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Susan Hackwood, PhD,
Executive Director, California Council on Science and Technology
Lora Lee Martin,
Director, Strategic Policy Initiatives and Government Affairs
California Council on Science and Technology
5005 La Mart Drive, Suite 105
Riverside, CA 92507

Re: Smart Meter Health Impact
(For Southern California, yet speaking on behalf of the entire State)

Dear Dr. Hackwood and Ms. Martin:

I recently read the New York Times article by Colin Sullivan and Debra Kahn, and feel I must speak out, for there are voices you are not hearing, and risks that have gone under-assessed.

I am a resident of Rancho Santa Fe, CA, in North County San Diego. The utility company in my area is SDG&E. I am afraid Southern California does not have the activists that Northern California can rightfully and proudly claim. Yet our silence should not be misconstrued as lack of concern, and by no means is there an absence of symptoms from smart meters which were deployed in 2010.

I am one of the few people -- perhaps the only one -- who successfully fought to keep SDG&E from putting a Smart Meter on my home. I am quite very familiar with RF (microwave) radiation. Knowing I am sensitive to it, I became proactive when notified that the smart meter build out was going to start in north county San Diego. I contacted SDG&E and have chronicled each contact I had with SDG&E. I have a neuro-cardiac problem know as Neuro-Cardiogenic Syncope. I can pass out without warning, as my brain does not always give my heart the right messages. Anything that interferes with the brain and/or the heart is contraindicated. RF (microwave) radiation can interfere with both, and therefore this medical reality -- as well as that of *any and* all members of the public who are vulnerable neurologically or with respect to cardiac conditions -- must have your greatest attention and concern. Even though my medical circumstance makes me the

proverbial "canary in the coal mine", I suspect my case serves as a harbinger of what others are experiencing -- often unknowingly. It does not mean they don't know they are symptomatic, but they do not know -- nor do their physicians -- that microwaves have been introduced into their 24/7 environment and can affect them neurologically.

As a medical social worker, medical writer, and more relevant to the issue of smart meters - the initiator and organizer of the first brain study ever done of firefighters who have lived/worked with a cell tower on their station for over 5 years, I am well equipped to understand some of the risks inherent in exposing people 24/7 to RF (microwave) radiation.

The cell tower beaming across the working/sleeping quarters of the fire station where our test subjects came from emitted the same type of radiation as smart meters. RF Radiation is truly a euphemism. The radiation from smart meters and cell towers is actually microwave radiation. It has the ability to penetrate every living cell -- plant, animal, and human. It is not innocuous, as some of the CCST report contributors suggest.

Of the 6 firefighters who underwent SPECT scans of the brain, and TOVA testing for neurological measurement of reaction time, impulse control, and decision making, we found abnormalities in all 6 firefighters. Why is this so significant? Our firefighters are the strongest of the strong among us. They must pass rigorous physical and cognitive testing before being accepted into the fire department of any city. The men we tested were no exception. To see hyper-excitability of the neurons when the firefighters were off duty and in repose was extremely disconcerting. Dr. Gunnar Heuser and I are writing a paper with Dr. Olle Johansson of the Karolinska Institute in Sweden in hopes the lessons learned in this study can be applied universally.

Additionally, all 6 firefighters showed neurological deficits in the areas of decision making, impulse control, and reaction time. Think of that. These men are our first responders. By placing cell towers on fire stations the cities are earning rental income paid by the telecommunications industry, yet we are quite literally placing our citizens at risk if our first responders are not functioning at their optimal level. And from a humanitarian perspective, we have an even greater responsibility to protect the men and women who would sacrifice their lives for ours, and indeed have, as this nation and the entire world witnessed on 9/11 and on other occasions.

