



Advancing Sound Public Health Policy  
on the Use of Electromagnetic Radiation (EMR)  
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To: California Council on Science and Technology

Date: 31 January 2011

RE: Comment on: Health Impacts of Radio Frequency from Smart Meters  
Response to Assembly Members Huffman and Monning (CCST Report)

Cc: via E-mail to:  
California Assemblyman Jared Huffman  
California Assemblyman Bill Monning

Thank you for the opportunity to comment on this important public healthy policy issue.

The EMR Policy Institute (EMRPI) is a national advocacy organization established in 2003 whose goal is to create better cooperation between public health regulatory agencies in order to mitigate unnecessary hazardous electromagnetic radiation (EMR) exposures. We educate policy makers and the public on the need for sound, biologically-based human safety policy that protects public health regarding EMR exposures across the electromagnetic spectrum.

EMRPI continues to challenge the inadequacy of the US safety policy on electromagnetic and RF radiation exposures by submitting official comment to key federal agencies. Our record of formal comment as individuals and through our organization dates back to 1997. It includes official comment to key federal agencies such as the NAS, FCC, FDA, GAO, NIOSH, NTIA and DOJ.

The directors of EMRPI have participated in taking three cases to the US Supreme Court challenging the FCC's RF safety policy as **inadequate to protect**

**all members of the public.** In each case the Court denied certiorari on procedural grounds.

This EMRPI Comment is based upon our 14-year record of scrutiny of the inadequacies in the current FCC radiofrequency radiation policy that was put in place in 1997. Since 1997 the FCC has resisted all calls to address these inadequacies, i.e., to develop biologically-based safety limits for human exposure to RF radiation that protect all members of the public.

Currently there are three U.S. federal mandates promoting wireless technologies that can adversely affect the health and well being of all Americans, and especially those who require Implanted Medical Devices (IMDs) as well as those who suffer from the functional impairments of EHS and Radiofrequency Sickness. These population subgroups warrant protection by the under Americans with Disabilities Act provisions. There is no federal agency coordination to enforce these provisions. The mandates are:

- Wireless broadband
- SmartGrid and Smart Meters (wireless utility meters)
- Unlicensed commercial use of TV White Spaces spectrum.

Ubiquitous involuntary exposure to Electromagnetic Interference (EMI) with IMDs from these sources as well as from the plethora of wireless consumer devices now on the market presents the greatest potential for harm for Americans with IMDs. The FCC's focus on EMI and "safety" continues to protect devices rather than members of the public as found in its 2009 announcement of its International TV White Spaces Fellowship and Training Initiative:

*. . . by building on a proven concept: the safe deployment of new, intelligent devices in the unused spectrum that exists between television channels **without causing undue interference to adjacent users.*** (Emphasis added.)

"Adjacent users" refers to commercial communications devices rather than to humans with IMDs.

In view of California's initiative to deploy wireless smart meters statewide EMRPI submits the following comment on the CCST Report:

1. The January 2011 CCST Report misses out on a key opportunity to address its own "Key Report Findings" and "Other Considerations" by failing to provide the public with

a clear analysis of the scientific record upon which the current FCC RF radiation safety policy is based. On p. 8 The CCST Report specifically references the 2008 National Academies of Science Report: ***Identification of Research Needs Relating to Adverse Health Effects of Wireless Communication*** (NAS Report at: [www.nap.edu/catalog.php?record\\_id=12036](http://www.nap.edu/catalog.php?record_id=12036)) The National Academies of Science performs provides a parallel service for the US federal government that the CCST does for the State of California, yet the CCST Report fails to include the specific details of the 2008 NAS Report findings.

2. Safety regulations are based on the published record of scientific studies in a given field. The NAS Report enumerates the holes in the RF research record upon which FCC RF safety policy is based. In failing to include the NAS Report findings, the CCST Report missed the mark for explaining its own Key Finding #3 – *To date, scientific findings have not identified nor confirmed negative health effects from potential non-thermal impacts of RF emissions such as those produced by existing common household electronic devices and smart meters. . . and Other Considerations #3 – Consumers should be provided with clearly understood information about the radiofrequency emissions of all devices that emit RF including smart meters.*
3. On p. 7 CCST Report states that: *Given current scientific knowledge, the FCC guideline provides a more than adequate margin of safety against the known thermal effects.* It fails, however, to specify the holes in the “current scientific knowledge” delineated in the NAS Report.
4. On p. 8 CCST Report states that: ***At this time there is no clear evidence that additional standards are needed to protect the public from smart meters or other common household electronic devices.*** However, the 2008 NAS Report documents the need to characterize specific aspects of real-life public exposure to RF radiation that are not addressed in the scientific record upon which the current FCC RF safety policy is based (see pp. 13-44):
  - a. Exposure of juveniles, children, pregnant women, and fetuses both for personal wireless devices (e.g., cell phones, 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. Multiple frequency exposures.
- e. Location of use (both geographic location and whether a device is primarily used indoors or outdoors).
- f. Models for men and women of various heights and for children of various ages.
- g. Exposure to rooftop maintenance workers and to members of the public that live in close proximity to multiple co-located base station antennas.
- h. Exposure to subpopulations among maintenance employees.
- i. Chronic exposures that are similar to those from existing TV and radio antennas.
- j. Multilateral exposure to the typical arrangement of four to six antennas with multiple frequencies, rather than a single antenna radiating at a single frequency from a single direction as used in laboratory studies.
- k. Exposure to others sources of RF radiation such as cordless phones, wireless computer communications, and other communications systems.
- l. Exposure to the hand or the human lap or parts of the body close to the device.
- m. 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).
- n. Models for whole-body exposure due to base station antennas.
- o. Sufficiently long exposure and follow-up to allow for detection of effects that occur with a latency of several years.
- p. Lack of information concerning the health effects associated with living in close proximity to base stations.
- q. Research that includes children, the elderly, and people with underlying diseases.
- r. Research on possible adverse RF effects identified by changes in EEG activity.
- s. Lack of information on possible neurophysiologic effects developing during long-term exposure to RF fields.

