Dear Kentucky Public Service Commission, President, agents, officers, employees, contractors and interested parties of Ky PSC,

This is a Letter of Public Comment regarding **Case File 2016-00370 and any other Case Files that are associated with Wireless Utility Meters.**

Our state has become aware that Duke Energy, Kinergy, Kentucky Utilities, Kentucky American Water and many other associated Utility Companies and Co-ops as well as the Kentucky Public Service Commission are forcing wireless meters on the public.

It is our responsibility as citizens of the United States to speak out against the abuse of power by both governmental and non-governmental organizations.

Wireless Meters (AMI, AMS, AMR, ERT, Wireless, Smart Meters, and other deceptive names used…) are a source of radiation which have been proven to cause multiple sources of damages to all living things as well as damages to the environment and personal property.

- These wireless meters have been labeled as a Class 2b Carcinogen by the World Health Organization
- "…the exposure to microwave and radiowave radiation from these (smart) meters is involuntary and continuous. The transmitting meters may not even comply with Federal Communications Commission (FCC) "safety" standards (see http://sagereports.com/smart-meter-rf/). **However, those standards were initially designed to protect an average male from tissue heating (cooking) during a brief exposure. These standards were not designed to protect a diverse population from the non-thermal effects of continuous exposure to microwave and radiowave radiation. Therefore, these "safety" standards were not designed to protect the public from health problems under the circumstances which the meters are being used.** The American Academy of Environmental Medicine has called for a moratorium on the installation of transmitting utility meters on the basis that:

"Chronic exposure to wireless radiofrequency radiation is a preventable environmental hazard that is sufficiently well documented to warrant immediate preventative public health action."

- Based on Testimony from Curtis Bennett and many other electricians, Wireless frequencies were tested on a plastic head and the FCC and Safety standards are outdated and focus on thermal RF (i.e. heated tissue). Scientists have identified non-thermal biological effects well below these guidelines and state that these **non-thermal biological effects have serious human health consequences**. Also worth noting: while utilities state that smart meters are "not expected to cause harmful interference" with vital medical equipment, this has not been the experience of individuals living with wireless meters, particularly those with a pacemaker. **Wireless meters were designed based on outdated guidelines and biased research.**

- **The Labeling of Wireless Meters being safe is not only based on outdated guidelines and inappropriate testing procedures, but is biased based on research done within the utilities who are receiving financial gain and funding from the installation of these wireless meters**

- **The Energy Policy Act of 2005, Section 1252, "smart meters", states that electric utilities shall provide such meters to those customers who request them. Therefore, people should have to "opt in". We should not have to "opt out". http://www.gpo.gov/fdsys/pkg/PLAW-109publ58/html/PLAW-109publ58.htm**

- **Fire Fighters, Fire Captains, and Fire Investigators have reported thousands of fires caused by the wireless meters. (These fires have burned down people's homes and killed family members and pets.) (See Cases listed below)**

- **Electricians and Fire Investigators have reported Electrical Shortages caused by the installation of wireless meters. (As evidenced in the Cases listed below)**

- **Researchers, Scientists, and the public have reported the disease and death of trees, shrubs, and wildlife (especially in Urban areas) after the installation of these wireless meters!**

- **Dr. Hardell, Dr. Carpenter, and Dr. Havas state; (Please see attached Letter from them…)**

" We, the undersigned, are scientists and health professionals who together have co-authored many peer-reviewed studies on the health effects of radiofrequency radiation (RFR). We are aware that the Kentucky Public Service Commission is considering a proposed smart meter opt-out fee from Duke Energy. Smart meters, along with other wireless devices, have created significant public health problems caused by the radiofrequency radiation (RFR) they produce, and awareness and reported problems continue to grow. With Duke Energy being America's largest utility provider and, consequently, having the largest potential smart meter implementation reach, it is imperative that the **Kentucky Public Service Commission** be fully aware of the harm that RFR can cause and allow utility customers to opt out of smart meter installation with no penalty."

In short:

• Smart meters operate with much more frequent pulses than do cell phones, increasing the potential for adverse health impacts.

• Smart meter pulses can average 9,600 times a day, and up to 190,000 signals a day. Cell phones only pulse when they are on.

• Cell phone RFR is concentrated, affecting the head or the area where the phone stored, whereas smart meter RFR affects the entire body.

