

EMFs: What you should know

"At this time, we are unable to determine whether there is a significant scientifically verifiable relationship between EMF exposure and negative health consequences. Should such studies indicate negative EMF health impacts, we will reconsider our EMF policies. A direct link between exposure to EMFs and human health effects has yet to be proven despite numerous studies, including a study ordered by this Commission and conducted by the California Department of Health Services."

California Public Utilities Commission

What are EMFs?

EMFs (electromagnetic fields) are invisible lines of force created whenever electricity is generated or used. EMFs are produced by power lines, electric wiring, and electric equipment and appliances. The frequency of EMFs is measured in hertz (Hz, or cycles per second).

Just like radio and TV signals, EMFs are invisible. They surround any wire that is conducting electricity. An electric field is created whenever an electric appliance is plugged in — even when it's turned off. When you turn on the appliance, you turn on the magnetic field that surrounds it.

Electromagnetic fields are found in all electronic devices, including:

- high-voltage power lines
- grounding systems that protect residents from lightning
- microwave ovens
- electric space heaters
- ceiling fans
- electric ranges
- computer monitors
- electric clocks
- hair dryers

Everyone is exposed to the electromagnetic fields that surround all electric devices. Recently, scientific studies have raised questions about the possible health effects of EMFs. This information is designed to help you identify different EMF sources.

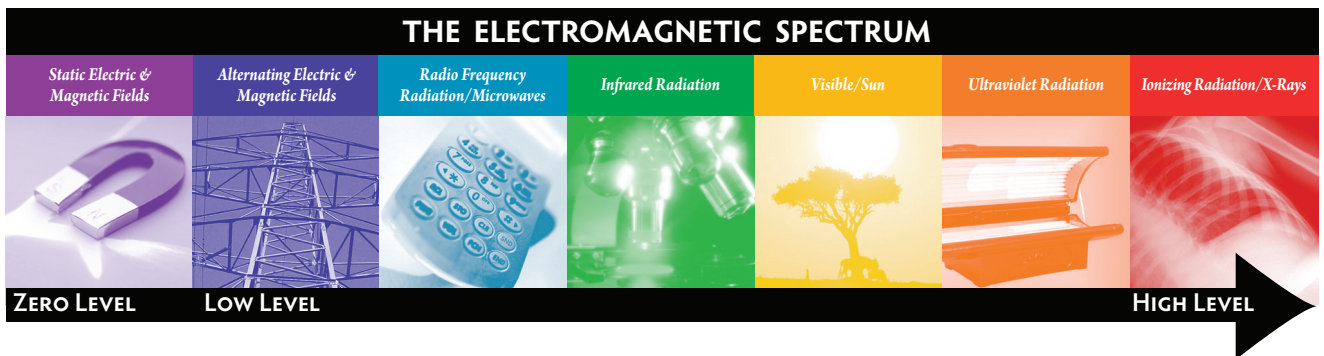
Utilities and EMFs

Electrical currents cause electromagnetic fields. Electromagnetic fields are created by the electricity we need to run the appliances and lights in our homes. The electric power we all use is 60-Hertz alternating current. That means electric charges move back and forth 60 times each second.

There are two basic types of power lines — transmission lines and distribution lines. Transmission lines are high-voltage power lines. The high voltage allows electric power to be carried efficiently over long distances from electrical generation facilities to substations. In the United States, most transmission lines use alternating current (AC) and operate at voltages between 50 and 765 kV (1 kV or kilovolt = 1000 volts (V).) Your power company has transmission lines that range from 92 kV to 500 kV.

Electrical substations serve many functions in controlling and transferring power on an electrical system. Several different types of equipment might be present, depending on the functions of the particular substation. For example, transformers change the high voltages used by transmission lines to the lower voltages used by distribution lines. Circuit breakers are used to turn power lines on and off.

Utilities use lower-voltage distribution lines to bring power from substations to businesses and homes. Distribution lines operate at voltages at or below 35 kV. For residential customers, these levels are further reduced to 120/240 V once the power reaches its destination.



Is your health at risk?

Several studies have attempted to show a link between exposure to EMFs and childhood leukemia. Despite all attempts to recreate the findings, there are no valid studies that can substantiate the claims of EMF-caused cancer. A few studies that have been conducted on adults show no evidence of a link between EMF exposure and adult cancers, such as leukemia, brain cancer and breast cancer.

