

## SMART<sup>1</sup> METER EFFECTS

Dr. Martin Pall, Professor Emeritus in Biochemistry and Molecular and Cell Biology, quickly addressed **three significant documented health effects** from electronic meters.

“Dr. Martin Pall Testimony: Health Effects of Wireless Massachusetts Statehouse 2017” June, 20, 2017, <https://www.youtube.com/watch?v=9qfJyzD4j7c>, 2:43 min. Testimony given during a hearing on Massachusetts Senate Bill 1864: No Fee Opt Out for Smart Meters.

“I’m Martin Pall, I’m Professor Emeritus at Washington State University. I live in Portland Oregon. I’ve been giving talks on EMF effects, one just recently in New Haven [Connecticut] and I’ll be giving two talks shortly in Spain. So, I’ve published six papers on how electromagnetic fields impact the cells of our bodies. So ... my comments are going to be focussed specifically on smart meters. There’re many different health effects that have been extensively documented as being caused by EMFs. Most of them have never been looked at with smart meters, but three of them *have* been, and they’ve all been reported to be occurring at very substantial levels in response to smart meters. And those are: that there’re widespread neuropsychiatric effects; there are cardiac effects on the electrical control of the heart – those are life-threatening because the arrhythmias that occur can be, are often associated with sudden cardiac death; and then finally, there’s electromagnetic hypersensitivity, which has just been referred to.<sup>2</sup> Those three have all been reported to occur in response to smart meters.

Now the smart meters were put out, as are *all* wireless communication devices, without any biological testing whatsoever, safety testing whatsoever. The guarantees of safety that the industry has put forth is based on an assumption that only thermal, that is, only heating effects can occur. And there’s been data from thousands of studies, going all the way back to the 1950s that *that’s not true*, OK, that there are *many* non-thermal\* effects, including the three that I just talked about. So, I think there should be no question that smart meters *have* biological effects. \*[non-thermal = non-x-ray, non-ionizing, non-heating]

Now there’re some other issues here that are important. One is that *pulsed* fields – fields that pulse up and down – are much more biologically active *in most cases* than non-pulsed fields, or continuous wave fields. Smart meters are highly pulsed, and therefore they are problematic for that reason, as well.

And, so, and let me just say, everything I say here will be denied by industry, I guarantee it. This is what the *science* says. Thank you.”

[<sup>1</sup> The generic term, ‘smart meter,’ takes in the range of electronic utility meters that are designed to be able to collect usage data and communicate it via *wireless WiFi*. In his comment, Dr. Pall is referring to electronic communicating/transmitting meters that emit pulsed spikes of wireless WiFi frequencies four or more times per minute 24/7. If you enter the model of an electronic meter, you will find it identified as a member of the given manufacturer’s line or family of ‘smart’ meters: to the manufacturer, they are all ‘smart’ meters.

As regards the health impacts of electronic meters, controversy over nomenclature is of no importance. Even if they don’t emit *overt* wireless radiation *they still constitute both short and long-term health hazards*. This is because all electronic meters generate and dump aberrant ‘noise’ frequencies – known in industry as Dirty Electricity (DE) – onto the indoor circuits and the downstream power supply. These frequencies create electromagnetic fields (EMFs) that are hazardous to humans, animals and plants, and also shorten the life of appliances and electronic equipment. And, though hard to believe, electronic meters are *not* UL-approved and do *not* have surge arrestors or circuit breakers in them to protect circuits, equipment and structures in the event of a incident involving the electronic meter or the utility wires – while our reliable and trusted *non-electronic*, mechanical-analog meters *do* have surge arrestors and *do not need* a circuit breaker. Fires caused by electronic meters are being reported – something which is unheard of with mechanical-analog meters. And it appears that homeowners insurance doesn’t necessarily cover fires caused by electronic meters. Also, our trusty mechanical-analog meters rarely need replacement, unlike electronic meters. Certified and certifiable mechanical-analog meters are cheap and readily available without reliance on ‘major’ manufacturers.

<sup>2</sup>Hear the other testimonies given at this hearing, 14:25 min.: “S.1864 Massachusetts Statehouse Hearing on Smartmeters June 20, 2017.” Environmental Health Trust, <https://www.youtube.com/watch?v=-c-20ymHhXM>. Dr. Pall presents second.]

