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Contact Information: info@bioinitiative.org

BioInitiative: A Rationale for a Biologically-based Public Exposure Standard for Electromagnetic Fields (ELF and RF)

An international working group composed of scientists, researchers and public health policy professionals (The BioInitiative) has joined together to document the information that needs to be considered in the international debate about the adequacy (or inadequacy) of existing public exposure standards for extra-low frequency (ELF) and radiofrequency (RF). In August of 2007, the BioInitiative will present a science-based assessment of the research and public health policy issues which argue for new, biologically-based exposure standards. ELF information will address electromagnetic radiation from such sources as electric power lines, interior wiring and grounding of buildings and appliances. RF recommendations will address radiofrequency and microwave radiation from such sources as cell phones, cordless phones, cell towers, WI-FI and other wireless technologies.

This report is being written to document the body of evidence supporting the conclusion that current public exposure standards for non-ionizing electromagnetic radiation do not adequately protect public health. The report will provide chapters of detailed scientific information and references documenting what kinds of effects have been established to occur when people are exposed to electromagnetic radiation below limits currently established by the Federal Communications Commission (US) and International Commission for Non-Ionizing Radiation Protection (ICNIRP).

It will describe existing exposure standards, and how some international governmental bodies are already responding to this scientific and public health policy evidence by strengthening standards. It will document scientific research reporting bioeffects and adverse health effects occurring at exposure levels below the public safety limits which, with chronic exposure, may present risks to health and wellbeing. It also will address the question of what level of scientific evidence is sufficient to take preventive measures now, based on prudent public health policies.

Objectives

Recognizing that other bodies in the United States, United Kingdom, Australia, many European Union countries and the World Health Organization are actively debating this topic, the BioInitiative has adopted the following objectives:

1. Review and assessment of the scientific literature reviews done by IEEE ^a and WHO ^b in their respective work on standards that have resulted (or are expected to result) in recommendations to retain the existing thermally-based limits only.
2. Documentation of systematic screening-out techniques that consequently under-report, omit or overlook results of scientific studies reporting low-intensity bioeffects and/or potential health effect
3. Characterization of limitations and inadequacies of IEEE SC-4 proposed C95.1 revisions that occur as a consequence.
4. Eleven chapters of scientific documentation on key scientific studies and reviews that identify low-intensity effects for which any new human exposure standards should provide new, biologically-based public safety limits.
5. To identify “next steps” in advancing biologically-based exposure standards that are (a) protective of public health and (b) derived using traditional public health approaches.

^a IEEE Std C95.1TM-2005 (Revision of IEEE Std C95.1-1991) IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz. I E E E 3 Park Avenue New York, NY10016-5997, USA Sponsored by the IEEE International Committee on Electromagnetic Safety (SCC39); 19 April 2006

^b World Health Organization EMF Program Report on EMF 0 Hz to 300 GHz (static fields, ELF and radiofrequency to 300 GHz) Monograph No. 322 on Environmental Health Criteria on Extremely Low Frequency Fields