

California Department of Public Health (CDPH) submits the following technical comments on the CCST report, Health Impacts of Radio Frequency from Smart Meters, released January 11, 2011:

- 1) The reassurance that Smart Meters emit radio frequency emfs well below cell phones (see figure 1; page 5 of the report) and therefore should be considered safe, appears to be based upon an incorrect representation of cell phone emf strength that was calculated; not measured. Cell phones emit much lower emfs that are closer to those of the Smart Meters. Our measurements of emissions from many cell phones (directly next to the device) under a variety of weak and strong signal conditions all fall under 80 micro watts per square centimeter; often much lower. Frequently, these cell phone emissions are lower than the 40 micro watts per square centimeter shown for the smart meter at 3 feet.
- 2) The representation of Smart Meter emissions is based upon controlled conditions and not real world conditions. The same figure 1 on page 5 shows minimum and maximum values for a Smart Meter at 3 and 10 feet are the same; suggesting no variability. Our in-the-field measurements show appreciable variability. Also, it is not clear why 3 and 10 feet were chosen for the comparison. It would be useful to determine the percentage of people spending time closer than three feet to the meter and the percentage of their time within that radius.  
The report states on page 4, point 3 under Other Considerations, “The California Public Utilities Commission should consider doing an independent review of the deployment of smart meters to determine if they are installed and operating consistent with the information provided to the consumer.” This is an important finding, and raises doubt about the strong reassurances provided in Key Findings in the absence of independent review of installed meters in the field.
- 3) 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. We offer three citations below as examples of the controversies over non-thermal effects:  
Electromagnetic Fields and DNA Damage: Phillips, J.L.; Singh, N.P.; Lai, H.; Pathophysiology 16(2009) 79-88  
  
Electromagnetic Fields and the Induction of DNA Strand Breaks: Ruiz-Gomez, M.J.; Martinez-Morillo, M.; Electromagnetic Biology and Medicine 28:201-214, 2009  
  
Radiofrequency and Extremely Low-Frequency Electromagnetic Field Effects on the Blood-Brain Barrier: Nittby, H.; Grafstrom, G.; Eberhardt, J.L.; Malmgren, L.; Brun, A.; Persson, B.R.R.; Salford, L.; Electromagnetic Biology and Medicine 27:103-126, 2008

We hope these technical comments will be beneficial to the process of developing sound policy for our energy grid.

Questions may be directed to:

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