

# **The Dangers of 5G**

My Visit with Joe Esposito on May 14, 2025

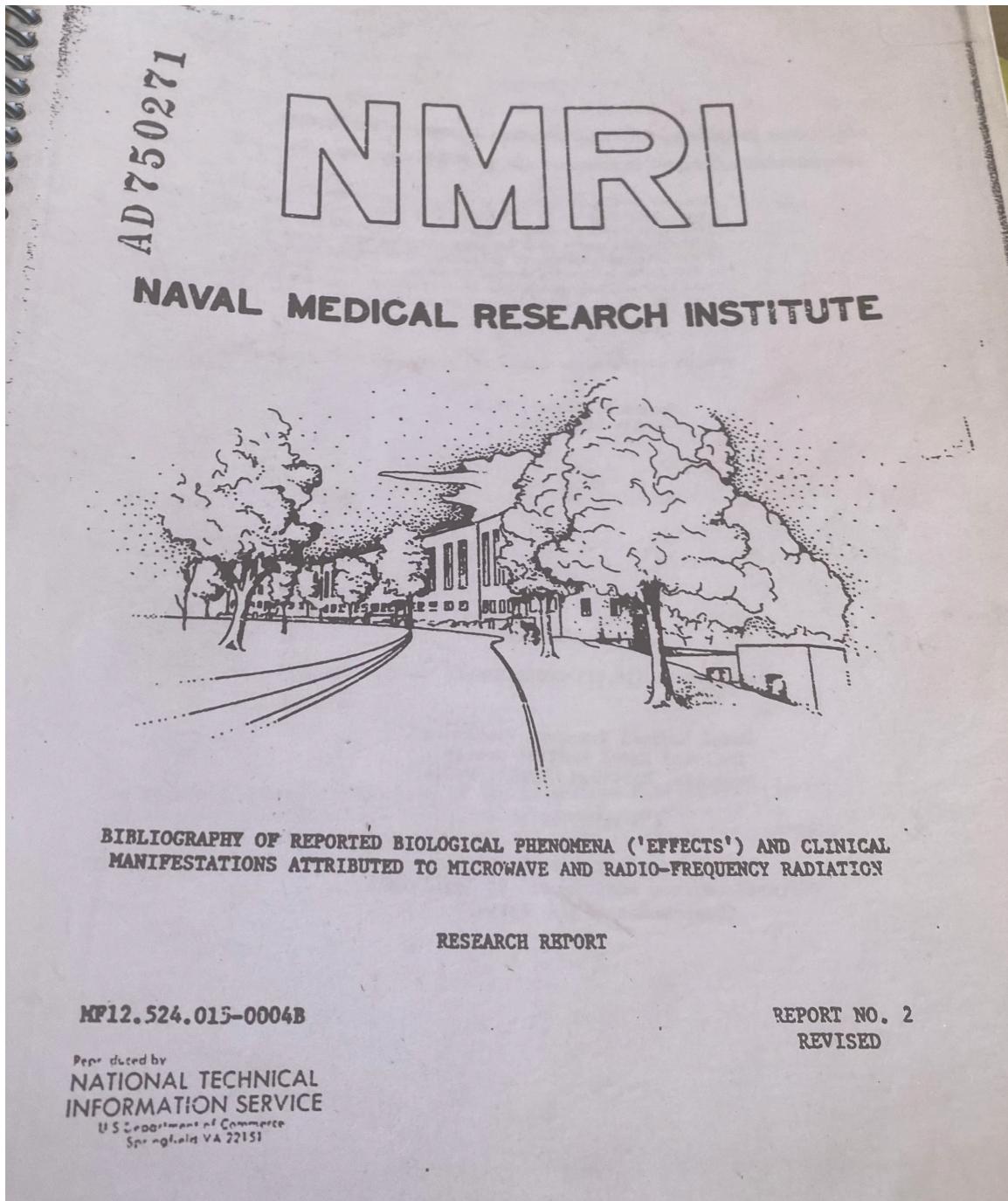
Documents Snapshot by iPhone - compiled in pdf format

