



Massachusetts Association  
for the Chemically Injured, Inc.

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January 22, 2014

"Please Note: this comment submission is under the umbrella of the extension granted by Alison Lackey, Hearing Officer on January 15, 2014."

Mr. Mark D. Marini  
Secretary, Department of Public Utilities  
One South Station, 5th Floor  
Boston, Massachusetts 02110

RE: Comment from the Massachusetts Association for the Chemically Injured, Inc. to the Department of Public Utilities on D.P.U. 12-76-A, Investigation by the Department of Public Utilities on its own Motion into Modernization of the Electric Grid

Dear Secretary Marini:

Executive Summary

The Massachusetts Association for the Chemically Injured (MACI), in view of our experience as a non-profit statewide support, education and referral organization for people with multiple chemical sensitivity, offers comment to the Department of Public Utilities on D.P.U. 12-76-A, Investigation by the Department of Public Utilities on its own Motion into Modernization of the Electric Grid. Our comments address the issues of wireless (RF) technology and potential health effects from RF exposure for vulnerable segments of the population, including those living with Multiple Chemical Sensitivity. The disabled who are afforded special protection under the federal Americans with Disabilities Act are not acknowledged or protected in the "straw proposal." Multiple Chemical Sensitivity is a recognized disability under the ADA. Any tariffs proposed for disabled individuals who choose to "Opt Out" would violate the special protections under ADA as the disabled would not be given equal access in protecting their health.

Unfortunately, we find the "straw proposal" on D.P.U. 12-76-A to be severely deficient. MACI appeals to the DPU to:

- Implement a moratorium on the rollout of "smart meters" and wireless network infrastructures which are specific to serve smart meter technology needs,
- Revise the proposal to explore existing, alternative technologies to wireless RF technologies that will safeguard the health of Massachusetts residents.



- Address the serious concerns voiced by the public and knowledgeable experts concerning exposure to wireless (RF) exposures relevant to this proposal.
- Require implementation of safer technology for a grid modernization plan for the Commonwealth of Massachusetts

MACI strongly supports

- A grid modernization plan informed by the growing body of scientific, technical and bio-effects data regarding the possible consequences of a massive rollout of wireless (RF) smart meter exposure on public health.
- An Opt-Out Provision provided at no extra cost to the resident or business owner in any plan that mandates the use of AMR and AMI meters on residences and businesses.

Our major concerns are:

- The “straw proposal” and DPU’s plan is based solely on wireless (RF) technologies.
- The procedural history in the notice of investigation (NOI) called for an inquiry on potential health concerns that the working group failed to address, thus ignoring the body of scientific, technical and bio-effects data on the possible consequences of implementing widespread wireless (RF) smart meter exposure on public health.
- The DPU’s proposal acknowledges that customers will question the effects of RF on health and has indeed received public testimony on the Utilities Petition D.P.U. 13-83 and H2926 in 2013. However, the DPU failed to adequately address this serious issue and dismissed it by referencing a select number of inferior published reports that are *not* representative of the current body of evidence in the scientific literature and that reported by physicians and individuals’ real life experiences.
- The Opt-Out Provision to wireless (RF) technology, a vital first step for any mandate of a smart meter installation plan, should not carry an additional cost to burden or penalize residents with tariffs, especially to subgroups of the population who are the most vulnerable to RF exposures.
- People who are afforded special protection under the federal Americans with Disabilities Act are not acknowledged or protected. Multiple Chemical Sensitivity is a recognized disability under the Americans with Disabilities Act. As such, any proposed monthly fees/tariff would violate the special protections under ADA as the disabled would not be given equal access in protecting their health.

We offer a number of quotes and a listing of references supporting of our comments and submit two references as attachments.





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Dear Secretary Marini:

On behalf of the members of the Massachusetts Association for the Chemically Injured (MACI), a volunteer, non-profit statewide support, education and referral organization for people with Multiple Chemical Sensitivity (MCS), I am writing to provide comment on D.P.U. 12-76-A. Our organization agrees that the Commonwealth of Massachusetts needs to update the electric grid. However, we strongly oppose a grid modernization plan based on wireless (RF) technology. There is nothing in the "straw proposal" for a grid modernization plan indicating the Department of Public Utilities has investigated existing alternative technologies to smart meters and the mesh network infrastructure in an effort to consider a safer form of technology, one that will safeguard the health and safety of the residents of Massachusetts. The "straw proposal" ignores the growing body of scientific, technical and bio-effects data regarding the possible consequences of a massive rollout of wireless (RF) smart meter exposure on the health of the general public.