• An individual can choose whether or not to use a cell phone and for what period of time. When smart meters are placed on a home the occupants have no option but to be continuously exposed to RFR.

- **Symptom Surveys collected from individuals after exposure to wireless frequencies show a wide variety of symptoms and ailments which then are corrected once the wireless utility meters are removed!**

- **According to research the frequency from these meters enhances violence and homicides. (See Below and documentation here: http://www.neilcherry.nz/documents/90_s8_EMR_and_Aging_and_violence.pdf)**

- **Switching from analog meters to wireless meters consists of 2-way communications capabilities which violate our privacy and** does not address the critical issues of the core infrastructure of the electricity grid.

- **Wireless Meters have a life expectancy of 3-7 years whereas an analog meter has the life expectancy of 20-30 years.**

- **The cost of paying "meter readers" and providing jobs is much more efficient than all the detrimental consequences associated with the installation of these wireless meters.**

I am asking you to read and review in detail the Complaints and Unbiased Medical Research Documentation previously filed and submitted to you on CD in these Case Files in numerous States:

*Kentucky PSC: Case Files 2012-00428 , 2016-00394, 2016-00187, 2016-00152, 2016-00370

*Ohio PSC : Case File 14-1160-EL-UNC, Case MMAI111315OO

*North Carolina PSC: Case File Docket No. E-7 Sub 1115 (Note: This was originally Case File Docket No. E-100, SUB 141)

*South Carolina PSC: Docket 2017-19-E, Docket No. 2013-59-E , Docket No. 2016-366-E , Docket No. 2016-354-E

*Florida PSC: Case File Docket No. 130223

I am asking you to please protect your citizens and all of us against the damages caused to our health, property and environment in relationship to these radiation frequencies emitted by these Class 2b Carcinogenic Wireless Meters.

In Conclusion I ask the following:

Please Support our Fourth Amendment Rights which state:

The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no warrants shall issue, but upon probable cause, supported by oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.

By Denying All Installations of Wireless Utility Meters and Requiring the Utility Companies to Retain their Safe Analog Meters which protect our Health, our Property, Our Pets, Our Wildlife, Our Environment and our Right to Privacy.

By Removing All Installations of Wireless Utility Meters which have been installed without the publics knowledge or permission.

Be Ethical and take All Precautionary Measures to protect all Citizens from the above documented dangers associated with Class 2b Carcinogenic labeled, wireless, radiation emitting, utility meters.

Give the Public Access to the truth about the dangers of Accumulation of Exposure to wireless frequencies.

Sincerely,

Name: Joseph DAVIDSON

Address, City, and State: 4607 Perry ST Gran, OH

County: USA **Date:** 2/20/17

UNIVERSITY AT ALBANY
State University of New York

Institute for Health and the Environment

WHO Collaborating Center in Environmental Health

3 February 2017

Kentucky Public Service Commission
P.O. Box 615
211 Sower Boulevard
Frankfort, Kentucky 40602-0615

Re: Case files 2012-00428, 2016-00370, 2016-00187, 2016-00152 and all other Utility Company Case Files regarding Wireless Utility Meters (ie., AMI, AMR, AMS, ERT, Wireless, Smart Meters, etc.)

Dear Kentucky Public Service Commission, All Electric, Gas and Water Utility Companies, President, Agents, Officers, Employees, Contractors and Interested Parties:

We, the undersigned, are scientists and health professionals who together have co-authored many peer-reviewed studies on the health effects of radiofrequency radiation (RFR). We are aware that the Kentucky Public Service Commission is considering a proposed smart meter opt-out fee from Duke Energy. Smart meters, along with other wireless devices, have created significant public health problems caused by the radiofrequency radiation (RFR) they produce, and awareness and reported problems continue to grow. With Duke Energy being America's largest utility provider and, consequently, having the largest potential smart meter implementation reach, it is imperative that the Kentucky Public Service Commission be fully aware of the harm that RFR can cause and allow utility customers to opt out of smart meter installation with no penalty.

The majority of the scientific literature related to RFR stems from cell phone studies. There is strong evidence that people who use a cell phone held directly to their ear for more than ten years are at significantly increased risk of developing gliomas of the brain and acoustic neuromas of the auditory nerve. There is also evidence that the risk of developing these cancers is greater in younger than older people. The May 2016 report from the US National Toxicology Program showing that rats exposed to cell phone radiation for nine hours per day over their life-span develop gliomas of the brain and Schwannoma of the heart (the same kind of cancer as acoustic neuroma) adds proof to the conclusions from the human health studies that radiofrequency radiation increases risk of cancer.

