EMFacts
WEB LOG - NEWS & INFORMATION

STUDY REVEALS NEW UNDERSTANDING ABOUT ELECTROMAGNETIC FIELDS AS A CAUSE OF CANCER

http://www.emfacts.com/weblog/?p=903

EMFacts.com, 06/06/2008

A new study published in the July issue of the American Journal of Industrial Medicine reveals that "dirty power" (high voltage transients riding on the power supply lines) may be responsible for increased cancer rates. According to Dr. Samuel Milham, a leading epidemiologist and one of the study's co-authors, "dirty power" is the likely cause of an unusual cancer cluster at La Quinta Middle School in southern California.

"Dirty power" consists of high-frequency voltage transients (or bursts of electrical energy) that travel along power lines and building wiring. Working with his co-author an electronic engineer Lloyd Morgan, Milham found that those teachers who had the greatest exposure to high-frequency transients also had the highest incidence of cancer. "The trend of more cancer with more exposure and with duration of employment is highly significant," Milham said.

Milham and Morgan found that teachers at the La Quinta Middle School had close to three times the expected number of cancer cases over a 17-year period (1988-2005). Milham estimates that the odds against such a cluster are 10,000 to one. The incidence of malignant melanoma, a dangerous type of skin cancer, was ten times higher than expected, as was cancer of the thyroid and uterine cancer. The incidence of different types of cancer confirms earlier scientific evidence that electromagnetic fields (EMFs) may be a general human carcinogen.

The same pattern of cancer excess has also been found in a study of 250,000 members of the California Teachers' Association and in teachers and office workers worldwide. These findings strongly suggest that this risk exists anywhere that people are exposed to electrical wiring carrying these transients.

Dirty power is a term coined by the utility industry, and is generated by electrical appliances and equipment such as **compact fluorescent lights (spaarlampen)**, **halogen lamps**, computers and other new electrical technologies which interrupt current flow. Milham believes that these transients are responsible for many of the health effects that were previously attributed to magnetic fields. Given the proliferation of potential sources of dirty power in homes and offices, these findings reveal that nearly everyone may be at risk of adverse health effects related to high frequency transients and electromagnetic fields.

The amount of transients —or the "dirtiness" of the power— in the wiring in the La Qunita school building was measured with a Graham/Stetzer meter, developed by Martin Graham and David Stetzer. Graham is an emeritus professor of electrical engineering at the University of California, Berkeley. Stetzer is the founder of Stetzer Electric, a consulting firm in Blair, Wisconsin. The Graham/Stetzer device allows for more sophisticated measurement of high frequency transients than has previously been available to researchers.

Milham has been studying the links between EMFs and cancer for more than 25 years. In 1982, he was the first to link workers exposed to EMFs with higher rates of leukemia. This finding, which was published in the New England Journal of Medicine, encouraged many others to investigate the links between on-the-job exposure to EMFs and various types of cancer. His work on EMFs, as well as other occupational and environmental hazards, earned Milham the Ramazzini Award in 1997. This prestigious award is bears the namesake of Bernadino Ramazzini, who is widely recognized as the founder of occupational medicine.

"Our results point to a new way to understand the health risks of electromagnetic fields," said Milham. "The real culprits are the high-frequency voltage transients that pollute our electrical networks. If we ever want to understand the threat posed by EMFs, we need to focus on dirty power."

A copy of "A New Electromagnetic Exposure Metric: High Frequency Voltage Transients Associated with Increased Cancer Incidence in a California School," published today in the American Journal of Industrial Medicine, < http://www3.interscience.wiley.com/journal/111085216/issue >