

Title	Prepare steel and apply protective coatings to electricity network steel structures		
Level	3	Credits	6

Purpose	People credited with this unit standard are able to: demonstrate knowledge to determine condition of electricity network steel structures and the surface protection to be applied; carry out primary surface inspections and preparation; establish electricity network steel tower structures work site; and apply full surface protection system to electricity network steel structures.
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Classification	Electricity Supply > Electricity Supply - Transmission Networks
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Available grade	Achieved
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Guidance information

- 1 Safety of personnel and plant must be a priority throughout the assessment. If the safety requirements are not met the assessment must stop.
- 2 Performance and work practices in relation to the outcomes and performance criteria must comply with the current legislation and industry requirements:
 - Electricity Act 1992;
 - Health and Safety at Work Act 2015;
 - Resource Management Act 1991; and their subsequent amendments;
 - Electricity supply industry codes of practice and documented enterprise procedures. These include updated versions of *Safety Manual – Electricity Industry (SM-EI)* (2015) Wellington: Electricity Engineers' Association, www.eea.co.nz.
- 3 *Industry requirements* include all asset owner requirements; manufacturers' specifications; and enterprise requirements which cover the documented workplace policies, procedures, specifications, and business and quality management requirements relevant to the workplace in which assessment is carried out.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of methods to determine condition of electricity network steel structures and explain the types and application methods of surface protection.

Performance criteria

- 1.1 Methods of determining the condition of structure steel are explained.
- 1.2 Types of protection systems and application methods for steel structures are explained.

Outcome 2

Establish electricity network steel structures work site.

Performance criteria

- 2.1 Safe working zone is established according to industry requirements.
- 2.2 Work site is set up.
 - Range may include but is not limited to – barrier, fence, defined access controlled point, signage, drop zone, equipotential zone.
- 2.3 Plant and equipment are positioned on-site.
 - Range may include but is not limited to – ground-based, tower-based.
- 2.4 Site earthing is applied according to industry requirements.
 - Range may include but is not limited to – equipment earths, tower earth spikes, equipotential mats.

Outcome 3

Carry out primary surface inspection and preparation.

Performance criteria

- 3.1 Structure is inspected to determine its condition and safety.
- 3.2 Structure is prepared, and components and equipment are identified, sorted, and positioned according to industry requirements.
 - Range may include but is not limited to – guys, anchors, props, supports.
- 3.3 Lifting equipment to provide access to worksite is positioned.
 - Range may include but is not limited to – cranes, gin poles, winches, rigging equipment, rigging plan.

3.4 Tower steel is prepared for protective coating in accordance with an approved work method.

Range may include but is not limited to: blasting pressure, blasting volume, stand-off distance, steel filling by welding, steel replacement by strutting.

Outcome 4

Apply full surface protection system to prepared electricity network steel structures.

Performance criteria

4.1 Structure steel is inspected for suitability of under-coating.

Range may include but not limited to – primer hard dry, salts, visible contamination, corrosion.

4.2 Under-coat is applied according to industry requirements.

Range may include but not limited to – environmental conditions, dry film thickness (DFT), wet film thickness (WFT).

4.3 Tower steel is inspected for suitability of top-coating.

Range may include but not limited to – under-coat hard dry, salts, visible contamination, corrosion.

4.4 Top-coat is applied according to industry requirements.

Range may include but not limited to – environmental conditions, DFT, WFT.

4.5 Quality check is conducted and any required action taken in accordance with industry requirements.

This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	19 June 1997	31 December 2018
Review	2	27 April 2001	31 December 2018
Revision	3	10 September 2004	31 December 2018
Review	4	11 December 2009	31 December 2018
Review	5	20 August 2015	31 December 2020
Review	6	28 September 2017	31 December 2024
Review	7	2 March 2023	31 December 2024

Consent and Moderation Requirements (CMR) reference	0120
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.