type: none"> <li>• safe and fit for purpose</li> <li>• cost-effective</li> <li>• complies with organisation and industry standards.</li> </ul>
	3.3. Ensure that documentation is in accordance with the organisational requirements and industry standards and is legible, accurate and timely.

<b>Learning outcome</b> <b>The Learner will:</b>	<b>Assessment criteria</b> <b>The Learner can:</b>
	<p>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.</p> <p>3.5. Ensure that the equipment, accessories (if any) and materials are fit for purpose.</p> <p>3.6. Ensure that the work on completion is safe and complies with the organisational requirements.</p>
<b>4. Understand the responsibilities and requirements of team leaders</b>	<p>4.1. Define own role and responsibilities towards other staff, the employer, customers, and any sub-contractors.</p> <p>4.2. Define own role and responsibilities when monitoring the work of others.</p> <p>4.3. Identify where relevant the competence of others.</p> <p>4.4. Identify the relevant organisational procedures for work carried out.</p> <p>4.5. Identify organisational requirements for completing the necessary documentation and how to ensure clarity, accuracy and completion within schedule.</p>
<b>5. Understand the principles of effective communication and coordination</b>	<p>5.1. Identify how to communicate effectively with others including other operatives and, where appropriate, other staff and any sub-contractors.</p> <p>5.2. Identify how to motivate others.</p> <p>5.3. Identify how to coordinate activities on-site.</p>
<b>6. Know about safety, quality and productivity requirements</b>	<p>6.1. Identify safety requirements regarding others.</p> <p>6.2. State how to apply and communicate a risk assessment and method statement.</p>

<b>Learning outcome</b> <b>The Learner will:</b>	<b>Assessment criteria</b> <b>The Learner can:</b>
	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.



## 5.2 Lantra Awards Level 2 NVQ Diploma in Highway Electrical Systems

This qualification comprises:

- 3 core mandatory units
- 8 Group A optional units

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/MO	GLH	Credits
<b>Core mandatory</b>			
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
<b>Group A optional</b>			
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
Coordinate the Work of Others	O	25	5

For the detailed unit content for this qualification please refer to pages 21-45.

## 5.3 Lantra Awards Level 3 NVQ Certificate in Servicing and Commissioning Highway Electrical Systems

This qualification comprises:

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

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/MO	GLH	Credits
<b>Core mandatory</b>			
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
<b>Group A mandatory optional units</b>			
Identify and Correct Faults in Electrical Systems, Equipment and Components	MO	37	6
Install and Connect Highway Electrical Systems, Equipment and Components	MO	37	6
Maintain Highway Electrical Systems, Equipment and Components	MO	32	6
Commission Highway Electrical Systems, Equipment and Components	MO	25	6
<b>Group B optional units</b>			
Carry out Emergency Work on Highway Electrical Systems	O	20	5
Coordinate the Work of Others	O	25	5

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

<b>Learning outcome The Learner will:</b>	<b>Assessment criteria The Learner can:</b>
<b>1. Be able to implement organisational health and safety and environmental procedures before starting work</b>	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.
<b>2. Be able to apply safe working practices</b>	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.
<b>3. Be able to monitor and review safety on-site</b>	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.

	3.2. Identify remedial action(s) where site conditions might change the original risk assessment significantly.
<b>4. Understand how to apply organisational procedures for emergencies and accidents</b>	4.1. Identify how to apply the organisation's procedures in the event of injuries to self and others.
<b>5. Understand the environmental implications of their actions or omissions at work</b>	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.
<b>6. Understand individual and organisational responsibilities and safe working practices</b>	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.
<b>7. Understand safe working practices</b>	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.
<b>8. Understand hazards, risks, control measures and monitoring</b>	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.

	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.
<b>9. Know about organisational emergency and accident procedures</b>	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.
<b>10. Understand the environmental implication of actions or omissions at work</b>	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.
<b>11. Understand the procedures for waste management</b>	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.

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

<b>Learning outcome The Learner will:</b>	<b>Assessment criteria The Learner can:</b>
<b>1. Be able to communicate effectively</b>	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.
<b>2. Be able to develop and maintain positive working relationships</b>	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.
<b>3. Understand relevant organisational standards for communication and behaviour</b>	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.

