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CCST

Dear Sirs,

Some citizens are worried about the involuntary application of wireless real time monitoring of their electricity use. Their concerns relate to the invasion of privacy and the addition of radio frequency (RF) electromagnetic and electric and magnetic exposures from meters in their own homes and in their neighborhoods. Some have pointed out that there are other technologies now in use in other countries that avoid the exposures.

Public officials approached you with a very narrow framing of the issue asking you:

- (a) if one could guarantee an absence of health effects if RF exposures were always below current thermally based standards.
- (b) If other standards were needed to deal with non-thermal health effects

You answered:

1. The FCC standard provides a currently accepted factor of safety against known thermally induced health impacts of smart meters and other electronic devices in the same range of RF emissions. Exposure levels from smart meters are well below the thresholds for such effects.
2. There is no evidence that additional standards are needed to protect the public from smart meters.

Your first answer doesn't respond to the official's first question at all, instead it states what all parties agree to, the standard protects against thermal effects and smart meters emit fields that are below the standard.

Your second answer is technically a falsehood. 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 exceed the benchmark which triggers health based regulations (1 per hundred thousand). You could have turned your second answer into a true statement by saying something like this:

“When our panel, that included no epidemiologists, reviewed the extensive literature, epidemiological and non epidemiological on non-thermal RF exposures, we concluded that it is *not* beyond a reasonable doubt that non-thermal exposures are capable of adding life-time risks of regulatory concern. This is because we would require a clear understanding of the physical induction

mechanism , the carcinogenic mechanism and toxicological and epidemiological effects well above the resolution power of the studies before we would say that non-thermal exposures can cause significant risk at the ‘beyond a reasonable doubt level’.”

A beyond a reasonable doubt standard is required in criminal proceedings and would be inappropriate in a civil proceeding, where only a “more likely than not” standard is required. We were all reminded of this in the famous OJ Simpson trials.

So, what certainty standard is applicable here? How certain to we have to be of how much risk before we move from the status quo to cheap and expensive measures to reduce smart phone exposures? On page 24 you say “.. retrofitting millions of smart meters with hard wired technology could be difficult and costly. Perhaps more importantly, retrofitting smart meters would not address the significantly greater challenge presented by the billions of mobile phones in use globally.”

This sentence also includes important unstated assumptions:

- a) If other actors are exposing you to harm more intensely than I, then I have no moral duty to remove my less intense harm until he removes his.
- b) It would not be cost beneficial to switch to wired smart meters
- c) It would raise utility rates substantially to switch to wired smart meters.
- d) I have no moral duty to switch to a lower exposure meter, even if the impact on utility bills are minimal.

I provided your staff with a link to the many projects of the California EMF Program at www.ehib.org/emf. In it they would have found our analysis of policy issues with regard to power lines and house wiring and our extensive risk evaluation. In it we assessed the available options and their costs. You made no attempt to do this even in a rough way. Then we examined what the adoption of these options would do to utility rates. You did not do that either. Then we asked how certain we would have to be of how much added lifetime risk of disease before it would be cost beneficial to move to the cheap and expensive options. A certainty well below the “more likely than not” standard would have sufficed to justify cheap options to even a hard hearted utilitarian. We also explicitly carried out a duty ethics analysis of the situation which you did not do. In our risk evaluation we tried to avoid the pitfalls of misleading language, such as using the phrase “no evidence” to stand for “ the evidence doesn’t convince us.” As you know this phrase is much beloved by those who deny human influences on global climate change. Then we avoided expressing exposures as fractions of irrelevant standards as you have done. We avoided expressing our scientific certainty as a dichotomy between “beyond a reasonable doubt” and “not beyond a reasonable doubt” as you effectively have done. This dichotomous formulation has also been avoided in reports on the human effects in

Global Climate Change. Finally we made explicit the rules for weighting various streams of scientific evidence to develop our degree of certainty. You provided neither your factual grounds nor rules of inference for justifying your “no evidence” statement. Expressing smart phone exposures as a fraction of the thermal standard makes it sound small, expressing it as a multiple of the background would make it sound alarming. Your graph was enough.

I said at the beginning that the public officials framed their question in a narrow way and a way that was overly focused on numerical standards as a solution to environmental and occupational hazards. We don't control automobile trauma with a standard, we control it with a technical solution, seat belts, airbags and traffic rules. We don't control the carcinogenic risk from wood dust by a wood dust standard, we mandate dust masks and air vents. I personally don't think we know enough about the exposure metric to set a standard at this time.

The solution to any risks of regulatory concern from PG &E's smart meters could be to switch to wired smart meters now and gradually replace the wireless ones *if the rate payers can live with the impact to their utility bills.*

If the public officials narrowed their questions with the intent of receiving an answer that would take this issue off their radar screen, than you have responded in a narrow way that would serve such a purpose.

This is not the way I would like to see public policy pursued. Unfortunately you are not alone in this pattern of language use, hidden assumptions and making the uncertain seem certain so as to provide cover for policy.

Sincerely yours

Raymond Richard Neutra MD. DrPH