

Docket No. E-00000J-14-0023

ORIGINAL



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TEENA JIBILAN
ASSISTANT CHIEF ADMINISTRATIVE LAW JUDGE
ARIZONA CORPORATION COMMISSION (ACC)
1200 West Washington Street
Phoenix, AZ 855007

RECEIVED

2016 APR 14 P 4: 17

IN THE MATTER OF THE COMMISSION'S INVESTIGATION OF VALUE AND COST OF DISTRIBUTED GENERATION

AZ CORP COMMISSION
DOCKET CONTROL

Dear Judge Jibilan,

Thank you for your response to my April 11, 2016 Disability EHS Intervener Request.

I am now informed by staff that I can participate as requested and am informed relative to how I can connect via phone, with your meeting on this Friday, at 10 AM.

When ACC staff informed me that as an intervener I had the right to request an Expert Witness, I asked Elizabeth Kelly, Director of Electromagnetic Safety Alliance, Inc., and a director of the International EMF Scientist Appeal campaign. Elizabeth has been associated with the ACC generic Docket E-00000C-11-0328 since its inception and is an intervener on that docket. She and I both consider it appropriate for generic Docket E-00000C-11-0328 to be linked to dockets that may consider the use of controversial wireless technologies, such as E-00000J-14-0023. It is our guess, based on the December 2014 testimony of Mr. Thomas Mumaw, (*that all AZ public service companies that he knew about, require 'smart meters' for solar customers*), that **solar customers may still be dealing with A.R.S.40-334.Discrimination A and B issues.**

We agree that analog meter compliance with A.R.S.40-361.B is desirable for Arizona patrons, employees and the public. A majority of generic E-00000C-11-0328 public comments favor analog meters.

Elizabeth Kelly accepted to serve as an expert witness and sent me the attached document for submission. Elizabeth Kelly states she can attend a meeting to present at the ACC regarding this matter, on either Thursday, April 21, 2016 or Thursday, April 28, 2016. Elizabeth, who lives in Tucson, requests to be finished by 3 PM on the day selected.

Respectfully submitted,

Patricia C. Ferre

Patricia C. Ferre

Arizona Corporation Commission
DOCKETED

APR 14 2016

DOCKETED BY *AK*

Docket #E-00000J-14-0023

April 7, 2016

Arizona Corporation Commissioners

BOB STUMP

BOB BURNS

TOM FORESE

ANDY TOBIN

DOUG LITTLE

And,

Judge Jibilian, Assistant Administrative Law Judge, ACC

1200 West Washington Street

Phoenix, AZ 85007

DOCKET NO. E-000001-14-0023

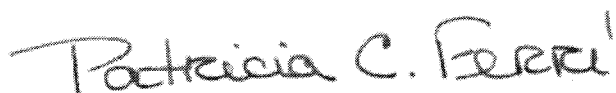
**IN THE MATTER OF THE COMMISSION'S INVESTIGATION OF
VALUE AND COST OF DISTRIBUTED GENERATION**

Notice of Direct Testimony

Dear Commissioners and Judge Jibilian,

I am submitting the direct testimony of Elizabeth A. Kelley, MA.,
Director of Electromagnetic Safety Alliance, Inc., an Arizona State
registered corporation, who also directs the International EMF
Scientist Appeal campaign.

Signed,



Patricia Ferre

Summary of Direct Testimony of Elizabeth Kelley, MA

I am Elizabeth Kelley, Director of Electromagnetic Safety Alliance, Inc, an Arizona State registered corporation. Since 2011, I have testified at hearings before the Arizona Corporation Commission regarding the environmental impacts of electromagnetic fields and radiofrequency radiation (often referred to as "EMF") on human health and the environment.

The AZCC needs to do better to assure greater health protections from electromagnetic fields and radiofrequency radiation in regulating solar panel technologies

I am an intervener in the generic docket on smart meters (Docket #E-00000C-11-0328) and have submitted many scientific studies, reviews and expert statements on this subject to that docket. In that docket are also dozens of filings of scientific studies, reports and expert statements by others. Also there are many anecdotal reports of harm that has been or is being caused by wireless utility meters (AMR and AMI meters) that transmits pulse modulated radiofrequency signals through the air and "dirty electricity" (pulse modulated radiofrequency radiation signals from wired and wireless sources that couple with electrical wiring in buildings.

On December 12, 2014, I brought Dr. Martin Blank, PhD, of Columbia University, to provide expert witness testimony at a hearing before the Arizona Corporation Commission. Dr. Blank is an internationally known expert who has published peer reviewed studies in scientific journals on EMF biological and health effects.

At that hearing, the Arizona State Department of Health Services presented a report it had been commissioned to do by the AZCC on smart metering. They found that, based on its investigation, smart meters were safe. I testified in opposition to this report as there were many errors and omissions in it and it seems to have been politically influenced to favor the electrical utilities that are regulated by the AZCC.