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www.albany.edu/ihe

Smart meters and cell phones occupy similar frequency bands of the electromagnetic spectrum, meaning that cell phone research directly applies to smart meter RFR. Smart meter RFR consists of frequent, very intense but very brief pulses throughout the day. Because smart meter exposure over a 24 hour period can be very prolonged (pulses can average 9,600 times a day), and because there is building evidence that the sharp, high intensity pulses are particularly harmful, the cell phone study findings are applicable when discussing adverse health impacts from smart meters.

While the strongest evidence for hazards coming from RFR is for cancer, there is a growing body of evidence that some people develop a condition called electro-hypersensitivity (EHS). These individuals respond to being in the presence of RFR with a variety of symptoms, including headache, fatigue, memory loss, ringing in the ears, "brain fog" and burning, tingling and itchy skin. Some reports indicate that up to three percent of the population may develop these symptoms, and that exposure to smart meters is a trigger for development of EHS.

In short:

- Smart meters operate with much more frequent pulses than do cell phones, increasing the potential for adverse health impacts.
- Smart meter pulses can average 9,600 times a day, and up to 190,000 signals a day. Cell phones only pulse when they are on.
- Cell phone RFR is concentrated, affecting the head or the area where the phone stored, whereas smart meter RFR affects the entire body.
- An individual can choose whether or not to use a cell phone and for what period of time. When smart meters are placed on a home the occupants have no option but to be continuously exposed to RFR.

The Public Service Commission should not be relying on industry representatives for assistance, due to their obvious conflict of interest. Too often they rely on biased research and hold opinions that are not consistent with medical evidence. The symptoms and illnesses experienced from wireless utility meters are related to length and accumulation of exposure and therefore not everyone will exhibit symptoms immediately. In addition, as with many other diseases, not everyone is equally susceptible. There are a number of double-blind studies which clearly show that some people with EHS will develop symptoms when exposure to RFR is studied in a double blinded experimental protocol, in which the subject do not know whether or not the RFR is being applied. These individual are not suffering from a psychosomatic disease, but rather one that is induced by the exposure to RFR. Public health agencies that label these symptoms as being only psychosomatic are ignoring this evidence and are not working to ensure fair treatment of and protection of the public.

The adverse health impacts of low intensity RFR are real, significant and for some people *debilitating*. We want to stress three fundamentals as your agency proceeds to consider a smart meter opt-out:

- The Federal Communication Commission's safety standards do not apply to low intensity RFR.
- There is no safe level of exposure established for RFR.
- People around the world are suffering from low intensity RFR exposure, being at increased risk of developing both cancer and EHS.

Citizens rely on their government agencies for protection from harm. Accordingly, we urge the Kentucky Public Service Commission to reject any fees or tariffs associated with smart meter opt-out and allow citizens to opt out without penalty.

Thank you for your attention and consideration. What you do in this instance affects the lives of many in Kentucky and beyond.

Yours sincerely,

David O. Carpenter, M.D.
Director, Institute for Health and the Environment
University at Albany
Rensselaer, NY 12144

Dr. Lennart Hardell, MD, PhD
Professor
Department of Oncology, University Hospital
Orebro, Sweden

Dr. Magda Havas, BSc, PhD
Environmental & Resource Studies
Trent University
Canada

http://www.magdahavas.com/international-experts-perspective-on-the-health-effects-of-electromagnetic-fields-emf-and-electromagnetic-radiation-emr/

International Experts' Perspective on the Health Effects of Electromagnetic Fields (EMF) and Electromagnetic Radiation (EMR).

June 11, 2011 (updated as of July 2014). Below are some of the key **resolutions, appeals,** and **declarations** released by expert scientific groups around the world since 1998, regarding the **biological and health effects** of both low frequency electromagnetic fields (**EMF**) associated with electricity and radio frequency (**RF**) electromagnetic radiation (**EMR**) generated by wireless devices.

Anyone who reads these cannot be left with the illusion (or delusion) that this form of energy is without adverse biological and health consequences at levels well below existing guidelines. Children are particularly vulnerable. It is irresponsible of governments to maintain the status quo in light of thousands of studies that have been published and statements by these experts.

Here are the resolutions/appeals/reports in reverse chronological order. **Note:** this page is update with new appeals/resolutions as they become available. Last updated July 12, 2014.

