FCC 12-152

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Notice of Proposed Rulemaking	)	
18 FCC Rcd 13187, 13188 ¶ 1 (2003)	)	ET Docket No. 03-137
	)	
And	)	
	)	
Reassessment of Federal Communications	)	ET Docket No. 13-84
Commission Radiofrequency Exposure Limits	)	
and Policies	)	
	)	
And	)	
	)	
Service Rules for the Advanced Wireless Services	)	WT Docket No. 12-357
H Block---Implementing Section 6401 of the	)	
Middle Class Tax Relief and Job Creation Act of		)
2012 Related to the 1915-1920 MHz and	)	
1995-2000 MHz Bands ¶53 footnote 95	)	

To: Office of the Secretary
Federal Communications Commission
Washington, D.C. 20554

Comment Filed by: Heidi M. Lumpkin
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208-263-1080

August 24, 2013

AFFIDAVIT OF Heidi M. Lumpkin

I, Heidi M. Lumpkin, attest that my statements are true to the best of my knowledge.

Comment round for ET Docket No. 03-137, ET Docket No. 03-84, and WT Docket NO. 12-357.

1. My name is Heidi M. Lumpkin.
2. My mailing address is 384 Tamarack Lane, Sagle, ID 83860.

3. I am an International Regulatory Compliance Specialist and Clinical Study Coordinator. I have a Bachelor of Science degree.

4. Comment on FR page 33660, column 1, II. Notice of Inquiry, paragraph 47: The Federal Communication Commission's general regulations and policies limiting human exposure to radiofrequency (RF) radiation are completely inappropriate as to be ineffective and irrelevant. I adamantly and urgently request that the FCC adopt **more restrictive limits** to the amount of RF exposure allowed due to the extremely harmful biological effects induced by these frequencies.
Until realistic safe limits are established , I request that the FCC impose a moratorium on the installation and operation of all wireless RF communication systems associated with cellular telephone fixed antenna arrays, utility meters operating using wireless radiofrequency antennas, wireless local area networks deployed in public schools, Power Line Communication systems and associated equipment. I am basing my request on personal experience as well as published peer-reviewed scientific studies indicating wireless RF radiation is biologically active and is harmful to biological life.

5. Personal Experience: In November of 2007 I purchased my first home in Sagle, ID. It is located in a rural setting on 5 acres, approximately 8 miles from town. I chose this location because it was peaceful, there was an abundance of wildlife and resident and migratory birds, and it provided a safe place for my son to live during childhood, a period of life when humans are particularly vulnerable to exposures of environmental toxins. It was important to me to live in an area where the environment (air and water) was relatively free of harmful contaminants so as to be able to provide my son (7 years old at the time) and myself (age 50) with a lifestyle that promoted good health. For the first 2 ½ years my son and I very much enjoyed living in our home. Our health was very good. We spent much time outdoors in our community as well as throughout Bonner County where we are able to ski, kayak, hike, and fish. This all changed 3 years ago in late 2009, early 2010. Since the installation of a digital RF emitting electric meter on my home (without my knowledge or consent) and the Power Line Communication system that it communicates with, I have experienced the following health problems – constant low frequency humming and vibration inside my home as well as outside attributable to acoustic shock, anxiety and feelings of mild panic, sleep deprivation, heart arrhythmias and sudden heart racing, debilitating fatigue, short term memory deficits, concentration difficulties, rapid mood swings, severe abdominal pain lasting 6