## Table of Contents

Table of Contents	2
NMRI - Naval Medical Research Institute Research Report Cover	4
5G, Your Health and the Environment	5
Chart on Radio Frequency Bands and Restrictions	6
Joe Esposito in Protective Gear	7
Jimmy Gonzalez -The Pembroke Pines Florida Resolution on Cell Phone Radiation (3 pages)	8
10 Years Pamphlet (2007-2017)	11
United States Court of Appeals for the District of Columbia Circuit: Environmental Health Trust; Consumers for Safe Cell Phones et al vs Federal Communications Commission	12
Letter to Oklahoma Attorney General - John M. O'Connor (2021) - (3 pages)	13
Paul Heroux, PhD - Curriculum Vetae (5 pages)	16
The Collision between Wireless and Biology by Paul Heroux, PhD (5 pages)	20
USA Microwave Radiation Misinformation Campaign from about 1947-2020 (73 years)	25
Radio Frequency “RF” Power Density to Volts per Meter Unit Conversion Chart	26
This is the explanation of the One Page Pictorial Resolution of the USA Microwave Radiation Debate of 73 Years (2 pages)	27
Electromagnetic Radiation Spectrum	29
‘Uncontrolled Experiment’: How Smart Devices are Damaging Kids Brains (2 pages)	30
Reported Biological Effects from Radiofrequency Radiation at Low-Intensity Exposure (Cell Tower, Wi-Fi, Wireless Laptop and ‘Smart’ Meter RF Intensities) (12 pages)	32
Letter from Dr. Jim Meehan Re: Joe Esposito and Catoosa Zenner Smart Water Meter (2020) (3 pages)	44
EMF Safety Network <a href="http://emfsafetynetwork.org">http://emfsafetynetwork.org</a> (also on facebook) (3 pages)	47

How Big Wireless Made Us Think That Cell Phones Are Safe: A Special Investigation	50
Court Case 2017 - Cancer Expert Declares Cell Phone and Wireless Radiation as Carcinogenic to Humans (3 pages)	51
Letter from Martin L Pall, PhD to Governor Jerry Brown California Re: Please Veto SB649 (2017) (6 pages)	54
Documentary Generation Zapped - a film by Sabine El Gemayel (2018) - with George Carlo, MSC, JD, PhD and former chairman Wireless Technology Research 1996 (5 pages)	60
State of Oklahoma - House Bill 2872 (by Derby) (12 pages)	65
ONZO (youtube link) 2016 - Details the 'plan'	77
The University of Tulsa (2018) - 120 Towers (3 pages)	78
Powers at Law Letter Re: Protective Clothing (2016)	81
James Gerald Flynn, Captain (Retired) Canada - Electronic Warfare (EW) experience/articles (7 pages)	82
The Smart Meter Abyss by Joe Esposito - November 2012 Owasso Oklahoma (3 pages)	89
Legal, Constitutional and Human Rights / Violations of Smart Grid and Smart Meters - Congressional White Paper by Liz Harris (5 pages)	92

# NMRI - Naval Medical Research Institute Research Report Cover



# 5G, Your Health and the Environment

**ENVIRONMENTAL  
HEALTH TRUST**

## 5G, Your Health And The Environment

### WHAT IS 5G?

5G is the fifth generation of wireless technology promising to connect the Internet of Things (IoT) at blazing fast speeds. Millions of new cell antennas are being installed in front of homes on street lights and utility poles. Telecom has heavily lobbied governments to pass new regulations that fast track new wireless antenna installations by removing public notice and public hearings and usurp local control.

**Issues With 5G**

- Experimental technology
- Increases radiation exposure
- Outdated radiation guidelines
- Children are more vulnerable
- Inadequate regulations
- Impact to tree canopy
- No oversight by health authority
- No environmental review
- Increases energy usage
- Increases e-waste and pollution
- Lowers property values
- Local authority overruled
- Loss of privacy
- Interferes with weather forecasting
- Screen addiction
- Uninsured liability
- Cyber security risks

**Peer Reviewed Research  
On Wireless Radiation**

- Sperm damage
- Oxidative stress
- Altered brain development
- DNA damage
- Immune system damage
- Memory problems
- Sleep problems
- Hyperactivity
- Behavior problems
- Breach of blood-brain barrier
- Brain tumors
- Cancer
- Harm to birds, bees, and trees

**Harvard Investigation Finds Industry Funding  
Influences Science and Policy**

"Industry control, in the case of wireless health issues, extends beyond Congress and regulators to basic scientific research."  
— Norm Alster, in Captured Agency, Harvard University

**Medical Doctors Caution**

"An Egyptian study confirmed concerns that living nearby mobile phone base stations increased the risk for developing headaches, memory problems, dizziness, depression and sleep problems. In large studies, an association has been observed between symptoms and exposure to these fields in the everyday environment."  
— The American Academy of Pediatrics

**Scientists Worldwide Are Calling For A Halt To 5G**

"We recommend a moratorium on the roll-out of the fifth generation, 5G, for telecommunication until potential hazards for human health and the environment have been fully investigated by scientists independent from industry...RF-EMF has been proven to be harmful for humans and the environment."  
— The 5G Appeal (signed by over 250 independent scientists and medical doctors from 40 countries)

**Worldwide Opposition**

Governments are taking action to stop 5G. Dozens of cities in Italy, the U.K., the U.S. and Switzerland are passing resolutions/ restrictions to halt the 5G roll-out until adequate safety testing has been done. Several countries recommend reducing children's exposures to cellular phone radiation.

