

Title	Install and configure standard and non-standard mobile or re-locatable systems, hardware, and support facilities		
Level	4	Credits	40

Purpose	<p>This unit standard is for service technicians and servicepersons, who develop and install standard and non-standard mobile or re-locatable systems, associated hardware, and support facilities.</p> <p>People credited with this unit standard are able to:</p> <ul style="list-style-type: none"> – develop solutions for installations in a mobile or re-locatable situation, associated hardware, and support facilities; – prepare for installations in a mobile or re-locatable situation, including associated hardware and support facilities; – co-ordinate installations in a mobile or re-locatable situation, including associated hardware and support facilities; – co-ordinate configuration routines of installations in a mobile or re-locatable situation, associated hardware and support facilities; – test and commission installations in a mobile or re-locatable situation, associated hardware, and support facilities; – ensure regulatory compliance in terms of workplace health and safety when working on installations in mobile or re-locatable situations, associated hardware and support facilities; and – handover site to customer on completion of installation.
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Classification	Electrical Engineering > Electrotechnology
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Available grade	Achieved
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Prerequisites	<p>Unit 27911, <i>Demonstrate knowledge of workplace safety in an electrotechnology or telecommunications environment</i>; Unit 28881, <i>Enhance workplace safety and mitigate environmental impacts in an electrotechnology or telecommunications environment</i>; or demonstrate equivalent knowledge and skills.</p>
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Guidance Information

- 1 This unit standard has been developed for learning and assessment on-job or off-job in a simulated workplace environment or combination, and where electrical work is included under adequate supervision as defined in the Electricity Act 1992, unless the candidate is registered and licenced under the Electricity Act 1992.
- 2 Recommended unit standards for entry:
Unit 30651, *Explain regulatory requirements for installing and servicing extra-low and low voltage customer premises systems*;
Unit 30643, *Demonstrate knowledge of the installation of electrotechnology systems on customer premises*;
Unit 32024, *Demonstrate knowledge of mobile and re-locatable systems*.
- 3 References
AS/NZS 4509.1: 2009 *Stand-alone power systems Part 1: Safety and installation*, available from <https://www.standards.govt.nz>;
AS/NZS 4509.2: 2010 *Stand-alone power systems Part 1: System design*, available from <http://www.standards.govt.nz>;
AS/NZS 5033: 2014 *Installation and safety requirements for photovoltaic (PV) arrays*, available from <https://www.standards.govt.nz>;
Compliance Standards for EMC and Radio, available from <https://www.rsm.govt.nz>;
Consumer Guarantees Act 1993;
Contract and Commercial Law Act 2017, Part 3 Sale of Goods;
Electricity Act 1992;
Electricity (Safety) Regulations 2010;
Fair Trading Act 1986;
Hazardous Substances and New Organisms Act 1996;
Health and Safety at Work (Hazardous Substances) Regulations 2017;
Health and Safety at Work Act 2015;
New Zealand Electrical Codes of Practice, ISSN 0114-0663, available from <https://www.worksafe.govt.nz>;
Official Information Notices, available from <https://www.rsm.govt.nz/>;
Resource Management Act 1991;
and all subsequent amendments and replacements.
- 4 Definitions
Company practice – those practices and procedures that have been circulated by the company for use by their employees.
Co-ordinate – includes supervision, facilitation, and active involvement in the work to be completed.
Industry conventions – a set of agreed, specified, or generally accepted standards.
Industry practice – those practices that competent practitioners within the industry recognise as current industry best practice.
Non-standard – three or more services/network types, hardware or subsystems used or operating together to provide a purpose built mobile or re-locatable installation solution based on customer or installation requirements.
Safe and sound practice –relating to the installation of electrical equipment as defined in AS/NZS 3000:2018 *Electrical Installations - Known as the Australian/New Zealand Wiring Rules*.

Service technicians and servicepersons – for the purposes of this unit standard means, people who hold or who are working towards electrical registration as an Electrical Service Technician, Electrical Appliance Serviceperson (endorsed to disconnect and connect), or Electrical Appliance Serviceperson.

5 Assessment

a Competence may be assessed on:

- i Systems installations may include but are not limited to – radio, low voltage, extra-low voltage, data and voice, TV, standalone power systems, solar;
 - ii Locations may include but is not limited to – vehicles, caravans, mobile homes, transmission and reception sites, repeaters, mobile sites;
 - iii Cabling and communications may include but is not limited to – copper, twisted-pair, coaxial copper, data cable, Wi-Fi, Bluetooth or some combination of these;
- b Evidence of three different mobile or re-locatable installations is required for each outcome of this unit standard, with one being a non-standard solution, except where otherwise indicated. The installations must be relevant to, and in context for the industry sector the candidate works in.

6 Range

a All activities and evidence presented for all outcomes and performance criteria in this unit standard must be in accordance with:

- i legislation;
- ii policies and procedures;
- iii ethical codes;
- iv Standards – may include but are not limited to those listed in Schedule 2 of the Electricity (Safety) Regulations 2010;
- v safe and sound practice;
- v applicable site, company and industry practice, and industry conventions;
- vi where appropriate or applicable, environmental requirements, manufacturer instructions, specifications, data sheets and manufacturer, supplier and company health and safety procedures.