I highly recommend that Docket #E-00000C-11-0328 "Generic Docket for the Investigation of Smart Meters", opened in 2011" be incorporated by reference into Docket E-00000J-11-0023, as it contributes to the current discussion by providing critically important evidence of environmental costs due to DG of solar energy, namely the potential for environmental harm from wireless utility metering from AMI and AMR meters and solar inverters.

One of the stated purposes of evaluating the value and cost of distributed generation was to evaluate environmental benefits. I think that, as shown in Docket E-00000C-11-0328, that there are also environmental costs involved with solar generation.

The utility meters that utilities are mandating be placed on the buildings of all customers who provide DG through solar panels on their rooftops or nearby to their buildings, are capable of causing harm due to the wireless signals transmitted through the air that are used to transmit energy use data to the utility. AMI and AMR meters time-of-use meters are being used for this purpose. Solar customers have two or more meters installed on their buildings to monitor solar panel operations and to report energy usage.

Adverse health effects are being reported by solar customers and their neighbors due to the signal transmissions from these meters. Use of AMI and AMR meters and solar inverters installed by the solar companies needs to be closely reviewed for safety. The Federal government's health agencies, the U.S. Department of Energy and the FCC are not properly exercising its responsibilities to assure EMF emitting technologies are safe under pre and post market conditions. Under Arizona's Revised State Statues, A.R.S.40-361.B, A.R.S.40-321.A, A.R.S.40-202.C.1 and, A.R.S. 44-1522, the Arizona Corporation Commission is responsible for ensuring a safe environment for workers, building occupants and the general population.

Clearly, it is now well known that solar energy generation, including distributed power generation through solar panels installed on individual homes and commercial buildings, reduces the health impacts of fossil fuels. These benefits have been pointed out in many filings to this docket.

- Western Resource Advocates, 2/14/14
- Clean Power recommends that utility ratemaking give consideration to environmental and societal impacts of their generation sources as "these categories absolutely deserve through discussion and consideration, 2/14/14.
- Steven Olea, former Director of AZCC's Utilities Division, pointed to the environmental benefits of reducing society's reliance on fossil fuels, 1/27/14.
- etc....

The opposite perspective was stated by RUCO (AZCC's Residential Utility Consumer's Office) who advised to "keep it simple", in analyzing costs and benefits as "it is hard to quantify national environmental and health benefits" and would "detract from the main objective of this docket."

I disagree whole heartedly with the narrow approach advocated by RUCO. AZCC's RUCO is charged with assisting consumers in Arizona in getting their concerns addressed in dealing with all corporate entities and their services that are regulated by the AZCC.

International EMF Scientist Appeal to the UN and related agencies signed by 200 scientists from 41 nations

I serve as the Director of EMFscientist.org, which is sponsoring a campaign to bring attention to the International EMF Scientist Appeal. This Appeal was initially signed by 190 scientists from 39 nations and was submitted on May 11, 2015 to the leaders of the United Nations, the World Health Organization and the United Nations Environmental Program. Since then, the number of signatures has increased to 220 signators from 41 nations. Each signator that has signed this Appeal qualifies to sign as they have published peer reviewed studies that demonstrate biological and health effects of EMF. I am one of the signators to this Appeal

The Appeal starts by stating that, "We are scientists engaged in the study of biological and health effects of non-ionizing electromagnetic fields (EMF). Based upon peer-reviewed, published research, we have serious concerns regarding the ubiquitous and increasing exposure to

EMF generated by electric and wireless devices. These include—but are not limited to—radiofrequency radiation (RFR) emitting devices, such as cellular and cordless phones and their base stations, Wi-Fi, broadcast antennas, **smart meters**, and baby monitors **as well as electric devices and infra-structures used in the delivery of electricity that generate extremely-low frequency electromagnetic field (ELF EMF)..”**

This Appeal is a powerful public statement by concerned scientists that is being reported worldwide by major media outlets, blogs, health, environmental and consumer groups and in testimony to local, national and international bodies. The concerned scientists who are signing it recognize its significance and the inherent risks of doing so. Nevertheless, they are willing to join in common cause in order to increase public awareness about the large body of scientific research that points to serious EMF risks posed by EMF emitting technologies with the hope and expectation that the knowledge gained as a result would inform the public and lead to more protective policies to guide technological innovation and application that involve electromagnetic fields and radiofrequency radiation transmissions.

The complete Appeal is attached under Appendix A and may be found at www.emfscientist.org.

Sincerely,

Elizabeth A. Kelley, MA
Director, EMFscientist.org
Director, Electromagnetic Safety Alliance, Inc.