5G was not premarket safety tested. LEARN MORE AT [EHTRUST.ORG](http://EHTRUST.ORG)

# Chart on Radio Frequency Bands and Restrictions

## 1 ENGLISH

This document provides country- and region-specific non-wireless and wireless regulatory notices and compliance information for your product. Some of these notices may not apply to your product.

### PRODUCT DESCRIPTION

Starlink is a satellite internet connectivity system comprised of the Starlink Dish, Wi-Fi Router, and AC Power Supply. The Starlink dish operates on DC power supplied by an external AC Power Supply or Router rated 100 - 240V, 50/60Hz. For regulatory identification purposes, your product is assigned a Regulatory Model Number which is located on the back of the product. If required, regulatory markings for your country or region are located on the back of the unit.

### STARLINK KIT

- Starlink Dish Models: UTA-201, UTA-211, UTA-212, UTA-221, UTA-222, UTA-231, or UTA-232
- Starlink Power Supply Models: UTP-201\*<sup>x</sup>, UTP-221, UTP-231\*, or UTP-232\*<sup>x</sup>
- Wi-Fi Router Model: UTR-201, UTR-211, UTR-231, or UTR-232

### ENVIRONMENTAL SPECIFICATIONS

	Outdoor	Indoor
Model Numbers	UTA-201, UTA-211, UTA-212, UTA-221, UTA-222, UTA-231, UTA-232, UTP-221, UTP-231*, UTP-232* <sup>x</sup>	UTP-201* <sup>x</sup> , UTP-201, UTP-211, UTP-221, UTP-231, UTR-201, UTR-211, UTR-231
Temperature, Operating	-30°C - +50°C -22°F - 122°F	0°C - +30°C 32°F - 86°F
Relative Humidity (noncondensing), Operating	10% - 90%	20% - 60%

### INSTALLATION CONDITIONS

**⚠ WARNING!** The power supplies UTP-201\*<sup>x</sup>, and routers UTR-201, UTR-211, UTR-231, UTR-232 are restricted to indoor use only.

**⚠ WARNING!** Mounts are not designed for high winds or hurricane/tornado wind loads. Tethering should be used in all cases to prevent failure in an unexpected wind event. See installation instructions before connecting this equipment to the input supply.

Regulatory labels – which provide country or regional regulatory information – may be physically located on the bottom, side, or back of the unit. Some products may also provide regulatory labels (e.g., labels that can be accessed through the Graphical User Interface (GUI) on a device with a screen).

**NOTE:** Electronic labels are not available on all products. NOTE: Devices not for sale or use in the United States may not contain a FCC ID.

To view electronic regulatory label on connected device (e.g., phone, tablet, PC) via Starlink GUI, open Starlink App, or <http://192.168.100.1/> in your Internet Browser.

STARLINK GUI => Support => Legal => Regulatory Label

### SAFETY NOTICES

**⚠ WARNING!** To reduce the risk of injury, electric shock, or fire, follow basic safety precautions, including:

- Make sure the product's power is disconnected before accessing, moving, or installing the Starlink dish. Starlink dish contains moving parts when powered on.
- Plug the power cord into an AC outlet that is easily accessible at all times. If the power cord has a 3-pin attachment, plug the cord into a grounded (earthed) 3-pin outlet. If the power supply or router are used in wet locations, ensure the power cord is plugged into a ground-fault circuit interrupter (GFCI) or Residual Current Device (RCD) and an ungrounded AC outlet.

\*Non-AC power supply and ungrounded AC outlet.

- Only use the AC adapter and power cord provided with the system or purchased from SpaceX.
- Do not operate this product with a damaged power cord set or if the device itself is damaged. If the power cord or product is damaged, replace before using this product.
- During operation, do not allow the AC adapter to contact skin or a soft surface, such as carpet/tug of clothing. The product and the AC adapter comply with the user-accessible surface temperature limits defined by applicable safety standards.
- Avoid using this product during an electrical storm. There is a remote risk of electric shock from lightning.