hours and more. My son has also experienced unexplained headaches and alarming neurological paresthesia unilaterally and bilaterally as well as severe abdominal pain without any evidence of viral or bacterial infection. Our adverse symptom onset coincided with the rollout of the Smart Grid in Idaho and the proliferation of the wireless RF infrastructure that supports it, the initiation of Broadband over Power Line wireless internet services, and the proliferation of WiFi. My son and I have both undergone full health evaluations. I had a wellness checkup and full cardiac evaluation and no underlying disease was found that could account for my symptoms. My son underwent a full pediatric neurological evaluation with a CAT scan ordered by our local hospital and an MRI ordered by a pediatric neurologist in Spokane, WA. No sign of underlying disease was found that could account for his symptoms. The adverse health events continue, 3 years later. I now have full blown electromagnetic hypersensitivity (EHS). I cannot live comfortably in my home any longer. I have not had an uninterrupted night of sleep for 3 years and most nights I cannot sleep at all. I cannot be out in the local environment for very long due to the emissions of RF radiation coming from the unshielded power lines and from the multitude of antenna arrays in my town. I cannot attend Sunday mass at St. Joseph Catholic church due to the RF antennas next door that now also permeate the chapel causing nausea and mental distress. My quality of life has plummeted and I am desperate to find some relief and yet there is no place one can go to remove themselves from these wireless radiofrequencies. I experience nausea, anxiety, irritability, and severe fatigue when I am in close proximity to wireless transmitters. I cannot sit comfortably in any business that has WiFi, including my place of work. Even businesses that do not have this service are affected by the public and private owners of WiFi routers in their proximity as the WiFi signals transmit through walls and trees and seem to now be ubiquitous in the environment. I have no wireless technology in my home, no cordless phone and a hard wired internet connection and yet I am tormented by the same symptoms that I experience while in town where the density of wireless devices and fixed antennas is much greater. I attribute this to the Power Line Communications system that is utilizing the existing power line electricity infrastructure for distributing RF data signals. The electric power line cable is not designed to carry a RF microwave signal and as such it “leaks” out of the cables and into the environment. This is occurring over 1,000s of miles of electric power lines, it is not localized. In fact, due to the distances between homes in rural areas like my county, these data signals need to be injected into the power lines at very high intensities in order to travel the many miles to the homes connected in the grid. Every obstacle along the power line acts as an impedance and the signal needs to be collected and concentrated and re-injected into the power line at greater intensities. At every junction and turn in the line, the signals break out. You can hear it and you can feel it as you travel along the power lines.

I have visibly aged beyond my years and consider myself in very poor health now. All of this has occurred in the absence of any kind of public disclosure or discussion with respect to wireless RF transmissions that the FCC is sanctioning. I have had to find information on my own to explain the source of my adverse health symptoms. This has been extremely difficult and time-consuming. Countless support groups have been initiated across the U.S. and abroad to help people understand this technology and the adverse health effects it causes. One such group led me to a man named Victor Nixon. He was a decorated British Special Air Services soldier, a mechanical engineer and a

computer systems analyst. He had emigrated to the U.S. and was a resident of Pittsburgh, PA. In 2009, he had began suffering the same debilitating health effects after the rollout of the Smart Grid in his community – severe abdominal pain, insomnia, low and high frequency sounds around the clock, mood swings, sciatic pain, vision disturbances, loss of appetite, muscle atrophy, etc. Due to his training and expertise he was able to identify the sources of his "noises" as emanating from the power lines which were emitting, not electric fields, but RF/Microwave emissions, and from the digital RF meter installed at the apartment complex where he lived. He documented his findings, and filed complaints with the PA Public Utility Commission. His complaints were dismissed, in his estimation improperly (see attachment of Correspondence from Victor Nixon to Pa Public Utility Commission Secretary Rosemary Chiavetta as evidence of filing). Victor was also working to assist anyone in the U.S. and abroad that was having similar experiences (see Comments filed by Bonnie Mensch, Sandra Chianfoni, John Weigel, Dimitris Panagopoulos, Olle Johansson, Marina Sauco-Helfst). I and others in the U.S. and elsewhere, have been assisted by him with understanding this very complicated technology and with filing complaints with our respective Public Utility Commissions and other international health agencies.

In 2012, after receiving no redress with the PaPUC, Victor Nixon filed a complaint with the U.S. Department of Justice alleging that his, and all American's, civil rights were being violated by the unregulated deployment of RF communication systems. The Department of Justice Correspondence Unit, Civil Rights Division, responded to his initial letter asking for additional information so as to be able to determine whether a violation of a federal civil rights statute is involved (see letter from Dept. of Justice as evidence of correspondence). Victor Nixon complied and sent additional data to the Department of Justice in August of 2012. By this time his health was severely deteriorated; in fact, he knew he was dying. He moved to Sagle, Idaho two days after he mailed his Certified Letter to the Department of Justice in order to be with me and my son in an environment that he hoped would allow him to recover his health. He and I had become engaged in May 2012 and were to be married in October 2012. After he arrived in Idaho he started experiencing the same heart arrhythmias that I had been experiencing but for him they were more acute. On September 17, 2013 Victor Nixon died of sudden cardiac arrest at my mother's cabin in Sandpoint, ID – 24 days after he arrived. I found him after I came home from work that evening. The police were called and asked what I thought had caused his death. I explained his troubles with RF radiation. The county coroner ruled his death under investigation as a result. An autopsy was performed and cause of death listed as myocardial infarction – (proving exposure to RF radiation and attributing adverse health effects and death to this exposure is not something that our current medical community is trained to investigate). His complaint to the Department of Justice, mailed in August 2012, has not been acted upon. Any correspondence that was sent to Victor's former address in Pittsburgh has been lost. It would be my hope however that the FCC initiate a conversation with the Department of Justice Civil Rights Division regarding Victor Nixon's complaint as this might be used as a basis to initiate an investigation into the legality of subjecting residents of the United States to involuntary exposure to RF radiation.

