

ORIGINAL
Antonio Gil

OPEN MEETING AGENDA ITEM

**Generic Smart Meter
Investigation
E-00000C-11-0328**



0000140241

From: Monnie Ramsell <monnie@ramsell.net>
Sent: Tuesday, October 23, 2012 10:07 AM
To: Stump-Web; Burns-Web; Cheryl Fraulob; Gary Pierce; Pierce-Web; Newman-Web; Kennedy-Web; web.bos.district1@co.yavapai.az.us
Cc: Neal Brown; web.bos.district2@co.yavapai.az.us; web.bos.district3@co.yavapai.az.us; CouncilorMartinez@SedonaAZ.gov; Cheryl Fraulob; CouncilorMcIlroy@SedonaAZ.gov; CouncilorWard@SedonaAZ.gov; Elizabeth Kelley; CouncilorLitrell@SedonaAZ.gov; Sedona City Council; CouncilorDiNunzio@SedonaAZ.gov; Mayor Adams@SedonaAZ.gov; CouncilorWilliamson@SedonaAZ.gov; TErnster@SedonaAZ.gov; Nicholas Gioallo; Stephen DeVoi
Subject: Smart Meter exceeds FCC standard AZCC Docket Number: E-00000C-11-0328

RECEIVED

CPUC COMMISSIONER
DOCKET CONTROL

Dear Commissioners,

I am sending my comments regarding the smart meters on Docket Number E-00000C-11-0328

Arizona Corporation Commission

DOCKETED

Date: 10/07/11

Your Name: Monnie Ramsell

Address: 50 Bronco Drive
Sedona AZ 86336

OCT 29 2012

Phone (Home) 928-282-6318

Cell Phone None

Docket Number: 11-0328

DOCKETED BY
IM

Utility name: APS

Email address: monnie@ramsell.net

We need to find out 2 very important facts for the smart meters installed by APS in Arizona. What are our options when the smart meter exceeds FCC's limit of one Watt? Is it still legal to install this meter? A wired option will solve this issue. Second, what is the true peak levels of RF emitted by the meters?

I understand that there may not be any regulation on the upper limit on peak rate but if the any public is harmed by some weapon, at least we all want to find out what kind of weapon.

For the first question. There was a discussion at last September's AZCC meeting about how many watts does a smart meter transmit. Here's what the experts said.

During the Smart Meter Opt-Out Workshop in California dated September 14, 2012 and it was brought to the attention of the Judge that smart meters exceed FCC's limit of one watt. Smart meter vendor representatives later during the same workshop announced that due to the antennae gain which effectively can double the radiated power. Having a 4dB antenna will ramp up transmitting power to 2.5 watts, which exceed the FCC's limit for this unlicensed band by a factor of 2.5. This information is in the official court record.

At the CPUC workshop, David Wilner first brought this issue up at 13:57 mark in Hour 2 of the meeting.

<https://www.youtube.com/watch?v=mdvY79JuSec&feature=relmfu>

Itron representatives confirmed this at 17:20 mark in Hour 5 of the meeting.

<https://www.youtube.com/watch?v=ApBYU8g0FOA&feature=relmfu>

Then Former Canadian Navy Captain and Engineer, Jerry Flynn also explained about the antenna gain in his talk at Westbank on August 20, 2012 at 21:31 mark. He also said that Smart Meters is licensed for only 1 Watt and with a 4dB gain antenna coming out to 2.5 Watts.

<https://www.youtube.com/watch?v=DAD35Zeafzo>

It really seems like the only logical option is to allow wired option for the meter and preferably fiber optics because PLC will make people very sick as the attorney for SnowFlake has brought up.

I found this on the FCC's limit on the antenna gain

<http://apps.fcc.gov/eas/comments/GetPublishedDocument.html?id=100&tn=695609>

Section 15.247 limits the conducted output power to 1 Watt. Therefore, for systems that employ a single transmitter to feed both the vertical and horizontal antenna, the total power may not exceed 1 Watt. Similarly, if separate transmitters are used to feed each antenna element, the aggregate conducted output power may not exceed 1 Watt.

Output Measurements

- Part 15.247 sets limitations on the power of Wi-Fi radio and antenna systems to avoid excessive radio interference with other communication technologies. Equivalent isotropically radiated power, or EIRP, refers to the total power output of the radio and antenna; it is measured in watts. Antenna gain is also covered by the FCC rules. Gain refers to the ability of the antenna to increase power in a particular direction. The measurement is expressed as decibels relative to an isotropic radiator. Experts and the FCC use "dB" and "dBi" to express this decibel level. When dBi increases by three, it doubles signal power.