**⚠** Do not operate this product if you notice crackling, hissing, popping sounds, a strong odor or smoke coming from any parts of the system. Turn off the system, disconnect from power source, and contact Starlink technical support for assistance.

**⚠** **WARNING!** To avoid injury to persons and damage to property when drilling, take caution and follow basic safety procedures, including:

- Wear appropriate eye, hand, and face protection.
- Avoid studs, electrical wiring, and water lines when drilling. Drilling into any of these can lead to fire, shock, injury, or death.
- Drill at a slight downward angle from the home interior to the home exterior and thoroughly apply sealant. Improper drilling and sealing may lead to water and/or bug intrusion and/or damage.

### LIGHTNING PROTECTION

If Starlink is used in a lightning-prone area, an external lightning protection system (lightning rod, ground rod, surge protector, etc.) may reduce product susceptibility to lightning. For added protection during a lightning storm, or when it is left unattended and unused for long periods of time, unplug the product from the wall AC outlet and disconnect the antenna cable. This may prevent damage to the product from lightning and power line surges.

The warranty does not cover damage due to:

- Lightning, electrical surges, fires, floods, hail, windstorms, earthquakes, meteors, solar storms, dinosaurs or other forces of Nature.
- Accident, misuse, abuse or alterations.
- Improper or neglected maintenance.

### FEDERAL COMMUNICATIONS COMMISSION

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and radiates radio frequency energy and, if not installed and used in accordance with the instructions – may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and

- receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio or television technician for help.

### MODIFICATIONS

**CAUTION!** Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

### CABLES

To maintain compliance with FCC Rules and Regulations, connections to this device must be made with shielded cables that have metallic RF/EMI connector hoods.

### RADIATION EXPOSURE STATEMENT FOR PRODUCT WITH WIRELESS LAN

This device must not be co-located or operate in conjunction with any other antenna or transmitter. This product complies with the US/Canada RF exposure limits set forth for general population / uncontrolled environment and is safe for intended operation as described in this manual. Further RF exposure reduction can be achieved if the product can be kept as far as possible from the user's body, or if the device is set to lower output power if such function is available. During normal operation to avoid the possibility of exceeding the FCC radio frequency exposure limits, this equipment should be installed and operated with minimum distance of 34 cm (13 inches) between the radiator and your body.

### RESTRICTIONS FOR PRODUCTS WITH RADIO FUNCTIONALITY

**IMPORTANT:** When using IEEE 802.11a wireless LAN, this product is restricted to indoor use, due to its operation in the 5.15 – 5.25 GHz frequency range. FCC/Industry Canada requires this product to be used indoors for the frequency range of 5.15 GHz – 5.25 GHz to reduce the potential for harmful interference to co-channel mobile satellite systems. High-power radar is allocated as the primary user of the 5.25 – 5.35 GHz and 5.65 – 5.85 GHz bands. These radar systems can cause interference with and/or damage to this device. The antennas for this device are not replaceable.

For questions regarding this product, write to:

Space Exploration Technologies Corporation  
1 Rocket Rd., Hawthorne, CA 90250 USA  
+1 310-682-8100 / techreg@spacex.com

### CANADIAN NOTICES

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations, CAN ICES-3(B)/NMB-3(B). If this device has WLAN or Bluetooth capability, the device complies with ISED's license-exempt RSSs. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**CAUTION!** The device operation in the band 5150-5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems.

### RADIATION EXPOSURE STATEMENT

This equipment complies with ISED radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with greater than 34 cm between the radiator & your body.

### ENVIRONMENTAL NOTICES

This provides country- and region-specific environmental notices and compliance information. Some of these may not apply to your product.

### DISPOSAL OF WASTE EQUIPMENT BY USERS



This symbol means do not dispose of your product with your other household waste. Instead, you should protect human health and the environment by handing over your waste equipment to a designated collection point for the recycling of waste from electrical and electronic equipment.



### EU DECLARATION OF CONFORMITY

Hereby, Space Exploration Technologies Corp. declares that the products bearing the CE marking comply with one or more of the following EU Directives as may be applicable: RED 2014/53/EU; Low Voltage Directive 2014/35/EU; EMC Directive 2014/30/EU; Ecodesign Directive 2009/125/EC; RoHS Directive 2011/65/EU; WEEE Directive 2012/19/EC. Compliance with these directives is assessed using applicable European Harmonized Standards. The full Declaration of Conformity can be found at the following web site: [www.starlink.com/legal](http://www.starlink.com/legal)

### Products with Radio Functionality (EMF)

This product incorporates a radio transmitting and receiving device in normal use, a separation of 34 cm between the device and your body ensures that radio frequency exposure levels comply with EU requirements.

