

# Electrical Effects from Alternating Current (AC) Transmission Lines



The following information covers the most common concerns that landholders express to ATCO Electric regarding electrical effects from transmission lines and facilities.

## Shocks and induction

You will not get a harmful shock from a transmission line unless you or your equipment comes into contact with, or is very close to, the actual conductor wires. Occasionally, you might experience a slightly annoying but ultimately harmless, electrical sensation if you touch an ungrounded metal object near a high voltage transmission line.

Typically, these shocks are simply a nuisance, similar to the static electricity shock you may receive after walking across a carpet – commonly referred to as a static shock or static electricity. To eliminate these mild shocks, make sure metal objects and fences are properly grounded. During the construction of a new line, ATCO Electric will assist landholders with investigating the need to ground objects under or near the line.

## Interference with household electronics and GPS

Sometimes people voice concerns about the potential for interference with GPS, particularly those devices used for farming. Navigational GPS operates at high frequencies and receives signals from numerous satellites simultaneously. Systems used for farm navigation typically do not experience any interference from a transmission line. In the unlikely event that a problem is encountered due to the construction of a transmission line, we will work with those affected to resolve the interference.

A transmission line should not cause reception problems for cell phone or wireless internet. Transmission lines normally do not affect radio or television reception. However, under certain circumstances, there may be some static electrical interference on AM radio and analog TV. FM radio and cable TV are not impacted by static electrical interference.

ATCO Electric designs its transmission lines to meet all Canadian and Alberta electrical codes with respect to communications interference. If a problem with a landholder's cellular or internet reception occurs following construction of a new transmission line, ATCO Electric will investigate to ensure that our equipment was not the cause. If any reception problems occur because of our facilities, ATCO Electric will work with Industry Canada to resolve the problem.



## A Word about Safety...

You should always be careful and follow common sense rules of safety when near any type of power line. Some of the hazards you should avoid in the home, around the farm or on the job are discussed in a variety of materials available from ATCO Electric at no charge. Look for safety tips on our website: [www.atcoelectric.com](http://www.atcoelectric.com)



## CONTACT INFORMATION

Your comments and concerns are important to us.

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## Vehicle Safety

Most vehicles today are naturally grounded, because their tires are made of semi conducting carbon black. A mild electric charge can build up on a vehicle with old rubber tires because they generally do not conduct electric currents. Such charges are annoying, but harmless. If your vehicle tends to develop a mild electric charge, it can be grounded by attaching a chain that is long enough to touch the ground.



There have been no reported cases of fires caused by static sparks induced by transmission lines. However, the refueling of vehicles under lines could pose a problem in the unlikely event that certain conditions (including hot, still weather and a completely insulated vehicle) existed all at the same time. As a precaution, never refuel vehicles under a transmission line. If you have no choice in the matter, use a plastic gasoline container.

When driving, parking or putting gas in a vehicle near transmission lines, you should always be careful and follow common sense rules.

## Lightning and damage to property

Transmission lines do not attract distant lightning. When a storm is directly overhead, they may actually draw lightning away from nearby trees, buildings, animals or people. Since lightning is attracted to the highest available object, in rural areas the transmission lines are often struck. However, because these structures are well grounded, the potential danger is far less than if the lightning were to strike a tree or building. ATCO Electric installs shield wires on transmission lines with a voltage greater than 72 kilovolts. Shield wires ground lightning strikes, which helps to prevent power outages, and to protect people and equipment in the event of a lightning strike.