

January 14, 2004

International EMF Project  
World Health Organization  
Geneva, Switzerland

Attention: Dr. Michael Rapacholi, WHO EMF Program  
Subject: Framework for Developing EMF Standards (Draft October 2003)

This letter of comment on the Draft Framework is written to address deficiencies and inconsistencies in the Draft Framework discussion related to scientific uncertainty and harmonization of standards.

Paragraph 3.1 states that “(A)nnoyance or discomforts caused by EMF exposure may not be pathological per se, but, if substantiated, can affect the physical and mental well-being of a person and the resultant effect may be considered as an adverse health effect. A health effect is thus defined as a biological effect that is detrimental to health or well-being. According to the WHO Constitution, health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.”

If this definition is to guide the establishment of a framework to address the sufficiency of scientific evidence leading eventually to exposure standards, then it is necessary to remember it during subsequent framework discussions. It does not appear that it has any further relevance to the discussion about judging scientific studies following its brief appearance in paragraph 3.1.

The WHO EMF Program needs make clear what standard of evidence it will employ in order to take interim, prudent public health action that is consistent with the WHO Constitutional principle on health. The WHO EMF Committee framework needs to disavow a scientific standard of evidence that, by definition, requires causal scientific

evidence or certainty of effect that is demonstrated by absolute proof of risk and demonstration of a mechanism before any precautionary action is recommended by WHO. If WHO is to meet its obligation stated in Section 3.1, then a clear and consistent statement recognizing the standard of evidence that will be required to take interim (if necessary) prudent public health action will be based on a “weight of evidence” assessment, taking into account public reporting of harm, and observing where “no evidence” is often a result of “no asking” or “no national database records”.

What is lacking is a clear, companion statement in Paragraph 3.1 on the standard of evidence that is sufficient to protect public health – which must be based on 1) precautionary action that addresses further increases in exposure – until either definitive evidence of risk or non-risk is established, and 2) what segments of the populations are at risk.

It is not reasonable or consistent to require the level of scientific certainty outlined in Section 4 and following sections be established before any prudent public health actions are recommended by WHO. Requirements in Section 4 that establish the basis for judging scientific evidence for risk from EMF are entirely incompatible with the definitions and principles of Section 3.1. They cannot be seen as consistent with the WHO Constitution principle on health. It is the individual, or a collection of individuals who judge whether annoyance or discomfort has resulted from an EMF exposure (established to be sufficient grounds for an adverse health effect). It is the individual, or collection of individuals whose perceptions of health and health experiences must be considered as relevant evidence. It is not only the experience of scientists whose basis for concluding harm requires substantially more time, scientific assessment and review, and levels upon levels of proof by many different experimental techniques.

If the intent of the WHO Constitution principle on health is ignored during the assessment of scientific evidence by scientists and governments, then there can be no timely protection of the public. Setting a level of certainty that is based, at least in part, on public reporting of harm from EMF exposure is required to ensure that the WHO Constitution principle is observed. The standard of evidence required to establish EMF health effects should be based for the present time on avoiding those exposures reported to cause human annoyance, discomfort or linked to increased risk of disease. Causal linkage of adverse health effects that depends on meeting all of the established scientific benchmarks for conclusive scientific evidence is unnecessary and burdensome to the public, and does not place public health protection as a first priority.

Allowing the continued deployment of technologies that have been widely reported around the world to cause human discomfort and disease at currently allowable exposure standards - while wading through standard scientific processing of evidence - will only make the human health and economic costs higher in the long-term. In the end, it is the public that bears the joint burdens of both health and economic losses by delaying precautionary action.

There is now sufficient observation of EMF health effects, and understanding of basic exposure ranges and possible mechanisms to allow for protective public health policies and exposure standards to be established if WHO follows the precautionary principle.

Section 4.2 discusses safety factors. A number of uncertainties are discussed about the difficulty in setting adequate safety factors. This discussion only amplifies the need to be protective of public health in a fashion that recognizes wide-spread public concern and substantial evidence for a health hazard from low-level chronic exposures to EMF.

What does WHO need to do to reasonably protect the public when there IS EVIDENCE – but not PROOF established by meeting all scientific measures for a causal linkage – as yet? Scientific evidence is currently judged to be adequate to characterize EMF as a Group 2B (Possible) Carcinogen. What more evidence is required before WHO advises replacement the existing 1000 mG (ICNIRP) standard that is clearly excessive?

Section 4.6 makes an error in logic where it is stated “without electricity, society would have a greatly reduced quality of life with a negative impact on health. Similarly, broadcasting and telecommunications have become a part of modern life.” Would the public ever have accepted the benefits of these modern technologies if there had been knowledge of risks associated with such “benefits”? Time and again, new technologies have been deployed without public knowledge of risks, only to find out too late about the real health and economic costs. The rush to launch new technologies with suspect or possible health risks that have not yet been fully identified or risk quantified is not adherence to professed public policies about prudent avoidance or the precautionary principle. Is it still a “buyers beware” world? Do we promote public acceptance of these technologies without simultaneous knowledge of risks? This approach cannot be seen as “informed consent” until the risks are known, debated and accepted by the public in advance of them becoming a “part of modern life”. Post-consumer assessment of risk should be an unacceptable basis for determining adequate safety standards. The burden of proof of harm should not be an after-market requirement placed on the harmed public.

Section 5 on Precautionary Aspects is a weak and indeliberate statement about how the precautionary principle will influence decision-making at WHO. It only uses some familiar words, but does not make a commitment to incorporation of the basic principles that are fundamental to public health protection until risks of new EMF technologies can

be adequately characterized, and until sufficiently protective public exposure standards for both acute and long-term, low-intensity exposures to ELF and RF can be established, debated and accepted. This debate should include a full assessment of low-intensity exposure effects of RF that are unequivocally established by today's existing RF scientific data, and supported by some of the world's leading bioelectromagnetics researchers. RF exposure standards for non-thermal or low-intensity exposures need to be a mandatory part of this discussion, and stakeholders should be included in this policy forum.

In today's world, the public health advocate who bases acceptance of risk on emerging evidence of adverse effect is stymied by outdated and inadequate public exposure limits for EMF that have been implicated in causing human disease and annoyance. Those who warn against the continued deployment of new RF technologies, for example, are shut down by industry and governments who (rightly) claim the risks are not fully proven. Yet, this is exactly how a society is led to accept deployment (no proof of harm) until long after such harm is scientifically established, and until it is too late to retreat. Society is already burdened by the costs and adverse health consequences of decisions made with too little respect for emerging science, too little respect for public health and well-being and too much deference to military, industry and other corporate interests.

Problems that the WHO EMF Program must face in developing an equitable solution to scientific uncertainty and prudent public health policy include many aspects. Scientific research is underfunded, and slow to come to fruition. Results are hotly debated in the scientific and corporate communities. Scientists try to arbitrarily direct public health policies by setting standards which are implicitly based on reaching the goal of scientific certainty - rather than observing precautionary principles based on evolving evidence.

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The public stakeholder is effectively excluded from policy deliberations. Existing and outdated limits for public exposures are defended by governments and health agencies lacking better direction from the WHO and other health agencies.

This framework will have higher acceptance by the public if it addresses the existing inconsistencies and deficiencies in both the process and the standards of evidence defined as a basis for protecting public health and well-being. I urge the WHO EMF Program members to seek greater public representation in the policy deliberations, and provide a mechanism for public participation.

Respectfully submitted,

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