

### What is EMF?

“EMF” is an abbreviation for “electric and magnetic fields” and “electromagnetic fields.” Power lines, appliances, and home wiring all produce electric and magnetic fields. “EMF” is also often used by people as shorthand for just “magnetic fields,” which some people are concerned about, so that is what “EMF” refers to here.

### Is EMF “radiation” like medical X-rays or ultraviolet sunlight? No.

Radiation from medical X-rays and from the ultraviolet part of sunlight is strong enough to damage DNA. EMF from power lines, appliances, and home wiring is not.

### What are the EMF levels from common sources? (in milligauss)

Examples of EMF Sources*	
Coffee makers	7
Electricity distribution line – upper level of typical average	20
Dishwashers	20
500 kV electricity transmission line – typical average at end of right of way	30
Electricity distribution line -- typical maximum above underground line	40
Florescent lights	40
Electricity distribution line -- typical maximum under overhead line	70
Blenders	70
500 kV electricity transmission line -- typical average under line	87
Toasters	100
Hair dryers	300
Can openers	600

\* People typically change activities and locations during a day, so we are exposed to a variety of sources of EMF and a wide range of field levels. In the table above, field levels are taken from the U.S. National Institute of Environmental Health Sciences (NIEHS) EMF Questions & Answers, pages 33-35 (median level at 6 inches from appliances), page 36 (distribution lines), and page 37 (transmission lines). As noted by NIEHS, field levels of transmission lines can approximately double during peak loads, which occur about 1% of the time.

### What conclusions have public health authorities reached about whether EMF causes health effects?

The EMF health research has been examined by governmental public health authorities and public health organizations in over 160 reports. The World Health Organization has examined the reports on the research and says on its website:

“Based on a recent in-depth review of the scientific literature, the World Health Organization concluded that current evidence does not confirm the existence of any health consequences from exposure to low level electromagnetic fields.”

(<http://www.who.int/peh-emf/about/WhatisEMF/en/index1.html>, section 2, “Conclusions from scientific research.”)

### Q. Are there any exposure limits for EMF in Pennsylvania?

A. Pennsylvania has not adopted any electric or magnetic field exposure limits.

### Q. What is PPL Electric Utilities doing about EMF?

A. PPL Electric Utilities has a magnetic field management program to design and build new lines when practicable in ways that reduce magnetic fields at low or no cost to our customers. For example, the options we will consider for new lines include:

- Reversing the phases of new overhead double-circuit transmission lines, which can result in some cancellation of magnetic fields from the line and lowers the magnetic fields at the edge of the right of way.
- Building new transmission and distribution lines higher than previous designs because the level of magnetic fields at ground level will be lower.

Magnetic field management is considered in the process we use to site new facilities, balancing cost and function with land use and environmental concerns.

### Q. Where can I get additional information on EMF?

A. This guide contains detailed information on EMF. More information is also available at the PPL Electric Utilities website at [www.PPLElectric.com/EMF](http://www.PPLElectric.com/EMF). If you would like to speak with someone at PPL Electric Utilities about EMF, please call **1-800-DIAL-PPL (1-800-342-5775)**.

