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### 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.]

<https://www.eenews.net/stories/1060242741/print>

## SECURITY

### 'Cyber event' disrupted U.S. grid networks — DOE

Blake Sobczak, E&E News reporter

Energywire: Tuesday, April 30, 2019

A Department of Energy report found that an unusual cyber incident interrupted grid operations in the western United States last month. Chris Hunkeler/Flickr.

*This story was updated at 12:20 p.m. EDT.*

A "cyber event" interrupted grid operations in parts of the western United States last month, according to a cryptic report posted by the Department of Energy.

The March 5 incident lasted from 9 a.m. until nearly 7 p.m. but didn't lead to a power outage, based on a brief summary of the **electric disturbance report** filed by the victim utility.

If remote hackers interfered with grid networks in California, Utah and Wyoming, as the DOE filing suggests, the event would be unprecedented. A cyberattack is not known to have ever disrupted the flow of electricity anywhere in the United States, though Russian hackers briefly cut off power to parts of Ukraine in 2015 and again in 2016.

DOE uses a broad definition of "cyber event," describing it as any disruption to an electrical system or grid communication network "caused by unauthorized access" to hardware, software or data. That leaves open the possibility that a utility employee or trespasser, rather than a remote hacker, triggered the March 5 event.

In January 2018, for instance, Michigan utility Consumers Energy filed the same type of DOE notice when an employee in training accidentally caused a blackout for about 15,000 people (**Energywire**, March 8, 2018).

"There was no malicious intent" in that case, a spokeswoman said at the time, and Consumers Energy brought the lights back on within a few hours.

U.S. utilities are required to notify DOE within one hour of any successful cyberattack on their systems. Power companies that fail to file an OE-417 electric disturbance report can be fined up to \$2,500 per day, although DOE has never issued civil or criminal penalties related to the form. The document is supposed to include a high-level overview of the incident, whether it be a hurricane-related outage or a physical attack on the facility. A second, more closely guarded portion of the form contains a detailed summary of actions taken to resolve the incident and "preliminary results from any investigations," per DOE guidelines.

DOE didn't respond to request for comment. A spokesman for the Federal Energy Regulatory Commission, whose analysts routinely access OE-417 data, said "the commission was aware of the situation" but declined to pass on any additional information. A spokeswoman for the Department of Homeland Security's Cybersecurity and Infrastructure Security Agency deferred comment to DOE. A spokeswoman for the North American Electric Reliability Corp., which sets

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and enforces physical and cybersecurity standards under the oversight of FERC, did not respond to a request for comment.

The Western Electricity Coordinating Council, the NERC affiliate responsible for monitoring grid reliability and security across western North America, declined to share additional context.

WECC's events analysis team "confirmed it was a single entity involved," Communications Manager Julie Booth said in an email. "For security purposes, we cannot disclose any further information beyond what has already been made public."

Relatively few organizations would have an electricity service footprint that spans Salt Lake County, Utah; Converse County, Wyo.; and both Los Angeles and Kern counties in California.

Peak Reliability, a Western transmission operator, spans 14 states including Utah, Colorado and California. A spokesperson for that nonprofit reliability coordinator did not immediately respond to a request for comment.

The Western Area Power Administration, one of four federally owned power marketing organizations in the United States, similarly maintains grid assets in those three states. A WAPA spokeswoman said the agency didn't file the report.

Berkshire Hathaway Energy, through its subsidiaries PacifiCorp and BHE Renewables LLC, would also fit the vague description included on the OE-417 form.

A spokeswoman for Berkshire Hathaway Energy said none of the firm's subsidiaries were affected by the event.

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