

Understanding EMF (Electric and Magnetic Fields)

Questions have been raised about the possible health effects of 60-Hertz (power frequency) electric and magnetic fields (EMF), which are found wherever you have electric power. This article contains information that will help you understand the EMF issue, plus practical tips you can use if you want to reduce your exposure at home and at work.

Can EMF Harm Your Health?

Electric and magnetic fields are present wherever electricity flows—around appliances and power lines, and in offices, schools and homes. Many researchers believe that if there is a risk of adverse health effects from usual residential exposures to EMF, it is probably just at the detection limit of human health studies; nonetheless, the possible risk warrants further investigation. The varying results from epidemiological studies, which looked at estimated EMF exposures and childhood leukemia, are consistent with a weak link. Laboratory studies and studies investigating a possible mechanism for health effects (mechanistic studies) provide little or no evidence to support this weak link.

The results from many research studies have been evaluated by international, national and California EMF research programs to find out if EMF poses any health risk. Given the uncertainty of the issue, the medical and scientific communities have been unable to determine that usual residential exposures to EMF cause health effects or to establish any standard or level of residential exposure that is known to be either safe or harmful. These conclusions remain unchanged by recent studies.

World Health Organization Findings

The World Health Organization (WHO) recently concluded a review of the potential health implications of extremely low frequency (ELF) EMF, which includes power-frequency fields. Their conclusions and recommendations were presented in June 2007 in a report known as the Extremely Low Frequency Fields, Environmental Health Criteria Monograph No. 238.







The WHO report concluded that evidence for a link between ELF magnetic fields and childhood leukemia “is not strong enough to be considered causal but sufficiently strong to remain a concern.” “Virtually all of the laboratory evidence and the mechanistic evidence fail to support” this reported association. For all other diseases, there is inadequate or no evidence of health effects at low exposure levels.

The report emphasized that, given the weakness of the evidence for health effects, the health benefits of exposure reduction are unclear and policies based on the adoption of arbitrary low exposure limits are not warranted. In light of this situation, WHO made these and other recommendations:



- National authorities should implement communication programs with all stakeholders to enable informed decision-making, including how individuals can reduce their own exposure.
- Policy makers and community planners should implement very low-cost measures to reduce exposures when constructing new facilities and designing new equipment, including appliances.

- Policy makers should use existing international guidelines (833 and 9,000 milligauss) to establish standards for exposure to short-term, high-level ELF fields. These guidelines pertain to field levels that are virtually never encountered by the general public except from a few electric appliances.
- Government and industry should promote research to reduce the uncertainty of the scientific evidence on the health effects of ELF field exposure. Several recommended research projects are already under way through the Electric Power Research Institute, of which SCE is a member.

To view the full report and a fact sheet summarizing it, visit http://www.who.int/peh-emf/publications/elf_ehc/en/index.html <http://www.who.int/mediacentre/factsheets/fs322/en/index.html>

Magnetic Fields at Home (Measurements are in milligauss.)			
	1.2" away	12" away	39" away
 Microwave Oven	750 to 2,000	40 to 80	3 to 8
 Clothes Washer	8 to 400	2 to 30	0.1 to 2
 Electric Range	60 to 2,000	4 to 40	0.1 to 1
 Fluorescent Lamp	400 to 4,000	5 to 20	0.1 to 3
 Hair Dryer	60 to 20,000	1 to 70	0.1 to 3
 Television	25 to 500	0.4 to 20	0.1 to 2

Source: Adapted from Gauger 1995.

Magnetic Fields Outside (Maximum values may be lower for some California utilities.)	
 Distribution Lines	1 to 80 milligauss under the line
 Transmission Lines	1 to 300 milligauss edge of right-of-way

What You Can Do

In a situation of scientific uncertainty and public concern, WHO recommended that utilities explore “very low-cost” ways to reduce EMF exposure from new or upgraded facilities. SCE and other California public utilities already pursue no-cost and low-cost measures to reduce EMF levels from new utility transmission lines and substation projects. You, too, may want to take no-cost and low-cost measures to reduce your EMF exposure at home and at work.

Human studies have not produced a consensus about any health benefits from changing the way people use electric appliances. But, if you feel reducing your EMF exposure would be beneficial, you can increase your distance from electric appliances and/or limit the amount of time you use appliances at home or at work.

(continued on back page)

Reviewed by: California Public Utilities Commission (CPUC)

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Campos Eléctricos y Magnéticos (EMF):

Si desea recibir información en español, comuníquese con SCE al 1-800-441-2233.

**NOTIFICATION OF APPLICATION FILING BY
SOUTHERN CALIFORNIA EDISON COMPANY (SCE):
WILDFIRE COST RECOVERY
A.09-08-020**

On August 31, 2009, Southern California Edison Company, San Diego Gas and Electric Company, Southern California Gas Company, and Pacific Gas and Electric Company, jointly filed Application No. 09-08-020 requesting authority from the California Public Utilities Commission (CPUC) to approve a mechanism to allow it to recover costs associated with wildfires. In the face of a changing insurance market that may limit the Utilities' ability to obtain insurance coverage, the Application asks for CPUC approval to establish a Wildfire Expense Balancing Account (WEBA) to record for future recovery all uninsured costs arising from wildfires, including:

- (1) payments to satisfy wildfire claims, including any co-insurance and deductible expense paid by the Utilities;
- (2) outside legal costs incurred in the defense of wildfire claims;
- (3) premiums for insurance against wildfire claims, and
- (4) the cost of financing these amounts.