<b>Learning outcome</b> <b>The Learner will:</b>	<b>Assessment criteria</b> <b>The Learner can:</b>
<b>4. Be able to provide relevant functional and technical information to the relevant person(s)</b>	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.
<b>5. Understand how to communicate effectively</b>	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.
<b>6. Understand how to develop positive working relationships</b>	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.

<b>Learning outcome</b> <b>The Learner will:</b>	<b>Assessment criteria</b> <b>The Learner can:</b>
	6.4. Explain how to deal with issues that could have an adverse effect on working relationships.
<b>7. Understand relevant organisational procedures for communication and behaviour</b>	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.
<b>8. Understand how to provide relevant functional and technical information to the relevant person(s)</b>	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).



<b>Learning outcome</b> <b>The Learner will:</b>	<b>Assessment criteria</b> <b>The Learner can:</b>
	8.6. Describe methods of checking the relevant person's understanding of the technical and non-technical information provided, including health and safety information.

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

<b>Learning outcome The Learner will:</b>	<b>Assessment criteria The Learner can:</b>
<b>1. Understand individual responsibilities, organisational requirements and scope of works</b>	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.
<b>2. Understand what resources are required</b>	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.
<b>3. Know how to prepare for work safely</b>	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.

<b>Learning outcome</b> <b>The Learner will:</b>	<b>Assessment criteria</b> <b>The Learner can:</b>
<b>4. Be able to assess the implications of carrying out the work to the required programme or not</b>	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.
	4.3. Identify and report where the time allocated for the work may be exceeded and what actions should be taken as a result.
<b>5. Understand individual responsibilities, organisational requirements and scope of works</b>	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.
<b>6. Know how to determine material requirements</b>	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.
<b>7. Know how to work safely</b>	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.
<b>8. Understand the implications of carrying out the work to the required programme or not</b>	8.1. Explain how to estimate the amount of time for completion of the work and the factors to take into account.

<b>Learning outcome</b> <b>The Learner will:</b>	<b>Assessment criteria</b> <b>The Learner can:</b>
	<p>8.2. Explain the importance of carrying out the work whilst maintaining cost effectiveness and remaining within the programme of work.</p> <p>8.3. Analyse the possible consequences of not carrying out the work within the estimated time and to the programme of work.</p>

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

<b>Learning outcome The Learner will:</b>	<b>Assessment criteria The Learner can:</b>
<b>1. Understand the safety procedures and requirements for electrical inspection and testing</b>	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.
<b>2. Be able to carry out electrical inspection and tests</b>	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.
<b>3. Carry out recording, reporting and verification of results</b>	3.1. Rectify the fault or report the problems to the relevant person(s) for further instruction, where the test results might reveal problems.

<b>Learning outcome</b> <b>The Learner will:</b>	<b>Assessment criteria</b> <b>The Learner can:</b>
	<p>3.2. Carry out the correct functional tests to determine whether the system and equipment operates prior to leaving the site.</p> <p>3.3. Complete a formal record of the inspection and testing in accordance with the organisation's requirements.</p>
<p><b>4. Understand the procedures and requirements for electrical inspection and testing</b></p>	<p>4.1. Identify the documentation required and the organisational procedures for completion.</p> <p>4.2. Describe the scope, type and requirements for the electrical inspection and testing of highway electrical systems and associated equipment.</p> <p>4.3. Explain the specific procedures and requirements for:</p> <ul style="list-style-type: none"> <li>• Initial verification</li> <li>• Periodic inspection and testing.</li> </ul> <p>4.4. Explain the importance of choosing the correct instruments for the particular test.</p> <p>4.5. State industry agreed practice or organisational requirements with regard to methods of testing and the sequence of testing.</p>
<p><b>5. Know the process for carrying out electrical inspection and tests</b></p>	<p>5.1. Explain the correct procedures for safe isolation, where applicable.</p> <p>5.2. Describe the precautions necessary for testing energised equipment.</p> <p>5.3. Identify earthing and bonding and how to check this has been carried out correctly.</p> <p>5.4. Describe how to check test instruments are functioning and in calibration.</p> <p>5.5. Identify the characteristics of different types of cabling and components and how they impact on the test.</p>

<b>Learning outcome</b> <b>The Learner will:</b>	<b>Assessment criteria</b> <b>The Learner can:</b>
<b>6. Understand the importance and requirement for recording and reporting results</b>	6.1. Explain the importance of accurate recording of the test.
	6.2. Describe required recording and reporting procedures for inspection and test results.
	6.3. Identify legal responsibilities in accordance with current legislation and codes of practice.

