

2016-06-22

TO: New York State Public Service Commission

RE: NYSPSC Matter Master: 14:01027 / 14-M-0196

Public Service Commission,

Thank you for the opportunity to provide my comments on the proceeding related to Automated meter Reading Devices. I have been a technical expert in the area of electronic utility gateway systems since 1989, and more recently with national and international smart grid standardization. I was personally involved in the early engineering development and testing of smart meters, and the development of ANSI C.12 standards, now known as Advanced Metering Infrastructure (AMI) during the early 1990s. My credentials are appended to these comments. My comments are as follows:

1. Report by Stop Smart Meters NY (Michele Hertz and Toby Stover)

I have studied the report *An Overview of Smart Meter Hazards* (the *Report*) by Hertz and Stover and find it fully consistent with and in alignment with my research and experience. The Report raises serious issues on a number of fronts and I am of the opinion that the PSC should consider these issues before allowing any further deployment of smart meters in New York State.

The *Report* particularly raises issues related to public health risks from exposure to microwave radiation. This topic is particularly timely due to the recent release of preliminary findings of a U.S. Government-funded, multi-year, peer reviewed study by the National Toxicology Program that found positive evidence of cancer tumors in animals exposed to microwave radiation of the type found in cellular phones and smart meters (Patel, 2016; Knutson, 2016). There are growing concerns about the potential risks to public health created by exposure to pervasive microwave radiation, especially by young children, and about potential learning, and other possible mental impairments or poorly understood influences by electronic media devices on children and adults.

As a result of this research, it is likely that the Federal Communications Commission will have to re-visit the topic of non-thermal effects of radio frequency fields. It is also likely that the World Health Organization will up the classification of cellphone radiation from “possibly carcinogenic” to “likely carcinogenic.” The PSC would be wise to follow the “precautionary principle” for now—as a matter of its public fiduciary responsibility. A copy of the *Report* is attached to these comments.

2. The *Report* raises additional issues about smart meters, including privacy risks, security risks, safety risks, financial risks, and risks related to renewable energy integration. I prepared a comprehensive paper on the general topic of smart grid technology and policy issues titled *Getting Smarter About the Smart Grid*, published in November 2012 by the National Institute for Science, Law and Public Policy. My paper discusses the background on smart meters and explains in detail smart meter networks as they are now being deployed do not help manage electricity in any practical sense. A copy of my paper may be found at <<http://www.gettingsmarteraboutthesmartgrid.org>>.

3. I am of the opinion that the idea that smart meters play an essential role in smart grid has become somewhat of an “urban legend.” It has been promoted by the federal agencies, and utility industry vendors as a substitute for a true smart grid and is actually impeding progress in modernizing the electricity system.

The primary focus of my recent research and engineering has been the implementation of distributed solar-plus-storage in residential and light commercial installations. For the past two years I have been managing a municipal grant-funded *Solar-Plus-Storage Demonstration Project* for the City of Boulder. With my longstanding experience in home and building control and metering systems, I find it particularly vexing that arguments are being made that smart meter networks somehow facilitate the integration of renewable energy into the electricity grid. Such arguments are always mistaken and often self-serving. Sometimes such arguments are put forward by well-intentioned environmentalists that do not fully understand how the electricity grid actually works. The PSC should take a hard look at such arguments and insist that they be defended on a detailed technical basis.

--Tim Schoechle

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References

Knutson, Ryan (2016). “Cellphone-Cancer Link Found in Government Study.” *The Wall Street Journal*. May 28. <<http://www.wsj.com/articles/cellphone-cancer-link-found-in-government-study-1464324146>>

Patel, Prachi (2016). “Cellphone Radiation Linked to Cancer in Major Rat Study.” *IEEE Spectrum*. May 27. <<http://spectrum.ieee.org/the-human-os/biomedical/ethics/cellphone-radiation-causes-cancer-in-rats>>

Schoechle, Timothy (2012). *Getting Smarter About the Smart Grid*. National Institute for Science, Law and Public Policy. November. 56 pages.
<<http://www.gettingsmarteraboutthesmartgrid.org>>.

Attachments

Hertz, Michele and Toby Stover (2016). *An Overview of Smart Meter Hazards*. April 5. 12 pages.
<http://websites.networksolutions.com/share/scrapbook/73/731498/SSMNYHAZ_4.5.16.pdf>

Brief Bio on Dr. Schoechle

Timothy Schoechle, Ph.D.

Dr. Schoechle is an international consultant in computer and communications engineering and in technical standards development. He presently serves as Secretary of ISO/IEC SC25 Working Group 1, the international standards committee for *Home Electronic System* and is a technical co-editor of several new international standards related to the smart grid, including a new project on gateway security and privacy requirements for Internet-of-Things. He also served as Secretariat of ISO/IEC SC32 *Data Management and Interchange*, 2006–2015, and he currently participates in a range of national and international standards bodies related to smart grid technology and policy issues.

As an entrepreneur, Dr. Schoechle has engineered the development of electric utility gateways and energy management systems for over 25 years and has played a major role in the development of international standards for home and building networks and for advanced metering infrastructure (AMI). He is currently an active participant of the *GridWise Architecture Council* (GWAC) hosted by the Pacific Northwest National Laboratories (PNNL), U.S. Department of Energy. He is also an active participant or liaison in several smart grid-related technical committees hosted by the ISO and the IEC including IEC PC-118 (*Smart Grid User Interface*), and IEC TC-57/WG21 (*Power System Control and Associated Communication/Interfaces and protocol profiles relevant to systems connected to the electrical grid*). He participates in the *Smart Grid Interoperability Panel* (SGIP) working groups on *Home-to-grid* (H2G) and *Cybersecurity* (CSWG) working groups, sponsored by NIST/U.S. Department of Commerce. He contributed text on electric vehicles to the NIST Report *NISTIR 7628 Report: Guidelines for Smart Grid Cyber Security* that was revised and published in 2014.

He also participates in several technical working groups sponsored by the Society of Automotive Engineers (SAE) developing standards for vehicle-to-grid communications and electric vehicle charging. During 2012, Dr. Schoechle lead a smart grid SBIR phase II engineering project funded by the U.S. Department of Energy titled, *Developing an Agent-Based Distributed Smart Controller for Plug-in Electric Vehicles and Distributed Energy Resources*. He authored technical papers presented at six consecutive GWAC/Department of Energy-sponsored *Grid-Interop* technical conferences from 2007 through 2012.

Dr. Schoechle is the author of the 2013 published report, *Getting Smarter about the Smart Grid* and was the featured speaker on smart grid policy and renewable energy by the *Commonwealth Club of San Francisco*, January 2014. He is presently the Director and Principle Investigator of the *Solar-plus-storage Demonstration Project* funded by the City of Boulder, in Boulder, Colorado.

Dr. Schoechle is a former faculty member of the University of Colorado College of Engineering and Applied Science. He is considered an expert on the international standards system, the topic of his 2009 book, *Standardization and Digital Enclosure*. He continues to lecture occasionally on electricity grid-related topics in the College of Engineering, Smart Energy graduate program. Dr. Schoechle also serves as a faculty member of Colorado State University (CSU – Global) and developed two online courses during 2013-2014: *ITS460 – Information Security and Ethical Issues* (undergraduate level) and *ISM529 – Emerging Cyber Security Technology, Threats, and Defense* (graduate level).

Dr. Schoechle was a co-founder of BI Incorporated, presently a \$900 million company in Boulder, Colorado, a pioneer developer of RFID technology. He holds an M.S. in telecommunications engineering (1995) and a Ph.D. in communication policy (2004) from the University of Colorado, Boulder.