

1. Module details**Module name****Cable Jointing 2 - HV Polymeric****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

NUE218

Discipline code

0703130

2. Module purpose

This module is designed to supply the knowledge and skills required by electricity supply industry workers to joint high voltage polymeric cables.

The experience gained is in the correct procedures and practices involved in preparing for and carrying out installation and maintenance of high voltage polymer underground cables. Accessing HV underground cables to provide a safe working environment. Conducting straight and trifurcating joints in HV polymeric and ABC cables. Conducting pole top and sub station/switchgear termination in HV polymer, ABC and Telcon cables.

All procedures and practices comply in accordance with electricity supply industry standards, Supply Authority regulations, relevant Australian standards, enterprise conditions and OH&S regulations.

3. Prerequisites

NE162 Electrical Principles 3.

NUE207 Powerline Safety Practices.

NE175 Workshop Practice.

4. Relationship to competency standards

This module addresses Unit 3. 7 of the E.S.I. National Competency Standards for Overhead Line Work and Cable Jointing and Unit 5.7 of the Electrical Contracting Industry Award Standard (Volume 8).

5. Content

Safety aspects relating to cable jointing, tools, instruments and equipment used in cable jointing

Cable types and construction

identification of HV cables

stress control

heatshrink materials

High voltage joints (polymer, ABC)

short circuit cores and seal cable

straight through

trifurcating

	<p>High voltage termination pole top termination substation/switchgear termination ABC termination Telcon termination</p> <p>Accessing HV underground cables de-energising testing earthing energising commissioning</p> <p>Repairs to cables location of faults types of damage repairs to sheath repairs to cores</p>
<p>6. Assessment strategy</p> <p>Assessment methods</p> <p>Conditions of assessment</p>	<p>Short answer questions (written, oral or graphic or computer based). Suitable practical exercises which assess the skills required of each learning outcome.</p> <p>Theory room for written tests together with practical field observation.</p>
<p>7. Learning outcome details</p> <p>Learning outcome 1</p> <p>Assessment criteria</p>	<p>Plan and prepare for the installation and maintenance of high voltage polymeric underground cables.</p> <p>1.1 Obtain and analyse information of system diagrams/plans to ensure the installation and maintenance of high voltage underground cables can be completed in accordance with electricity supply industry standards.</p> <p>1.2 Identify and interpret all technical drawings required to complete the task in accordance with electricity supply industry standards.</p> <p>1.3 Identify high voltage cables and components and explain the purpose of stress control.</p> <p>1.4 Describe the application of various tools and equipment used in conjunction with high voltage polymeric cables.</p>
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Learning outcome 2	1.5 Identify the resources required, including personnel, plant, equipment, tools and transport required for the installation and maintenance of high voltage polymeric underground cables.
Assessment criteria	<p>Joint, terminate and maintain high voltage underground polymeric cables.</p> <p>2.1 Identify the procedure for isolating high voltage underground cables, and prove safe to work.</p> <p>2.2 Joint and terminate high voltage underground cables.</p> <p>2.3 Test high voltage underground cables upon completion of joint/termination/fault repair.</p> <p>2.4 State the procedure for locating, identifying and repairing faults on high voltage underground polymeric cable.</p>
8. Delivery of the module	
Delivery strategy	<p>Delivery strategies must be suitable for both theoretical and/or practical learning and module purpose.</p> <p>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>
Resource requirements	<p>Enterprise construction manuals</p> <p>Relevant Australian standards</p> <p>Enterprise work manuals and standing instructions</p> <p>Relevant manufacturers' equipment manuals</p>
Occupational health and safety requirements	<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>