MACI was founded in 1994 to assist those who suffer with multiple chemical sensitivity (MCS). MCS is a condition in which a person develops greatly increased sensitivity to chemicals and other irritants after an acute exposure or repeated low-level exposures to various environmental chemicals. MCS can affect many organ systems and leads to symptoms such as respiratory difficulties, gastrointestinal problems, musculo-skeletal pain, burning of the eyes, nose and throat, fatigue, headaches, dizziness, cardiac palpitations, and neurological deficits such



as memory loss, concentration difficulties, seizures and cognitive dysfunction.

The frequency of environmentally triggered illnesses is escalating, as is the toll on human health, health care costs and employer's costs. Findings of several population surveys indicate that while MCS appears to afflict 4% to 6% of the population, 15% to 30% of the general population perceive themselves as "especially" or "unusually" sensitive to common everyday chemicals. Some people who had mild sensitivities for many years report a gradual progression of symptom severity and impairment until they reached the point of being disabled.

Many people who suffer from multiple chemical sensitivities are concomitantly vulnerable to the effects of electromagnetic frequency fields (EMF) and radio frequency radiation (RFR). The combination of sensitivities is quite disabling and puts their ability to work or live in their residences at greater risk. With the expanded use of smart meters, this issue will continue to grow for MCS sufferers.

The American Academy of Environmental Medicine (AAEM), an international organization of physician and scientists released a statement in support of a "Wireless Smart Meter Case Series" (1). The statement highlights that:

"The symptoms reported in this case series closely correlate not only with the clinical findings of environmental physicians, but also with the scientific literature. ....

It is critically important to note that the data in this case series indicates that the "vast majority of cases" were not electromagnetically hypersensitive until *after* installation of smart meters."

MACI has received a number of calls from our members over time regarding health related effects from exposure to wireless devices and technologies and more recently, smart meters. For example, one member who worked at home developed escalating health issues after the installation of a smart water meter on her home. Unable to resolve the issue at the time, she sold her home and moved out of state to safeguard her health. Another member called to say that after moving from her home due to health related symptoms which escalated after a smart water meter was installed she relocated to a new residence and developed similar symptoms and discovered a smart electric meter. The meter was removed and she experienced noticeable improvement. Other callers expressed a decline in health with significant symptoms correlated to smart meters exposures.

As our Commonwealth's regulatory agency, the DPU has a duty and obligation to Massachusetts residents to formulate policy that takes "a comprehensive approach to addressing the various, interrelated aspects of modernizing the electric grid." (Proposal p.9). In doing so we appeal to the DPU to set a policy that ensures that electric companies provide *safe* service to customers (Proposal p. 1) and *reduce(s) customer costs* (Proposal p.3) avoiding policy that penalizes customers who are the most vulnerable to RF exposures with tariffs as proposed in the utilities Petition D.P.U. 13-83 and directed in the "straw proposal" (Proposal p.32).



Further, we ask that the DPU's policy address issues of security, privacy and the *concerns about potential health effects* as originally called for in the NOI (Proposal p.4). Reviewing the Steering Committee's Final Report with respect to concerns of potential health effects from wireless RF technology exposure, it is obvious that an investigation was not conducted by the working group. The EMR Policy Institute submitted comments to the DPU on the Steering Committee's Final Report noting the lack of investigation on concerns of potential health effects. These comments are of significance for the "straw proposal" that acknowledges "Most grid modernization technologies involve the wireless transmission of data using radio frequencies ("RF")" in the opening statement of Section 7. "Concerns about Potential Health Effects and Opt-Out Provisions." (Proposal p. 31). The DPU acknowledged that this is an issue raised around the country and included it in the NOI for investigation. This "straw proposal" does nothing to reassure our members that a thorough review or even a thoughtful discussion on the potential health effects took place based on the proposal's minimal statement dismissing significant possible health consequences by making reference to a select number of published reports (Proposal p. 31) chosen to support the conclusion of "unlikely to harm health."

