

Field Engineering and Technology

Expiry of *Electrical Engineering* unit standards

Subfield	Domain	ID
Electrical Engineering	Core Electrical	1174, 1178, 1206, 2017, 2031, 5926, 5929, 5930, 5932, 15852, 25071, 25072, 29425, 29429, 29442, 29445, 29465, 29469, 29473, 29475, 29476, 29477, 29478, 29479, 29480, 29483, 29557
	Electrical Equipment	23751
	Electrical Installation and Maintenance	1204, 5922, 5924, 5925, 10786, 10788, 10789, 15855, 15859, 15866, 15871, 16412, 29468, 29470, 29472, 29482
	Electrical Machines	29444

Waihanga Ara Rau Construction and Infrastructure Workforce Development Council has completed the review of the unit standards listed above.

Date new versions published

May 2023

Summary

The standard setting responsibility for these unit standards were transferred to Waihanga Ara Rau Construction and Infrastructure Workforce Development Council in October 2021.

In March 2022 (C50255), 34 standards from the domains listed above were expired and a new suite of 44 standards were developed based on the competency framework for electrical apprentices.

This review, undertaken by Waihanga Ara Rau, is for the remaining unit standards used in programmes for the New Zealand Certificate in Electrical Trade (Level 4) with strands in General Electrical, and Electricity Supply [Ref: 4204].

Consultation occurred via email and online meetings during 2023. Some providers requested a small number of unit standards be maintained rather than expired, and these are covered in a separate application. Consent holders agreed to the expiry of the remaining 45 unit standards provided the last date of assessment aligned with the expiry date of the qualification New Zealand Certificate in Electrical Engineering (Theory and Practice) [Ref: 2388].

Main changes

- All unit standards were designated as expiring because they have been superseded by the new suite of unit standards described above. The relationship between them and the new suite of standards is too complex to list as direct replacements.

Category D unit standards will expire at the end of December 2027

Detailed list of unit standards – classification, title, level, and credits

Key to review category	
A	Dates changed, but no other changes are made - the new version of the standard carries the same ID and a new version number
B	Changes made, but the overall outcome remains the same - the new version of the standard carries the same ID and a new version number
C	Major changes that necessitate the registration of a replacement standard with a new ID
D	Standard will expire and not be replaced

Engineering and Technology > Electrical Engineering > Core Electrical

ID	Title	Level	Credit	Review Category
1174	Disconnect and reconnect fixed wired electrical appliances or equipment	3	4	D
1178	Follow safe practices in an electrical workplace	2	3	D
1206	Demonstrate knowledge of a.c. power and power factor	4	4	D
2017	Describe and use complex electrical instruments	4	2	D
2031	Demonstrate knowledge of three-phase theory	4	4	D
5926	Demonstrate knowledge of programmable logic controllers (PLCs)	4	3	D
5929	Demonstrate knowledge of hazardous areas and their electrical requirements	4	3	D
5930	Demonstrate knowledge of electrical equipment for use in hazardous areas	4	2	D
5932	Demonstrate knowledge of protection of circuits from static electricity and magnetic interference	2	2	D
15852	Isolate and test low-voltage electrical subcircuits	2	2	D
25071	Demonstrate knowledge of electromotive force (e.m.f.) production	2	3	D
25072	Apply electromagnetic theory to a range of problems	2	5	D
29425	Write electrical industry service reports	3	2	D
29429	Demonstrate and apply knowledge of safe practices in an electrical workplace	4	2	D
29442	Demonstrate and apply knowledge of renewable energy electricity generation systems	4	4	D
29445	Demonstrate and apply knowledge of single-phase and three-phase transformers	4	4	D
29465	Apply knowledge of electrical safety and safe working practices for electrical workers	3	6	D
29469	Select and install flexible cords and cables	2	4	D
29473	Demonstrate knowledge of single-phase and three-phase transformers	3	3	D
29475	Demonstrate and apply knowledge of electronics	3	8	D
29476	Demonstrate and apply knowledge of capacitance, inductance, power factor, and power factor correction	3	7	D
29477	Demonstrate knowledge of the New Zealand national electricity grid and associated electrical protection	3	2	D
29478	Demonstrate knowledge of electrical installations in special situations	4	6	D
29479	Draw and explain electrical diagrams	3	4	D
29480	Demonstrate knowledge of electric circuit design, control, and protection	3	6	D
29483	Demonstrate and apply knowledge of single-phase and three-phase rotating machines	3	4	D

ID	Title	Level	Credit	Review Category
29557	Apply fundamental techniques for identifying and locating faults in electrical fittings or systems	3	4	D

Engineering and Technology > Electrical Engineering > Electrical Equipment

ID	Title	Level	Credit	Review Category
23751	Demonstrate knowledge of electrical calculations and theory, test instruments, and components of electrical equipment	2	6	D

Engineering and Technology > Electrical Engineering > Electrical Installation and Maintenance

ID	Title	Level	Credit	Review Category
1204	Demonstrate knowledge of earthing	3	2	D
5922	Use cutting tools and machines in the performance of electrical installation and maintenance	2	2	D
5924	Install and commission d.c. rotating machines	4	5	D
5925	Recognise the requirements of routine maintenance of electrical equipment	2	2	D
10786	Overhaul electromagnetic switching devices	4	3	D
10788	Operate industrial high voltage distribution systems	4	3	D
10789	Install, commission, and maintain an uninterruptible power supply (UPS) system	4	4	D
15855	Demonstrate knowledge of circuit protection	3	3	D
15859	Demonstrate knowledge of electrical cables and accessories	3	7	D
15866	Demonstrate and apply knowledge of and the procedures for the examination of and testing of electrical installations	4	3	D
15871	Demonstrate knowledge of electrical installation in damp situations	4	3	D
16412	Fault-find, repair, and re-commission electric lighting	3	4	D
29468	Demonstrate and apply knowledge of safe plant isolation, re-commissioning, and associated electrical testing procedures	3	5	D
29470	Demonstrate knowledge of electric motor and generator construction and operation	3	2	D
29472	Demonstrate knowledge of electric lighting systems	3	6	D
29482	Demonstrate and apply knowledge of special power supplies	3	3	D

Engineering and Technology > Electrical Engineering > Electrical Machines

ID	Title	Level	Credit	Review Category
29444	Demonstrate and apply knowledge of a.c. electric motor control and installation	4	5	D