Let's extrapolate and apply that thinking to homes with smart meters emitting bursts of RF (microwave) radiation every minute -- I have heard every 10 to 23 seconds. I think Cindy Sage is a better one to check with on what she has found with respect to the pulsed emissions of microwave radiation. We are subjecting the unborn, young children with developing brains, women, the elderly, and those with pre-existing health conditions, all of whom are much more likely to be predisposed than strong, healthy firefighters, to potential adverse reactions to these bursts of RF (microwave) radiation. So if we found abnormalities in the firefighters after their 5 years of exposure to a cell tower, what about all those who are even more likely to sustain harm from RF radiation emitted by smart meters 24/7? From a humanitarian perspective, we have an obligation and a duty to

protect those who cannot speak for themselves. If we have knowledge that would protect the defenseless, and the defenseless would include those without full knowledge of the potential detrimental effects of RF (microwave) radiation, we must act on it.

Why is RF (microwave) radiation such a risk to the population at large? Let's first consider the brain as "the seat of the soul" and the central switchboard for all that happens in our bodies. The brain is the first organ to be adversely affected by this type of radiation. Neurological functions of the brain include but are not limited to the following:

- sleep disturbances -- inability to sleep/inability to wake up with clear thinking
- headaches
- disorientation
- mood disturbances
- inability to concentrate
- poor impulse control
- delayed reaction time
- balance/vertigo
- tinnitus

I know I, an adult with a fully formed blood brain-barrier (or BBB) -- the covering around the brain that is supposed to protect our brains from chemicals entering and damaging the body's most critical organ, must be extremely careful around RF radiation because my brain stem does not always give the right signals to my heart. How does RF radiation directly affect my brain when the BBB is intact? That is because RF radiation **crosses** the BBB, and *that is dangerous*. In fact, RF radiation has been shown to disrupt the development of the BBB, and since the absolutely essential BBB is not fully formed until early adulthood, what in the world are we doing to the unborn and to our children and our teens by exposing them to rapid bursts of pulsed microwave radiation? All this for the sake of progress in the energy arena?

I suggest we get our best minds to work on trying to calculate the astounding expenses from the potential health costs of neurological and immunological impairment in literally millions of residents in smart metered-homes in the coming years. Why do I also say immunological? The central nervous system and the immune systems are the two systems of the body that interact most closely. When one is damaged, the other is at risk. I would suggest that the CCST tap the services of Berkeley scientist Lloyd Morgan, and perhaps Dr. Joel Moskowitz, Director, Center for Family and Community Health at the University of California Berkeley, to discuss the actuarial work that should be undertaken to calculate the potential costs to society, to our health care system, to the utility companies, to all the manufacturers of smart meters, and to all those who have given a "pass" to this technology without truly delving into the potential risk particularly to the developing fetus and young children.

I am a fortunate woman, as I have awareness that protects me, and the vast majority of the population lack the knowledge I have or the ability to express medically what is happening

to them. They are unaware of the cause and effect of being exposed to microwave radiation 24/7, and their physicians may initially misdiagnose them. I was blessed to have an education that has allowed me to help myself, my family and hopefully to protect others from harm. I have the means to move away from a neighborhood that is so filled with smart meters that even living in a home without one does not afford me a decent night's sleep, and I am tenacious when I need to be to protect my family, myself and others. I am writing to you on behalf of all those people who don't know why they are ill, don't know who to turn to for help, and even if/when they can identify a cause-effect relationship between their installation of their home's smart meter and their new symptoms, SDG&E will NOT removed the smart meter.

I had to use tremendous tenacity in dealing with SDG&E to convince them they would be putting me at great risk -- and I am writing in part to tell the CCST you must advocate an "opt out" opportunity for utility consumers, allowing them wired smart meters rather than wireless. It was *almost* impossible for me to force SDG&E to *not* install a smart meter on my home. This technology is so new, and was rushed to market, such that I had to educate my cardiologist who had never heard of a smart meter before. Most still have not. I had to educate SDG&E employees. I had to ultimately tell SDG&E I would hold them legally responsible for any harm that came to me if a smart meter was installed on my home. With the "false comparisons" offered by SDG&E regarding the supposed-safety of their smart meters, I had to do copious research to assert my right given my critical medical need NOT to have a smart meter on my home. It should not be this complicated. I fear we have jumped into this new technology with great fervor -- in part for energy conservation and in part as a stimulus to the economy. But are we as a nation trying to fit a square peg into a round hole?