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

<b>Learning outcome The Learner will:</b>	<b>Assessment criteria The Learner can:</b>
<b>1. Understand and apply the organisational requirements for identifying and rectifying faults</b>	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.
<b>2. Be able to carry out the identification and correction of faults in accordance with technical / functional and safety requirements</b>	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.
<b>3. Be able to carry out relevant final tests and report as required</b>	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.
<b>4. Know the organisational procedures for identifying and correcting faults</b>	4.1. Identify the necessary information for carrying out a successful fault diagnosis.



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

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

<b>Learning outcome The Learner will:</b>	<b>Assessment criteria The Learner can:</b>
<b>1. Be able to implement correct procedures for the work(s)</b>	1.1. Implement a safe system of work during the installation and connection activities.
	1.2. Follow agreed procedures to ensure the coordination 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.
<b>2. Be able to carry out the installation of highway electrical equipment in accordance with organisational procedures</b>	2.1. Follow the correct procedures for installing equipment.
	2.2. Install highway electrical components and associated equipment in accordance with organisational requirements.
<b>3. Be able to ensure connection of and implement appropriate tests for the installed equipment</b>	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.
<b>4. Understand the correct procedures for the work(s)</b>	4.1. Explain the correct procedures for safe and secure isolation.

<b>Learning outcome</b> <b>The Learner will:</b>	<b>Assessment criteria</b> <b>The Learner can:</b>
	<p>4.2. Describe the implications for relevant parties for carrying out an isolation.</p> <p>4.3. Explain the correct procedures for dealing with Distribution Network Operator supplies and highway authority / privately owned supplies.</p> <p>4.4. Identify and explain organisational requirements for reporting and recording.</p> <p>4.5. Assess the hazards associated with using electrical equipment and plant including their lifting, handling and fixing.</p>
<b>5. Understand the information required for the installation of highway electrical equipment</b>	<p>5.1. Evaluate the application of organisational requirements for fixing equipment.</p> <p>5.2. Explain how to interpret diagrams and drawings to enable the correct positioning, fixing and connection of equipment.</p> <p>5.3. Describe, where applicable, the function of components and equipment.</p>
<b>6. Understand the connection of and appropriate tests for the installed equipment</b>	<p>6.1. Explain the requirements for the connection of components.</p> <p>6.2. Describe the methods for ensuring a connection is electrically and mechanically sound and identified clearly and correctly.</p> <p>6.3. Explain the appropriate tests to be carried out on completion.</p> <p>6.4. Explain the action required in the event of system, equipment or component defects.</p>

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

<b>Learning outcome The Learner will:</b>	<b>Assessment criteria The Learner can:</b>
<b>1. Be able to implement correct procedures for maintenance work(s)</b>	1.1. Perform agreed maintenance procedures to ensure the effective coordination 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.
<b>2. Be able to carry out the maintenance of highway electrical equipment</b>	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.
<b>3. Be able to identify and carry out appropriate tests and reporting where maintenance is complete or has not been effective</b>	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.

<b>Learning outcome</b> <b>The Learner will:</b>	<b>Assessment criteria</b> <b>The Learner can:</b>
	<p>3.4. Demonstrate maintenance records are accurate, complete and promptly given to the relevant person(s) in the required format.</p> <p>3.5. Report any expected delays in completion to the relevant persons(s) promptly, where necessary.</p>
<b>4. Understand the correct procedures for maintenance work(s)</b>	<p>4.1. Identify organisational requirements for a safe and secure isolation.</p> <p>4.2. Clarify organisational requirements for carrying out maintenance.</p> <p>4.3. Describe the importance of, documenting information and reporting findings.</p> <p>4.4. Clarify organisational requirements for the completion of necessary documentation.</p>
<b>5. Know the information required for the maintenance of highway electrical equipment</b>	<p>5.1. Explain which information sources are relevant and appropriate to their maintenance activities.</p> <p>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.</p>
<b>6. Know about repairing and replacing equipment</b>	<p>6.1. Explain what action is appropriate if the maintenance activity cannot be completed or the unit is not functioning.</p> <p>6.2. Evaluate where applicable, the advantages and limitations of repair versus replacement.</p> <p>6.3. Explain the reasons for regular inspection, adjustment and replacement of, or to, electrical systems and equipment.</p>

