

SIGN-ON LETTER TO EPA, NIEHS, NIOSH, & FDA URGING ADOPTION OF ROBUST RESEARCH STRATEGIES TO INVESTIGATE ADVERSE HUMAN HEALTH IMPACTS OF NON-THERMAL ELECTROMAGNETIC & RADIOFREQUENCY RADIATION: 2-04-08 *Discussion Draft*

Dear Colleague,

Please sign-on to the attached letter to the Administrator of the EPA, the Acting Director of the NIEHS/NTP, the Director of the CDC/NIOSH, and the Commissioner of the FDA requesting that robust federally-sponsored research be conducted into whether electromagnetic and radiofrequency radiation (EMR) cause or contribute to adverse human health impacts. EMR is emitted from wireless devices, wireless infrastructure, and communications towers. Public concern and continued uncertainty whether EMR may cause harmful human health effects supports the timely adoption of a strong federal research strategy. Such a strategy is necessary to inform sound public health policy to address the potential for detrimental long-term health impacts from non-thermal EMR exposures that could otherwise be avoided or mitigated.

As a first step, we strongly urge the revitalization of the U.S. Radiofrequency Interagency Working Group to oversee the development of such a federal strategy to address the scientific uncertainties of human health impacts that may arise from exposure to man-made electromagnetic fields.

There are important activities underway that makes the development of a federal EMR research strategy particularly relevant at this time. In August, 2007, the BioInitiative Working Group, an international working group of scientists, researchers and public health policy professionals, called for new biologically-based public and occupational exposure limits to address biological effects and potential adverse health effects of chronic exposure to electromagnetic radiation. In addition, the National Academy of Sciences recently undertook a project entitled "Identification of Research Needs Relating to Potential Biological or Adverse Health Effects of Wireless Communications Devices." In January, 2008, NAS issued the report of their findings that identifies current gaps in knowledge and future research needs. On the international front, the World Health Organization (WHO) has also been actively leading work to identify data gaps concerning biological effects of electromagnetic fields.

We believe that this is the opportune time to urge the adoption of a federal strategy that addresses the findings of the Bioinitiative Working Group and NAS and to also consider, the WHO's 2006 Research Agenda for Radiofrequency Fields. We believe that research is pivotal in addressing outstanding public concern for potential human health effects from EMR exposures and in developing best management and control practices to reduce or eliminate any exposures determined by sound scientific research to be potentially harmful.

Please join us by contacting Phil Putter (Welch) at phil.putter@mail.house.gov or at 5-4115 to sign-on to this important letter.

LETTER *****

The Honorable Stephen L. Johnson
Administrator
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The Honorable Samuel H. Wilson, MD
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The Honorable John Howard, MD, MPH, JD, LLM
Director
National Institute for Occupational Safety & Health
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The Honorable Andrew C. von Eschenbach, M.D.
Commissioner
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Dear Administrator Johnson, Acting Director Wilson, Director Howard, and
Commissioner Eschenbach:

We write in concern over the lag in competitive, transparent U.S.-based research on the human health effects of electromagnetic and radiofrequency radiation (EMR) from wireless handheld devices, communication towers, and wireless infrastructure, including HDTV and HDFM communications facilities. These technologies are rapidly emerging in communities across the country. Public concern and continued scientific uncertainty over the potential health effects from electromagnetic fields argue for the adoption of immediate strategies to address unmet research needs. We also urge the development of precautionary risk assessment and risk management approaches that balance sound public health policy with consumer and business demands for cell and wireless technologies.

The telecommunications boom has transformed society and business. Worldwide there are over 2.2 billion cell phone users, with that number continuing to grow daily. Today's cell phones serve multi-functions including as cameras, video recorders, and hand-held computers, but most importantly, they have become an essential communications tool for

work, school, and families. As the usage of devices and structures that emit EMR rapidly expands so does the potential for exposures.

Public Health Scientific Uncertainty:

The issues of EMR human health and safety effects are muddled. Some studies of low-level radiofrequency exposures have not demonstrated biological effects, some studies have suggested that some biological effects occur, and in some cases, researchers have had difficulty in replicating results. There are also some epidemiological data showing the potential for adverse health effects from long-term wireless phone usage. In response to this uncertainty, the communications industry reports that the scientific evidence to date does not adequately demonstrate adverse effects while federal Agencies take a more cautious approach and identify the need for additional research. What continues to drive public concern is that although some of the limited available data on health effects is ambiguous, there is also no clear evidence that exposures to electromagnetic and radiofrequency radiation are absolutely safe.

The one current federal study of cell phone usage, which included some participation from FDA, lacks inclusion of the broader scientific perspective on the health and environmental effects of non-thermal radiofrequency radiation. EPA, NIOSH, and the NIEHS continue to point out to FCC and the Institute of Electrical and Electronics Engineers, Inc. (IEEE) that the current radiofrequency standard is protective only against thermal harm. It is unwarranted to apply that standard of protection to all non-thermal, biological mechanisms.

One issue has been the uncertainty in the results of data from studies and the inability of scientists to replicate some testing results. We believe that attention must also be focused on improving testing protocols. The U.S. must take a leadership role in the development of replicable, transparent, independent peer-reviewed testing protocol(s) as well as in the development of the underlying research that alleviate the continued ambiguity and uncertainty of human health impacts from EMR. While it is important that industry be product stewards and support scientific research, we believe that federal Agencies must also have a role in initiating independent research through internal or competitive research and development programs and be part of the independent peer review of all data results.