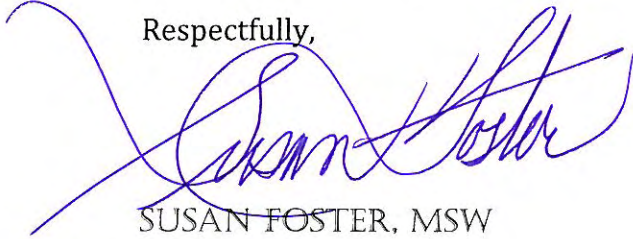
One SDG&E executive employee told me, "We are new at this. It is still sort of an experiment." Sort of an experiment? That is a frightening statement when you consider smart meters expose a family 24/7 to microwave radiation. That same individual asked me why so many people with pacemakers were calling her office and expressing concern. She had assured them there would be no problem, and I was stunned to hear this. Supposedly some pacemakers are now better shielded to not beat irregularly in the presence of RF radiation, but who knows which pacemakers are shielded, which ones aren't, and as Cindy Sage points out in her extensive report, no one is monitoring the total cumulative load of RF radiation any home or any one person is being exposed to. The SDG&E employee asked me, the consumer, what could happen to a person with a pacemaker if the smart meter happened to adversely affect them.

My answer to the SDG&E employee was very simple. "They could die." Is it likely? Perhaps not. Is it possible. Absolutely. I told the SDG&E employee she had a moral obligation to find those individuals with pacemakers and offer them the opportunity I was insisting on -- NO smart meter. To my knowledge, I am still the only person in SDG&E territory who does not have a smart meter on my home. To what level of negligence this rises, I do not know. That is not an area I have expertise in. I have, however, shared my relevant expertise about health issues and our discoveries with the firefighters, and I do hope you will listen earnestly.

the International Association of Firefighters conference held in Boston in August 2004. By an 80% majority, the firefighters passed Res. 15 calling for the spirit of a moratorium on placing cell towers on fire stations throughout the US and Canada pending further study. I say the "spirit" of a moratorium because it is still trumped by the Telecommunications Act of 1996, and until legislative changes take place in the US, and a much-needed health consciousness arises about the need for safer communication through fiber optics as opposed to the proliferation of RF-emitting devices, we are playing Russian Roulette with our future, our children's future, and their progeny, as well.

Thank you for your time, and consideration.

Respectfully,



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January 14, 2011- *Calif. Agency Mulls 'Opt Out' or Wired Substitutes as Fallout Over Smart Meters Persists*

By *COLIN SULLIVAN AND DEBRA KAHN*

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Assemblyman Jared Huffman
New York Times
Senator Dianne Feinstein
Senator Barbara Boxer
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The New York Times



January 14, 2011

Calif. Agency Mulls 'Opt Out' or Wired Substitutes as Fallout Over Smart Meters Persists

By COLIN SULLIVAN AND DEBRA KAHN of

SAN FRANCISCO -- A burst of opposition to smart meters in a Northern California county appears to have turned heads in the state commission with jurisdiction over the emerging technology, with at least two prominent officials yesterday signaling they would consider letting consumers opt out.

In separate interviews, California Public Utilities Commission members Nancy Ryan and Timothy Simon said they were open to looking at new policies that would either let ratepayers reject smart meter installation outright or pursue wired rather than wireless connections.

Their comments came in reaction to public pressure from a small but vocal group of residents and lawmakers in Marin County who fear the meters might be dangerous because of the electromagnetic waves they emit. Though the science on the question appears to indicate no health threat, the Marin County Board of Supervisors passed an ordinance last week that deems the installation of smart meters a misdemeanor (*Greenwire*, Jan. 5).

