

## Impact of Wireless Smart Meters on Montgomery Village

### Background

Montgomery Village rightly prides itself on offering a remarkable quality of life for its residents. Sadly, that quality has been substantially degraded in recent months by an increase in microwave radiation. The local electric power company, PEPCO, passed through MV in late 2012 and early 2013, and installed an estimated 12,000 wireless Smart Meters, one on each residence in MV. These Smart Meters are digital watt-hour meters combined with wireless microwave transmitters and receivers. Each Smart Meter transmits pulsed microwave signals with a microwave power output of about 1 watt. So the installed Smart Meters represent about 12,000 watts of microwave transmission capability, embedded intimately in our residential community. The Smart Meters generate and transmit to PEPCO, or its agents, a detailed profile of the electric power consumption of every residence in MV, around the clock, every day of the year, indefinitely. The Smart Meters also communicate with each other, in what is called a mesh network, and forward data along to PEPCO or its agents. Based on a California court document, describing equipment from the same manufacturers used by PEPCO in MV, each Smart Meter transmits an average of 10,000 times per day, and a maximum of 190,000 times per day. For MV's 12,000 Smart Meters, that means an average of 120 million transmissions per day, and a maximum of 2.3 billion transmissions per day.

PEPCO's claimed benefits for Smart Meters can be found at <http://www.pepco.com/energy/blueprint/smetersmd>. PEPCO's main argument for Smart Meters has been that customers can reduce their energy consumption by studying the data that PEPCO collects from their Smart Meters and posts on PEPCO's web site for each customer's account.

### Capabilities

Smart Meters have many capabilities. Smart Meters contain switches that enable PEPCO to turn off the electric power to your home, merely by sending a microwave signal to your Smart Meter. Smart Meters can send microwave signals throughout your home to communicate with emerging Smart Appliances that will have their own microwave transmitters and receivers. Your Smart Meter will identify which Smart Appliances you own, when you use them, and how much power each consumes, around the clock, every day of the year. Smart Meters may even be able to turn these appliances off when so ordered by a wireless signal from PEPCO, but that is less clear at this time. Smart Meters can be reprogrammed remotely by PEPCO to perform additional functions not yet known to the customers, and not subject to their approval.

### Concerns

Wireless Smart Meters give rise to a number of concerns:

## **Health**

Smart Meters are everywhere in MV, and the microwave radiation that each Smart Meter transmits extends far beyond the boundaries of the property on which it is installed. So there is no place in MV where you can go without being exposed to increased microwave radiation generated by Smart Meters. Every room of every home, every crib, every playground, every school, every pool, every walkway, every roadway, every church and synagogue, and every business is subject to an increase in microwave exposure. And this increased exposure is occurring just as the international medical research community is finding that humans are much more sensitive to harm from microwave radiation than earlier understood. That sensitivity extends down to levels easily produced by just one Smart Meter or just one Smart Appliance, for individuals close enough to them, let alone many of them.

Major medical organizations are warning about the adverse impact on human health of the thoughtless expansion of wireless technology. They include the American Academy of Environmental Medicine, composed of medical doctors that address the impact of the environment on health, and the American Academy of Pediatrics, whose 60,000 member doctors care for our children.

Sadly, the FCC's present Maximum Permitted Exposure limits, that govern Smart Meters and other wireless devices, are too high (too permissive) to protect the public. Those FCC limits are based principally on a 1986 analysis, now 27 years old, that predated both most of the microwave devices being regulated, including Smart Meters, and most of the research on the biological effects of microwave radiation. The deficiency of the present limits has been recognized in a bill before the U.S. House of Representatives, H. R. 6358, that would support research toward better founded limits for wireless devices. But the development of more protective limits, if ever undertaken, will take years. In the meantime, the public has been left on its own to endure the consequences. And the pending arrival of Smart Appliances, which will be purchased unwittingly by the public, is going to make the situation much worse.

Smart Meters are too much like a giant uncontrolled medical experiment, in which all of us have been enrolled, without informed consent, or any consent at all.

## **Security**

The power profile, collected by Smart Meters and transmitted throughout the day to the power company or its agents, will be sufficient to determine when you are home, when you are away, when you get up in the morning, and when you go to bed at night, thus decreasing personal security. Also, like all wireless networks, Smart Meters will be susceptible to cyber attack, possibly disrupting the continuity of electrical power to your home and the proper recording of your electricity consumption for billing purposes.