### Restrictions for Products with Radio Functionality (Select Products Only)

**IMPORTANT:** IEEE 802.11x wireless LAN with 5.15–5.35 GHz frequency band is restricted for indoor use only in all countries reflected in the matrix. Using this WLAN application outdoors might lead to interference issues with existing radio services.

AT	BE	BG	CH	CY	CZ	DK	DE	EL	ES	FI	FR	HR	HU	IE	IS	IT	LT	LU	LV	MAT	NL	NO	PT	RO	RS	SE	SK	TR	UK	US
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Some products in some countries have restrictions on radio products.

**Users must not operate the Starlink Kit within the safety zone of an airport.**

### RADIO FREQUENCY BANDS AND MAXIMUM POWER LEVELS (SELECT PRODUCTS ONLY)

Radio Technology	Maximum Transmit Power EIRP
WLAN: 2.4 GHz	100 (mW)
WLAN: 5 GHz	200 (mW)
NGSO: 14.0 – 14.5 GHz	1000 (mW)
NGSO: 14.0 – 14.5 GHz	38.2 (dBW)

**NOTE:** Use only SpaceX supported GUI and correct country settings to ensure compliance.

European Regulatory Address: SpaceX, Burgemeester Stramanweg 122, 1101 EN, Amsterdam, Netherlands

Great Britain Address: Starlink Internet Services UK Ltd, 7 Albemarle St., London W1S 4HQ

Space Exploration Technologies Corp.  
1 Rocket Road, Hawthorne, CA 90250 USA

The information contained herein is subject to change without notice. SpaceX shall not be liable for technical or editorial errors or omissions contained herein.

## Joe Esposito in Protective Gear



## Jimmy Gonzalez -The Pembroke Pines Florida Resolution on Cell Phone Radiation (3 pages)

Environmental Health Trust

Select Page

EN

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### JIMMY GONZALEZ – THE PEMBROKE PINES, FLORIDA RESOLUTION ON CELL PHONE RADIATION

**Jimmy Gonzalez**  
(1972 – 2014)

Jimmy Gonzalez, Initiated The Pembroke Pines, Florida Resolution on Cell Phone Radiation Expressing “Urgent Concerns” about Cell Phone Wireless Radiation and Health

Watch a video of Jimmy Gonzalez’s testimony to the Pembroke Pines Commission which resulted in the passing of the first US Resolution to raise awareness on the health risks of cell phone radiation.

Cancer From The Cell Phone in Brain, Heart & Hand: Lawye...



Jimmy Gonzalez, a Florida attorney who developed brain cancer after years of heavy cell phone use, petitioned for the Pembroke Pines Resolution 3362 in 2012 to raise awareness about cell phone radiation. Gonzalez believed the



Pg 1  
(over)

radiation emitted by his cellphone was the cause of his cancer, and brought his case to Commissioners in Pembroke Pines. The Resolution was passed  EN October 17, 2012 and expresses the city's "urgent concerns" about wireless radiation emitted from cell phones and individual's health. It encourages citizens to read their manuals and presents information on how to reduce exposure by using a headset or speakerphone.

PROPOSED RESOLUTION NO. 2012-R-41

REVISION 1

RESOLUTION NO. 3362

A RESOLUTION OF THE CITY COMMISSION OF THE CITY OF PEMBROKE PINES, FLORIDA, EXPRESSING THE CITY'S URGENT CONCERN ARISING FROM RECENT MEDICAL SCIENCE REPORTS WHICH ADVISE OF THE POSSIBLE AND ADVERSE HEALTH EFFECTS DELIVERED UPON THOSE WHO USE CELL PHONES, INCLUDING, BUT NOT LIMITED TO, CANCER, AS A RESULT OF THE NON-IONIZED RADIATION EMITTED BY CELL PHONES; DIRECTING THE CITY CLERK TO FORWARD A COPY OF THIS RESOLUTION TO FLORIDA GOVERNOR RICK SCOTT, THE FLORIDA SENATE, THE FLORIDA HOUSE OF REPRESENTATIVES, THE FLORIDA LEAGUE OF CITIES, THE BROWARD COUNTY LEAGUE OF CITIES, THE BROWARD COUNTY BOARD OF COUNTY COMMISSIONERS, THE SCHOOL BOARD OF BROWARD COUNTY, AND EACH MUNICIPALITY WITHIN BROWARD COUNTY; PROVIDING FOR CONFLICTS; PROVIDING FOR SEVERABILITY; AND PROVIDING FOR AN EFFECTIVE DATE.