The references footnoted in the DPU's "straw proposal" are *not* representative of the current body of evidence in the scientific literature and the shortfalls of these cited references include being inaccurate, deficient, incomplete, misleading, flawed or outdated. (1-15) We ask the DPU, its role as a regulatory agency, to act conscientiously "to ensure that residential ratepayers' rights are protected" and revise this proposal to fully investigate the concerns related to health effects from RF exposure.

In the National Institute for Science, Law and Public Policy's publication *Getting Smarter About the Smart Grid* Dr. Timothy Schoechle makes the points:

"In the face of widespread and growing health concerns, the unavoidable question arises: why invest in something with known potential for harm that would impact millions of people – especially when there are other viable and arguably superior alternatives?"

.....

Alternatives for metering, including other methods of communicating energy data to or from the home, that produce much less radiation, are effective, readily available, and often already in place. These include conventional cable, DSL, cellular radio (GPRS), optical fiber and power line carrier networks." (13, p28)

The Sage Associates Report *Assessment of Radiofrequency Microwave Radiation Emissions from Smart Meters* summarized that "People who are afforded special protection under the federal Americans with Disabilities Act are not sufficiently acknowledged or protected. People who have medical and or metal implants or other conditions rendering them vulnerable to health risks at lower levels than FCC RF limits may be particularly at risk. This holds true for other subgroups like children and people who are ill or taking medication, or are elderly, for they have different reactions to pulsed RF...The elderly and those on some medications respond



more acutely to some RF exposures.” (10 p. 8) Additionally, a population survey of hypersensitivity to electromagnetic fields in CA found chemical sensitivity to be an important risk factor for hypersensitivity to EMFs. (5 p.622) Those living with disabilities such as MCS are at greater risk of being harmed.

The BioInitiative Working Group, a group of 29 scientists from 10 different countries published the *BioInitiative Report 2007* and *2012* that lay out summaries of scientific studies demonstrating an ever growing body of evidence that suggests the bioeffects of exposure to low level RF transmissions can lead to serious public health harm and that these effects “can and do occur at exquisitely low exposure levels: levels that can be thousands of times below public safety limits. The evidence reasonably points to the potential for serious public health consequences (and economic costs), which will be of global concern with the widespread public use of, and exposure to such emissions. Even a small increase in disease incidence or functional loss of cognition related to new wireless exposures would have a large public health, societal and economic consequences. Epidemiological studies can report harm to health only after decades of exposure, and where large effects can be seen across “average” populations; so these early warnings of possible harm should be taken seriously now by decision-makers.” (2: “Summary for the Public,” p.15)

With an additional 1800 studies referenced in the *BioInitiative Report 2012* the evidence mounts for a vast array of possible health effects resulting from chronic exposures to extremely low frequency (ELF) and/or radiofrequency radiation (RFR). The reported effects should horrify every consumer, but findings most pertinent to people living with MCS indicate that “EMF acts on the body like other environmental toxicants do (heavy metals, organic chemicals and pesticides). Both toxic chemicals and EMF may generate free radicals, produce stress proteins and cause indirect damage to DNA. Where there is combined exposure the damages may add or even synergistically interact, and result in worse damage to genes.” (2 Conclusions Table 1-1, EMF and RFR Make Chemical Toxins More Harmful). For those with MCS already adversely affected by toxic environmental exposures there is the possibility of *increased* risk of a number of cancers (breast and leukemia amongst them), neurodegenerative diseases, “altered immune function including increased allergic and inflammatory responses, miscarriage and some cardiovascular effects. Insomnia (sleep disruption) is reported in studies of people living in very low-intensity RFR environments with WI-FI and cell tower-level exposures. Short-term effects on cognition, memory and learning, behavior, reaction time, attention and concentration, and altered brainwave activity (altered EEG) are also reported in the scientific literature.” (2: Editors Notes, “Do We Know Enough to Take Action?”) Many of these are health effects the MCS sufferers experience on a daily basis. Studies on RFR exposures indicate these symptoms could be exacerbated or escalate to a disease state such as cancer requiring treatment that the MCS sufferer may not tolerate well due to hypersensitivity to chemicals.

