

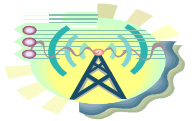
# FACT SHEET

CONNECTICUT DEPARTMENT OF  
PUBLIC HEALTH

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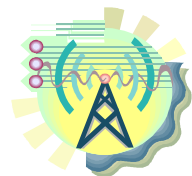
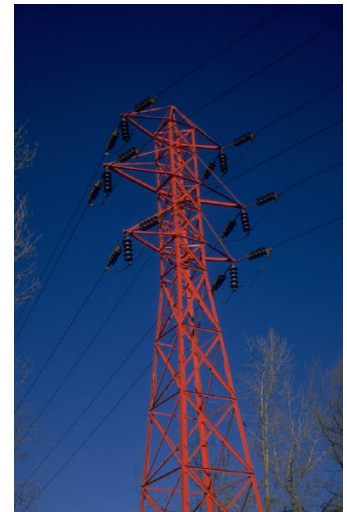
## Electric and Magnetic Fields (EMF): Health Concerns

EMF exposure is very common, and so are questions about what this exposure may mean. The following sections provide answers to some common questions about EMF and concerns about health.



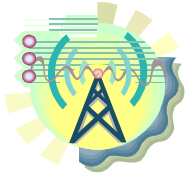
### What is EMF?

**Electric and magnetic fields (EMF)** are areas of energy that surround any electrical device. Power lines, electrical wiring, computers, televisions, hair dryers, household appliances and everything else that uses electricity are sources of EMF. The magnetic field is not blocked by buildings so outdoor sources like power lines can add to the EMF inside your home. However, **the field decreases rapidly with distance so that most homes are too far from high voltage lines to matter.**



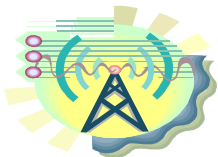
### How Are Electromagnetic Fields Measured?

EMF are commonly measured in units of **gauss (G)** by an instrument known as a gaussmeter. A **milligauss (mG)** is 1000 times smaller than a gauss.



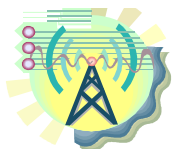
## What Are Typical EMF Levels Within A Home?

In a study that measured EMF in almost 1000 homes in the United States, 50% had average EMF levels of 0.6 mG or less, and 95% had average EMF levels below 3 mG. Keep in mind that these are *average* EMF levels within a home. EMF levels can be higher (5 mG or more) when you are near a household appliance (or anything else that uses electricity). EMF levels rapidly become weaker as you move away from the source.



## How High Are EMF Levels Near Power Lines?

Power lines that send electricity between towns and into neighborhoods generally have the highest voltage. They are bigger and have more wires than the distribution lines that are common on most streets. The high voltage lines can have EMF levels of 30 to 90 mG underneath the wires, depending on the voltage, height, and placement of the lines. EMF levels decrease rapidly with distance from the lines. At 300 feet (a football field), EMF is at background levels. In some cases, even closer distances are at background. The distribution lines that run up and down every street are smaller, contain lower voltage and are of less concern.

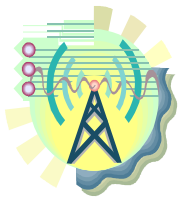


## Is EMF Exposure Harmful?

Despite extensive research over the past 20 years, the health risk caused by EMF exposure remains an open question. Two national research organizations (the National Research Council and the National Institute of Health) have looked at the studies and have concluded that there is not strong evidence that EMF exposures pose a health risk. However, some studies have shown an association between household EMF exposure and a small increased risk of childhood leukemia at average exposures above 3 mG. For cancers other than childhood leukemia, there is less evidence for an effect. For example, workers that repair power lines and railway workers can be exposed to much higher EMF

levels than the general public. The results of cancer studies in these workers is mixed. Some studies have suggested a link between EMF exposure in electrical workers and leukemia and brain cancer. Other similar studies have not found such associations. There is also some evidence that utility workers exposed to high levels of EMF may be at increased risk of developing amyotrophic lateral sclerosis (Lou Gehrig's Disease).

Although the current scientific evidence provides no definitive answers as to whether EMF exposure can increase health risks, there is enough uncertainty that some people may want to reduce their exposure to EMF.

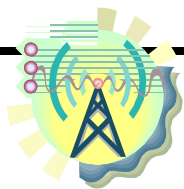


## How Can I Reduce My EMF Exposure?

EMF exposure depends on what EMF sources are nearby and how much time you spend near them.

If you would like to reduce your exposure to EMF, you can take simple steps such as:

- Increase distance: for example, sit at arm's length from your computer or re-position electric alarm clocks farther away from your body while in bed.
- Repair faulty wiring which may be generating higher than usual EMF.
- Turn off electrical devices such as televisions and computers when not in use.
- Use electric blankets to warm the bed, turning them off before getting into bed.



## What Should I Do if a Home I Want To Buy is Near High Voltage Lines?

If the power lines are more than 300 feet away, there should be no cause for concern. At this distance EMF from the lines is no different from typical levels around the home.

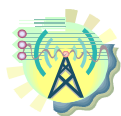
If the power lines are less than 300 feet away from the home, you may want to obtain EMF measurements in the yard. Most electric utilities in Connecticut will take measurements for free. There are also private firms that will charge a fee for measurements. To understand your measurement, consider that typical EMF levels found inside homes

range from 0.1 to 4 mG. EMF levels above this range are not necessarily hazardous, but indicate EMF levels above what's typical background inside a home.

Deciding where to live rests upon different considerations for each individual. EMF exposure is just one of many factors in this decision. Other environmental health issues around a home can include: radon, lead paint, asbestos, soil or groundwater contamination, local traffic and noise. All of these factors should be considered when evaluating the home environment.

## What are Best Management Practices (BMPs)?

When new power lines are constructed, they have the potential to increase EMF levels in an area. The Connecticut Siting Council (CSC) reviews these plans. To ensure that the public's exposure to EMF is kept to a minimum, the CSC released a set of BMPs to be followed when constructing new lines. The plans for new lines and their adherence to the BMPs will be on file in town offices and are typically discussed at open forums prior to construction.



## Where Can I Find More Information?

National Institute of Environmental Health Sciences report on health effects from EMF

<http://www.niehs.nih.gov/health/topics/agents/emf/>

California Dept of Health Services: Electric and Magnetic Fields

[http://www.ehib.org/cma/topic.jsp?topic\\_key=7](http://www.ehib.org/cma/topic.jsp?topic_key=7)

Connecticut Siting Council Best Management Practices

[http://www.ct.gov/csc/lib/csc/emf\\_bmp/emf\\_bmp\\_12-14-07.doc](http://www.ct.gov/csc/lib/csc/emf_bmp/emf_bmp_12-14-07.doc)

World Health Organization: International EMF Project

<http://www.who.int/peh-emf/en/>



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