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**ELECTRICITY SUPPLY - DISTRIBUTION  
NETWORKS**

**Overhaul distribution pole and tower  
hardware in electrical networks up to  
66kV**

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<b>level:</b>	<b>4</b>
<b>credit:</b>	<b>8</b>
<b>final date for comment:</b>	October 2007
<b>expiry date:</b>	December 2008
<b>sub-field:</b>	Electricity Supply
<b>replacement information:</b>	This unit standard replaced unit standard 10514 and unit standard 10515.
<b>purpose:</b>	People credited with this unit standard are able to: prepare to overhaul pole and tower hardware in electrical networks up to 66kV; service and/or repair insulators on electricity networks up to 66kV; replace pole hardware on electrical networks up to 66kV; repair pole hardware on electrical networks up to 66kV; repair pole structures in electrical networks up to 66kV; and report work on overhauling distribution pole and tower hardware in electrical networks up to 66kV; in accordance with industry requirements.
<b>entry information:</b>	Prerequisites: Unit 10508, <i>Identify electricity systems in preparation for work</i> ; and Unit 10509, <i>Climb and work on electricity network structures</i> ; or demonstrate equivalent knowledge and skills.
<b>accreditation option:</b>	Evaluation of documentation and visit by NZQA and industry.
<b>moderation option:</b>	A centrally established and directed external moderation system has been set up by the Electricity Supply Industry Training Organisation.
<b>special notes:</b>	1 This unit standard is intended for, but not restricted to, workplace assessment.

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- 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, codes of practice recognised under that statute, Health and Safety in Employment Act 1992, the Resource Management Act 1991, and their subsequent amendments, electricity supply industry codes of practice and documented enterprise procedures. These include *Safety Rules Electricity Industry: Safety Rules for the New Zealand Electricity Generation, Transmission and Distribution Industry*. (2000) Wellington: Electricity Engineers' Association of NZ (SR-EI), and *General Safety Guide Electricity Industry: Guidance on General Safety in the New Zealand Electricity Generation, Transmission and Distribution Industry*. (2000) Wellington: Electricity Engineers' Association of NZ (GSH-EI). A full list of current legislation and industry codes is available from: 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.

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- 5 This unit standard includes but is not limited to - conductors, cross arms, insulators and other components on poles, towers, and other transmission structures.
- 6 This unit standard excludes high voltage maintenance using live line working procedures.
- 7 This unit standard requires demonstrated competence against all elements and criteria across the voltage range from 400V up to and including 66kV.
- 8 This unit standard excludes pole replacement and high voltage maintenance using live line working procedures.

## **Elements and Performance Criteria**

### **element 1**

Prepare to overhaul pole and tower hardware in electrical networks up to 66kV in accordance with industry requirements.

### **performance criteria**

1.1 Scope of work is interpreted.

Range: may include but is not limited to - decision to repair or replace, cross arms, guys, insulators, anti climbing guards, arms, bolts, braces, guards, signs, steps, traffic control, cantilevers, floodlights, overhead fittings.

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1.2 Site access is arranged.

Range: includes but is not limited to - access permits, authorisations, work authority, landowner authority, location.

#### **element 2**

Service and/or repair insulators on electricity networks up to 66kV in accordance with industry requirements.

#### **performance criteria**

2.1 Insulators are cleaned.

Range: may include but is not limited to - abrasive blast, rust removal, wash, wipe.

2.2 Insulators are inspected.

Range: chips, corrosion, cracks, contamination.

2.3 Insulators are serviced and/or repaired.

#### **element 3**

Replace pole hardware on electrical networks up to 66kV in accordance with industry requirements.

#### **performance criteria**

3.1 Hardware is selected.

Range: rating, size, environment.

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3.2 Mechanical load is supported.

Range: may include but is not limited to - auxiliary arms, crane, hoist, winches.

3.3 Hardware is replaced.

3.4 Redundant hardware is removed from site.

**element 4**

Repair pole hardware on electrical networks up to 66kV in accordance with industry requirements.

**performance criteria**

4.1 Method to repair pole hardware is selected.

4.2 Hardware is repaired.

**element 5**

Repair pole structures in electrical networks up to 66kV in accordance with industry requirements.

**performance criteria**

5.1 Method to repair pole structures is selected.

5.2 Pole is repaired.

Range: may include but is not limited to - fungal control, paint, patching, pole nailing, re-tightening, strapping, bandaging, concrete repair.

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**element 6**

Report work on overhauling distribution pole and tower hardware in electrical networks up to 66kV in accordance with industry requirements.

Range: includes but is not limited to - electric line history, test reports and results, service report, work report, log book, replacement hardware and pole structure details, as built, contract, job sheets, variations.

**performance criteria**

- 6.1 Reported information is complete, concise, and legible.
- 6.2 Information is recorded in the required format and filed in the correct location.
- 6.3 Hardware replacements and repairs are recorded.
- 6.4 Tower structure repairs are recorded.

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**Comments on this unit standard**

Please contact the Electricity Supply Industry Training Organisation [ceo@esito.org.nz](mailto:ceo@esito.org.nz) if you wish to suggest changes to the content of this unit standard.

**Please Note**

Providers must be accredited by the Qualifications Authority or a delegated inter-institutional body before they can register credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be accredited by the Qualifications Authority 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.

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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 providers wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

This unit standard is covered by AMAP 0120 which can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.