6. Selection of Scientific studies, letters, and reports that support the supposition that RF radiation is a severe human health hazard and, as such, calls for a severe restriction in allowable RF radiation limits if not full product recall of wireless communications systems. (All supporting evidence is submitted in full-text as attachments to this Comment).

A. Letter to the Los Angeles Unified School District from Dr. Martha Herbert, Pediatric Neurologist and Neuroscientist on the staff at Harvard Medical School and at Massachusetts General Hospital describing the adverse health and neurological impacts of EMF/RF and the particular sensitivities of children. "EMF/RFR from wifi and cell towers can exert a disorganizing effect on the ability to learn and remember, and can also be destabilizing to immune and metabolic function. This will make it harder for some children to learn, particularly those who are already having problems in the first place. "Dr. Herbert advises the LAUSD to not use wifi in their public schools and instead opt for wired technologies. I concur with this opinion.

B. Hillman et al. 2013 "Relationship of electric power quality to milk production of dairy herds – Field study with literature review". *Science of the Total Environment* 447:500-514.

C. Letter from the Irish Doctors Environmental Association to school principles advising them of their concerns regarding wifi and harm to children's health and advocating wired technologies.

I concur with their suggestions and request that the FCC require all public schools to switch to cabled, hard-wired local area networks in their classrooms and also remove any cell phone towers erected on school grounds and within close proximity to schools.

D. Capone et al. "Extremely low frequency magnetic fields (ELF-MF) produce functional changes in human brain". Poster submission P22.5. *Neuroplasticity*. Indicating pulsed-mode magnetic fields such as those used in Power Line Communications produce an increase in excitatory neurotransmission, which may produce functional changes in the human brain.

E. Girgert et al. 2005 "Induction of tamoxifen resistance in breast cancer cells by ELF electromagnetic fields". *Biochemical and Biophysical Research Communication* 336:1144-1149. This study describes the possible increase in the incidence of breast cancer as a result of exposure to low frequency electromagnetic fields through a radiation-mediated anti-melatonin pathway. It also discusses concern that EM fields interfere with the activity of tamoxifen and may account for the tamoxifen resistance observed in breast cancer patients after long-term treatment.

F. Stratton et al. 2013 "Pulsed extremely low-frequency magnetic fields stimulate microvesicle release from human monocytic leukaemia cells". *Biochemical and Biophysical Research Communications* 430:470-475. This study demonstrated that an alternating current, pulsed, extremely low-frequency electromagnetic field induced transient plasma membrane damage that allowed calcium influx.

G. Cururachi et al. 2013 "A review of the ecological effects of radiofrequency electromagnetic fields (RF-EMF)" *Environment International* 51;116-140. Systematic review of published scientific studies on the potential ecological effects of RF-EMF in the range of 10 MHz to 3.6 GHz (from amplitude modulation, AM, to lower band microwave, MW, EMF). The authors concluded that two thirds of the studies reviewed found ecological effects of RF-EMF at high as well as low dosages; very low dosages being compatible with real field conditions, as found under environmental conditions. Effects were found in birds (breeding density, reproduction or species concentration), insects (honey bees: acute decrease of breeding performance and in some instances collapse of entire colonies; fruit flies: significant depression of growth and reproduction as a response to exposure at both 900 and 1800 MHz; ants (*Myrmica sabuleti*): exposure to a GSM generated signal associated with a loss in the acquired association between food and a visual cue, a decreased retention of acquired knowledge, and a total loss of visual memory; vertebrates (frogs; significant effect of exposure on the growth and mortality rates of tadpoles of frogs under field conditions; bats: RF-EMF reduced the foraging activity), other organisms (*E. coli* bacterium, *C. elegans* nematode, and land snail – all cases reported a significant effect on behavior and growth of target subjects); plants (growth inhibition). (see Comment by Steven Magee)

H. Donald I. McRee (1974) "Biological Effects of Microwave Radiation" *J Air Pollution Control Association* , 24(2):122-127. Discusses reports of behavioral and neurological effects in humans after exposure to microwave radiation at very low power levels in the USSR, which has set safe exposure limits 1000 times lower than in the U.S. Dr. McRee, at the National Institute of Environmental Health Sciences, back in 1974 concluded that safety studies needed to be initiated to determine whether exposures to continuous, modulated, and pulsed fields were safe. To date, these fields are unregulated.

