

Power System Electrician

Maintain the generators, substations and protection systems behind the grid. A four-year utility apprenticeship with some of the best pay in the electrical trades.

TYPICAL PAY

\$97,000

a year, full time

PAY RANGE

\$75k to \$125k

starting to experienced

TIME TO QUALIFY

4 to 5 years

after high school

DEMAND

Moderate

job outlook

LICENCE NEEDED

No

anyone can do it

WHERE YOU WORK

Generating stations, substations, utility shops, wind and solar sites

How you get there

- 1 High school diploma** Grade 12
Grade 12 with math, physics and English. Alberta's entry requires English 20-2, Math 20-3 and Science 10 or an entrance exam.
- 2 Get hired by a utility or generator** Months to a few years
This is the hard step. Utilities post apprentice openings a few times a year and get many applicants. An electrical technician diploma or construction electrician hours help you stand out.
- 3 Register the apprenticeship** Days
In Alberta, with Apprenticeship and Industry Training as a Power System Electrician. In other provinces you may register as an electrician and specialize inside the utility.
- 4 Work and study** 4 years
In Alberta, four periods of about 1,560 to 1,590 hours on the job each, plus 7 weeks of school in periods 1 and 2 and 8 weeks in periods 3 and 4, at NAIT (the Northern Alberta Institute of Technology) or Lethbridge Polytechnic.
- 5 Journeyperson certificate** After your hours
Pass the final period exam. Alberta issues a Journeyperson Certificate and an advanced diploma.

Pros and cons

- + Among the highest starting wages of any trade, with a pension from day one
- + Stable employers: provincial utilities do not go out of business
- + Deeply technical work that keeps changing as the grid modernizes
- Few openings; getting hired by a utility is competitive
- Extremely high voltages, so procedures are rigid and errors are unforgiving
- Callouts in storms and at night

Optional boosts

Protection and control. Generating station work. Metering. Renewables.

Where these numbers come from

Job Bank: Power system electricians, wages (updated Nov 2025)
 alis Alberta: Power System Electrician occupation profile
 Alberta Apprenticeship (Tradesecrets): Power System Electrician trade profile
 Hydro One: careers

Numbers checked September 2026. Pay figures are typical full-time annual amounts in Canadian dollars, based on Government of Canada Job Bank wage data and published salary grids. They vary by province, employer and experience. Tuition is for domestic students. Sources, links and the click-through version: <https://career.help/ca/careers/power-system-electrician>

Good to know

Relays decide in milliseconds

When a tree hits a line, protection relays in a substation detect the fault and trip a breaker in a fraction of a second, faster than any human could react. Power system electricians test and set those rela...

The grid runs on computers now

Substations are monitored by SCADA (supervisory control and data acquisition) systems that report to a control centre hundreds of kilometres away. Alberta's trade profile lists SCADA work as one of th...



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