



Advancing Sound Public Health Policy
on the Use of Electromagnetic Radiation (EMR)
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December 10, 2013

Minneapolis Public Schools
Minneapolis Public Schools Board of Education
1250 West Broadway Avenue
Minneapolis, MN 55411

RE: Cell tower siting on Minneapolis Public School Property

Dear Administration and Board Members of the Minneapolis Public Schools:

The EMR Radiation Policy Institute ("EMRPI") is a 501(c)(3) non-profit citizens organization based in Marshfield, Vermont, engaged in advocacy and public education concerning the adverse effects of radiofrequency (RF) radiation and electromagnetic radiation (EMR) exposure.

From EMRPI's inception in 2003, and prior to that through the EMR Network and Canyon Area Residents for the Environment (CARE), EMRPI or its present officers have attempted to educate the Federal Communications Commission (FCC) with scientific reports, affidavits and numerous demonstrations of health harm arising from the inadequacies in the current FCC electromagnetic radiation safety guidelines. These filings are found in the FCC Electronic Comment Filing System at: <http://preview.tinyurl.com/kys3bqp> (last viewed 8/30/2013)

The Telecommunications Act of 1996 – passed following intensive lobbying and lavish campaign contributions to Members of Congress of both parties – blocked all local citizen opposition based on health issues to the siting of cell transmitters in communities across the United States by giving the FCC total and absolute preemptive control over the question of environmental harm.

The FCC's current RF safety exposure limits are NOT sufficient to prevent thermal health effects for all subgroups of the population and DO NOT at all address today's almost ubiquitous exposures to wireless infrastructure from cell towers, WiFi, and wireless Smart Meters.

Prevention is best served by a **precautionary mindset** when it is demonstrable that existing safety regulations are inadequate to protect the public. The task of the 2008 National Academy of Sciences (NAS) Report, *Identification of Research Needs Relating to Adverse Health Effects of Wireless Communication*, was to identify any inadequacies in the research upon which the current US FCC Radiofrequency radiation (RF) safety guidelines are based. The NAS Report did indeed find numerous inadequacies in that research record.

An inadequate research record results in safety regulations that fail to address all exposures encountered by the public. Based on the 2008 NAS findings **it cannot be asserted** that US FCC RF safety policy protects all members of the public from all mechanisms of harm in all exposure scenarios.

Inadequacies named in the NAS Report (www.nap.edu/catalog.php?record_id=12036) are research on:

- a) wireless personal computers [PCs] and for RF fields from base station antennas.)
- b) Variability of exposures to the actual use of the device, the environment in which it is used, and exposures from other sources.
- c) Multilateral exposures.
- d) Exposure of juveniles, children, pregnant women, and fetuses both for personal wireless devices (e.g., cell phones, computers, tablets) and wireless infrastructure (e.g., antenna sites).
- e) Multiple frequency exposures.
- f) Exposure to pulsed (i.e., digital) radiofrequency radiation.
- g) Location of use (both geographic location and whether a device is primarily used indoors or outdoors).
- h) Models for men and women of various heights and for children of various ages.
- i) Exposure to other sources of RF radiation such as cordless phones, wireless computer communications, and other communications systems.
- j) Exposure to the eyes, hand or the human lap or parts of the body close to the device.
- k) RF exposure in close proximity to metallic adornments and implanted medical devices (IMDs) including metal rim glasses, earrings, and various prostheses (e.g., hearing aids, cochlear implants, cardiac pacemakers, insulin pumps, Deep Brain Stimulators).
- l) Sufficiently long exposure and follow-up to allow for detection of effects that occur with a latency of several years.
- m) Lack of information concerning the health effects associated with living or working in close proximity to antenna base stations.
- n) Research that includes children, the elderly, and people with underlying diseases.
- o) Research on possible adverse RF effects identified by changes in EEG (electroencephalogram) activity.
- p) Lack of information on possible neurophysiologic effects developing during long-term exposure to RF fields.
- q) Studies focusing on possible adverse RF effects identified by changes in cognitive performance functions.
- r) Effects of RF exposure to the sensitive biological targets of neural networks.
- s) Possible effects of RF exposure on fetal and neonatal development.
- t) Possible influences of exposure on the structure and function of the immune system, including prenatal, neonatal, and juvenile exposures.
- u) Possible influences of RF exposures on the structure and function of the central nervous system, including prenatal, neonatal, and juvenile exposures.

Non-thermal effects are NOT theoretical and HAVE been recognized by experts as problematic.