The investor-owned utility that serves the region, Pacific Gas and Electric Co., has said it will continue with its rollout of smart meters despite the vote, which only applies to unincorporated areas of the county. Still, officials at the CPUC were taking the developments seriously during a monthly commission meeting here, which featured more emotional public testimony attacking the technology.

Commissioner Ryan said she was open to some sort of opt-out provision.

"I've always been of the opinion that there should be some consideration of opting out, provided people pay their full freight," she said.

Ryan added that she has spoken to California Assemblyman Jared Huffman (D), who represents Marin, about the possibility of creating a local assessment district so Marin residents can pay for wired meters. Huffman has authored legislation that would authorize

wired as well as wireless installations.

Commissioner Simon also said he was open to changes. But he also noted that only wireless installations have yet been authorized by the agency.

"The question becomes, if a ratepayer wants a wired meter, how do we work it into our rate design?" he said.

Simon added that he was sympathetic to smart meter opponents but said that their relatively small numbers should be taken into account.

"We have installed 10 million meters, and this is the only group from Marin County that has staged a protest based on radio frequency," he said. "Why is it just isolated to their group?"

Yet at least one Marin County resident present at the meeting was insistent that she had already experienced symptoms that she attributed to wireless smart meters. San Francisco resident Sudi Scull appeared before the commission yesterday to say she was hurting due to electromagnetic emissions.

"My health has taken a dramatic turn for the worse," Scull said. "I had no Christmas lights this year; I can't even play my radio. I am in some degree of migraine much of the time, and I have 40 percent chance of a stroke."

Experts weigh in

Speaking at a separate event across town, former CPUC Commissioner Diane Gruenich said the commission and PG&E may be at fault for not doing a good enough job when it came to communicating with ratepayers about smart meters and their potential dangers.

Gruenich, who recently left the commission, explained that the reason the commission authorized smart meters in the first place was to benefit the "utility side of the meter," as opposed to the consumer side. Smart meters, especially at this early stage, are much more likely to result in cost savings and better monitoring on the utility side, with the upside not yet clear for many consumers.

"There was not a good enough job of explaining," she said during an appearance at the Commonwealth Club. "It's really being used to enhance the efficiency and operation of the larger utility system."

Mark Duvall, director of electric transportation and energy storage at the Electric Power Research Institute, agreed that the negative press means utilities and regulators should take the issue seriously. But in the same breath, he argued that all research done to date on the

subject indicates there is no real or present threat.

"Yes, there are some hiccups," he said, noting that utilities had installed as many as 6,000 meters a day in some areas without much problem. "But you need to look at all the societal benefits. These are significant technological accomplishments."

As for wired versus wireless, Duvall was dismissive, saying, "It would be very costly very quickly," while Gruenich noted that the CPUC had not yet considered the alternative.

"I do know that we don't have any cost estimates of what that would involve," she said. "I don't even know if that's technologically feasible."

In subsequent interviews, both Duvall and Gruenich admitted the issue is not likely to go away. Just as important is a shifting political dynamic, as California Gov. Jerry Brown (D) may move soon to appoint someone like former California Energy Commission Commissioner John Geesman as the new president of the agency to replace Michael Peevey, who many view as sympathetic to the investor-owned utilities he oversees.

Geesman, for his part, has been downright hostile to PG&E since leaving the CEC, blogging extensively last year against the utility's attempt to stifle community power in Marin under a ballot proposition that ultimately failed on the June 2010 ballot. He has refused to comment on his possible appointment.

Neither Duvall nor Gruenich would speculate on the new direction of the commission under Brown. But Gruenich acknowledged that the new president, if there is one, will have to deal with smart meters.

"If consumers do not see the value in implementing smart meters, we're going to see some problems," she said. "This is a significant issue."

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