

March 14, 2012

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Open Letter to Dr. Harry Chen MD, Commissioner  
Vermont Department of Health  
108 Cherry Street  
Burlington, VT 05402

Re: Deficiencies in Vermont Department of Health (VDH) February 10, 2012 Smart Meters Report

Dear Commissioner Chen:

The February 10, 2012 VDH Report – Radio Frequency Radiation and Health: Smart Meters – gives this statement of its findings:

*After extensive review of the scientific literature available to date and the current FCC regulatory health protection standards, we agree with the opinion of the experts:*

- *The thermal health effects of RFR are well understood, and are the current basis for regulatory exposure limits. These limits are sufficient to prevent thermal health effects.*
- *Non-thermal effects have been widely studied, but are still theoretical and have not been recognized by experts as a basis for changing regulatory exposure limits.*

The EMR Radiation Policy Institute (EMRPI) respectfully requests that VDH revise the findings of its 2012 Smart Meters Report because of the deficiencies explained below.

**1) Data Collection for Report was Flawed**

The VDH Report states that “the surveyor” who collected field data has been specifically trained by Narda Microwave to obtain these readings, but no details are provided as to what training was provided. Without more information, it is impossible for EMRPI to conclude that the training was sufficient.

- The Report provides insufficient details to confirm that the VDH’s data collection protocol was appropriate and complete. For instance: The name and credentials of the “surveyor” are not provided.
- No outline of the measurement protocol is laid out in the report.
- No data is provided for duration of individual RF pulses or number of pulses over time for all meters in the mesh network system as well as those installed on buildings.
- The Narda meter 8712 that was used employs very old technology.
- The model and type of the probe used is not given.
- It is doubtful that the low levels reported could be measured with this equipment due to its limitation.
- However, Narda Narrowband equipment does have the dynamic range to perform this type of measurement (SRM-3000 or SRM-3006) but was not used.
- The report mentions “contact” of the meter and the Central antenna with the probe. A Narda-trained person would not allow this contact to occur because the resulting capacitive coupling would provide a false reading.

- This meter is very susceptible to 60Hz e-fields associated with the power near the meters, resulting in incorrect readings.

For all of these reasons, EMRPI concludes that the data collection aspect of the VDH report was flawed, and a new data set should be collected by an identified credentialed RF technician to provide a more accurate basis for analysis.

**2) Current regulatory exposure limits are NOT sufficient to prevent thermal health effects for all subgroups of the population.**

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 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 RF safety policy protects all members of the public from all mechanisms of harm in all exposure scenarios.

There is no mention in the VDH Report of the 2008 NAS Report.

Inadequacies named in the NAS Report ([www.nap.edu/catalog.php?record\\_id=12036](http://www.nap.edu/catalog.php?record_id=12036)) are:

- 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.)
- Variability of exposures to the actual use of the device, the environment in which it is used, and exposures from other sources.
- Multilateral exposures.
- Multiple frequency exposures.
- Exposure to pulsed radiofrequency radiation.
- Location of use (both geographic location and whether a device is primarily used indoors or outdoors).
- Models for men and women of various heights and for children of various ages.
- Exposure to others sources of RF radiation such as cordless phones, wireless computer communications, and other communications systems.
- Exposure to the eyes, hand or the human lap or parts of the body close to the device.
- 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).
- Sufficiently long exposure and follow-up to allow for detection of effects that occur with a latency of several years.
- Lack of information concerning the health effects associated with living in close proximity to base stations.
- Research that includes children, the elderly, and people with underlying diseases.
- Research on possible adverse RF effects identified by changes in EEG (electroencephalogram) activity.
- Lack of information on possible neurophysiologic effects developing during long-term exposure to RF fields.
- Studies focusing on possible adverse RF effects identified by changes in cognitive performance functions.
- Effects of RF exposure to the sensitive biological targets of neural networks.
- Possible effects of RF exposure on fetal and neonatal development.
- Possible influences of exposure on the structure and function of the immune system, including prenatal, neonatal, and juvenile exposures.

- t) Possible influences of RF exposures on the structure and function of the central nervous system, including prenatal, neonatal, and juvenile exposures.

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

Among the other Smart Meter reports VDH mentions in its report is the 2011 “comprehensive review” authored by the California Council on Science and Technology (CCST). CCST’s 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-Kin 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 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 smart meters found substantive basis for concern. *The BioInitiative Report* reviews more than 2,000 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.

It should be noted that at a meeting with VDH’s Report author William Irwin in May 2011, EMRPI offered him *Pathophysiology* 2009 Volume 16 which provides a peer review of *The BioInitiative Report*. Dr. Irwin declined to accept.

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>

VDH’s report mentions in passing the IARC’s May 2011 finding that RF Radiation is a Group 2B possible human carcinogen. VDH failed to communicate directly with IARC to ask for a clear explanation of the scope of its finding. A very significant

explanation of IARC's finding was obtained from Robert Baan, 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, Mr. 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.

### **Conclusions**

Based on EMRPI's review, the VDH's Smart Meter study uses measurement protocols and equipment that are questionable.

While no reference list is found in VDH's Report, it appears to ignore the wealth of peer-reviewed scientific literature that demonstrates adverse biological effects at exposure levels well below the US FCC RF exposure guidelines.

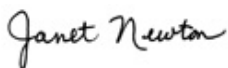
VDH's Report ignores the analysis of the 2008 NAS Report that delineates the flawed scientific record upon which FCC's RF safety guidelines are based. Instead VDH finds that "current regulatory standards for RFR from smart meters are sufficient to protect public health."

**VDH's Report did not carry out an in-depth analysis** to determine if its reliance on the current US FCC RF radiation exposure limits based on science published prior to 1986 fulfills VDH's stated first priority to "focus on prevention, which is perhaps the best investment that can be made in health."

Smart Meters are the latest RF-emitting device to be placed in Vermonter's everyday environment. They are the newest RF emitters whose radiation characteristics are not contemplated in the US FCC RF safety guidelines. Rather than investigating the implications of this reality for human health, VDH's Report rubber stamps previous reports that also failed to carry out this analysis.

For these reasons The EMRADIATION Policy Institute requests that VDH revise its findings on this issue.

Respectfully submitted,



Janet Newton  
President

Cc: Agency of Human Services Secretary Douglas Racine  
Department of Health Radiological and Toxicological Sciences Program Chief William Irwin  
Department of Public Service Commissioner Elizabeth Miller  
Department of Public Service Telecommunications Director James Porter  
Members of the Vermont Senate Finance Committee  
Members of the Vermont House Commerce and Economic Development Committee