*BioInitiative Report 2012* Summary for the Public states under Summary of the Science #E. Evidence for Electrohypersensitivity:



“What is evident is that a growing number of people world-wide have serious and debilitating symptoms that key to various types of EMF and RFR exposure. Of this there is little doubt. The continued massive rollout of wireless technologies, in particular the wireless ‘smart’ utility meter, has triggered thousands of complaints of ill health and disabling symptoms when the installation of these smart meters is in close proximity to family home living spaces.” (2, p.13)

We highlight one of the conclusions of *BioInitiative Report 2012*:

“Safety standards for sensitive populations will more likely need to be set at lower levels than for healthy adult populations. Sensitive populations include the developing fetus, the infant, children, the elderly, those with pre-existing chronic diseases, and those with developed electrical sensitivity (EHS).” (2: Conclusions Table 1-1, Sensitive Populations Must Be Protected)

MACI provided oral and written testimony on House Bill 2926 in June encompassing elements of this issue in that residential customers should have the right to choose the type of meter that will be installed on their home or building and to do so without added costs. We provided testimony opposing the utilities’ Petition D.P.U. 13-83 which would assess tariffs for residential distribution customers to opt-out of automatic meter reading (“AMR”). Testimony given by many citizens, organizations, health professionals and scientific and technical experts in response to the H.2926, D.P.U. Docket 13-83, and comments filed by the EMRPI on the Steering Committee Final Report give sound reasons why this is an important issue for the public. A host of resources from the growing body of evidence in science, human physiology and biological effects was provided and testimony of personal and real life experience from EMF and RF exposure was given. The DPU should have investigated, assimilated and incorporated this important information and evidence, giving them pause as they move forward with their decision-making responsibility in setting a sound and safe policy for grid modernization in Massachusetts. Why has the agency that is to regulate and oversee industry simply adopted the industry’s party line over the best interests of Massachusetts residents?

We acknowledge that the “straw proposal” includes an Opt-Out provision. While an opt-out provision is vital, it is only a partial solution because radiation does cross property boundaries. (9, p.15). Any mandate of a smart meter installation plan is a mandate for involuntary exposure to wireless technology. Other potential sources of wireless RF in a home are under the control of the home owner. The consumer and, most certainly, the disabled should have the right to protect their health and safety fairly without monthly fees that are demanding. Many of our members live on low, fixed incomes, disability or workers’ compensation that will be further taxed by any proposed monthly fees/tariff for opting out of a wireless smart meter. Those living in or owning a multi-family residence will incur even higher fees. Multiple Chemical Sensitivity is a recognized disability under the Americans with Disabilities Act. As such, any proposed monthly fees/tariff would violate the special protections under ADA as the disabled would not be given equal access in protecting their health.



While it is impossible to be totally free of chemical and EMF/RFR exposure for it is ubiquitous in today's environment, chemically and electrically sensitive individuals take steps to reduce personal chemical exposure and personal use of wireless devices and technology in order to protect their health status, *a basic human health right*. In the "Guest Editorial: WHO recognizes electromagnetic dangers: let us declare human health rights," Sage and Huttunen stated:

"Chronic exposure to low-intensity RFR and to ELF-modulated RFR at today's environmental levels in many cities will exceed thresholds for increased risk of many diseases and causes of death. It is well documented that RFR exposures in daily life alter homeostasis (homeodynamics) in human beings." (12, p.1). .. In every society the basic rights of citizens must be safeguarded. Adoption of a Human Health Rights Declaration is necessary to protect all life and our living environment from harmful exposures that have run out of control and ahead of the scientific warnings." (12, p 2)

.....

