

WHO Environmental Health Criteria on Extremely Low Frequency EMF

On June 18, 2007 the World Health Organization (WHO) released its *Environmental Health Criteria* monograph on extremely low frequency (ELF) electric and magnetic fields (EMF). The monograph summarizes a WHO health risk assessment and includes recommendations for further research and for precautionary measures. The following points capture the essence of the report:

- The main conclusion of the health risk assessment is that studies published since the International Agency for Research on Cancer's (IARC's) 2001 evaluation of the carcinogenicity of EMF do not provide evidence to change IARC's classification of ELF magnetic fields as a 2B, or possible, carcinogen. This classification was based on limited evidence for carcinogenicity from epidemiologic studies of magnetic fields and childhood leukemia indicating an approximate doubling of risk associated with exposures above 0.3–0.4 microtesla, along with inadequate evidence for carcinogenicity from laboratory animal studies, which are mostly negative.
- Based on the limited evidence for a link between exposure to ELF magnetic fields and childhood leukemia, WHO recommends precautionary measures to reduce exposure that are of no or low cost and do not compromise the health, social, and economic benefits of electricity.
- Recommended precautionary measures include implementation of very-low-cost measures in the design and engineering of new facilities and equipment; inclusion of safety, reliability, and economic aspects when considering reduction of ELF fields from existing sources; and better planning for facilities that are possible sources of ELF EMF exposure, including stakeholder involvement to discuss siting of major facilities.
- WHO also recommends further research to clarify the discrepancy between the epidemiologic and experimental evidence on magnetic fields and childhood leukemia. Among other research recommendations is further investigation of the relationship between work in electrical occupations and neurodegenerative disease. No recommendations were made for further research on breast cancer, cardiovascular disease, or electromagnetic hypersensitivity.

EPRI's EMF Health Assessment and RF Safety program has studies in progress that address many of WHO's highest priority research recommendations.

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