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

<b>Learning outcome The Learner will:</b>	<b>Assessment criteria The Learner can:</b>
<b>1. Be able to apply the procedures associated with commissioning inspection and tests</b>	1.1. Plan and agree the commissioning requirements with relevant people.
<b>2. Be able to carry out appropriate commissioning inspection and tests</b>	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.
<b>3. Be able to complete appropriate records and handover</b>	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).
<b>4. Understand the scope, purpose and procedures associated with commissioning inspection</b>	4.1. Identify the purpose and requirements of the system to be commissioned.
	4.2. Explain the requirements of the inspection.
<b>5. Understand the scope, purpose and procedures associated with commissioning tests</b>	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.

<b>Learning outcome</b> <b>The Learner will:</b>	<b>Assessment criteria</b> <b>The Learner can:</b>
	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.
<b>6. Know about commissioning handover and reporting</b>	6.1. Explain the importance of commissioning in accordance with organisational requirements.
	6.2. Identify agreed reporting requirements.

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

<b>Learning outcome The Learner will:</b>	<b>Assessment criteria The Learner can:</b>
<b>1. Understand organisational procedures covering emergency attendance on-site</b>	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 coordination as appropriate with the relevant person(s).
<b>2. Be able to carry out an assessment of hazards and risks and apply appropriate corrective actions whilst carrying out emergency works on-site</b>	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.
<b>3. Understand organisational reporting requirements and procedures</b>	3.1. Inform the relevant person(s) of the 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.
<b>4. Know about organisational procedures covering emergency attendance on-site.</b>	4.1. Explain how to prepare for attending to emergency work in accordance with organisational requirements.
	4.2. Explain how coordination with emergency service work and other relevant persons is carried out in accordance with organisational requirements.



<b>Learning outcome</b> <b>The Learner will:</b>	<b>Assessment criteria</b> <b>The Learner can:</b>
	4.3. Describe own responsibilities in accordance with organisational requirements.
<b>5. Know about hazards and risks and corrective actions on-site</b>	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.

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

<b>Learning outcome The Learner will:</b>	<b>Assessment criteria The Learner can:</b>
<b>1. Understand the responsibilities and requirements for coordinating the work of others</b>	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.
<b>2. Be able to apply the principles of effective communication and coordination</b>	2.1. Ensure own communications are clear, accurate, appropriate to the situation and understood.
	2.2. Ensure effective coordination with the work of other contractors, where relevant.
<b>3. Be able to apply safety, quality and productivity requirements</b>	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: <ul style="list-style-type: none"> <li>• safe and fit for purpose</li> <li>• cost-effective</li> <li>• complies with organisation and industry standards.</li> </ul>
	3.3. Ensure that documentation is in accordance with the organisational requirements and industry standards and is legible, accurate and timely.

<b>Learning outcome</b> <b>The Learner will:</b>	<b>Assessment criteria</b> <b>The Learner can:</b>
	<p>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.</p> <p>3.5. Ensure that the equipment, accessories (if any) and materials are fit for purpose.</p> <p>3.6. Ensure that the work on completion is safe and complies with the organisational requirements.</p>
<b>4. Understand the role and actions for coordinating the work of others</b>	<p>4.1. Define own role and responsibilities towards other staff, the employer, customers, and any sub-contractors.</p> <p>4.2. Define own role and responsibilities when monitoring the work of others.</p> <p>4.3. Evaluate the competence of others and how to allocate roles and responsibilities.</p> <p>4.4. Identify the relevant organisational procedures for work carried out.</p> <p>4.5. Identify organisational requirements for completing the necessary documentation and how to ensure clarity, accuracy and completion within schedule.</p>
<b>5. Understand the principles of effective communication and coordination</b>	<p>5.1. Explain how to communicate effectively with others including operatives and, where appropriate, other staff, employer, customers and any sub-contractors.</p> <p>5.2. Explain how to motivate others.</p> <p>5.3. Describe how to coordinate activities on-site.</p>
<b>6. Understand safety, quality and productivity requirements</b>	<p>6.1. Identify safety requirements with regard to others.</p> <p>6.2. Describe how to interpret, apply and communicate a risk assessment and method statement.</p>

<b>Learning outcome</b> <b>The Learner will:</b>	<b>Assessment criteria</b> <b>The Learner can:</b>
	6.3. Explain how to monitor health and safety on-site including possible changing conditions in the workplace.
	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.

