



22 October 2017

Pennsylvania Public Utilities Commission
400 North Street
Harrisburg, Pennsylvania 17120

Judge Jeffrey Watson
PA PUC Pittsburgh Administrative Law Judge Office
310 Fifth Ave, Suite 220
Piatt Place
Pittsburgh, PA 1222

Re: Case C-2016-2571726

Dear Sirs/Madams:

This is concerning potential adverse health effects associated with exposure to radiofrequency (RF) radiation, specifically that from electronic utility meters. I am a public health physician and former Dean of the School of Public Health at the University at Albany. I have been involved in review and analysis of studies on electromagnetic fields, including radiofrequency fields, for many years. I served as the Executive Secretary to the New York State Powerlines Project in the 1980s, and have published several reviews on the subject. In addition I was invited to present to the recent President's Cancer Panel on the subject of powerline and radiofrequency fields and cancer, and the publication that came from that Panel is attached. I have edited two books on effects of EMFs, including RF radiation. I served as the co-editor of the Bioinitiative Report (www.bioinitiative.org), a comprehensive review of the literature on this subject. The public health chapter from this report was subsequently published in a peer reviewed journal, which is attached. This is a subject which I know well, and one on which I take a public health approach that has as a fundamental principle the need to protect against risk of disease even when one does not have all the information that would be desirable.

There is clear and strong evidence that intensive use of cell phones increases the risk of brain cancer, tumors of the auditory nerve and cancer of the parotid gland, the salivary gland in the cheek by the ear. The evidence for this conclusion is detailed in many publications in the peer-reviewed scientific literature. Most recently the National Toxicology Program reported that chronic exposure of rats to cell phone radiation resulted in the development of the same kinds of brain cancer and auditory nerve tumors (although in this case in the heart not the ear) that are seen in human using cell phones excessively. Electronic meters use similar radiofrequency radiation, in some cases exposing the whole body to levels of radiofrequency radiation similar to cell phones. The difference between a cell phone and an electronic meter environment is that while the cell phone is used only intermittently a smart meter environment is continuous. There is also strong evidence that leukemia rates are increased among people living near to powerful AM radio transmission towers. Because WiFi, radio transmission towers and electronic meters all generate similar RF radiation, my conclusion is that if the whole body is exposed, leukemia is

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the major cancer of concern, while if only the head is exposed as in using a cell phone, one sees increased risk of local cancers, such as brain cancer. There are a variety of other health effects reported as a result of exposure to RF radiation, but in my judgment the increased risk of cancer is both the best documented and the disease of greatest concern.

There have been few careful studies specifically of the health effects of electronic meters to my knowledge, in great part because they haven't been around very long. But they utilize the same type of RF radiation that is used in cell phones. It should be noted that the World Health Organization has declared radiofrequency radiation to be a possible human carcinogen. While it is true that the nature of exposure to RF from electronic meters is not significantly different from that coming from other wireless devices, what is important is cumulative, aggregate exposure. My position is that we should practice "prudent avoidance", which is to say reduce unnecessary exposure to the degree possible until the magnitude of risk is fully understood.

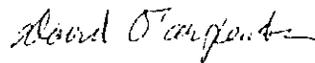
My specific concerns about electronic meters are as follows:

1. The benefit of the electronic meters is entirely to the utilities, and is economic in nature. If they install these meters they can fire those individuals who at present are employed to go around reading meters. Thus this is a job-killing proposal, and will increase unemployment which is already too high.
2. When an electronic meter is installed residents have no choice in the matter or ability to avoid exposure. But every individual has the option to use or not use other personal wireless devices. There is a major difference between an exposure which an individual chooses to accept and one that is forced on individuals who can do nothing about it.
3. Most electronic meters transmit signals to the utility for relatively short periods of time, but generate radiofrequency pulses at frequent intervals all day and night. Thus the device continuously generates RF radiation that will expose anyone nearby 24/7.
4. The evidence for adverse effects of radiofrequency radiation is currently strong and grows stronger with each new study. Analog meters with shielded cable do not increase exposure.
5. The installation of these meters also pose security and privacy concerns as they will allow the utility to monitor individual appliance usage and can be hacked.

As a public health physician with specific expertise in the human effects of radiofrequency radiation, I urge you to require Duquesne Light Company to install analog meters where residents request them. At the very least individuals concerned about their health and the health of their families should be allowed to choose an analog meter. Analog meters have withstood the test of time for safety and are not a source of RF radiation. Installation of electronic meters will adversely affect the health of Pennsylvania residents and will ultimately invite legal action arising from the development of diseases known to be associated with exposure to RF radiation.

Thank you for the opportunity to comment on this important public health concern, and on the general issue of electronic meters. The use of electronic utility meters is unwise from both a public health point of view, which is where my expertise lies, but and also from a purely short and long-term economic point of view.

Yours sincerely,



David O. Carpenter, M.D.
Director
Institute for Health and the Environment
University at Albany

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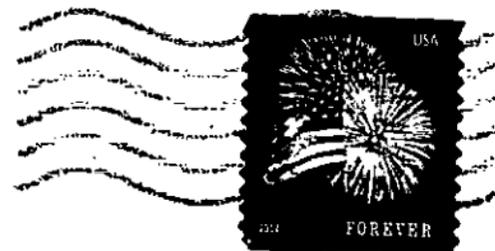
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