22. July, 2014: Canadian Physician's Declaration July 9, 2014.

There is considerable evidence and research from various scientific experts that exposure to microwave radiation from wireless devices; Wi-Fi, smart meters and cell towers can have an adverse impact on human physiological function. Many recent and emerging studies from university departments and scientific sources throughout the world support the assertion that energy from wireless devices may be causatively linked to various health problems including reproductive compromise, developmental impacts, hormonal dysregulation and cancer. In fact, in 2011 the World Health Organization listed microwave radiation as a Class 2B possible carcinogen and subsequent research strengthened the evidence that a stronger designation may be justified.

Physicians Call for Health Canada to Provide:

i) Wireless safety standards that are more protective of the health of Canadians; and

ii) Guidelines and resources to assist Canadian physicians in assessing and managing health problems related to microwave radiation.

To view document with 22 signature click here.

21. July, 2014: International Scientists Declaration July 9, 2014

Scientists call for Protection from Radiofrequency Radiation Exposure.

According to this international group of 53 scientists from 18 countries who do research dealing with electromagnetic fields and/or electromagnetic radiation, Canada's Safety Code 6 Guideline is fundamentally flawed and does not protect people

This expert group urgently calls upon Health Canada . . .

i) to intervene in what we view as an emerging public health crisis;

ii) to establish guidelines based on the best available scientific data including studies on cancer and DNA damage, stress response, cognitive and neurological disorders, impaired reproduction, developmental effects, learning and behavioural problems among children and youth, and the broad range of symptoms classified as EHS; and

iii) To advise Canadians to limit their exposure and especially the exposure of children.

Click here for pdf of this document with signatures as of July 9, 2014.

20. November, 2012: **International Doctors' Appeal 2012** is a 10-year follow-up to the Freiburg Appeal of 2002 (see #5 below). In this appeal, physicians recognize that radio frequency radiation poses a serious health risk and they demand that precaution be exercised to protect public health. Click here for pdf.

19. March, 2012: **Guideline of the Austrian Medical Association for the diagnosis and treatment of EMF related health problems and illnesses (EMF syndrome)** provides information on how to proceed if patients exhibit EMF-related health problems. It includes taking history of health problems and EMF exposure; examination and findings; measurement of EMF exposure; prevention or reduction of EMF exposure; diagnosis; and treatment. Click here for pdf.

18. May 31, 2011: **International Agency for Research on Cancer (IARC) and World Health Organization (WHO)** reclassified radio frequency electromagnetic fields as a Class 2B carcinogen (possibly carcinogen to humans). This applies to all forms of radio frequency radiation (and not just cell phones as some inaccurately claim). Click here for press release. Final report will be published in the July 1st issue of The Lancet Oncology.

17. May 2011: **The Parliamentary Assembly Council of Europe** (PACE) released Resolution 1815 on the *Potential Dangers of Electromagnetic Fields and their effect on the Environment.* This document has some excellent recommendations regarding cell phones, cordless phones, wireless baby monitors, WiFi, WLAN, WiMax, power lines, relay antenna base stations; with special concerns expressed for the protection of children and those who are electrosensitive. Click here for document.

16. May 2011: **Multiple Chemical Sensitivity (MCS) and Electrohypersensitivity (EHS), Summary of meeting at the WHO headquarters Geneva, May 13, 2011.** Click here for report. Some statements from this meeting are quoted below:

We need to include these illnesses [MCS and EHS] in the WHO International Classification of Diseases (ICD), because what makes it more difficult for legal recognition is precisely the lack of code for these diseases in the ICD.

The adverse reactions to chemicals or electromagnetic radiation vary in duration according to each patient, and the manifestations differ too. When the patient is again exposed, symptoms usually worsen or result in the appearance of new symptoms.

The process of these diseases (MCS and EHS) is chronic and the patient's situation is exacerbated if he/she lives in a toxic environment, such as near Tarragona petrochemical industry or subjected to electromagnetic radiation: emissions in the neighborhood, mobile phone antennas , etc. The patient has to avoid re-exposure.

We are facing very high numbers of people already diagnosed . . . between 12% and 15% of the population has some kind of disturbance in the presence of a chemical substance. In the EHS, figures of affected people are between 3 and 6% of the population, but these numbers are growing continuously.

Each country can recognize these diseases and include them in their ICE, independently of WHO, since according to the WHO countries have sovereignty on this issue.

