

Joint live LV paper insulated power cables in the electricity supply industry

Level 4

Credits 6

Purpose People credited with this unit standard are able to: prepare a work site to live joint low voltage (LV) paper insulated power cables; joint live LV paper insulated power cables; test cables and record live joint locations; in accordance with industry requirements.

Subfield Electricity Supply

Domain Electricity Supply - Distribution Networks

Status Registered

Status date 22 October 2003

Date version published 24 August 2007

Planned review date 31 December 2008

Entry information Open.

Accreditation Evaluation of documentation and visit by NZQA and industry.

Standard setting body (SSB) Electricity Supply Industry Training Organisation

Accreditation and Moderation Action Plan (AMAP) reference 0120

This AMAP can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Special notes

- 1 This unit standard is intended for, but not restricted to, workplace assessment.
- 2 Safety of personnel and plant must be a priority throughout the assessment. If the safety requirements are not met the assessment must stop and the candidate will be assessed as not yet competent.

- 3 Performance and work practices in relation to the elements and performance criteria must comply with all current legislation, especially the Electricity Act 1992, and any regulations and codes of practice recognised under that statute; the Health and Safety in Employment Act 1992; and the Resource Management Act 1991. Electricity supply industry codes of practice and documented industry procedures include the *Safety Manual – Electricity Industry (SM-EI)* (2004) Wellington: Electricity Engineers' Association. A full list of current legislation and industry codes is available from the Electricity Supply Industry Training Organisation, PO Box 1245, Hamilton.
- 4 'Industry requirements' include all asset owner requirements; manufacturers' specifications; and enterprise requirements which cover the documented workplace policies, procedures, specifications, business and quality management requirements relevant to the workplace in which assessment is carried out.
- 5 The observance of special safety requirements associated with this type of live jointing shall be critical to assessment against this unit standard. When working on live components and live jointing the selection and use of hand tools is to comply with IEC 60900:2004 *Live working – Hand tools for use up to 1000 V a.c. and 1500 V d.c.*
- 6 'LV' is defined as 'low voltage' and includes voltages up to and including 1000 volts AC.

Elements and performance criteria

Element 1

Prepare a work site to joint live LV paper insulated power cables in accordance with industry requirements.

Performance criteria

- 1.1 Scope of work is determined.

Range	cable types, condition of cables, energised/de-energised, material and manpower resources, cable condition, personal protection equipment.
-------	--------------------------------------------------------------------------------------------------------------------------------------------
- 1.2 Safe working zone is established.

Range	physical location, working mats, safe working area delineation, entry/exit positions, personal protection equipment.
-------	----------------------------------------------------------------------------------------------------------------------
- 1.3 Cables are identified.

Range	electrical, physical, plans.
-------	------------------------------
- 1.4 Cables are checked/ tested in preparation for jointing.

Range	core identification, phasing, voltage, insulation resistance.
-------	---------------------------------------------------------------

Element 2

Joint live LV paper insulated power cables in accordance with industry requirements.

Performance criteria

- 2.1 Joint is prepared.
- Range selection of materials and equipment, cleaning, glanding, stripping, conductor preparation, personal protection equipment.
- 2.2 Conductors are jointed.
- Range compression, mechanical, sweating, insulation requirements, personal protection equipment.
- 2.3 Conductors are re-insulated.
- Range heat shrink, tapes, resin, personal protection equipment.
- 2.4 Earth continuity is re-established.
- Range lead sheaths, screens, steel wire armour, steel tape armour.
- 2.5 Mechanical integrity is re-established.
- Range enclosures, heat shrink, tapes, wiping, compounding.

Element 3

Test cables and record live joint locations in accordance with industry requirements.

Performance criteria

- 3.1 Cables are tested.
- Range includes but not limited to – phasing, rotation and voltage.
- 3.2 Joint is recorded as built.
- Range includes but not limited to – location, phasing (core to core detail), rotation.

Please note

Providers must be accredited by NZQA, or an inter-institutional body with delegated authority for quality assurance, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be accredited by NZQA before they can register credits from assessment against unit standards.

Accredited providers and Industry Training Organisations assessing against unit standards must engage with the moderation system that applies to those standards.

Accreditation requirements and an outline of the moderation system that applies to this standard are outlined in the Accreditation and Moderation Action Plan (AMAP). The AMAP also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

Comments on this unit standard

Please contact the Electricity Supply Industry Training Organisation info@esito.org.nz if you wish to suggest changes to the content of this unit standard.