I. Hinrikus et al. 2009 "Effect of modulated at different low frequencies microwave radiation on human EEG" *Environmentalist* 29:215-219. The authors concluded that telecommunication devices with complex spectrum of modulation frequencies like mobile phones can affect all human EEG frequency bands.

J. Mousavy et al. 2009 "Effects of mobile phone radiofrequency on the structure and function of normal human hemoglobin" *International Journal of Biological Macromolecules* 44:278-285. The authors investigated the effects of mobile phone RF on the structure and function of hemoglobin (HbA). In addition to carrying nearly all the oxygen required by cells from the lungs to the tissues, hemoglobin carries two end products of cellular respiration (H+ and CO2) from the tissues to the lungs and the kidneys, where they are excreted. Results indicated that mobile phone EMFs altered oxygen affinity and tertiary structure of HbA. The decrease of oxygen affinity of HbA corresponded to the EMFs intensity and time of exposure.

K. Kesari and Kumar. 2012 "Pathophysiology of Microwave Radiation: Effect on Rat Brain" *Appl Biochem Biotechnol* 166;379-388. This study investigated the effect of 2.45 GHz microwave radiation on rats. The study concluded that a reduction in melatonin or an increase in caspase-3, creatine kinase, and calcium ion may cause

significant damage in brain due to chronic exposure of these radiations. These biomarkers clearly indicated possible health implications of such exposures. The FCC, through the appropriate health agencies should initiate immediate clinical studies investigating whether people exposed to MW RF are experiencing the same changes in these biomarkers.

L. Calvente et al. 2010 "Exposure to electromagnetic fields (non-ionizing radiation) and its relationship to childhood leukemia: A systematic review. *Science of the Total Environment* 408:3062-3069. The primary objective of this review was to analyze the current state of knowledge on the association between environmental exposure to non-ionizing radiation and the risk of childhood leukemia.

M. Letter from the American Academy of Environmental Medicine to the California Public Utilities Commission requesting an immediate moratorium on "smart meter" installation due to serious public health concerns.

N. Stephen J. Genuis 2008 "Fielding a current idea: exploring the public health impact of electromagnetic radiation" *Public Health* 122:113-124. Despite the many challenges in establishing irrefutable scientific proof of harm and the various gaps in elucidating the precise mechanisms of harm, epidemiological analyses continue to suggest considerable potential for injury and affliction as a result of a-NIR exposure. As environmental health has not been emphasized in medical education, some clinicians are not fully aware of possible EMF-related health problems and, as a result, manifestations of a-NIR may remain misdiagnosed and ineffectually managed. It is important for physicians and public health officials to be aware of the fundamental science and clinical implications of EMF exposure. A review of the scientific literature relating to the link between electromagnetic radiation and human health, several public health recommendations, and four case histories are presented for consideration.

O. Burda et al. 2009 "Extremely low-frequency electromagnetic fields disrupt magnetic alignment of ruminants" PNAS 106(14):5708-5713. The findings provided evidence for
magnetic sensation in large mammals as well as evidence of an overt behavioral reaction to weak ELFMFs in vertebrates. The demonstrated reaction to weak ELFMFs implies effects at the cellular and molecular levels.

P. Ulrich Warnke 2007 "Bees, Birds and Mankind: Destroying nature by "electrosmog". Effects of Mobile Radio and Wireless Communication. Brochure 1 *Competence Initiative for the Protection of Mankind, Environment, and Democracy.*

Q. Levis et al. 2011 "Mobile phones and head tumours. The discrepancies in cause-effect relationships in the epidemiological studies – how do they arise?" *Environmental Health* 10:59. The analysis of the literature studies and of the results from meta-analyses of the significant data alone shows an almost doubling of the risk of head tumours induced by long-term mobile phone use or latency. (see Comment posted by Alan Marks)

R. Laurence et al. 2000 "Biological Effects of Electromagnetic Fields –Mechanisms for the Effects of Pulsed Microwave Radiation on Protein Conformation" *J. Theor Biol* 206:291-298.