Resolution No.

3362:

Commission of

Pembroke

Pines, Florida

Expressing the

City's Urgent

Concerns of the

Possible

Adverse Health

Effects Due to

Cell Phone Use

*"WHEREAS, cell phone user manuals and user guides state in various ways that the cell phone user should always keep it centimeters or millimeters away from their heads and bodies so as to reduce their bodies' exposure to radiation; and..."*

*WHEREAS, there exists an ongoing scientific debate as to whether children and teenagers are more susceptible than adults to the possible ill effects of being exposed to cell phone emitted radiation; and..."*

Following his service in the United States Marine Corps, Gonzalez attended Cornell University and later George Washington University of Law. Gonzalez ran his own family law practice until he was diagnosed with Glioblastoma Multiforme, a highly malignant and aggressive tumor of the brain, in 2011. He



had two different tumors removed, one from his left hand and the other within his brain above his left ear. Gonzalez noted that he had used his cell  EN everyday for well over 30 minutes over a period of ten years, using primarily his left hand and left side of his head to speak. He hypothesized that his cellphone use may have been a large factor.

"One day, it came to me," Gonzalez told the **Sun-Sentinel**, "maybe there's something in common with my hand and head."

"Do I have 100 percent scientific study that can say well this is what caused it?" Gonzalez told **NBC 6 South Florida**. "No but I can't think of anything that would explain this otherwise."

The document advises individuals to keep cell phones at least one inch away from their body, use a headset or speakerphone, and send messages via text or email (**Sun Sentinel**, 2012)

"Our city's resolution isn't about creating panic and alarm," said Commissioner Angelo Castillo. "It's about raising awareness in a responsible way to ensure that the health of all cellphone users is protected." (**NBC**, 2012)

[Click here to read the Pembroke Pines Resolution on Cell Phone Radiation](#)

[PEMBROKE PINES, FLORIDA RESOLUTION ON CELL PHONE RADIATION](#)  
[NEWS ARTICLES](#)

[Sun Sentinel: Pembroke Pines warns that cell phones could cause cancer](#)  
(November 27, 2012)

[CBC: Pembroke Pines Passes Resolution Warning Residents About Possible Cellphone-Cancer Link](#) (November 28, 2012)

[ABC Local 10 News: City warns of cell phone link to cancer](#) (November 27, 2012)

