

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

Subfield	Domain	ID
Electrical Engineering	Core Electrical	750, 5932, 15845, 15848, 15850, 15851, 15852, 15854, 15856, 15857, 20961, 25070, 25071, 25072
	Electrical Installation and Maintenance	1204, 1205, 1710, 15855, 15866

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 the unit standards.

Main changes

- Changes were made to accurately reflect industry terminology practice and evidence requirements.
- Ten unit standards were reviewed as Category B.
- Nine unit standards were reviewed as Category C and replaced by ten new units.
- 22 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	Standards	29479, 29480, 29465	3
Domain	Core Electrical	3	Standard	29445	4
Standard	1205	3	Standard	29471	3
Standard	15845	2	Standards	29479, 29480	3
Standard	15850	3	Standard	29473	3
			Standard	29445	4
Standard	15851	2	Standard	29465	3
Standard	15854	3	Standards	29479, 29480	3
Standard	15856	3	Standard	29477	3

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 > Core Electrical

ID	Title	Level	Credit	Review Category
750	Demonstrate knowledge of electrical test instruments and take measurements	2	2	B
5932	Demonstrate knowledge of protection of circuits from static electricity and magnetic interference	2	2	B
15845	Draw and explain simple electrical diagrams	2	4	C
15854	Draw and interpret electrical diagrams	3	3	C
29479	Draw and explain electrical diagrams	3	4	
29480	Demonstrate knowledge of electric circuit design, control, and protection	3	6	

ID	Title	Level	Credit	Review Category
15848	Demonstrate knowledge of safeguards for use with portable electrical appliances Demonstrate and apply knowledge of safeguards for use with portable electrical appliances	2	3	B
15850	Demonstrate knowledge of single-phase transformers	3	3	C
15857	Demonstrate knowledge of three-phase transformers	4	3	C
29473	Demonstrate knowledge of single-phase and three-phase transformers	3	3	
29445	Demonstrate and apply knowledge of single-phase and three-phase transformers	4	4	
15851	Demonstrate knowledge of electrical safety and safe working practices for electrical workers	2	3	C
29465	Apply knowledge of electrical safety and safe working practices for electrical workers	3	6	
15852	Isolate and test low-voltage electrical subcircuits	2	2	B
15856	Demonstrate knowledge of the New Zealand electricity supply system	3	2	C
29477	Demonstrate knowledge of the New Zealand national electricity grid and associated electrical protection	3	2	
25070	Explain the properties of conductors, insulators, and semiconductors and their effect on electrical circuits	2	7	B
25071	Demonstrate knowledge of electromotive force (e.m.f.) production	2	3	B
25072	Demonstrate knowledge of electromagnetism theory Apply electromagnetic theory to a range of problems	2	5	B
20961	Demonstrate knowledge of special electrical installations	4	4	C
29478	Demonstrate and apply knowledge of electrical installations in special situations	4	6	
29469	Select and install flexible cords and cables	2	4	New
29475	Demonstrate and apply knowledge of electronics	3	8	New

ID	Title	Level	Credit	Review Category
29476	Demonstrate and apply knowledge of capacitance, inductance, power factor, and power factor correction	3	7	New
29483	Demonstrate knowledge of single-phase and three-phase rotating machines	3	4	New
29557	Apply fundamental techniques for identifying and locating faults in electrical fittings or systems	3	4	New

Engineering and Technology > Electrical Engineering > Electrical Installation and Maintenance

ID	Title	Level	Credit	Review Category
1204	Demonstrate knowledge of earthing	3	2	B
15855	Demonstrate knowledge of circuit protection	3	3	B
15866	Demonstrate procedures for examination and testing of electrical installations Demonstrate and apply knowledge of procedures for examining and testing electrical installations	4	3	B
1205	Demonstrate knowledge of electrical switchboards	3	3	C
29471	Demonstrate knowledge of electric switchboards and lighting and power circuits	3	2	
1710	Demonstrate knowledge of electric lighting	4	3	C
29472	Demonstrate knowledge of electric lighting systems	3	6	
29481	Apply knowledge of lighting installation, testing, repair, and disposal	3	5	
29468	Demonstrate and apply knowledge of safe plant isolation, re-commissioning, and associated electrical testing procedures	3	5	New
29470	Demonstrate knowledge of electric motor and generator construction and operation	3	2	New
29474	Demonstrate and apply knowledge of electrical fittings and components and their installation	3	6	New
29482	Demonstrate and apply knowledge of special power supplies	3	3	New

Engineering and Technology > Electrical Engineering > Electrical Standards and Statutes

ID	Title	Level	Credit	Review Category
29466	Demonstrate knowledge of legislation and Standards governing electrical workers	3	2	New
29467	Demonstrate knowledge of the electrical industry ethical work practices	3	2	New
29484	Demonstrate knowledge of theory and practice for electrical workers	3	1	New