

**1. Module details****Module name****Low Voltage - Energised Working Practice****Module duration**

It is expected that students with the appropriate entry knowledge and skills will successfully complete this module in 36 - 40 hours.

**Module code**

NUE223

**Discipline code**

0703130

**2. Module purpose**

This module is designed to supply the knowledge and skills required by electricity supply industry workers to safely work on energised low voltage equipment. The experience gained is in the correct procedures and practices involved in preparing for and carrying out installation and maintenance of low voltage overhead lines and cables, and associated equipment while conductors are energised. Discuss relevant legislation, work methods and specialised live working equipment. All procedures and practices comply in accordance with electricity supply industry standards, Supply Authority regulations, enterprise requirements, relevant Australian standards and OH&S regulations.

**3. Prerequisites**

NE162 Electrical Principles 3.  
NUE215 Overhead Conductor Installation (Distribution).

**4. Relationship to competency standards**

This module addresses Unit 3.6 of the E.S.I. National Competency Standards for Overhead Line Work and Cable Jointing and partly addresses Units 5.1, 5.3, 5.6 of the Electrical Contracting Industry Award Standard (Volume 8).

**5. Content****Relevant legislation****Enterprise work procedures****Work methods**

insulating glove  
bare hand  
work position  
change of position

**Specialist live working equipment**

inspection  
method of use

**Maintenance: repair/replace**

insulator replacement  
crossarm replacement  
fuse/link replacement

	<p>conductor repairs bridge conductor replacement</p> <p><b>Disconnection and reconnection of bridges/connections</b></p> <p><b>Convert intermediate/line construction to strain construction</b></p>
<b>6. Assessment strategy</b>	
<b>Assessment methods</b>	<p>Short answer questions (written, oral or graphic or computer based). Suitable practical exercises which assess the skills required of each learning outcome.</p>
<b>Conditions of assessment</b>	<p>Theory room for written tests together with practical field observation.</p>
<b>7. Learning outcome details</b>	
<b>Learning outcome 1</b>	<p><b>Plan and prepare for, and maintain energised low voltage overhead mains bridges.</b></p>
<b>Assessment criteria</b>	<p>1.1 Identify the general safe working practices and procedures and possible hazards associated with working on live low voltage overhead conductors and cables.</p> <p>1.2 Identify specialist live working equipment and state the safe working practices and work methods that apply when using the equipment to maintain energised low voltage overhead mains bridges.</p> <p>1.3 Describe the safe working practices and work methods used to maintain energised low voltage overhead mains bridges.</p> <p>1.4 Identify the resources, including personnel, plant, tools and specialist live working equipment required to maintain energised low voltage overhead mains bridges.</p> <p>1.5 Maintain energised low voltage overhead mains bridges.</p>

**Learning outcome 2**

**Plan and prepare for, and replace a damaged section of energised low voltage overhead conductor.**

**Assessment criteria**

- 2.1 Describe the safe working practices and work methods used to replace a damaged section of energised low voltage bare overhead conductor.
- 2.2 identify the resources, including personnel, plant, tools and specialist live working equipment required to replace a damaged section of energised low voltage bare overhead conductor.
- 2.3 Replace a damaged section of energised low voltage bare overhead conductor.

**Learning outcome 3**

**Plan and prepare for the installation of low voltage overhead conductors and cables.**

**Assessment criteria**

- 3.1 Installation requirements are analysed and appropriate work methods are identified.
- 3.2 Identify work methods used and resources required to install conductors/cables adjacent to live conductors.
- 3.3 Install conductors cables adjacent to live conductors.

**Learning outcome 4**

**Plan, prepare and replace LV intermediate crossarm, electrical apparatus and associated hardware with conductors energised.**

**Assessment criteria**

- 4.1 Obtain and analyse all relevant text.
- 4.2 Identify the appropriate work methods to be used to complete the task.
- 4.3 Identify the resources required, including personnel, plant tools and equipment.
- 4.4 Replace LV intermediate crossarm electrical apparatus and associated hardware with conductors energised.

<b>Learning outcome 5</b>	<b>Plan, prepare and replace LV pole supporting energised low voltage conductors.</b>
<b>Assessment criteria</b>	<p>5.1 Obtain and analyse all relevant text.</p> <p>5.2 Identify the appropriate work methods in be used to complete the task.</p> <p>5.3 Identify the resources required, including personnel, plant, tools and equipment.</p> <p>5.4 Replace LV pole with conductors energised.</p>
<b>Learning outcome 6</b>	<b>Plan, prepare and cut in a LV strain arrangement with conductors energised.</b>
<b>Assessment criteria</b>	<p>6.1 Obtain and analyse all relevant text.</p> <p>6.2 Identify the appropriate work methods to be used to complete the task.</p> <p>6.3 Identify the resources required, including personnel, plant, tools and equipment.</p> <p>6.4 Cut in a LV strain arrangement with conductors energised.</p>
<b>8. Delivery of the module</b>	
<b>Delivery strategy</b>	<p>Delivery strategies must be suitable for both theoretical and/or practical learning and module purpose. It is recommended that learning and assessment be facilitated in a holistic manner which may require a learning sequence other than indicated in the body of this module descriptor.</p>
<b>Resource requirements</b>	<p>Enterprise construction manuals            Relevant Australian standards            Enterprise work manuals and standing instructions            Relevant manufacturers' equipment manuals</p>
<b>Occupational health and safety requirements</b>	<p>Students should be made aware of Occupational Health and Safety issues in all situations and be expected to demonstrate safe working practices at all times. Electrical safety must be emphasised.</p>