6. We encourage governments to adopt a framework of guidelines for public and occupational EMF exposure that reflect the Precautionary Principle– as some nations have already done.

8. 2005: Helsinki Appeal, Finland. Physicians and researchers presented the Helsinki Appeal to the European Parliament. Click here for document. They state that:

The present safety standards of ICNIRP (International Commission of Non-Ionizing Radiation Protection) do not recognize the biological effects caused by non-ionizing radiation except those induced by the thermal effect. In the light of recent scientific information, the standards recommended by ICNIRP have become obsolete and should be rejected. Especially children and other persons at risk should be taken into account when re-evaluating the limits regarding the harmful effects of electromagnetic fields and radiation. Call for new safety standards, reject International Commission on Non-Ionizing Radiation Protection (ICNIRP) guidelines.

7. 2005: Irish Doctors' Environmental Association (IDEA), **Ireland.** Members of IDEA wrote a position paper on electromagnetic radiation. Doctors recognize electrohypersensitivity (EHS) is increasing and request advice from government on how to treat EHS. Click here for document. Below is a quote from this document.

The Irish Doctors' Environmental Association believes that the Irish Government should urgently review the information currently available internationally on the topic of the thermal and non-thermal effects of exposure to electro-magnetic radiation with a view to immediately initiating appropriate research into the adverse health effects of exposure to all forms of non-ionising radiation in this country, and into the forms of treatment available elsewhere. Before the results of this research are available, an epidemiological database should be initiated of individuals suffering from symptoms thought to be related to exposure to non-ionising radiation. Those claiming to be suffering from the effects of exposure to electro-magnetic radiation should have their claims investigated in a sensitive and thorough way, and appropriate treatment provided by the State.

The strictest possible safety regulations should be established for the installation of masts and transmitters, and for the acceptable levels of potential exposure of individuals to electro-magnetic radiation.

6. 2002. Catania Resolution, Italy. This resolution was signed by scientists at the international conference "State of the Research on Electromagnetic Fields-Scientific and Legal Issues". Click here for resolution. Three of their statements are provided below:

1. Epidemiological and in vivo and in vitro experimental evidence demonstrates the existence of electromagnetic field (EMF) induced effects, some of which can be adverse to health.

4. The weight of evidence calls for preventive strategies based on the precautionary principle. At times the precautionary principle may involve prudent avoidance and prudent use.

5. We are aware that there are gaps in knowledge on biological and physical effects, and health risks related to EMF, which require additional independent research.

5. 2002 : Freiburg Appeal, Germany. Physicians request tougher guidelines for radio frequency exposure. This document was endorsed by thousands of healthcare practitioners. Click here for pdf. Below is a quote from this report.

We have observed, in recent years, a dramatic rise in severe and chronic diseases among our patients, especially:

- *Learning, concentration, and behavioural disorders (e.g. attention deficit disorder, ADD)*
- *Extreme fluctuations in blood pressure, ever harder to influence with medications*
- *Heart rhythm disorders*
- *Heart attacks and strokes among an increasingly younger population*
- *Brain-degenerative diseases (e.g. Alzheimer–s) and epilepsy*
- *Cancerous afflictions: leukemia, brain tumors*

Moreover, we have observed an ever-increasing occurrence of various disorders, often misdiagnosed in patients as psychosomatic:

- *Headaches, migraines*
- *Chronic exhaustion*
- *Inner agitation*
- *Sleeplessness; daytime sleepiness*
- *Tinnitus*
- *Susceptibility to infection*
- *Nervous and connective tissue pains, for which the usual causes do not explain even the most conspicuous symptoms*

Since the living environment and lifestyles of our patients are familiar to us, we can see especially after carefully-directed inquiry a clear temporal and spatial correlation between the appearance of disease and exposure to pulsed high - frequency microwave radiation (HFMR), such as:

- *Installation of a mobile telephone sending station in the near vicinity*
- *Intensive mobile telephone use*
- *Installation of a digital cordless (DECT) telephone at home or in the neighbourhood*

We can no longer believe this to be purely coincidence, for:

- *Too often do we observe a marked concentration of particular illnesses in correspondingly HFMR-polluted areas or apartments;*
- *Too often does a long-term disease or affliction improve or disappear in a relatively short time after reduction or elimination of HFMR pollution in the patient's environment;*
- *Too often are our observations confirmed by on-site measurements of HFMR of unusual intensity.*

4. 2002: Salzburg Resolution, Austria. The *Salzburg Resolution on Mobile Telecommunication Base Stations* makes four recommendations including preliminary guidelines 0f 0.1 microW/cm2 for sum of all emissions from mobile phone stations. This is well below the current ICNIRP guidelines and those in Canada and the US (1000 microW/cm2) and is slightly lower than guidelines in Switzerland, Italy, Russia, China (10 mciroW/cm2). Click here for document.

