

Field Engineering and Technology***Review of Electrical Engineering unit standards***

Subfield	Domain	ID
Electrical Engineering	Electrical Installation and Maintenance	2013, 2016, 2020, 2021, 2030, 5931, 10782, 10787, 15867-15870, 16408-16410, 16414, 16415, 20962
	Electrical Machines	15858
	Core Electrical	5926, 15844, 15862, 16407
	Electrical Standards and Statutes	1702, 21766, 27352

The Skills Organisation has completed the review of the unit standards listed above.

Date new versions published

July 2016

Planned review date

December 2019

Summary

The review of these unit standards was initiated through their planned review and the Targeted Review of Qualifications (TRoQ) for Engineering and Technology triggered for 2011.

The unit standards were reviewed to ensure that they are fit for purpose, relevant to the Electrical Engineering and the Electrotechnology industries and are readily available for assessment. Industry representatives from the TRoQ Review and Qualification Development Groups were involved in the review and writing of these unit standards and provided feedback on them.

Main changes

- Changes were made to accurately reflect industry terminology, practice, and evidence requirements.
- 16 unit standards have been reviewed as Category B.
- Ten unit standards were reviewed as Category C and replaced by seven new units.
- 20 new unit standards were developed.

Category C unit standards will expire at the end of December 2021

Impact on existing organisations with consent to assess

Current consent for			Consent extended to		
Nature of consent	Classification or ID	Level	Nature of consent	Classification or ID	Level
Domain	Core Electrical	2	Standard	15844	3
Domain	Electrical Installation and Maintenance	4-5	Standard	29444	4
Domain	Electrical Installation and Maintenance	3	Standard	5931	4
Standard	20962	4	Standard	29444	4
Standards	15867	3	Standard	29422	4
	15868	3			
Standards	16408	3	Standard	29419	4
	16409	3			
	16410	4			

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

All changes are in **bold**.

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

ID	Domain	Title	Level	Credit	Review Category
20962	Electrical Installation and Maintenance	Demonstrate knowledge of a.c. electric motor control and installation	4	8	C
29444	Electrical Machines	Demonstrate and apply knowledge of a.c. electric motor control and installation	4	4	

Engineering and Technology > Electrical Engineering > Core Electrical

ID	Title	Level	Credit	Review Category
5926	Demonstrate knowledge of programmable logic controllers (PLCs)	4	5 3	B
15844	Select and install flexible cords	2 3	3 2	B
15862	Demonstrate knowledge of industrial process control	4	3 2	B

ID	Title	Level	Credit	Review Category
16407	Use and maintain hand and power tools for electrical work	3	4 3	B
29425	Write electrical industry service reports	3	2	New
29429	Demonstrate and apply knowledge of safe practices in an electrical workplace	4	2	New
29441	Demonstrate and apply knowledge of cable coding, colours, characters, applications, and capacity	4	2	New
29442	Demonstrate and apply knowledge of renewable energy electricity generation systems	4	4	New

Engineering and Technology > Electrical Engineering > Electrotechnology

ID	Title	Level	Credit	Review Category
29437	Analyse building and plant energy efficiency	4	3	New

Engineering and Technology > Electrical Engineering > Electrical Appliance Servicing

ID	Title	Level	Credit	Review Category
29421	Inspect, test, fault-find, and repair fixed-wired electrical appliances, portable electrical appliances, and tools	3	3	New
29427	Install, test, and commission electrical appliances	4	2	New

Engineering and Technology > Electrical Engineering > Electrical Installation and Maintenance

ID	Title	Level	Credit	Review Category
2013 29428	Install and commission a.c. rotating machines Install, test, and commission a.c. rotating machines	4 4	5 2	C
2016	Install earthing systems for multiple earthed neutral installations	3	3	B
2020	Plan and install cable support systems	3	4 3	B
2021	Plan, install, and commission a power supply on a construction or demolition site	4	2	B
2030	Schedule and manage preventative maintenance for electrical equipment Schedule and manage preventative maintenance for industrial electrical equipment	5	6	B
5931	Select and install electric switchboards Select and install domestic or commercial electric switchboards	3 4	4 3	B

ID	Title	Level	Credit	Review Category
10782	Install, commission, and maintain battery backup and emergency lighting systems	4	3	C
29424	Install, commission, and maintain emergency lighting systems	4	2	
10787	Install and test transducers	4	2	B
15867	Install, wire, and test lights in existing installations	3	5	C
15868	Install, wire, and test power outlets in existing installations	3	5	
29422	Install, wire, test and fault-find, and repair power outlets and electric lighting systems in existing installations	4	7	
15869	Install electrical equipment in damp situations	4	3	B
15870	Inspect and test an electrical installation for compliance with AS/NZS 3000	4	3 5	B
16408	Pre-wire an electrical installation	3	5	C
16409	Fit-off an electrical installation	3	5	
16410	Plan, install, test, and commission small electrical installations	4	5	
29419	Prepare for, install, test, and commission new electrical installations	4	10	
16414	Carry out planned electrical maintenance work of electrical equipment	4	6	C
29423	Carry out planned maintenance of electrical equipment	4	3	
16415	Install and commission extra-low voltage equipment	4	3	B
29426	Follow a control drawing and install, wire, and commission a control panel	4	3	New
29430	Select and install industrial electric switchboards	4	3	New
29431	Select and install electric motor starters	4	2	New
29432	Select, install, and commission a variable frequency drive	4	2	New
29433	Install, wire to, and connect a machine safety device	4	2	New
29434	Install and programme a PLC	4	2	New
29435	Install computer networking infrastructure systems	4	4	New
29436	Wire and connect control devices used in the electrical environment	4	4	New
29438	Install, commission, and maintain a power quality protection system	4	4	New
29439	Schedule and manage preventative maintenance for domestic or commercial electrical equipment	4	5	New
29446	Demonstrate knowledge of computer networking infrastructure principles	4	2	New

Engineering and Technology > Electrical Engineering > Electrical Machines

ID	Title	Level	Credit	Review Category
15858 29443	Demonstrate knowledge of a.c. motors Demonstrate and apply knowledge of a.c. motors	4	7 4	C
29420	Fault-find, test, and commission electric motors	4	4	New

Engineering and Technology > Electrical Engineering > Electrical Standards and Statutes

ID	Title	Level	Credit	Review Category
1702	Demonstrate knowledge of, and apply electrical legislation, New Zealand Codes of Practice, and Standards	4	8	B
21766	Demonstrate knowledge of theory for registration of electricians	4	3	B
27352	Demonstrate knowledge of supervision of trainees undertaking prescribed electrical work	4	2	B

Engineering and Technology > Electrical Engineering > Electric Switchboards

ID	Title	Level	Credit	Review Category
29440	Demonstrate knowledge of electric switchboards	4	3	New