## 5.4 Lantra Awards Level 3 NVQ Diploma in Servicing Highway Electrical Systems

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 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/MO	GLH	Credits
<b>Core mandatory</b>			
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
<b>Group A mandatory optional</b>			
Identify and Correct Faults in Electrical Systems, Equipment and Components	MO	37	6
Install and Connect Highway Electrical Systems, Equipment and Components	MO	37	6
Maintain Highway Electrical Systems, Equipment and Components	MO	32	6
<b>Group B optional</b>			
Carry out Emergency Work on Highway Electrical Systems	O	20	5
Coordinate the Work of Others	O	25	5

For the detailed unit content for this qualification please refer to pages 48-73.

## 6 Level Descriptors

These qualifications have been accredited at Level 2 and Level 3. This means that upon achieving the qualification the Learner can be relied upon to possess the skills or knowledge described below.

Level	Knowledge Descriptor The Learner has:	Skills Descriptor The Learner can:
2	<p>The knowledge and understanding of facts, procedures and ideas in an area of study or field of work necessary to complete well-defined tasks and address straightforward problems. The ability to interpret relevant information and ideas. Awareness of a range of information that is relevant to the area of study or work.</p>	<p>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.</p>
3	<p>The factual, procedural and theoretical knowledge and understanding of a subject or field of work necessary to complete tasks and address problems that are well defined but may be complex and non-routine. The ability to interpret and evaluate relevant information and ideas. Awareness of the nature of the area of study or work. Awareness of different perspectives or approaches within the area of study or work.</p>	<p>Identify, select and use appropriate cognitive and practical skills, methods and procedures to address problems that are well defined but may be complex and non-routine. Use appropriate investigation to inform actions. Review how effective methods and actions have been.</p>

## 7 How are these Qualifications Delivered?

In order to deliver these qualifications, you will need to be a Lantra approved Provider. Details of how to become an approved Provider are available by contacting our sales team, [sales@lantra.co.uk](mailto:sales@lantra.co.uk).

Lantra-approved 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 shall 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, including 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, including induction into the Provider Centre, 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 shall 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 shall complete the necessary elements of the assessment and be evaluated by the Assessor and quality assured internally by the IQA.

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 Provider is running a qualification consistently well, 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 7.7.4.

### 7.1 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:

Lantra Awards Level 2 NVQ Certificate in Highway Electrical Systems	603/1948/3
Lantra Awards Level 2 NVQ Diploma in Highway Electrical Systems	603/1949/5
Lantra Awards Level 3 NVQ Diploma in Servicing and Commissioning Highway Electrical Systems	603/1822/3
Lantra Awards Level 3 NVQ Diploma in Servicing Highway Electrical Systems	603/1866/1

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.

## 7.2 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](mailto:sales@lantra.co.uk) or call on 02476 69 69 96.

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

## 7.3 Key Safety-Critical and Technically Critical Aspects

There are both safety-critical and technically critical aspects throughout the units within these qualifications, 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.

Any demonstration of competence involving key safety-critical and technically critical aspects, examples of which are listed below (this list is not exhaustive), must be a fundamental element of the assessment of occupational competence, as determined by the industry:

- Safe isolation
- Termination and connection
- Infrastructure installation
- Inspection, testing and commissioning
- Risk assessment and safe working practices
- Identifying, diagnosing and correcting faults
- Emergency attendance (professional discussion)
- Commissioning (as applicable).

When undertaking practical activities, if the Learner is considered to be at risk of not performing the activity to the required standard or endangering the health and safety of themselves or



others, the Assessor may halt the activity and use their professional judgement to restart the activity with the agreement of the Learner.

The Assessor must record the reasons and subsequent decision to halt an activity.

In order to achieve a qualification Learners shall be assessed on all learning outcomes and must achieve all learning outcomes in order to be certificated.