In 2011 the California Council on Science and Technology (CCST) authored a report, *Health Impacts of Radio Frequency Exposure from Smart Meter*. This Report has been roundly criticized by many

stakeholders, in part because **the report's authors chose to ignore expert comments** submitted during the public comment period that pointed out weaknesses in the draft report.

For example, the California Public Utilities Commission's Division of Ratepayer Advocates (DRA) questioned the CCST Report conclusion that there was "no clear evidence" that additional standards were needed to protect the public from smart meters or other electronic devices. In fact, that DRA stated that the CCST should, "explain more clearly why it concluded that the available evidence does not indicate a need to limit non-thermal impacts of RF emissions."

The response from the California Department of Public Health (CDPH), which was solicited by CCST, stated that CDPH, "suggests further review of the literature on non-thermal effects, which is complicated and controversial, but does not support a claim of no non-thermal health effects from radio frequency electromagnetic fields."

De-Kun Li, MD, PhD Senior Reproductive and Perinatal Epidemiologist at the Kaiser Foundation Research Institute was also asked to comment by CCST. He stated that, "when it comes to non-thermal effects of RF, which is the most relevant effect for public concerns, FCC guidelines are irrelevant and can not be used for any claims of SmartMeter safety unless we are addressing heat damage."

He concluded, "The bottom line is that the safety level for RF exposure related to non-thermal effect is unknown at present and whoever claims that their device is safe regarding non-thermal effect is either ignorant or misleading."

Raymond Richard Neutra MD, Dr. PH, former Director of the California EMF [electromagnetic fields] Program, submitted comments stating that, "There is lots of evidence that would suggest that RF and ELF exposures well below the current standards may be capable of causing added lifetime risk that exceeds the benchmark which triggers health based regulation." He criticized the CCST, stating that, the CCST was perpetuating a pattern of, "language use, hidden assumptions and making the uncertain seem certain so as to provide cover for policy."

Other scientific investigations of issues raised by wireless infrastructure exposures found a clear substantive basis for concern. *The BioInitiative Report* (www.bioinitiative.org) reviews more than 3,000 peer-reviewed published scientific papers that demonstrate biological effects and negative health effects resulting from RF radiation exposures at "non-thermal," i.e., low-intensity, levels.

On January 19, 2012, The American Academy of Environmental Medicine, an international association of physicians and other professionals that provides research and education in the recognition, treatment and prevention of illnesses induced by environmental exposures, called for the California Public Utility Commission (CPUC) to place an immediate moratorium on Smart Meter installation and to hold hearings on Smart Meter health impacts, stating that:

As representatives of physician specialists in the field of environmental medicine we have an **obligation to urge precaution when sufficient scientific and medical evidence suggests health risks which can potentially affect large populations. The literature raises serious concerns . . .**

AAEM's position statement also called for CPUC to provide immediate relief to those requesting it and to restore the analog meters. It states that FCC guidelines are "inadequate for use in establishing public health standards." See: <http://aaemonline.org/images/CaliforniaPublicUtilitiesCommission.pdf>

In May 2011, the World Health Organization's International Agency on Research on Cancer (IARC) classified RF Radiation as a Group 2B possible human carcinogen. A very significant explanation of IARC's finding was obtained from Robert Baan MD, the author of the IARC statement on RF, in response to an e-mail request from Dr. Connie Hudson of California. In an email to Dr. Hudson, Dr. Baan wrote:

Although the key information came from mobile telephone use, the Working Group considered that the three types of exposure entail basically the same type of radiation, and decided to make an overall evaluation on RF-EMF, covering the whole radiofrequency region of the electromagnetic spectrum.

In support of this, information from studies with experimental animals showed that effects on cancer incidence and cancer latency were seen with exposures to different frequencies within the RF region.

So the classification 2B, possibly carcinogenic, holds for all types of radiation within the radiofrequency part of the electromagnetic spectrum, including the radiation emitted by base-station antennas, radio/TV towers, radar, Wi-Fi, smart meters, etc.

