

What Matters To You Matters To Us

Dominion Energy is committed to supplying electricity in a responsible and safe manner. This commitment includes balancing environmental issues, aesthetics, land use, safety, project costs, customer preferences, and addressing concerns about electric and magnetic fields (EMF). We recognize community members may have health concerns related to power lines.

Dominion Energy, like other utilities, relies on information from federal, state, and international health agencies. When proposing new transmission lines, we include estimated EMF calculations as part of our regulatory filings. We also stay updated on the most current research to ensure we can quickly respond to emerging issues or concerns.



What Does Research Tell Us About EMF?

Since the late 1970s, scientists around the world have conducted thousands of studies looking for relationships between EMF exposure and possible adverse health effects. The large body of research on EMF and health has been evaluated in valid scientific reviews by numerous state, national and international health, scientific, and governmental organizations. To date, none of these organizations have found any conclusive evidence that potential EMF exposures from power lines cause or contribute to long-term adverse health effects. These organizations and their websites are listed below.

Sources:



who.int



niehs.nih.gov/health



health.ec.europa.eu/scientific-committees_en



vdh.virginia.gov

For more information, please visit:
DominionEnergy.com/EMF

CONTACT US

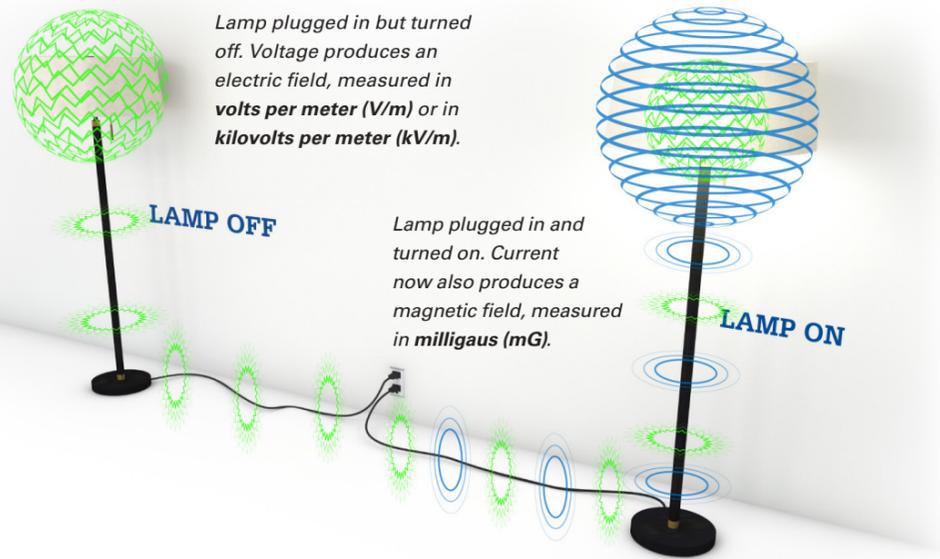
Website:
powerlines101.dominionenergy.com

Phone:
888-291-0190

Email:
powerline@dominionenergy.com

Electric and Magnetic Fields and Health





Average Magnetic Fields in the Home*

Levels are given in milligauss (mG)

	6 inches	1 foot	2 feet	4 feet
Personal Computer	14	5	2	-
Hair Dryer	300	1	-	-
Electric Shaver	100	20	-	-
Ceiling Fan	**	3	-	-
Window Air Conditioner	**	3	1	-
TV	**	7	2	-
Blender	70	10	2	-
Coffee Maker	7	-	-	-
Dishwasher	20	10	4	-
Garbage Disposal	80	10	2	-
Electric Can Opener	600	150	20	2
Electric Range	30	8	2	-
Refrigerator	2	2	1	-
Toaster	10	3	-	-
Electric Clothes Dryer	3	2	-	-
Washing Machine	20	7	1	-
Vacuum Cleaner	300	60	10	1
Power Saw	200	40	5	-

NOTE: Dash (-) means that the magnetic field at this distance from the operating appliance could not be distinguished from background measurements taken before the appliance had been turned on.

* For a complete list of sources, please refer to back panel.

** NIEHS did not measure the magnetic field at this distance from the operating appliance.



What are Electric and Magnetic Fields?

Electric and magnetic fields — sometimes referred to as electro-magnetic fields or lumped together as EMF with no distinction — are actually two separate fields. These fields are found wherever electricity is generated, transmitted, or used — such as power lines, appliances, and everyday electronics. EMF is constantly around us as part of our modern way of life. The general public is unlikely to encounter EMF exposure levels above scientifically established guideline values.

ELECTRIC FIELDS

- Produced by the voltage, or electrical pressure, on lines or in wiring.
- Strength increases as the voltage on power lines increases.
- Significantly reduced by buildings, trees, shrubbery, fences, and other conductive materials.
- Intensity rapidly decreases as distance from an electrical source increases.

MAGNETIC FIELDS

- Produced by the flow of current through electrical wires.
- Strength increases as the current flowing through power lines increases.
- May be reduced by their interaction with fields emitted from adjacent power lines.
- Intensity rapidly decreases as distance from an electrical source increases.



Does Dominion Energy calculate power line EMF levels?

Yes. Exposure to magnetic fields is calculated at the edge of the right-of-way using the average amount of current flowing through the lines. Throughout the year, the level of current fluctuates because of weather, temperature, load, etc. Average load is the most accurate way to estimate EMF exposure.

Adding more transmission lines in a right-of-way does not necessarily increase EMF levels. EMF fields which interact with other fields may counteract one another. Dominion Energy also designs its lines to mitigate EMF emissions. Adding the separate EMF levels of various transmission lines near one another is NOT an accurate method to measure EMF emissions.

When submitting applications for proposed facilities to Virginia State Corporation Commission (SCC), Dominion Energy includes EMF calculations. These calculations, as well as the full SCC application, are available on the project web pages.

Typical EMF Levels for Electric Transmission Lines*

Levels are given in milligauss (mG)

	Under Structure	50 feet**	100 feet	200 feet	300 feet
115 kV	29.7	6.5	1.7	0.4	0.2
230 kV	57.5	19.5	7.1	1.8	0.8
500 kV	86.7	29.4	12.6	3.2	1.4

Typical EMF Levels for Distribution Lines*

Under Main Feeder Lines	Under Smaller Lines	100 feet
10 to 20	Below 10 to under 1	Similar to levels found in most homes

NOTE: Undergrounding power lines may make electric field readings negligible; however, it does not eliminate magnetic fields. Magnetic field strength associated with underground lines will vary based on several factors, such as: proximity, voltage, and various mitigation methods. Some methods include phasing orientation and sub-surface composition.

* For a complete list of sources, please refer to back panel. ** Approximate edge of right of way