## 7.4 Provider Resources

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

- At least one occupationally competent and approved Assessor within the specific pathway
- At least one occupationally competent and approved IQA within the specific pathway
- Facilities, venue, site:
  - A room suitable for carrying out Learner inductions which includes lighting and power points
  - Suitable welfare facilities
  - Laptop and projector.
- Documentation:
  - Appropriate Provider policies and procedures
  - Learner workbooks
  - *Lantra Assessment Strategy for Units and Qualifications for the Highway Electrical Sector*
  - CBQ Information for Providers
  - Learner Agreement and Qualification Progress Feedback document
  - Assessor Report Template
  - Learner Action Plan and feedback
  - Assessment Record Summary
  - Review of HERS related registration
  - Complaints and appeals processes and procedures.

## 7.5 Assessor Resources

It is the Assessor's responsibility to provide the following:

- A method of communication (i.e. mobile phone or landline)
- First aid equipment that complies with regulations
- An understanding of site emergency procedures
- Hand cleaning equipment.

## 7.6 Learner Resources

The Learner is required to have access to the following resources:

- Electrical testing equipment, as applicable
- Mechanically sound plant as applicable 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.
- Personal Protective Equipment (PPE) in line with centre processes and procedures, and best practice:
  - Hard hat
  - Gloves
  - Eye protection
  - Ear defenders
  - Appropriate footwear
  - High-visibility clothing as appropriate
  - Any other site specific risk assessment requirements.

## 7.7 Quality Assurance and Certification

### 7.7.1 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 qualification assessors to assess Learners and complete assessment paperwork. Where you have more than one Assessor you will need to carry out internal standardisation of each Assessor to ensure that they can apply the assessment criteria consistently and accurately. An IQA will need to be appointed by the Provider, and they will need to sample assessment decisions across the Assessors. It is also a requirement that regular standardisation activity is carried out with Assessors. 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 the Provider's IQA policy and strategy and effectiveness including the Assessors' assessment recommendations. The EQA will follow the Lantra sampling strategy which will determine the number of portfolios to be seen. This strategy involves the consideration of a number of factors such as, size of cohort and number of assessors. The EQA will produce a sampling record detailing which work they will want to see. 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, therefore, always have a visit from an EQA, but 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 request the despatch of a sample of work.

Where the EQA is in agreement this decision will be communicated to Lantra and certificate claims will be processed. Where the EQA is not in agreement the reasons will be communicated to the provider with supportive 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.

Where DCS is in place Providers will be able to claim certificates before quality assurance has taken place.

Lantra will support Providers when requirements are not met by developing action plans, providing recommendations and, where required, implementing sanctions.

### **7.7.2 Claiming Certification**

Once a Learner has completed the assessment requirements and quality assurance has taken place certification can be claimed.

Providers need to either submit a completed Certificate Claim Form or make a claim via QuartzWeb, which allows Lantra to process the certificates following quality assurance approval.

Following certificate claim, certificates will be issued by Lantra for Providers to distribute to individual Learners.

Where DCS is in place, the certificates will be issued prior to quality assurance taking place (see 7.7.4).

### **7.7.3 Replacement Certification**

If a Learner loses the original certificate Lantra can issue a replacement. The Learner will need to provide proof of identity (for example passport or driving licence) and the details of the Provider they were registered with. Lantra will check all claims for replacement certificates against the original Certificate Claim Form. The Provider may be contacted for authentication. The certificate will be marked as a replacement. A fee is payable for replacement certificates. Please contact Lantra for the current fee.

### **7.7.4 Direct Claims Status (DCS)**

DCS enables Providers to claim certification directly before external quality assurance has taken place. A claim for DCS can only be made after an EQA has conducted at least two visits, which may be approximately six months following approval to deliver the qualifications and enough Learners have been progressed by the Provider.

Where an EQA decides a programme is running consistently 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.

Providers must operate a system which ensures all Assessors assess to the required standard. The IQA shall observe each Assessor, retaining evidence of observations which must be made available during EQA visits and review portfolios and the evidence therein to ensure a consistent level of assessment to the national standards. The EQA may wish to sample the process and observe Assessors. If the EQA is not confident about the way in which 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 may lead to them being revoked. Providers are required to make all reasonable effort to recover certificates which have been revoked.

Should a Provider be imposed with a Level 2 sanction or above, DCS will automatically be removed. Further information on sanctions can be found in the Provider Handbook.

## **7.8 Enquiries About Results and Appeals**

Lantra has an Enquiries about Results Policy and Appeals Procedure which can be used when a Learner or Provider has reason to believe 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 the 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 before a paid result enquiry has been conducted.

Providers must ensure that Learner consent is obtained before an enquiry about a result is requested. Learners must be informed that assessment outcomes can change both positively and negatively.

