

# Electric and Magnetic Fields



**Northeast  
Utilities**

Connecticut Light & Power  
Public Service of New Hampshire  
Western Massachusetts Electric

## THE ISSUE

While everyone is aware of obvious safety issues related to electricity, such as electric shock, some scientists have raised questions about possible health effects from exposure to electric and magnetic fields (EMF) near power lines, electric appliances and other sources. This document provides some information and resources on the subject.

## EMF BACKGROUND

Sources of EMF include the electric power system as well as all appliances and equipment drawing power from it. Because the fields associated with electric power are at the very low end of the electromagnetic spectrum, they are called “extremely low frequency” or ELF fields.

Over the past 30 years, many scientific studies have been conducted to determine whether these fields affect biological systems and health. Media attention to this research has prompted some of our customers to bring their questions and concerns to us.

To help scientists address questions about EMF, our companies joined with many others during the 1990s to provide funds for the National Institute of Environmental Health Sciences (NIEHS) to run the EMF Research and Public Information Dissemination program, so that independent scientists could determine whether exposure to EMF involves a risk to human health.

**At the conclusion of this research program in 1999, the Director of the NIEHS reported to Congress that:**

*“The probability that ELF-EMF exposure is truly a health hazard is currently small. The weak epidemiological associations and lack of any laboratory support for these associations provide only marginal scientific support that exposure to this agent is causing any degree of harm.”*

**In June 2007, the World Health Organization advised a general policy approach as follows:**

*“Given both the weakness of the evidence for a link between exposure to ELF magnetic fields and childhood leukemia, and the limited impact on public health if there is a link, the benefits of exposure reduction on health are unclear. Thus the costs of precautionary measures should be very low.”*

**The recommendations of the World Health Organization included:**

*“When constructing new facilities and designing new equipment, including appliances, low-cost ways of reducing exposure may be explored. Appropriate exposure reduction measures will vary from one country to another. However, policies based on the adoption of arbitrary low exposure limits are not warranted.”*

*continued >*

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## WHAT NU IS DOING

Northeast Utilities' (NU) efforts to address the issues raised by research and the concerns of some customers are focused on the following activities:

**Providing Information** — NU has assigned employees to monitor EMF developments, provide information, respond to customer and employee questions, and recommend action to management. We rely on the consensus of the scientific organizations such as the NIEHS, the International Agency for Research on Cancer, and the World Health Organization, which have reviewed the large body of scientific research regarding EMF and health. At the request of electricians and homebuilders, we can also provide information on home electrical wiring and service grounding practices that can reduce magnetic field levels.

**Taking Measurements** — Company representatives take measurements of magnetic fields for customers upon request. We provide these measurements to help our customers understand the magnetic field levels associated with various sources in their environment.

**Supporting Research** — In addition to supporting the national EMF Research and Public Information Dissemination program, we have long supported independent research on EMF through the Electric Power Research Institute.

**Designing New Projects** — NU's policy for new transmission line construction is to investigate practical and no- and low-cost engineering approaches for reducing magnetic field levels at and beyond the edges of rights-of-way which may be adjacent to residential areas, schools, licensed day-care facilities, licensed youth camps, or public playgrounds. This policy is consistent with a recommendation by the World Health Organization and with the policy expectations of some siting authorities.



## WHERE TO GET MORE INFORMATION

Additional information about EMF is available from:

**The National Institute of Environmental Health Sciences (NIEHS)**  
[www.niehs.nih.gov](http://www.niehs.nih.gov)

**The International Agency for Research on Cancer (IARC)**  
[www.iarc.fr](http://www.iarc.fr)

**Electric Power Research Institute (EPRI)**  
[www.emf.epri.com](http://www.emf.epri.com)

**The World Health Organization's 2007 EMF Fact Sheet**  
[www.who.int/mediacentre/factsheets/fs322/en/index.html](http://www.who.int/mediacentre/factsheets/fs322/en/index.html)

**Connecticut Siting Council's Best Management Practices**  
[http://www.ct.gov/csc/lib/csc/emf\\_bmp/emf\\_bmp\\_12-14-07.pdf](http://www.ct.gov/csc/lib/csc/emf_bmp/emf_bmp_12-14-07.pdf)

**National Cancer Institute**  
[www.cancer.gov/cancertopics/factsheet/Risk/magnetic-fields](http://www.cancer.gov/cancertopics/factsheet/Risk/magnetic-fields)

**Health Canada**  
[www.hc-sc.gc.ca/hl-vs/iyh-vsv/environ/magnet-eng.php](http://www.hc-sc.gc.ca/hl-vs/iyh-vsv/environ/magnet-eng.php)

## FOR MORE INFORMATION

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