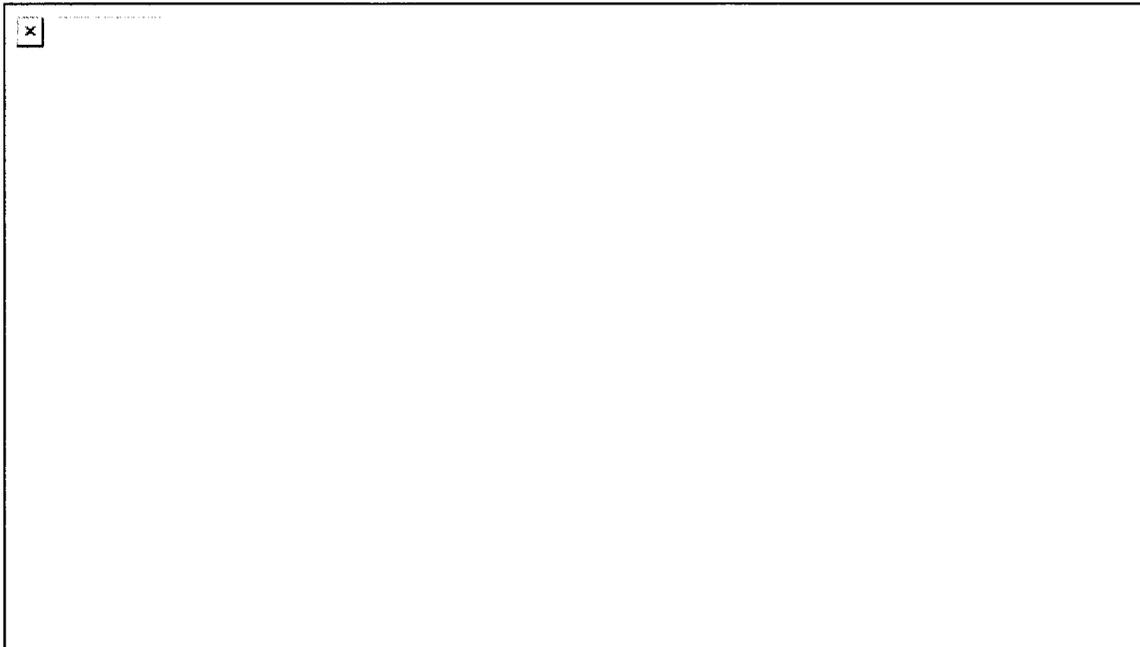
Specific Limitations

- An omni-directional antenna sends signals in all directions. When such a Wi-Fi antenna has less than 6 dB of gain, the legal EIRP limit is one watt. Directional antennas send signals in a particular direction, which typically results in higher gain.

The other information we need to find out from our utility APS is what is the peak levels of the smart meters installed in Arizona. The following example is written up by Amy O'Hair. The chart will show how pulse RF can hide the true peak levels.

<http://stopsmartmeters.org/2012/03/09/a-primer-on-the-fcc-guidelines-for-the-smart-meter-age/>

Time-averaging is how PG&E hides the true peak levels of RF pulses produced by their smart meters. This chart below shows the stark difference between averaged (red) and actual (blue) RF levels measured from a similar smart meter in southern California (chart courtesy EMF&RF Solutions, www.EMFRF.com).



I checked in with

an associate who has a PhD in electrical engineering: how many high peaks could you have, and end up with a low average? We invented an example and calculated the average level using information from the [FCC's own document](#) addressing the matter. A thirty-minute period could contain one hundred (100) 5-millisecond pulses (at 900MHz) (duty cycle=0.02%), each pulse a whopping 100,000 $\mu\text{W}/\text{cm}^2$ each (the big unit), and the averaged level could be calculated to be around 28 $\mu\text{W}/\text{cm}^2$. The device's maker could then claim this constituted only about "5% of FCC limits." **But a person standing in that field would actually be subjected to very high bursts of RF energy**, which have been shown to have biological effects.