V. Soderqvist et al. 2011 "Childhood brain tumour risk and its association with wireless phones: a commentary" *Environmental Health* 10:106. Case-control studies on adults point to an increased risk of brain tumours (glioma and acoustic neuroma) associated with the long-term use of mobile phones. Recently, the first study on mobile phone use and the risk of brain tumours in children and adolescents, CEFALO, was published. It has been claimed that this relatively small study yielded reassuring results of no increased risk. We do not agree. We consider that the data contain several indications of increased risk, despite low exposure, short latency period, and limitations in the study design, analyses and interpretation. The information certainly cannot be used as reassuring evidence against an association, for reasons that we discuss in this commentary.

S. Abdel-Rassoul et al. 2007 "Neurobehavioral effects among inhabitants around mobile phone base stations" *NeuroToxicology* 28:434-440. Conclusions and recommendations: Inhabitants living nearby mobile phone base stations are at risk for developing neuropsychiatric problems and some changes in the performance of neurobehavioral functions either by facilitation or inhibition. So, revision of standard guidelines for public exposure to RER from mobile phone base station antennas and using of NBTB for regular assessment and early detection of biological effects among inhabitants around the stations are recommended.

T. A.K. Dhami 2012 "Study of electromagnetic radiation pollution in an Indian city" *Environ Monit Assess* 184:6507-6512. Measurements of EMR were conducted at 62 locations near schools and hospitals in Chandigarh City, India. The measured power densities and estimated SAR values were compared with the international recommendations by ICNIRP for safety. Results indicated that exposure levels in the city were below ICNIRP limits, but much above the biological limit at which systems of humans and animals start getting affected.

7. Comment on what additional information the Commission should develop relating to exposures from common fixed sources. (FR page 33662, Column 3, paragraph 62). I request that the commission act on the multitude of complaints that are arising from the installation of RF utility meters and the RF communications grid that connects them. The Commission should allow for people to opt-out of participation in the smart grid in light of physical and mental health effects associated with these devices and wireless RF communications systems. In addition, I request that the Commission investigate the growing number of health complaints associated with Power Line Communications and the disturbances this system creates in the environment – it is unregulated, uncontrollable, and dangerous. I request that the Commission require these systems be deactivated until proven safe. I note in the following reference (http://en.kioskea.net/contents/126-introduction-to-power-line-communications-plc) a description of Power Line Communications – PLC transmits data via the electrical supply network by superimposing a high frequency signal at low energy levels over the 50 Hz electrical signal. The data signal is transmitted via the power infrastructure and is

received and decoded remotely by any PLC receiver located on the same electrical network. According to this information which was current as of July 2013, PLC networks are at the same time both electrical supply networks and telecommunications networks, with the result that the authorities have difficulties defining legal framework. **No precise regulation exists for PLC equipment and networks**. T**he installation of PLC networks is unregulated and is therefore subject to the condition that they do not cause negative side-effects, in which case the equipment must be removed. Many consumers are experiencing negative side effects from digital radiofrequency meters installed without consent on their residences. These meters operate, at least in the state of Idaho, using Power Line Communications networks. Therefore, without regulation, anyone experiencing negative effects from this PLC network is able to have the equipment removed. I request that the digital meter servicing my home be removed and replaced with an analog meter and that the PLC system that communicated with the meter also be removed as the negative health effects I and my family are experiencing cannot be remediated with the removal of the electric meter alone but can only be remediated by de-energizing the system that operates these meters.**

I work in the health care industry and part of my responsibility is to work with private institutions and universities in assisting them with filing Investigational New Drug applications for conducting clinical studies. I support the Principal Investigators in providing documentation that they require when seeking permission to conduct their studies with the FDA and their Institutional Review Boards. A large part of the process is spent making sure that study subjects are not exposed to harmful practices or substances and those subjects are participating in the clinical study with full informed consent.

As a Clinical Study Coordinator by profession, I am astounded that there is no informed consent when it comes to wireless RF devices and transmitters, there is no disclosure of possible adverse effects, there is no recording and tracking of adverse events associated with exposure, there is no pilot study limiting the number of people exposed so as to be able to limit the extent of any discovered health risks. This is unconscionable if not outright illegal and requires immediate assessment by all federal health agencies.

Respectfully submitted by,

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August 24, 2013

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