3. 2000: Stewart Report, UK. The Independent Expert Group on Mobile Phones (IEGMP) produced a report, *Mobile Phones and Health,* that is commonly referred to as the Stewart Report, named after its Chairman Sir William Stewart. Click here for pdf. A quote from the foreward shows how much our understanding of this issue has changed since 2000.

The report points out that the balance of evidence does not suggest mobile phone technologies put the health of the general population of the UK at risk. There is some preliminary evidence that outputs from mobile phone technologies may cause, in some cases, subtle biological effects, although, importantly, these do not necessarily mean that health is affected. There is also evidence that in some cases people's well-being may be adversely affected by the insensitive siting of base stations. New mechanisms need to be set in place to prevent that happening.

The report goes on to state that:

1.17. The balance of evidence to date suggests that exposures to RF radiation below NRPB and ICNIRP guidelines do not cause adverse health effects to the general population.

1.18 There is now scientific evidence, however, which suggests that there may be biological effects occurring at exposures below these guidelines . . .

1.19 . . . We conclude therefore that it is not possible at present to say that exposure to RF radiation, even at levels below national guidelines, is totally without potential adverse health effects, and that the gaps in knowledge are sufficient to justify a precautionary approach.

15. April 2011: The **Russian National Committee on Non-Ionizing Radiation Protection** (RNCNIRP) released their Resolution entitled "*Electromagnetic fields from Mobile Phones: Health Effect on Children and Teenagers*". *Click* here for report.

The Committee presents some startling statistics [references provided in original document].

In April 2008, the RNCNIRP reviewed the short-term and long-term effects of mobile phone use for children. In particular, it reviewed possible decrease of intellectual abilities and cognition together with possible increases in susceptibility to epileptic fits, "acquired dementia" and degeneration of cerebral nervous structures. The results of clinical studies have shown that chronic exposure to RF EMF may lead to borderline psychosomatic disorders. In 2010, a number of papers published in Russian and foreign peer-reviewed journals showed a response to RF EMF exposure from the immune system.

. . . since 2000 there has been a steady growth in the incidence of childhood diseases identified by RNCNIRP as "possible diseases" from mobile phone use. Of particular concern is the morbidity increase among young people aged 15 to 19 years (it is very likely that most of them are mobile phone users for a long period of time). Compared to 2009, the number of CNS [central nervous system] disorders among 15 to 17 year-old has grown by 85%, the number of individuals with epilepsy or epileptic syndrome has grown by 36%, the number of "mental retardation" cases has grown by 11%, and the number of blood disorders and immune status disorders has grown by 82%. In group of children aged less than 14 years there was a 64% growth in the number of blood disorders and immune status disorders, and 58% growth in nervous disorders. The number of patients aged 15 to 17 years old having consultations and treatment due to CNS disorders has grown by 72%.

Because of this the RNCNIRP considers it important to conduct a scientific study to determine whether the growth in morbidity resulted from EMF exposure from mobile phone use or whether it was caused by other factors.

14. 2010: **Seletun Statement, Norway: The International Electromagnetic Field Alliance** (IEMFA) released their report entitled *Scientific Panel on Electromagnetic Field Health Risks: Consensus Points, Recommendations, and Rationales* following a scientific meeting at Seletun Norway November 2009. The summary/abstract is provided below. Click here for publication. Click here for report and short video of Dr. Olle Johansson.