Costs that have previously been authorized for recovery in rates in SCE's General Rate Case shall not be added to the WEBA. Insurance proceeds, as well as any payments received from third parties, will be credited to the WEBA as they are received. The Application requests that amounts recorded in the WEBA be included in rates after review and approval by the Commission. However, while requesting approval of the mechanism, the Application does not request increases in current rates.

THE CPUC PROCESS

The CPUC's Division of Ratepayer Advocates (DRA) will review this Application. DRA is an independent arm of the CPUC, created by the Legislature to represent the interests of all utility customers throughout the state and obtain the lowest possible rate for service consistent with reliable and safe service levels. DRA has a multi-disciplinary staff with expertise in economics, finance, accounting and engineering. DRA's views do not necessarily reflect those of the CPUC. Other parties of record will also participate.

The CPUC may hold evidentiary hearings where parties of record present their proposals in testimony and are subject to cross-examination before an Administrative Law Judge (ALJ). These hearings are open to the public, but only those who are parties of record can present evidence or cross-examine witnesses during evidentiary hearings. Members of the public may attend these hearings, but are not allowed to participate, only listen.

After considering all proposals and evidence presented during the hearing process, the ALJ will issue a draft decision. When the CPUC acts on this application, it may adopt all or part of SCE's request, amend or modify it or deny the application. The CPUC's final decision may be different from SCE's proposed application filing.

(continued from front page) You can locate the sources of EMF in your work environment, and spend break time in lower-field areas.

It is not known whether such actions will have any impact on your health.

Additional Information Is Available

SCE provides free EMF information packages and home/business measurements upon request. We also invite you to attend a workshop on EMF at our EMF Education Center located in Irwindale. For any of these services, please call us at **1-800-200-4SCE**.

Additional information is also available from these sources:

World Health Organization International EMF Project:
<http://www.who.int/peh-emf/en/>

National Institute of Environmental Health Sciences:
<http://www.niehs.nih.gov/health/topics/agents/emf/>

California Department of Health Services: <http://www.ehib.org/emf/>

California Public Utilities Commission:
<http://www.cpuc.ca.gov/PUC/energy/Environment/ElectroMagnetic+Fields/action.htm>

FOR FURTHER INFORMATION FROM SCE

You may also view a copy of the application at SCE's Web site at www.sce.com/applications. Or, by writing to SCE at the Rosemead mailing address below. You may also review a copy of this Application and related exhibits at SCE's corporate headquarters (2244 Walnut Grove Avenue, Rosemead, CA 91770) or at the following SCE business offices:

1 Pebbly Beach Rd. Avalon, CA 90704	30553 Rimrock Rd. Barstow, CA 92311	374 Lagoon St. Bishop, CA 93514
505 W. 14th Ave. Blythe, CA 92225	3001 Chateau Rd. Mammoth Lakes, CA 93546	510 S. China Lake Blvd. Ridgecrest, CA 93555
26364 Pine Ave. Rimforest, CA 92378	41694 Dinkey Creek Rd. Shaver Lake, CA 93664	421 W. J St. Tehachapi, CA 93561
120 Woodland Dr. Wofford Heights, CA 93285	6999 Old Woman Springs Rd. Yucca Valley, CA 92284	

For further information from SCE regarding this Application, or to request a copy, please write to:

Southern California Edison Company
2244 Walnut Grove Avenue
Rosemead, CA 91770
Attention: Russell G. Worden
General Rate Case Project Manager

Los usuarios con acceso al Internet podrán leer y descargar esta notificación en español en el sitio Web de SCE www.sce.com/avisos o escriba a:

Southern California Edison Company
P.O. Box 800
2244 Walnut Grove Avenue
Rosemead, CA 91770
Atención: Gabby Garcia

If you would like additional information on the CPUC process or need assistance, you may contact the Public Advisor's Office (PAO) at **1-866-849-8391** (toll free) or **213-576-7055** in Los Angeles or the Public Advisor's Office (PAO) at **1-866-849-8390** (toll free) or **415-703-2074** in San Francisco.

You may also send your comments to the PAO at the address: Public Advisor's Office, 320 West 4th St., Ste. 500, Los Angeles, CA 90013 or send an email to: public.advisor.la@cpuc.ca.gov. Any letters received from you will be circulated to each Commissioner and will become part of the formal correspondence file in this application. In your letter, state that your comments are regarding Application No. A.09-08-020.

Reviewed by the California Public Utilities Commission

Edison Challenge: Team Registration Opens October 8

Edison International, SCE's parent company, and the University of Southern California Wrigley Institute for Environmental Studies have partnered again to present the Edison Challenge – an environmental science competition designed to help students in grades 6-12 become better environmental stewards.

Registration for the Edison Challenge begins on October 8, 2009 and closes October 29, 2009. For complete details about the program, visit www.sce.com/challenge.

Speakers from SCE Available for Presentations to Schools, Organizations

The SCE Speakers' Bureau is a group of SCE employees committed to educating customers about important issues related to the electricity industry. Our speakers' services are free and we offer multilingual presentations to service clubs, schools, business and faith-based organizations as well as senior, consumer and community groups.

To request a speaker, visit www.sce.com/scespeakers.