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Appendix A

International EMF Scientist Appeal, taken from the EMFscientist.org website:

International EMF Scientist Appeal

To: His Excellency Ban Ki-moon, Secretary-General of the United Nations;

Honorable Dr. Margaret Chan, Director-General of the World Health Organization;

Honorable Achim Steiner, Executive Director of the U.N. Environmental Programme;

U.N. Member Nations

International Appeal

**Scientists call for Protection from Non-ionizing
Electromagnetic Field Exposure**

We are scientists engaged in the study of biological and health effects of non-ionizing electromagnetic fields (EMF). Based upon peer-reviewed, published research, we have serious concerns regarding the ubiquitous and increasing exposure to EMF generated by electric and wireless devices. These include—but are not limited to—radiofrequency radiation (RFR) emitting devices, such as cellular and cordless phones and their base stations, Wi-Fi, broadcast antennas, smart meters, and baby monitors as well as electric devices and infra-structures used in the delivery of electricity that generate extremely-low frequency electromagnetic field (ELF EMF).

Scientific basis for our common concerns

Numerous recent scientific publications have shown that EMF affects living organisms at levels well below most international and national guidelines.

Effects include increased cancer risk, cellular stress, increase in harmful free radicals, genetic damages, structural and functional changes of the reproductive system, learning and memory deficits, neurological disorders, and negative impacts on general well-being in humans. Damage goes well beyond the human race, as there is growing evidence of harmful effects to both plant and animal life.

These findings justify our appeal to the United Nations (UN) and, all member States in the world, to encourage the World Health Organization (WHO) to exert strong leadership in fostering the development of more protective EMF guidelines, encouraging precautionary measures, and educating the public about health risks, particularly risk to children and fetal development. By not taking action, the WHO is failing to fulfill its role as the preeminent international public health agency.

Inadequate non-ionizing EMF international guidelines

The various agencies setting safety standards have failed to impose sufficient guidelines to protect the general public, particularly children who are more vulnerable to the effects of EMF.

The International Commission on Non-Ionizing Radiation Protection (ICNIRP) established in 1998 the "Guidelines For Limiting Exposure To Time-Varying Electric, Magnetic, and Electromagnetic Fields (up to 300 GHz)"^[1]. These guidelines are accepted by the WHO and numerous countries around the world. The WHO is calling for all nations to adopt the ICNIRP guidelines to encourage international harmonization of standards. In 2009, the ICNIRP released a statement saying that it was reaffirming its 1998 guidelines, as in their opinion, the scientific literature published since that time "has provided no evidence of any adverse effects below the basic restrictions and does not necessitate an immediate revision of its guidance on limiting exposure to high frequency electromagnetic fields"^[2]. ICNIRP continues to the present day to make these assertions, in spite of growing scientific evidence to the contrary. It is our opinion that, because the ICNIRP guidelines do not cover

long-term exposure and low-intensity effects, they are insufficient to protect public health.

The WHO adopted the International Agency for Research on Cancer (IARC) classification of extremely low frequency electromagnetic field (ELF EMF) in 2002^[3] and radiofrequency radiation (RFR) in 2011^[4]. This classification states that EMF is a *possible human carcinogen (Group 2B)*. Despite both IARC findings, the WHO continues to maintain that there is insufficient evidence to justify lowering these quantitative exposure limits.

Since there is controversy about a rationale for setting standards to avoid adverse health effects, we recommend that the United Nations Environmental Programme (UNEP) convene and fund an independent multidisciplinary committee to explore the pros and cons of alternatives to current practices that could substantially lower human exposures to RF and ELF fields. The deliberations of this group should be conducted in a transparent and impartial way. Although it is essential that industry be involved and cooperate in this process, industry should not be allowed to bias its processes or conclusions. This group should provide their analysis to the UN and the WHO to guide precautionary action.

Collectively we also request that:

1. children and pregnant women be protected;
2. guidelines and regulatory standards be strengthened;
3. manufacturers be encouraged to develop safer technology;
4. utilities responsible for the generation, transmission, distribution, and monitoring of electricity maintain adequate power quality and ensure proper electrical wiring to minimize harmful ground current;
5. the public be fully informed about the potential health risks from electromagnetic energy and taught harm reduction strategies;
6. medical professionals be educated about the biological effects of electromagnetic energy and be provided training on treatment of patients with electromagnetic sensitivity;

7. governments fund training and research on electromagnetic fields and health that is independent of industry and mandate industry cooperation with researchers;
8. media disclose experts' financial relationships with industry when citing their opinions regarding health and safety aspects of EMF-emitting technologies; and
9. white-zones (radiation-free areas) be established.

- 1) <http://www.icnirp.org/cms/upload/publications/ICNIRPemfgdl.pdf>
- 2) <http://www.icnirp.org/cms/upload/publications/ICNIRPStatementEMF.pdf>
- 3) <http://monographs.iarc.fr/ENG/Monographs/vol80/>
- 4) <http://monographs.iarc.fr/ENG/Monographs/vol102/>

Release date: May 11, 2015

This version's date: October 15, 2015.

All inquiries, including those from qualified scientists who request that their name be added to the Appeal, may be made by contacting Elizabeth Kelley, M.A., Director, EMFscientist.org, at info@EMFscientist.org.

***Note:** the signatories to this appeal have signed as individuals, giving their professional affiliations, but this does not necessarily mean that this represents the views of their employers or the professional organizations they are affiliated with.*

Signatories

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