Please refer to the Provider Handbook for further details.

## **7.9 Malpractice and Maladministration**

Where malpractice is suspected, especially where there is doubt on the integrity of the assessment process, Lantra will immediately suspend further certification claims whilst 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. Malpractice, if found, may result in sanctions being imposed on the Provider, certificates being revoked or even Providers being barred from Lantra membership and reported to regulatory authorities.

Maladministration is linked to malpractice and can result in a malpractice investigation being launched. Maladministration could impact on the credibility of the assessment taking place or

the outcomes achieved; for example, in the event of a failure to investigate suspected malpractice when asked to do so by Lantra.

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

## 7.10 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 required 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 also 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.

## 7.11 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.

## 7.12 Additional Requirements and Reasonable Adjustments

Providers shall 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. For example, within this qualification Learners must understand product information, which includes being able to understand information written in English.

A Provider must apply to Lantra for reasonable adjustments using the **Reasonable Adjustments Request Form**. Lantra recommends reasonable adjustment requests be

submitted no later than six weeks prior to any assessment taking place, to allow a decision on their suitability to be made before the assessment. However, Lantra recognises that this may not always be possible, and we will do our best to process requests received after this point.

Please note that no reasonable adjustment (other than those on the specified list) should be implemented without the prior approval of Lantra. Where reasonable adjustments appear on the specified list these should be noted on the Learner's assessment record.

## 8 What does a Provider Need to do?

### 8.1 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 an 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 roles effectively.

### 8.2 Provider Records

Providers shall retain Learner records, which include the details listed below. Providers may already have their own systems which can be used to store records. Lantra does not prescribe the format in which records are kept.

Provider records must include:

- data about individual learners, including any special needs e.g. access arrangements
- assessment and action plans
- Learner registration
- achievement of units
- feedback given to Learners by Assessors
- Learners' evidence sampled by IQAs
- feedback given to assessors by IQAs
- Learner induction plan
- action plans provided by the EQA.

All records must be stored securely to avoid being falsified or fraudulent claims being made. All assessment records must be retained by the Provider for at least **three years** after the Learner has completed the assessment. If the programme is subject to an EQA 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 cleansed 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 the Scottish Quality Management System (SQMS), the ISO 9001 series or is required to maintain records for government-funded training schemes, that documentation should provide an adequate basis for Provider 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.

## 8.3 Support for Learners

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

As part of the Learner's induction onto these qualifications, Providers shall have in place an induction plan for each Learner. This will include, as a minimum, processes in place to review and document during the induction:

- Learner suitability and risk review
- Learner underpinning knowledge, Accredited Prior Achievement (APA) and RPL
- Review of Learner HERS portfolio to determine appropriate qualification units
- Review of Learner Curriculum Vitae (CV) (as supplied by the Learner's organisation)
- Confirmation of the qualification pathway(s)/sub-sector(s), size, level and units to be undertaken by the Learner
- One-to-one discussion to determine Learner suitability and concerns
- Reasonable adjustment requirements
- Verification of identity (HERS card)
- An explanation of the process to achieve the relevant NVQ and what is expected of them
- Complaints and Appeals Procedure and process
- Start of the personal action plan and any appropriate feedback from the induction
- Photo evidence (if deemed appropriate).

Many Learners will already have pre-existing skills and knowledge. A system shall be introduced to identify these skills and how evidence from prior achievements can be recorded — see section 7.10 Recognition of prior learning.

Throughout the programme Assessors shall provide feedback to Learners on how they are progressing through the qualification to ensure that on the day of any assessment they are suitably prepared for the requirements of the on-site assessment. Feedback should be positive, constructive, recorded and used for future planning.

Some Providers will have staff working in education support; in others, Assessors may offer this support. It is important for each Learner to have appropriate guidance and be 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. Refer 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 for a qualification. It is also a regulatory requirement that Lantra be informed if a Learner later withdraws from a qualification. 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 in the case that the Provider ceases 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 Learner interests must be maintained. The Provider may choose to transfer Learners to another awarding organisation or the Provider will still be required to complete the assessment of Learners with Lantra and pay any fees due for quality assurance or certification.