Summary: *In November, 2009, a scientific panel met in Seletun, Norway, for three days of intensive discussion on existing scientific evidence and public health implications of the unprecedented global exposures to artificial electromagnetic fields (EMF). EMF exposures (static to 300 GHz) result from the use of electric power and from wireless telecommunications technologies for voice and data transmission, energy, security, military and radar use in weather and transportation. The Scientific Panel recognizes that the body of evidence on EMF requires a new approach to protection of public health; the growth and development of the fetus, and of children; and argues for strong preventative actions. New, biologically-based public exposure standards are urgently needed to protect public health worldwide.*

Conclusions in this report build upon prior scientific and public health reports and resolutions documenting the following consensus points:

a) Low-intensity (non-thermal) bioeffects and adverse health effects are demonstrated at levels significantly below existing exposure standards.

b) ICNIRP and IEEE/FCC public safety limits are inadequate and obsolete with respect to prolonged, low-intensity exposures.

c) New, biologically-based public exposure standards are urgently needed to protect public health world-wide.

d) It is not in the public interest to wait.

13. 2009: **EU Parliament Electromagnetic Report and Resolution** entitled: *European Parliament Resolution on health concerns associated with electromagnetic fields,* was adopted February 17, 2009 with 29 recommendations. Click here for report.

12. 2009: **Porto Alegre Resolution, Brazil.** Scientists and doctors recognize electrohypersensitivity and are concerned that exposure to electromagnetic fields may increase the risk of cancer and chronic diseases; that exposure levels established by international agencies (IEEE, ICNIRP, ICES) are obsolete; and that wireless technology places at risk the health of children, teens, pregnant women and others who are vulnerable. Click here for document.

11. 2008: **Venice Resolution, Italy.** International Commission for Electromagnetic Safety (ICEMS) Scientists recognize biological effects at non-thermal levels, that standards are inadequate, that electro-sensitivity exists and that there is a need to research mechanisms. Click here for Venice Resolution.

Three key statements are provided below:

We take exception to the claim of the wireless communication industry that there is no credible scientific evidence to conclude there a risk. Recent epidemiological evidence is stronger than before, which is a further reason to justify precautions be taken to lower exposure standards in accordance with the Precautionary Principle.

We recognize the growing public health problem known as electrohypersensitivity; that this adverse health condition can be quite disabling; and, that this condition requires further urgent investigation and recognition.

We strongly advise limited use of cell phones, and other similar devices, by young children and teenagers, and we call upon governments to apply the Precautionary Principle as an interim measure while more biologically relevant standards are developed to protect against, not only the absorption of electromagnetic energy by the head, but also adverse effects of the signals on biochemistry, physiology and electrical biorhythms.

10. 2007: **BioInitiative Report, USA.** In response to statements that there are no scientific studies showing adverse biological effects of low level electromagnetic fields and radio frequency radiation, a group of researchers produced the BioInitiative Report that documents 2000 studies showing biological effects of extremely low frequency (ELF) electromagnetic fields and radio frequency (RF) radiation and calling for biologically based exposure guidelines. This document was criticized for not having been peer-reviewed even though most of the studies cited in this document were peer-reviewed. Click here for pdf.

Since then some of the BioInitiative papers as well as ones by other authors have appeared in a special issue of the peer-reviewd journal Pathophysiology (Volume 16 Issues 2-3, 2009). The papers in this journal document EMF effects on DNA, EMF effects on the brain, EMF in the environment, and science as a guide to public policy. Click here for abstracts.

9. 2006: **Benevento Resolution, Italy.** The International Commission for Electromagnetic Safety (ICEMS) organized a conference entitled: *The Precautionary EMF Approach: Rationale, Legislation and Implementation.* Scientists at this conference signed the Benevento Resolution (click here for pdf) that consists of 7 major statements. Among those statements are the following:

1. . . . there are adverse health effects from occupational and public exposures to electric, magnetic and electromagnetic fields, or EMF, at current exposure levels. What is needed, but not yet realized, is a comprehensive, independent and transparent examination of the evidence pointing to this emerging, potential public health issue.

4. Arguments that weak (low intensity) EMF cannot affect biological systems do not represent the current spectrum of scientific opinion.

1.20 In the light of the above considerations we recommend that a precautionary approach to the use of mobile phone technologies be adopted until much more detailed and scientifically robust information on any health effects becomes available.

2. 1998: **Vienna EMF Resolution, Austria.** At a *Workshop on Possible Biological and Health Effects of RF Electromagnetic Fields*, the scientists agreed on the following:

The participants agreed that biological effects from low-intensity exposures are scientifically established. However, the current state of scientific consensus is inadequate to derive reliable exposure standards. The existing evidence demands an increase in the research efforts on the possible health impact and on an adequate exposure and dose asses.

Base stations: How could satisfactory Public Participation be ensured?