This engineer then set out to find what the maximum allowable peak pulse is, according to FCC standards, and particular, **what power density would a smart meter pulse be permitted to peak at?** Although there is a reference to a "guideline" of 4,000 $\mu\text{W}/\text{cm}^2$ as determined by *ANSI/IEEE C95.1-1992* in the [Sage Report](#) discussion on peak power limits, we couldn't find explicit limits stated anywhere else. **Here is a recognized dangerous substance, and there is effectually NO regulation on the upper limit of peak pulses the public is exposed to.**

We really need to find out whether Smart Grid technology violates FCC's limit. The above is just for a single meter not including the emission from the repeater, the cell relay or collector, the 15 average household appliances with the Zigbee antennae. We need to look at the accumulative effect of all of the above plus the cell phone, the wifi router, etc. because we are not having a single smart meter in the middle of the Mohave Desert. If so, the solution for smart grid really should be wired.

Sincerely,

Monnie Ramsell

cc: Sedona City Council; Sedona Mayor Rob Adams; Yavapai County Supervisors; RUCO; Sedona.biz Publisher; Elizabeth Kelley, MHA, Co-Coordinator, Arizonans for Safer Technology

Infrastructure and Director, Electromagnetic Safety Alliance, Inc.
(www.electromagneticsafety.org), Neal Brown, APS

Encl: Jerry Flynn's Bio

I retired from the Canadian Armed Forces, in 1978, with the rank of Captain in the Communications Electronics Engineering Branch, having been promoted up through the ranks. The military education I obtained throughout my 26-plus year career does not lend itself to an easy comparison to a civilian university, but altogether I spent more than four full calendar years (not semesters) in class room study, at various military bases across Canada. I studied virtually every aspect of wireless radio communications, including: radio theory, antenna theory (both transmitting and receiving antennas), the ionosphere and radio propagation, solar storms and solar flares, the electromagnetic frequency spectrum - specializing in the radio frequency spectrum, electromagnetic radiation, cryptography, communications security, radar systems, satellite systems, telephone systems, cable plants, fiber optic cable, power line carrier, coaxial cable, radio warfare, electronic warfare, signals intelligence, radio fingerprinting, computer programming (FORTRAN and PASCAL), etc. I also completed other significant naval officer-level courses, such as both celestial and terrestrial navigation courses, both of which were prerequisites for me in my pursuit of a Bridge Watchkeeping Officer's Certificate, which I was awarded in 1968 - following yet another year-long on-job-training apprenticeship while holding down other full-time officer duties aboard a Canadian destroyer.

Antonio Gill

From: Nancy Baer <redrockclass@msn.com>
Sent: Tuesday, October 23, 2012 11:17 PM
To: Burns-Web; Kennedy-Web; Newman-Web; Pierce-Web; Stump-Web; 'Representative Fann'; 'Representative Pierce'; 'Representative Tobin'; 'Yavapai County Commissioner District 1'; 'Yavapai County Commissioner District 3'; 'Yavapai County District 2 Commissioner'
Subject: DOCKET NO. E-00000C-11-0328 AZ CORPORATION COMMISSION Testimony given to the Texas Senate of Smart Meter Adverse Health Effects on 10/09/12
Attachments: Texas Senate Committee Meeting on Smart Meters.pdf

Dear Representatives and Commissioners:

The following information and the attached document were forwarded to me by Curtis Bennett, Chief Science Officer and Interprovincial Journeyman Electrician/Red Seal. Please make both the attached "Testimony Given to the Texas Senate on Smart Meter Adverse Health Effects" and information contained within the url below part of the record for E--00000C-11-0328 .

Nancy Baer, APS Consumer
245 San Patricio Drive
Sedona, AZ 86336

From: Thermoguy [<mailto:info@thermoguy.com>]
Sent: Monday, October 15, 2012 9:35 PM
To: Nancy Baer
Subject: re: Texas Senate Information For your City Council

Hello Nancy,

I am providing you with the testimony that I provided for the Texas Senate on Smart Meter adverse health effects. It is critically important information for your council considering their acceptance of the California Council on Science and Technology's reporting on safety of the meter program.

The safety of the meters only considered the meters as an end use device and left out the rest of the wireless circuit radiating large geographical areas to communicate with the wireless meters. Furthering that error was negating to consider the electrical properties of biological systems as well as buildings and infrastructure being radiated.

Energy use and massive waste will not be addressed, there are links supporting this in the attached document. Here is our latest blog related to wireless use.

<http://www.thermoguy.com/blog/index.php?itemid=103>

Thanks for the questions related to your community on this important issue, contact the writer with any questions.

Sincerely,

Curtis Bennett
Chief Science Officer
Interprovincial Journeyman Electrician(Red Seal)
Building Construction Engineering Technologist
Adjunct Faculty for 2 Medical Education Organizations
33 Year Advanced Thermography Background

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