"Even if ONE of these rights is compromised - placed at risk from involuntary wireless exposures in daily life, it is a breach of human health rights. When many of these human health rights are compromised without the consent of the individual, then the deployment of wireless technologies should be halted and existing exposures reduced or eliminated in accord with the scientific and public health findings on chronic exposure to low-intensity radiofrequency radiation, and other forms of potentially harmful electromagnetic fields." (12, p.3)

Quoting from the *Bioinitiative Report 2012* "Key Scientific Evidence and Public Health Policy Recommendations":

"There is better understanding of the important physical and biological factors that make ELF-EMF and RFR potent disruptors of living tissues and basic metabolic processes. ... The exposure levels causing effects are documented to be much lower than in the past. The epidemiological evidence is now showing risks for a variety of adverse health outcomes. All this should be taken seriously by governments, and translated quickly into more protective safety standards, and in the interim, into strong preventative actions, warnings and substitution of safer technologies and redesigned devices. ... This is not a weak or reckless judgment made with few facts. It should be a strong warning to governments to reconsider their safety standards, particularly in light of the billions of people at potential risk from new wireless technologies." (2)

It is imperative that the DPU as the regulatory agency and a decision maker in setting policy for the Commonwealth of Massachusetts base decisions and direction on the best science and on the most current body of the evidence. The DPU must put a grid modernization program forward that is not just the easiest one available, but the one that is the safest for the general population. No one wants to look back in hindsight, when the body count, can no longer be denied - and have to answer "How did this happen? We had sufficient

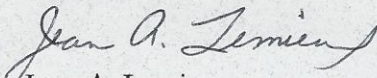


evidence to take a safer course.” Or, “Who is responsible?” And, ultimately, address the question: “Why didn’t we listen?!”

Thank you for the opportunity to submit these comments regarding this important issue before the DPU. The Massachusetts Association for the Chemically Injured requests that the DPU:

- Place on hold (a moratorium) the rollout of “smart meters” and wireless network infrastructures which are specific to serve smart meter technology needs,
- Investigate safer technologies and,
- Require implementation of safer technology approaches which are available in a grid modernization plan for the Commonwealth of Massachusetts

Sincerely,



Jean A. Lemieux  
President

References:

1. AAEM Board of Directors, Statement: “Wireless Smart Meters Case Series”, American Academy of Environmental Medicine, October 23, 2013.
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4. Havas, Magda, B.Sc, Ph.D., Technical Response Team: “Havas Submission to CCST “Report on Smart Meters”, October 12, 2010.
5. Levallois, Patrick, et.al, “Study of Self-Reported Hypersensitivity to Electromagnetic Fields in California”, *Environmental Health Perspectives*, 110/Suppl 4: 619-623 (2002).
6. Maret, Karl, M.D., Comment on the CCST Report: “Health Impacts of Radio Frequency from Smart Meters”, January 30, 2011.
7. Namkung, Poki Stewart, M.D., M.P.H., Health Officer, Memorandum: “Health Risks Associated with Smart Meters” Public Health Division, Health Services Agency, County of Santa Cruz, January 13, 2012.
8. Newton, Janet, President EMR Policy Institute, “Open Letter to Dr. Harry Chen, M.D., Commissioner, Vermont Department of Health”, EMR Policy Institute, March 14, 2012.
9. Powell, Ronald M., Ph.D., “Biological Effects from RF Radiation at Low-Intensity Exposure, based on the BioInitiative 2012 Report, and the Implications for Smart Meters and Smart Appliances”, 2012.
10. Sage Associates, Environmental Consultants, Report: “Assessment of Radiofrequency Microwave Radiation Emissions from Smart Meters”, Sage Associates, Santa Barbara, CA, January 1, 2011.
11. Sage, Cindy and David Carpenter, “Public health implications of wireless technologies”, *Pathophysiology* 16(2009): 233-246.



12. Sage, Cindy and P. Huttunen, Guest Editorial: "WHO recognizes electromagnetic dangers: let us declare human health rights", Pathophysiology 19(2012)1-3.
13. Schoechle, Timothy, Ph.D., "Getting Smarter About The Smart Grid", National Institute for Science, Law & Public Policy, 2012-11-26.
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15. Warren, Diana, D.P.U. 12-76 "Comment on July 2, 2013 Report to the Department of Public Utilities from the Steering Committee", EMR Policy Institute, 7/24/2013.

Attachments:

- AAEM Board of Directors, Statement: "Wireless Smart Meters Case Series", American Academy of Environmental Medicine, October 23, 2013.
- Sage, Cindy and P. Huttunen, Guest Editorial: "WHO recognizes electromagnetic dangers: let us declare human health rights", Pathophysiology 19(2012)1-3.

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