## TEN YEAR REPORT

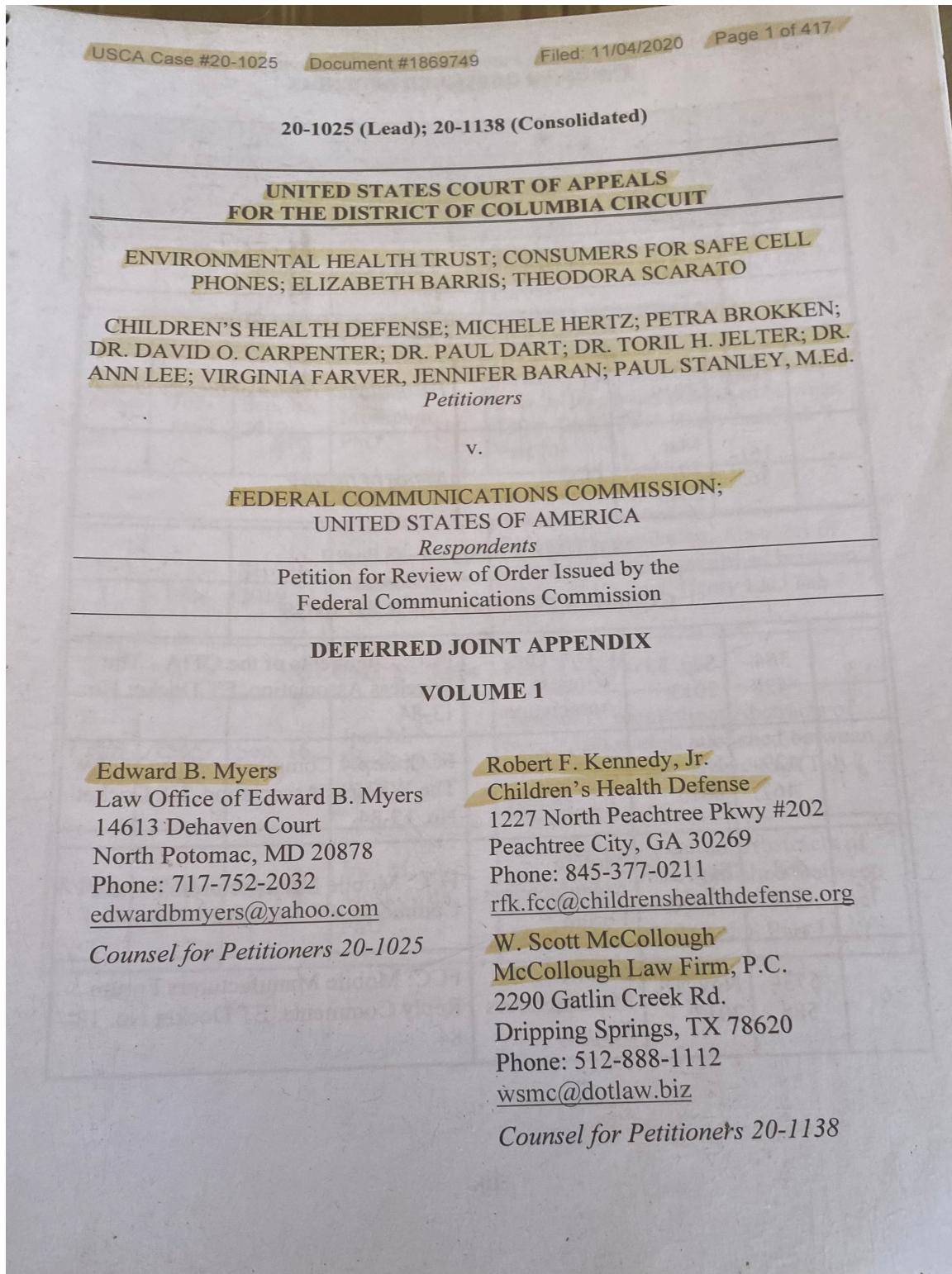


Pg 2

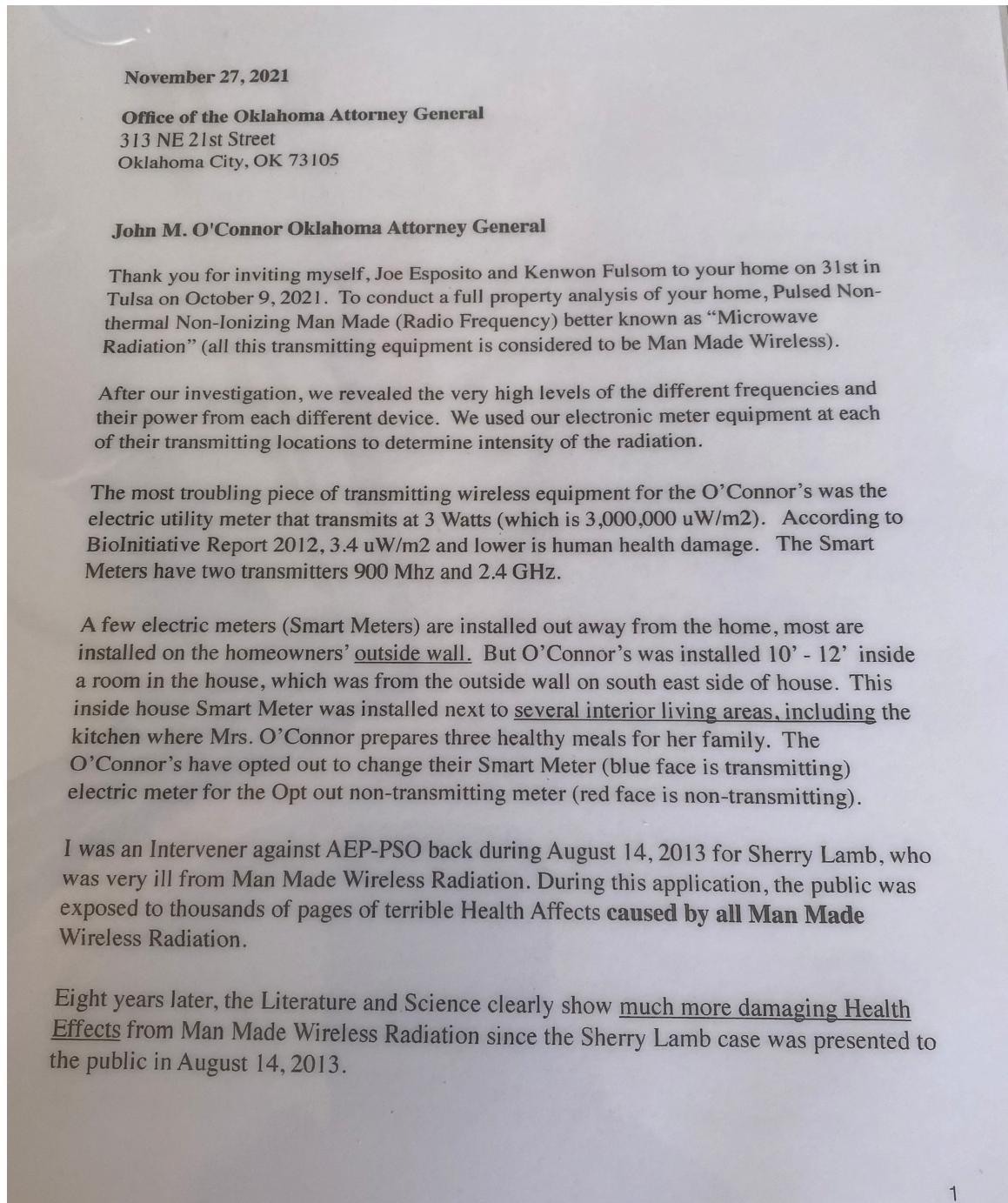
## 10 Years Pamphlet (2007-2017)