Outcomes and performance criteria

Outcome 1

Develop solutions for installations in a mobile or re-locatable situation, associated hardware, and support facilities.

Performance criteria

- 1.1 Identify the requirements and scope of the installation, and associated hardware and support facilities.

Range may include but is not limited to – equipment specification, customer requirements, budgetary constraints, company policies and procedures, health and safety.

- 1.2 Develop specifications in consultation with customer and/or supervisor.
- Range may include but is not limited to – other resources, trades and services, work plan, installation plan, timeline.
- 1.3 Evaluate standard and non-standard solutions to meet customer requirements.
- Range solutions may include but are not limited to – usability, reliability, interoperability, scalability, security.
- 1.4 Prepare and present recommended solution to customer for approval.

Outcome 2

Prepare for installations in a mobile or re-locatable situation, including associated hardware and support facilities.

Performance criteria

- 2.1 Prepare for installation.
- Range may include but is not limited to – additional required resources and trade services, required materials, site access requirements, work plan, installation plan, specifications and drawings, supervisor or manager guidance.
- 2.2 Arrange permits or consents.
- Range may include but is not limited to – Permit to Work, site access, security consents, customer consent.
- 2.3 Develop safety plans in accordance with company practice.

Outcome 3

Co-ordinate installations in a mobile or re-locatable situation, including associated hardware and support facilities.

Performance criteria

- 3.1 Co-ordinate the installation of hardware and equipment, and the termination of required services.
- Range services – other trades, power supply; evidence of five installations is required.

3.2 Co-ordinate the connections and interfaces between the installation, associated hardware, and support facilities in accordance with customer and manufacturer's specifications.

Range may include but is not limited to – termination, labelling, securing, cable tray, trunking, conduit;
evidence of three types of connections/interfaces is required across all installations.

3.3 Complete documentation in accordance with company practice.

Range must include – use of electronic record system;
may include but is not limited to – labelling of systems and equipment, complete as-built documentation, recording of installation progress, updating of records and technical documentation;
evidence of two installations is required.

Outcome 4

Co-ordinate configuration routines of installations in a mobile or re-locatable situation, associated hardware and support facilities.

Performance criteria

4.1 Co-ordinate configuration of hardware.

Range may include but is not limited to – software, firmware, remote control, computer interface, micro-processor, embedded, manual;
evidence of three configurations is required across all installations.

4.2 Co-ordinate configuration of interfaces to enable communication between hardware and software.

Range may include but is not limited to – TCP/IP and Ethernet addressing, serial communication, parallel communication, wireless communication, Bluetooth, Wi-Fi, IR communication, USB;
evidence of three types of interfaces is required.

Outcome 5

Test and commission installations in a mobile or re-locatable situation, associated hardware, and support facilities.

Performance criteria

5.1 Select test equipment to perform commissioning testing in accordance with manufacturer's instructions, specifications and commissioning requirements.

Range may include but is not limited to – safety testing, operational testing, acceptance testing, specification testing, performance verification.

5.2 Perform tests in a manner which does not impact on performance of other working systems or equipment.

5.3 Compare test results against design specifications to confirm performance is within permitted parameters.

Outcome 6

Ensure regulatory compliance in terms of workplace health and safety when working on installations in mobile or re-locatable situations, associated hardware and support facilities.

Performance criteria

6.1 Perform risk assessment and manage any hazards on arrival at worksite.

Range may include but is not limited to – services mark up, utility clearances, other services interference, job safety analysis, stakeholder health and safety processes, consent requirements, work permit requirements.

6.2 Maintain safety in own work area in accordance with regulations.

Range may include but is not limited to – environmental management, health and safety, industry requirements, worksite policies, industry best practice.

6.3 Comply with regulations when completing electrical tests, and completing or collecting certificates.

Range may include but is not limited to – Electrical Inspector, ESC, COC, SDoC (producer statement).

Outcome 7

Handover site to customer on completion of installation.

Performance criteria

7.1 Co-ordinate site departure procedures in accordance with company practice.

Range may include but is not limited to – system checks, system restored to automatic or standby, ventilation system restored to normal.

7.2 Perform walk-through to confirm remedial work has been completed in accordance with company and industry practice, and co-ordinate post-installation site restoration.

Range remedial work may include but is not limited to – fire stopping, associated contractor services, wall repair, painting, floor coverings.

7.3 Hand over support materials to the customer in accordance with contract and company practice.

Range may include but are not limited to – as-built drawings, performance certification, test and commissioning results, maintenance material, product leaflet and instructions, testing instructions, troubleshooting guide, recording in electronic records system, product guarantee, producer statement, ESC, COC.

7.4 Ensure completion of post job tasks in accordance with company practice.

Range may include but is not limited to – log and file information in relevant systems, complete customer reports as required, close out job tasks in record systems.

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	23 January 2020	31 December 2023
Review	2	25 November 2021	31 December 2023

Consent and Moderation Requirements (CMR) reference	0003
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.