In March 2013 the FCC opened a public proceeding in which it asked for public Comment on the question whether the FCC should update its current RF safety policies. EMRPI submitted both COMMENT and REPLY in that proceeding. EMRPI's filings are found on the FCC web site at: <http://tinyurl.com/ovzrwa6>

Below are key points for EMRPI's REPLY that underscored the need for precautionary policy on exposure to school children and personnel to wireless RF radiation exposure:

1. The EMRADIATION Policy Institute (EMRPI) endorses and incorporates the hundreds of substantive Comments urging much more restrictive safety limits on radiofrequency radiation (RF) exposure so that humans are actually protected from electromagnetic radiation that harms their health.
2. EMRPI supports biologically-based RF safety limits that are "as low as reasonably achievable" and are at least 100 times lower than present FCC RF safety limits.
3. EMRPI joins with the many physicians, scientists, local governments, groups and trade organizations that have filed Comments urging limits that actually protect human health such as:
 - the International Brotherhood of Electrical Workers (750,000 members)
 - the American Academy of Pediatrics (60,000 Medical Doctors)
 - the American Academy of Environmental Medicine (235 doctors)
 - the American Association for Justice (20,000 U.S. members)
 - the City and County of San Francisco (population 800,000 plus)
 - the National Association of Telecommunications Officers and Advisors (NATOA)
 - the Environmental Working Group
 - Grassroots Environmental Education
 - the Town of Hillsborough
 - the Electromagnetic Safety Alliance
 - the Center for Electrosmog Prevention
 - Martha Herbert MD, PhD, neurodevelopment specialist at Harvard Medical School
 - Om Gandhi PhD, Professor of Electrical and Computer Engineering, University of Utah
 - Cindy Sage MA, Co-editor of *The BioInitiative Reports 2007 and 2012*
 - Martin Blank PhD, Columbia University Department of Physiology and Cellular Biophysics
 - David Carpenter MD, Director of The Institute for Health and the Environment, SUNY Albany
 - Magda Havas PhD, Trent University, Ontario
 - Devra Davis PhD, Environmental Health Trust
4. Numerous additional Commenters echo EMRPI's position, including the petition signed by twenty-six thousand citizens urging stronger cell phone regulation that protects human health.
5. As for any Comments filed urging more lax standards, such Comments are almost entirely made by Industry officials and advocacy groups trained in business, electrical engineering and lobbying.

6. Common sense dictates that those trained in biology, physiology, medicine, and the health scientists are the experts that the FCC should rely upon in order to formulate RF safety limits that protect people from unsafe exposure to EMR.
7. It is illegal for those without a medical license to “practice medicine.” People do not go to an electrician for a medical problem. The FDA does not allow the Chemical Industry to dictate doses and types of chemical medications. The FCC should not allow the Industry that benefits from emitting electromagnetic radiation to set the safety limits for this radiation, particularly in the face of evidence that this radiation interferes with biological processes in numerous harmful ways and interferes with the proper signaling of medical implants.
8. Documentation that EMR at levels below existing FCC safety limits causes harmful biological responses in some humans presented to the FCC should not be ignored. Numerous affidavits document that the Government is forcing unwanted EMR exposure on citizens despite their protests and documented injuries. Neither the Industry nor the Government has the right to “experiment” on the bodies of millions of Americans.

II. CHILDREN

9. Autism rates have greatly increased as EMR emissions have increased. Autism spectrum disorders are linked to EMR/RF exposures physiologically. See: Martha R. Herbert, Cindy Sage, Autism and EMF? Plausibility of a pathophysiological link - Parts I and II, published in *Pathophysiology*. **Exhibits 1 and 2** These reports state that, “The evidence is sufficient to warrant new public exposure standards benchmarked to low-intensity (non-thermal) exposure levels now known to be biologically disruptive, and strong, interim precautionary practices are advocated.”
10. FCC’s current RF safety limits are inaccurate for protecting children. The FCC employs an exposure model equivalent to the shape of a 220-lb., 6-foot 2-inch tall male for compliance testing even though published research from the U.S., Japan, Spain, Brazil, France, and Switzerland proves that radiation absorption in children (including the pinna – ear lobe) is two times higher than in adults.

EMRPI also directs your attention to the amicus brief of the Healthy Schools Network (HSN). http://www.emrpolicy.org/litigation/case_law/docs/5sep06_amicus_hsn.pdf HSN is dedicated to assuring every child and school employee an environmentally safe and healthy school through research, information, advocacy and coalition building. HSN filed the brief in support of a case brought to the US Supreme Court by EMRPI because if HSN’s concern that:

a significant threat to the health of school children and personnel is posed by RF radiation from cell towers placed on or near schools or day care centers.

For all these reasons EMRPI’s urges the Minneapolis Public Schools and the Minneapolis Public Schools Board of Education to reverse your current policy that allows cell phone antenna siting on public school property in Minneapolis in light of your responsibility to ensure the health and safety of Minneapolis’s public school students and personnel. School districts are not prohibited from making such decisions.

Sincerely,



Janet Newton
President



Deborah Carney, JD
Vice President



Diana E. Warren
Director