U.S. and International Working Groups Call for Research:

In August, 2007, the **BioInitiative Working Group**, an international working group of scientists, researchers and public health policy professionals, called for the establishment of new biologically-based public and occupational exposure limits to address bioeffects and potential adverse health effects of chronic exposure to electromagnetic radiation. These effects are now widely reported to occur at exposure levels significantly below most current national and international limits. The report is entitled: *The Bioinitiative Report: A Rationale for a Biologically-Based Public Exposure Standard for Electromagnetic Fields (ELF and RF)*, The European Environmental Agency (EEA) contributed to this report with Section 16 drawn from the EEA study, "Late lessons from

early warnings: the precautionary principle 1896- 2000," published in 2001. The full text of the BioInitiative Report is found at: www.bioinitiative.org .

The National Academy of Sciences' Nuclear and Radiation Studies Board recently undertook a project, NRSB-O-06-02-A, entitled "Identification of Research Needs Relating to Potential Biological or Adverse Health Effects of Wireless Communications Devices." In August 2007, the NAS project organized a workshop of national and international experts to discuss research needs and gaps in knowledge of biological effects and adverse health outcomes of exposure to radiofrequency energy from wireless communications devices. In January, 2008, NAS issued a report that draws on the presentations and discussions at the August 2007 workshop to identify current gaps in knowledge and future research needed to further extend understanding of long-term low exposure to wireless devices. This report provides the committee's consensus findings on near-, mid-, and long-term research opportunities. See NAS report at: http://www.nap.edu/catalog.php?record_id=12036#description

The NAS report identifies the following urgent research needs:

- Studies of potential health consequences from multiple, long-term, low-intensity RF exposure to all populations as opposed to most of the present data that evaluates acute effects on healthy adults during short exposures to RF fields. Including measuring the amount of RF energy received by juveniles, children, pregnant women, and fetuses from wireless devices and RF base station antennas could help define exposure ranges for various populations. Specific Absorption Rates (SAR) for children are likely to be higher than for adults, because exposure wavelength is closer to the whole-body resonance frequency for shorter individuals. The current generation of children will also experience a longer period of RF field exposure from mobile phone use than adults, because they will most likely start using them at an early age. The report notes that several surveys have shown a steep increase in mobile phone ownership among children, but virtually no relevant studies of human populations at present examine health effects in this population.
- The evolving types of antennas for hand-held wireless communication devices should be analyzed for the amount of RF energy they deliver to different parts of the body so the data would be available for use in future studies, the committee said. Past research has assumed that cell phones have pull-out linear rod antennas and are held against a person's ear. Many newer telephones use built-in antennas for which additional SAR data are needed. Also, wireless technology is now used in laptop computers and hand-held texting and Web-surfing devices, in which the antennas are close to other parts of the body.
- Completing a prospective study of adults in a general population and a retrospective group with medium to high occupational exposures.
- Conducting human laboratory studies that focus on possible effects of RF electromagnetic fields on neural networks and the brain's electrical activity.
- Completing human population studies of children and pregnant women, including childhood cancers and brain cancer.
- Evaluating effects of RF doses at the microscopic level.

- Characterizing radiated electromagnetic fields for typical multiple-element base station antennas and exposures to affected individuals.

In 1996, the **World Health Organization (WHO)** established the International EMF Project to identify gaps in knowledge concerning biological effects of electromagnetic fields, recommend research needs, review the scientific literature concerning biological effects, and work toward international resolution of health concerns over the use of radiofrequency technology. In 1997, the WHO developed a research agenda to facilitate and coordinate research worldwide on the possible adverse health effects of EMR. This agenda has undergone periodic review and refinement and was most recently updated in 2006. Of note, specialized workshops have pointed out the need for focused research on children especially regarding brain cancer and cognitive function.

Pre-emption Impacts of Telecommunications Act of 1996:

Although some local and state governments had earlier enacted rules and regulations limiting human exposure to EMR, the Telecommunications Act of 1996 provided sole jurisdictional authority to FCC to control human exposure to radiofrequency emissions. Unhampered by a patchwork of state and local requirements, the telecommunications industry was allowed to grow and expand rapidly and is recognized as an important part of the U.S. economy. Unfortunately, health effects research to address continued scientific uncertainties has not kept pace. Since state and local communities are pre-empted from applying more precautionary and protective standards to limit EMR exposures, it is time that federal entities move beyond lip service to the need for research, particularly on non-thermal, biological effects, and develop a robust federal research strategy.

Development of Federal EMR Research Strategy:

We urge the revitalization and staffing of the U.S. Radiofrequency Interagency Working Group to oversee the development of a strong federal research strategy. In the 1980's there were teams of federal scientists dedicated to the support of electromagnetic and radiofrequency radiation research and policy. Now only a handful of federal scientists support this field. This is an alarming trend considering the rapid expansion of wireless devices and antenna sites and the uncertainties the federal government describes as unmet public health research needs. Representation on the interagency working group should include representatives from all federal agencies of jurisdiction including The Environmental Protection Agency; the National Institute for Occupational Safety and Health; the National Institute of Environmental Health Sciences; the Occupational Safety and Health Administration; the Food and Drug Administration, which has authority to protect consumers from radiation emitted by electronic products, i.e. cell phones; the Federal Communications Commission; and the National Telecommunications and Information Administration.

We believe that the first step in the adoption of a robust federal research strategy is to address the recent findings of the Bioinitiative Working Group, the NAS project, and the WHO's 2006 Research Agenda for Radiofrequency Fields. This strategy must be based

on precautionary approaches that serve to identify and develop the data necessary to assure that devices, infrastructure and communication towers that emit EMR are safe and/or, that guidelines and best management practices are developed to reduce or eliminate exposures to safeguard human health against possible undesired effects.

A separate letter has been sent to the Department of Interior that focuses on concerns for environmental impacts on wildlife from communications towers and radiofrequency radiation.

Thank you for your consideration of this important public health issue.

Sincerely,

Members of Congress