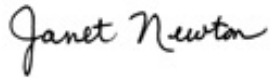
- t. Studies focusing on possible adverse RF effects identified by changes in cognitive performance functions.
  - u. Effects of RF exposure to the sensitive biological targets of neural networks.
  - v. Possible effects of RF exposure on fetal and neonatal development.
  - w. Possible influences of exposure on the structure and function of the immune system, including prenatal, neonatal, and juvenile exposures.
  - x. Possible influences of RF exposures on the structure and function of the central nervous system, including prenatal, neonatal, and juvenile exposures.
5. At p. 8 CCST Report states that: *No clear causal relationship between RF emissions and non-thermal human health impacts has been scientifically established, nor have the mechanisms that might lead to such biological impacts been clearly identified.* In this statement CCST Report leaves the inaccurate impression that science has established the “mechanism” or cause of development of other diseases such as cancer, Alzheimers’ Disease or ALS, which is not the case. Lack of a single mechanism for causation of adverse health effects arising from exposure to non-thermal levels of RF emissions is not a valid rationale to negate the scientific evidence demonstrating these non-thermal effects.
6. Illustrating inadequate protection under the current FCC RF safety policy is the experience of geophysics professor Gary Olhoeft PhD with the critical EMI problems he encounters daily with his Medtronic Deep Brain Stimulator (DBS). Prof. Olhoeft’s comment was read at the first Public Comment period at the July 26-27, 2010 FCC-FDA combined public meeting on, “Enabling the Convergence of Communications and Medical Systems.” Despite Dr. Olhoeft’s insightful analysis and account of this one example of EMI between wireless systems and his DBS, neither the FCC moderator nor the FDA moderator of the following day’s panel on Electromagnetic Compatibility (EMC) raised one question on this EMI topic so critical to the life, health and well being of millions of Americans. Even the last panel discussion, Electromagnetic Compatibility – How to Promote EMC, made no mention of compatibility with implanted electronic medical devices such as Deep Brain Stimulators that treat Parkinson’s patients, or insulin pumps for diabetics, for example.

Professor Olhoeft submitted his written Comment in the current US Department of Justice Advanced Notice of Proposed Rule Making proceeding. See also the video of his presentation at the 2009 EMRPI scientific conference, "Electromagnetic Radiation Impacts on Human Health," at: [www.youtube.com/watch?v=jo-B6LWfVzw&feature=related](http://www.youtube.com/watch?v=jo-B6LWfVzw&feature=related)

7. No federal agency is keeping track of cumulative wireless power density, nor identifying critical levels and locations where individuals who require IMDs may be at risk.
8. The FCC continues to issue compliance statements for new wireless devices and systems without regard for existing RF levels. Those most seriously threatened are the NIH-estimated 20 million Americans who require IMDs. These 20 million Americans account for 8-10% of the US population. The most serious threat to them is from Smart Meters and wireless broadband because of their ubiquitous deployment throughout the public's living and working environments and now throughout medical treatment settings.
9. In stark contrast to the lack of public health concern in key US federal and state agencies are these precautionary provisions called for in The European Parliament April 2009 Resolution approved by a vote of 559-22:  
[www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P6-TA-2009-0216+0+DOC+XML+V0//EN](http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P6-TA-2009-0216+0+DOC+XML+V0//EN)
  - **Particular consideration of biological effects**, especially given that some studies have found the most harmful effects at lowest levels;
  - **Evaluation of potential long-term adverse effects of mobile telephony radio frequencies;**
  - Increased investigation of **harmful effects of multiple exposures to different EMF sources**, particularly for children;
  - Member States to follow the example of Sweden and to recognize persons that suffer from electrohypersensitivity as being disabled so as to grant them adequate protection as well as equal opportunities;
10. Because individuals with electronic IMDs and EMR functional impairments are

inherently sensitive to RF and EMR exposures, EMRPI strongly urges the State of California to broaden #4 of CCST Other Considerations to require Smart Grid / Smart Meter options that employ fiber optic and hard-wired data transmission rather than wireless transmitting Smart Meters.

Respectfully submitted by  
The EMR Policy Institute

A handwritten signature in cursive script that reads "Janet Newton".

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