The public should be given timely participation in the process. This should include information on technical and exposure data as well as information on the status of the health debate. Public participation in the decision (limits, siting, etc.) should be enabled.

Cellular phones: How could the situation of the users be improved?

Technical data should be made available to the users to allow comparison with respect to EMF-exposure. In order to promote prudent usage, sufficient information on the health debate should be provided. This procedure should offer opportunities for the users to manage reduction in EMF-exposure. In addition, this process could stimulate further developmentlow-intensity emission devices

Regarding legal aspects . . .

there is protection deficit in the public and private laws which is unsatisfactory. The legislator is requested to solve the conflict of interests between the industries commission on one side and the neighbours involvement and their interests on protection of life and health on the other side. Because of the constitutionally determined objectives of the state to comprehensively protect the environment, there is a demand of acting precautionary on the polititcal and legal level.

The Vienna declaration on electromagnetic fields recommended 13 detailed action items for parliament to consider. Click here to read those items and to download pdf.

1. 1997: **Boston Physicians' and Scientists' Petition.** We the undersigned physicians and scientists call upon public health officials to intervene to halt the initiation of communication transmissions employing ground level, horizontally transmitted, pulsed microwaves in Boston. This form of transmission is scheduled to begin June, 1997, by the Sprint Corporation for personal communications systems (PCS). Given the biological plausibility of negative health impacts, particularly to the human nervous system, as well as anecdotal evidence of illness and death from such exposures in cities where transmission has already been implemented, and voluminous medical studies indicating human and ecological harm from microwaves, we urge the suspension of that implementation pending full public notification of its potential hazards and the full review and determination of its safety by the scientific community.

With 97 signatures sent to ENHALE (Environmental Health Advocacy League], Box 425 Concord MA, 01742.

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Based on these resolutions and appeals from international groups of physicians and scientists immediate action is required to protect public health from continued increasing exposure to radio frequency radiation and electromagnetic fields.

I call on . . .

1. ***regulators*** *around the world to reexamine existing guidelines for both EMF and EMR and to reduce them to the lowest possible levels to protect the public and workers. Values above 4 milliGauss (low frequency magnetic fields); above 0.1 microW/cm2 (power density for radio frequency radiation) and above 40 GS units (dirty electricity) have been associated with adverse health effects in peer reviewed scientific publications!*
2. ***government agencies*** *responsibility for the location of both base stations and power lines to keep distances at least 400 meters (base stations) and 100 meters (transmission lines) from residential properties as well as school and health care facilities.*
3. ***utilities*** *(water, gas, electricity) to reconsider the use of wireless smart meters and provide wired options for those who are sensitive, for those who do not want to be exposed, and for those in densely populated settings.*
4. ***manufacturers*** *who are providing technology that uses electricity and/or emits radio frequency radiation to re-engineer their products to provide the minimum radiation possible. This includes light bulbs, computers, wireless home devices like baby monitors and cordless phones, cell phones, smart meters, plasma TVs, among others.*
5. ***architects, builders, electricians,*** *and* ***plumbers*** *to design and construct buildings that are based on principles of good electromagnetic hygiene. This includes using materials that absorb or shield building interiors from microwave radiation especially near external sources of this radiation and in multi-unit buildings; to provide wired alternatives to wireless devices; to properly wire and ground buildings to minimize low frequency electromagnetic fields and to eliminate ground current problems; and to install filters on electrical panels and/or throughout the building to ensure good power quality.*
6. *local, state, federal* ***health authorities*** *to educate medical professions about the potential biological effects of both low frequency and radio frequency electromagnetic energy; about the growing number of people who have electrosensitivity (ES) or electrohypersensitivity (EHS) and to alert them on how they can help their patients in terms of minimizing their exposure and promoting their recovery.*
7. ***hospitals*** *and*
8. ***school boards*** *should choose wired internet access over WiFi (wireless technology) and not allow towers/antennas within 400 meters of their school property.*
9. ***parents*** *to practice good electromagnetic hygiene especially in the bedroom and especially for their children. This involves using wired rather than wireless devices in the home, keeping electric appliances away from the bed, turning off/unplugging devices when not in use.*
10. *the* ***media*** *to provide information to the public about the health and safety of using this technology; to rely on "independent experts" who do not receive funding or other benefits based on the outcome of research studies; and to identify experts funded by the industry as "industry representatives". The integrity of many of these scientists leaves much to be desired.*

Dr. Magda Havas