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AZ CORP COMMISSION
DOCKET CONTROL

November 14, 2012

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Arizona Corporation Commission
Docket Control
1200 W. Washington St.
Phoenix, AZ 85007

Smart Meter docket #E-00000C-11-0328

To Whom It May Concern:

This filing for the Smart Meter docket #E-00000C-11-0328 contains an original filing plus 13 copies and is being filed on behalf of the Safer Utilities Network.

Included in this filing is a comment from the Safer Utilities Network concerning the October 23, 2012 revised Meter Guidelines proposal filed in this docket by Steven Olea, Director, Utilities Division.

Sincerely,

K. Bryan Goodman
LoronaMead, PLC
Attorneys for Safer Utilities Network

Arizona Corporation Commission
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Docket Control
Arizona Corporation Commission
1200 West Washington Street
Phoenix, AZ 85007

Docket No. E-00000C-11-0328 Smart Meters

Comments to proposed Meter Guidelines

On October 23, a revised Meter Guidelines proposal was filed in this docket by Steven Olea, Director, Utilities Division.

We have the following comments:

There are two key points:

1. An opt-out must include all Arizona utility customers, regardless of the metering technology.

2. All opt-out participants must be offered a non-communicating electromechanical meter.

Below are more detailed comments on the proposed guidelines, including scientific references.

The Guidelines must require the availability of non-communicating electro-mechanical meters.

It is essential that an opt-out program includes an option for an electromechanical meter, which does not communicate in any way,

Proposed Guideline #8 allows a utility to use any type of electronic meter with any kind of non-wireless communication as its opt-out. This is insufficient to safeguard the health of the people who need an opt-out the most.

Digital meters include electronics which put transients on the household wiring. The main culprit is the switch-mode power supply, but other components may as well. Transients will radiate wirelessly from the household wires, which can affect people, according to epidemiologist Sam Milham, MD,[1, 2] and scientist Magda Havas, Ph.D[3] A small subset of the population is so profoundly affected that they have debilitating symptoms from such transients.

PLC systems are known to produce transients and unintentional wireless emissions (see next section), and cannot be considered an acceptable opt-out option.

The Guidelines must address wireless emissions from PLC systems.

PLC meters communicate by adding signals to the electrical grid. According to the National Institute of Standards and Testing, such signals may travel widely on a local grid, including from one household to another.[4]

PLC signals turn the electrical grid and household wiring into unintentional wireless antennas. This phenomena is well documented by several governments and public institutions, including the United States Federal Communications Commission,[5] the government of Japan,[6] federal agencies in Austria,[7] Switzerland[8] and Italy,[9] as well as the British Broadcasting Corporation[10] and the NATO military alliance.[11]

The PLC investigation by the Federal Communications Commission (FCC) looked at seven PLC systems in the United States. It found that all seven systems radiated wirelessly, with the radiation coming from the wires themselves.[5]

The FCC investigation found that one of the inspected systems exceeded the FCC radiation limits, while two reached that limit.[5]

The FCC limits are set very high for PLC radiation, well above established limits in other jurisdictions according to comparisons made by NATO[11] and IEEE-affiliated researchers.[12]

Some utilities claim that their PLC systems do not radiate in the radio frequency range. However, people who are hypersensitive to electromagnetic fields can be affected by any frequencies.[13] PLC systems using very low frequencies are thus not necessarily harmless, even though they do not radiate in the radio frequency band.

PLC systems are not considered wireless systems, but they emit wireless signals unintentionally. They are harmful to some individuals and customers with PLC meters should not be excluded from an opt-out as in the proposed Guideline #8.

Federal Communication Commission limits are outdated and not protective of the public health.

The FCC limits are based on an outdated model, which only considers the heating effect in bodily tissues. More than a thousand studies have been produced over the past two decades, which show that there are biological effects at levels well below the FCC limits, according to a compilation by an international group of independent researchers.[14]

The FCC limits are very simple averages which do not distinguish important factors, such as modulation of signals,[15] which are present for both wireless smart meters and PLC meters.

The proposed Guideline #7 is thus not sufficient to protect the public health, especially those most vulnerable.

Submitted on behalf of
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References

(1) *Dirty Electricity: Electrification and the Diseases of Civilization,* Samuel Milham, MD, MPH; Universe, 2010.

(2) *A New Electromagnetic Exposure Metric: High Frequency Voltage Transients Associated with Increased Cancer Incidence in Teachers in a California School,* Samuel Milham and L. Lloyd Morgan, *American Journal of Industrial Medicine,* 51:579-586 (2008).

(3) *Dirty Electricity and Electrical Hypersensitivity: Five Case Studies,* Magda Havas and David Stetzer, World Health Organization on Electrical Hypersensitivity, 2004

(4) http://collaborate.nist.gov/twiki-sggrid/bin/view/SmartGrid/PAP15PLCForLowBitRates#Why_Is_Coexistence_Important. See first paragraph ". . . a user in one apartment or house may interfere with the signals generated in an adjacent house . . .".

(5) Federal Communications Commission, ET Docket 04-39, April 29, 2009.

(6) *Measurements of Harmful Interference in the HF-UHF Bands Caused by Extension of Power Line Communication Bandwidth,* Fuminori Tsuchiya, et al., IVS CRL-TDC News, No. 21, November 2002.

(7) PLC interference: Report about measurements concerning power line communication systems (PLC), and harmful interference caused by PLC in the HF bands 2000 – 30000 kHz, Federal Ministry for Transport, Innovation and Technology (Austria), February 2006.

(8) *Assessment of Radio Disturbance Generated by an Established PLC – Network at the Swiss City of Fribourg,* Krähenbühl and Coray, Swiss Federal Office of Communication.

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(10) *PLT and broadcasting — can they coexist?* (White Paper 099), J.H. Stott, British Broadcasting Corporation, 2004.

(11) *Potential Effects of Broadband Wireline Telecommunications on the HF Spectrum,* Arto Chubukjian, et al., NATO unclassified document RTO-MP-IST-083 (also published in *IEEE Communications Magazine,* November 2008).

(12) *Physical and Regulatory Constraints for Communication over the Power Supply Grid,* Martin Gebhardt, et al., *IEEE Communications Magazine,* May 2003.

(13) *Electromagnetic Field Sensitivity,* William J. Rea, et al., *Journal of Bioelectricity,* 10, 1991.

(14) *BioInitiative Report: A Rationale for a Biologically-based Public Exposure Standard for Electromagnetic Radiation,* David Carpenter, et al., 2007 (www.bioinitiative.org)

(15) *Evidence for Disruption by the Modulating Signal,* Carl Blackman, Section 14 of *BioInitiative Report.*