## **8.4 Additional Information Required**

These qualifications are primarily undertaken by Learners who are employed in the sector, wishing to gain qualifications which will qualify them to carry out the work as required. Much of the evidence which is generated is required to be actual work carried out by the Learner under supervision. It is important that Lantra is able to track Learners who may move leave their current employment without completing the qualification. Therefore, Lantra requires that when Learners are registered on programme that the name and contact number of their employer is kept on record by the Provider.

## 9 Administration and Other Important Information

### 9.1 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 administration fee. If the registration fee for the new qualification is higher than for the previous one, Providers will be invoiced for the difference. No refunds will be made if the registration fee for the new qualification is lower. Learners transferring to a different Provider must re-register with the new Provider. Lantra may need to charge the Learner's new Provider an administration fee.

Learners must be informed when they have been registered for a qualification.

#### 9.1.1 Registering the Learner

Learners **must** be registered for a qualification before an assessment can take place. Please refer to the Quartzweb User Guide for details on how to register Learners.

Each Learner must give their surname/family name, first name, date of birth and postcode. The date of birth is important to distinguish between Learners with the same name. Data on gender, ethnic origin and whether any reasonable adjustments have been requested whilst not mandatory are beneficial so that achievements can be monitored for equal opportunities purposes and to ensure fair access to training and qualifications is achieved.

#### 9.1.2 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 to Learners who are not registered before any assessment takes place.

The Learner name will appear on the certificate in the same way as it is entered on Quartzweb.

Providers must issue the certificate to the Learner as soon as is practically possible, it is not permissible to withhold the distribution of the certificate where there is a dispute over any fees payable.

#### 9.1.3 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.

## 9.2 Assessment Strategy

### 9.2.1 Practical Performance Assessment (PPA) Assessment Facilities

The PPA for the Level 3 qualifications and Level 2 as applicable, must take place at an approved PPA Centre. The facility must:

- Be approved by the Highway Electrical Skills Academy (HESA)
- Be independent of a Learner's normal place of on/off-the-job learning (but can include site working)
- Be sector specific (e.g. public lighting, traffic signals, communications, cameras or other specialist area)
- Meet the criteria for assessment in terms of health and safety, tools, equipment, commercial conditions and location, as set out and approved by HESA
- Be appropriate for carrying out the required practical tests
- Be sited so that interruptions or distractions do not inhibit confidentiality or freedom of assessment
- Not be used for any purposes other than PPA assessment
- Include a range of highway electrical systems, components and circuits appropriate to the assessment
- Be designed to assess a Learner's proficiency in particular aspects of highway electrical work, to include isolation, fault diagnosis, inspection and test at Level 3
- Be supplied from a 230-volt system with an emergency stop/isolation switch
- All approved PPA centres are required to follow the required HESA guidance documents in full.

For further guidance refer to the *Lantra Assessment Strategy for Units and Qualifications for the Highway Electrical Sector*.

## 9.3 Funding

Approved qualifications may be eligible for funding from either the Education and Skills Funding Agency (ESFA) 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 which meet the requirements of the relevant agency.

In order for the funding to be linked to the Learner, a Unique Learner Number (ULN) must be provided. This 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 [www.gov.uk/education/learning-records-service-lrs](http://www.gov.uk/education/learning-records-service-lrs).

## 9.4 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. We would also welcome compliments when aspects of our courses have been well received so that we can seek to implement best practice across our suite of products. The Lantra Feedback, Compliments and Complaints Procedure is published on the Lantra Awards' website.

## Appendix 1 – Glossary of Terms

Knowledge	Factual information that can be recalled as required. Individual can (for example) 'identify' and/or 'describe' key information 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	Discrete 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 this qualification.
Qualification aim	A succinct summation of why this qualification is of value to the Learner (without reference to assessment).
Transferable	Knowledge, understanding or skills which 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.
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 + assessment.
Arrangements for reasonable adjustments	Adjustments made to an assessment for a qualification so as to enable a Learner with additional requirements to demonstrate his/her attainment to the level required.

Arrangements for special consideration	<p>Special consideration might be given to a Learner who has temporarily experienced:</p> <ul style="list-style-type: none"> <li>• An illness or injury</li> <li>• Some other event outside of the Learner's control which has had a material effect on the Learner's ability to take an assessment or demonstrate his/her attainment.</li> </ul>
Recognition of prior learning	<p>A method of assessment that considers whether a Learner can demonstrate that they 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.</p>

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Raising skills | Inspiring growth

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