## **Privacy**

In our electrical society, much can be learned about the activities occurring in your home from your electric power profile, since just about every type of electrical device, such as a refrigerator, a television

set, or a computer, has a unique power profile. This identification will become more exacting as the Smart Appliances are put into service. Advertisers may want your profile to determine which appliances you own. Data miners may want your profile for marketing or other purposes. Law enforcement may want your profile for surveillance purposes. And there is currently no law that prevents the sale or transfer of your personal information to anyone.

## **Hidden Costs and Doubtful Benefits**

The State Attorneys General of Illinois, Connecticut, and Michigan have decried the costs of Smart Meters because no commensurate financial benefits to the customers have been convincingly demonstrated.

## **Property Values**

It is early to predict the impact of Smart Meters on an entire community, like MV. But California provides an early indicator. Smart Meters were installed there beginning several years ago, so California is farther along in consideration of the consequences. Since then, 57 counties, cities, and towns in California have opposed mandatory installation of Smart Meters in their jurisdictions. And, a growing number of these jurisdictions, 15 of the 57, have passed ordinances prohibiting Smart Meters altogether. Families looking for a home may prefer to live in a community that has already eliminated Smart Meters, for health or other reasons. This inclination has the potential for depressing property values, and eroding the tax base, in communities that decide to retain Smart Meters. At the same time, this inclination has the potential for increasing property values, and expanding the tax base, in communities that eliminate Smart Meters.

## **What Can Village Residents Do?**

The arrival of Smart Meters has provoked the Maryland public sufficiently that the Maryland Public Service Commission has offered a temporary right for individual homeowners to Opt Out. That is, homeowners may have their Smart Meters removed and replaced with safe, reliable, traditional analog mechanical meters. Unfortunately, most MV residents do not know that they have a Smart Meter, or what risks it entails, or that they have a right to have it removed. So the right to Opt Out will be underutilized by residents, leaving MV exposed to the extra microwave radiation of Smart Meters for the indefinite future. Unfortunately, too, even if all residents willing to study up on Smart meters do Opt Out, there will be so many Smart Meters remaining that microwave radiation levels throughout MV will remain elevated. All of these factors add up to the need for an MV-wide Opt Out. Obtaining that is going to require leadership at both the community level and the MV level.

## **What Can Village Managers Do?**

Study this issue to determine for yourselves the merits of the concerns. If you wish, start with the attached tutorial, *Concerns about Smart Meters*, written in a neighbor-to-neighbor format. That tutorial is followed by several attachments that expand upon information in the tutorial.

Visit and read the materials on the web site <http://MarylandSmartMeterAwareness.org>. This organization is a non-profit, public-spirited group of Maryland volunteers with more than 500 members. They represent many fields, including doctors, scientists, engineers, computer experts, lawyers, and concerned parents broadly. They are not anti-technology; in fact, many of them have spent their careers developing advanced technology. Rather, they recognize an unwise use of technology when they see it. They are working hard to educate Marylanders about the serious consequences of Smart Meters.

Search the Internet for information about Smart Meters. Recognize that the opposition to Smart Meters is nationwide, with half or more of the states now participating. Appreciate the fact that Maryland has provided an Opt Out. (DC and Pennsylvania have not, but one power company in Virginia has voluntarily offered an Opt Out).

If, after your inquiry, you judge that Smart Meters are not good for you or MV, Opt Out yourselves, both to reduce the risks to your families, and to set a good example for other MV residents. Inform MV residents about Smart Meters through an article in the Village News and, better yet, through an upcoming MV-wide mailing; and urge MV residents to Opt Out.

Write the Maryland Public Service Commission to support its temporary Opt Out privilege and to urge an indefinite extension. Contact the Maryland State Senators and Delegates that represent MV, and the members of the Economic Matters Committee of the House of Delegates, in support of HB1038, which is currently before the Committee. If HB1038 becomes law in the 2014 session, HB1038 will make the right to Opt Out permanent, will prevent any fee from being charged to those opting out, and will protect data collected by Smart Meters from being sold to others.

Then address the big task: pursuing an MV-wide response to Smart Meters, to protect our entire community.

## **Closing**

The regrettable decision to install wireless Smart Meters in our community can be reversed by people of good will and determination. But only if we act together and soon. If we do not, we will have to bear the consequences of our inaction for years to come. That would be a tragic and unnecessary outcome.