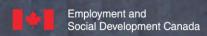


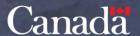
Trade Profile Powerline Technician



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TRADE PROFILE POWERLINE TECHNICIAN



STRUCTURE OF THE TRADE PROFILE

This profile has two sections that provide a snapshot of the trade's description, and all trade activities as they are organized in the Red Seal Occupational Standard:

Description of the Powerline Technician trade: an overview of the trade's duties, work environment, job requirements, similar occupations and career progression

Task Matrix: a chart which outlines graphically the major work activities, tasks and sub-tasks of this trade

Major Work Activity (MWA): the largest division within the standard that is comprised of a distinct set of trade activities

Task: distinct actions that describe the activities within a major work activity

Sub-task: distinct actions that describe the activities within a task

A complete version of the occupational standard, which provides additional detail for the trade activities, skills and knowledge can be found at www.red-seal.ca.

DESCRIPTION OF THE POWERLINE TECHNICIAN TRADE

"Powerline Technician" is this trade's official Red Seal occupational title approved by the CCDA. This standard covers tasks performed by powerline technicians in Canada.

Powerline technicians construct, operate, maintain and repair overhead, underground and underwater electrical transmission and distribution systems. They install, maintain and repair overhead, underground and underwater powerlines and cables, and other associated equipment such as insulators, conductors, lightning arrestors, switches, metering systems, transformers and lighting systems. They erect and maintain steel, wood, fibreglass, laminate and concrete poles, structures and other related hardware. They splice and terminate conductors and related wiring to connect power distribution and transmission networks. In some jurisdictions, powerline technicians may also install and transfer communication devices such as cellular antennas and communication lines.

Powerline technicians are employed by electric power generation, transmission or distribution companies, powerline contractors and public utility commissions. Powerline technicians may also specialize in one of the following areas: transmission lines, overhead or underground distribution systems, communication networks and electrical power stations. They may also be employed in the mining, construction or oilfield sector.

Powerline technicians require good communication skills to coordinate and facilitate work with customers, co-workers and other trades. They also require strong analytical skills in order to read and interpret diagrams, drawings and specifications. They need to be able to plan their work; including making considerations to prevent damage during construction to local wildlife habitats. They must have good mechanical aptitude to install, troubleshoot and repair equipment. They must also have good vision and the ability to distinguish colours. The ability to adapt to change and a willingness to keep up with new developments is important to this trade.

Powerline technicians work outdoors at various worksites, at any hour and in any weather. The work always involves travel to and from the worksite, which is often in remote areas, necessitating the use of a variety of access equipment such as all-terrain vehicles, snowmobiles, aircrafts and watercrafts.

Occupational hazards in this trade are working with high voltage equipment, working in confined spaces, working at heights, and in extreme weather and environmental conditions. This also could include exposure to asbestos, silica dust, mercury, lead and PCBs.

The work may be strenuous and requires frequent heavy lifting, working in awkward positions, carrying and reaching. Getting to powerlines requires climbing poles and structures, working from aerial work platforms and entering maintenance holes and underground vaults.

This standard recognizes similarities or overlaps with the work of construction electricians and industrial electricians. Powerline technicians work with a wide variety of tradespersons, engineers and inspectors.

With experience, powerline technicians may act as mentors and trainers to apprentices in the trade. They may advance to senior journeyperson, foreperson, supervisory or managerial positions. They can also transfer their skills to related occupations in areas such as design, planning, safety, technical support services and system control.

POWERLINE TECHNICIAN

TASK MATRIX

A - Performs common occupational skills

26%

Task A-1 Performs safety-related functions 23%	A-1.01 Uses personal protective equipment (PPE) and safety equipment	A-1.02 Controls powerline hazards	A-1.03 Controls environmental hazards
	A-1.04 Performs lock-out and tag-out procedures	A-1.05 Performs temporary grounding and bonding procedures	
Task A-2 Uses and maintains tools and equipment 19%	A-2.01 Uses hand, power and powder-actuated tools and equipment	A-2.02 Uses electrical measuring and testing equipment	A-2.03 Uses rigging, hoisting and lifting equipment
Task A-3 Organizes work 16%	A-3.01 Interprets plans, drawings and specifications	A-3.02 Prepares worksite	A-3.03 Plans job tasks and procedures
Task A-4 Accesses work area 12%	A-4.01 Climbs poles and steel lattice structures	A-4.02 Uses access equipment	A-4.03 Uses on- and off-road equipment
Task A-5 Uses live-line methods 28%	A-5.01 Uses cover-up	A-5.02 Uses rubber gloves	A-5.03 Uses bare-hand methods (Not Common Core)
	A-5.04 Uses fibreglass reinforced plastic (FRP) tools (hot sticks)		
Task A-6 Uses communication and mentoring techniques 7%	A-6.01 Uses communication techniques	A-6.02 Uses mentoring techniques	

B - Installs structures

13%

Task E	3-7
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Installs pole structures



Task B-8

Installs steel lattice structures



B-7.01 Frames pole structures	B-7.02 Sets pole structures	B-7.03 Installs pole structure guys and anchors
B-8.01 Assembles steel lattice structures	B-8.02 Erects steel lattice structures	B-8.03 Installs steel lattice structure guy wires and anchors

C - Installs conductor systems

15%

Task C-9

Installs overhead conductors and cables



C-9.04 Installs splices and
connections to overhead

C-9.01 Strings overhead

conductors and cables

C-9.03 Ties-in overhead conductors and cables

Task C-10 Installs underground and underwater



C-10.01 Installs conduit and

conductors and cables

cable

C-10.02 Places direct buried cable

C-9.02 Sags overhead

conductors and cables

C-10.03 Splices underground and underwater cable

C-10.04 Terminates underground and underwater cable

D - Installs auxiliary equipment

21%

Task D-11

Installs lighting systems



D-11.01 Installs street lights	D-11.02 Maintains street lights		

Task D-12 Installs voltage control equipment 33%	D-12.01 Installs transformers	D-12.02 Installs capacitors	D-12.03 installs voltage regulators
	D-12.04 Installs switches	D-12.05 Installs reactors (Not Common Core)	
Task D-13 Installs protection equipment 29%	D-13.01 Installs reclosers	D-13.02 Installs sectionalizers	D-13.03 installs fuses
	D-13.04 Installs lightning arrestors		
Task D-14 Installs metering equipment 17%	D-14.01 Installs primary metering equipment	D-14.02 Installs secondary metering equipment	
Task D-15 Installs communication devices 8%	D-15.01 Installs cellular antennas	D-15.02 Transfers communication lines	

E - Performs operation, maintenance and repair

25%

Task E-16 Operates distribution and transmission systems 26%	E-16.01 Operates transmission systems	E-16.02 Operates distribution systems	E-16.03 Performs station switching
Task E-17 Maintains distribution and transmission systems	E-17.01 Inspects distribution and transmission systems	E-17.02 Maintains pole structures	E-17.03 Maintains steel lattice structures
	E-17.04 Maintains system components	E-17.05 Trims trees	

Task E-18 Repairs distribution systems 27%		E-18.01 Troubleshoots overhead distribution systems	E-18.02 Troubleshoots underground and underwater distribution systems	E-18.03 Repairs overhead distribution systems
	-	E-18.04 Repairs underground and underwater distribution systems		
Task E-19 Repairs transmission systems 19%		E-19.01 Troubleshoots overhead transmission systems	E-19.02 Troubleshoots underground and underwater transmission systems	E-19.03 Repairs overhead transmission systems
	_	E-19.04 Repairs underground and underwater transmission systems		