MariBell Transmission Project

The Basics:
Electromagnetic Fields

Electric and Magnetic Fields, also known as Electromagnetic fields, or EMF, are a normal part of everyday life.

They're created whenever electricity is present and come from both natural sources and everyday things we all use, such as household appliances and power lines. This handout explains what EMF is, where you might encounter it, and what decades of research tell us about EMF and health.

What is EMF?

Electric fields are created whenever an electrical force is present, such as when a lamp is plugged in but turned off. Magnetic fields are created when electricity flows, such as when a lamp is plugged in and turned on. Some EMF is natural, such as the earth's static magnetic field. Other sources are human made, such as from power lines, wiring in buildings and electric appliances in homes and offices.

You encounter EMF daily

EMF occurs in everyday household items like lamps, vacuums, microwave ovens, dishwashers, refrigerators and elsewhere. The widespread use of electricity means we are exposed to EMF in our everyday environment at work, school and home.

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The following graphics provide magnetic field levels of common household appliances as well as anticipated magnetic fields under the proposed 765 kV line. Magnetic fields drop rapidly as distance from the source increases.

MAGNETIC-FIELD LEVELS (IN MILLIGAUSS) MEASURED NEAR HOUSEHOLD APPLIANCES

Hair dryer
6 in. away
300 mG

Toaster
6 in. away
10 mG

Blender
6 in. away
70 mG

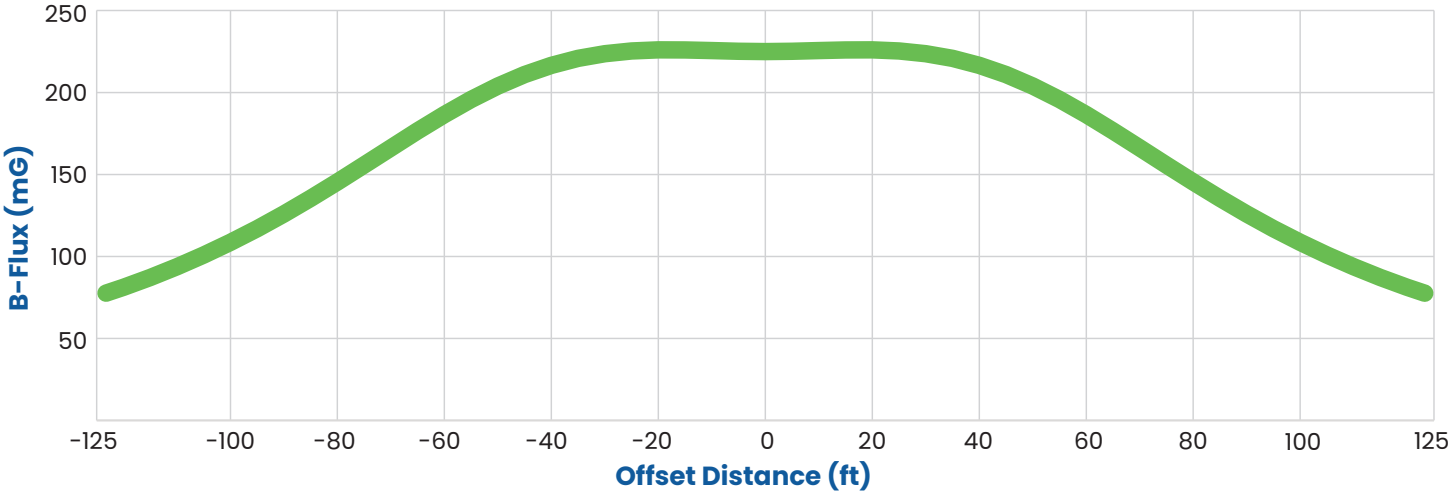
Florescent light
6 in. away
40 mG

Dishwasher
6 in. away
20 mG

Coffee maker
6 in. away
7 mG

Field levels from the U.S. National Institute of Environmental Health Sciences (NIEHS) EMF Questions and Answers.

ANTICIPATED MAGNETIC FIELD LEVELS FOR MARIBELL 765 KV TRANSMISSION LINE



EMF and Health

EMF and health has been evaluated for more than 40 years by governmental bodies, public health organizations, and government appointed scientific panels all over the world. Leading public health authorities such as the US National Cancer Institute and the World Health Organization have concluded that the body of scientific research does not demonstrate a causal link between EMF and any adverse health effects.

Expert Sources for Additional Information

- National Institute of Environmental Health Sciences; National Institutes of Health. Electric and Magnetic Fields Associated With the Use of Electric Power. 2002. ***Available at: https://www.niehs.nih.gov/sites/default/files/health/materials/electric_and_magnetic_fields_associated_with_the_use_of_electric_power_questions_and_answers_english_508.pdf.*** Accessed October 30, 2025.
- National Cancer Institute. Electromagnetic Fields and Cancer. ***Available at: https://www.cancer.gov/about-cancer/causes-prevention/risk/radiation/electromagnetic-fields-fact-sheet.*** Accessed October 30, 2025.
- World Health Organization. Electromagnetic Fields. ***Available at: https://www.who.int/news-room/q-a-detail/radiation-electromagnetic-fields*** and ***https://www.who.int/teams/environment-climate-change-and-health/radiation-and-health/non-ionizing/emf/health-risk***