

# Spotlight on Electrical Engineering Technologists and Technicians



What occupation offers an incredible range of tasks, from working on massive electrical power systems to small-scale electronic systems such as computers and integrated circuits? Electrical engineering technology does just that, and it impacts just about every facet of operations in the oil and gas industry.

Do you get a “charge” out of working with high-voltage generation, transmission and distribution systems? Perhaps you’re intrigued by sophisticated electronic control systems. Maybe you see yourself upgrading complex electrical systems in production plants.

If these opportunities “spark” your interest, a career as an Electrical Engineering Technologist and Technician may be for you!



*A Technologist reviewing plans.*



## What do Electrical Engineering Technologists and Technicians do?

**Electrical Engineering Technologists and Technicians** assist Electrical Engineers in design, data interpretation, technical consultation, specification preparation, planning, analyses and project management. There are several engineering fields from which Technologist jobs are derived. These fields include power, control, instrumentation, electronics, digital communications, computer, telecommunications, and mechatronics (mechanical/electrical combination). You have several typical jobs to choose from:

- **Electrical Project Technologists:** Coordinate electrical upgrades to facilities, equipment and systems. They oversee the work of electrical engineering and construction contractors by scheduling work, procuring equipment, and arranging electrical permits and inspections.
- **Electrical Design Technologists:** Develop and analyse 2D and 3D computerized drawings based on sketches, notes, mark-ups and specifications provided by engineers, designers and surveyors. They design layouts, schematics, diagrams, schedules and installation details.
- **Electrical Estimators:** Prepare construction cost estimates for electrical materials, labour and equipment based on design drawings, specifications, bids, quotations and business needs.
- **Control Systems/Programmable Logic Control (PLC) Programmer:** Program, test and troubleshoot process control equipment and system components. They repair, install, troubleshoot and maintain electronic, electrical, pneumatic and mechanical control systems.
- **Electrical Sales Representative/Account Manager:** Provide advice on the specifications, design, fabrication, installation, testing, operation and troubleshooting of electrical-related products and services.



## How do I become an Electrical Engineering Technologist and Technician?

A two or three year Electrical Engineering Technologist diploma from a recognized technical institute is the minimum requirement. You can pursue various technology disciplines such as electrical, electronics, drafting, petroleum and mining.

Graduates may be granted certification by provincial associations of the Canadian Council of Technicians and Technologists (CCTT). Certification usually requires a minimum two years of experience after graduation. To check out the associations, visit the CCTT website at [www.cctt.ca](http://www.cctt.ca).

You will need a valid driver’s license in good standing as travel to worksites may be required.





## What are the working conditions like?

Most Electrical Engineering Technologists and Technicians work regular hours in comfortable office settings at operator or engineer consulting firms. Others typically work shift hours at plant sites, fabrication shops, and field/construction sites.

While on site, technologists must follow strict safety procedures to avoid injury from electrical shock. Overtime and on-call rotations may be required to meet deadlines. In some jobs, lifting up to 20 kilograms is required. Exposure to noise and dust is also possible at some locations. Plants, facilities and construction sites may be located in rural or isolated regions requiring travel, overnight stays, or relocation.



A Technologist examining an electrical control box.



## Do I fit the bill?

Do you think you have what it takes to become an Electrical Engineering Technologist and Technician?

- I am interested in electrical systems and curious about how things fit together and operate.
- I pay special attention to detail and accuracy and am not easily distracted.
- I enjoy problem solving and take a methodical approach to analyzing problems and finding solutions.
- I am a great multi-tasker.
- I can take directions well and show initiative.
- I am capable of working under deadlines.
- I believe that applying proper procedures, standards, codes and policies is very important.
- I am quite versatile and can work on my own or with a team.
- I have well developed communication and computer literacy skills.
- I can follow safety rules and precautions, and understand their importance when dealing with potentially hazardous material and equipment.
- I can work rotational shifts and long hours, and do not mind changes in routine.
- I believe that I have what it takes to be an excellent Electrical Engineering Technologist and Technician!



## Quick tips and next steps!

- Visit career fairs and talk to employers who offer jobs and careers in this occupation. Check with employment centres, educational institutions, newspapers, petroleum-related magazines and the internet for information on career fairs.
- While in high school, sharpen your skills and knowledge in areas such as mathematics, electricity and electronics, physics and computer science.
- Participate in *National Technology Week* which is held annually during November and offers a host of activities along with interactive and fun resources to help students, teachers and parents explore technical careers.
- Read issues of the magazine, *Electricity Today*, which can be downloaded at [www.electricity-today.com](http://www.electricity-today.com) and *Electrical Source*, found at [www.electrical-source.com](http://www.electrical-source.com). Also check out the *Electrical Construction & Maintenance* magazine at [ecmweb.com](http://ecmweb.com).
- Check out websites of industry and professional associations such as the Canadian Council of Technicians and Technologists at [cctt.ca](http://cctt.ca).

## Want more info?

For information on other industry occupations check out [www.careersinoilandgas.com](http://www.careersinoilandgas.com).