# United States Court of Appeals for the District of Columbia Circuit: Environmental Health Trust; Consumers for Safe Cell Phones et al vs Federal Communications Commission



# Letter to Oklahoma Attorney General - John M. O'Connor (2021) - (3 pages)



### BOOKS

Captain Jerry G. Flynn (Retired Electronic Warfare Specialist), *HIDDEN DANGERS*  
*How governments, telecom and electric power utilities uppress the truth about the known*  
*hazards of electro-magnetic field (EMF) radiation*, JGF Publishing, Copyright 2019, 20  
Chapters on wireless harm to Humans

DR. JOSEPH MERCOLA, *EMF\*D 5G - 5G, Wi-Fi & Cell Phones: Hidden Harms and*  
*How to Protect Yourself*, Hay House Inc, Copyright 2020, Pages 102 &103 explains the  
mechanism of how (Wireless Radiation) Non-thermal Non-Ionizing Radiation causes  
human DNA cell damage

### FCC Lawsuits

Children's Health Defense v. FCC Lawsuit (Filing was February 2, 2020) (Court  
Decision was delivered on August 13, 2021) - CHD v. FCC: 5G & Wireless Radiation  
Guidelines Lawsuit

Environmental Health Trust v. FCC (Press Conference held August 13, 2021) - EHT Wins  
in Historic Decision, Federal Court Orders FCC to Explain Why It Ignored Scientific  
Evidence Showing Harm from Wireless Radiation - Environmental Health Trust

### Security Exchange Act of 1934

#### THE SECURITIES EXCHANGE ACT OF 1934

AEP/PSO filed form 10k an ANNUAL REPORT PURSUANT TO SECTION 13 OR 15  
(d) OF THE SECURITIES EXCHANGE ACT OF 1934 for the fiscal year ended  
December 31, 2012.

In the filing under "Risk Factors" page 31, "*Hostile cyber intrusions could severely  
impair our operations, lead to the disclosure of confidential information and damage  
our reputation. – Affecting each Registrant.*

22 Under the heading *Environmental Investments, Electric and Magnetic Fields*  
(EMF) page 10 of the same 10K filing it states; a number of studies in the past have  
examined the possibility of adverse health effects from EMF. While some of the

epidemiological studies have indicated some association between exposure to EMF and health effects, none has produced any conclusive evidence that EMF does or does not cause adverse health effects.

*Management cannot predict the ultimate impact of the question of EMF exposure and adverse health effects. If further research shows that EMF exposure contributes to increased risk of cancer or other health problems, or if the courts conclude that EMF exposure harms individuals and that utilities are liable for damages, or if states limit the strength of magnetic fields to such a level that the current electricity delivery system must be significantly changed, then the results of operations and financial condition of AEP and its operating subsidiaries could be materially affected unless these costs can be recovered from customers.*

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Based on new science and my research, the totality of the information in this article, should clearly show exposure of EMF is hazardous to all ratepayers' (human) health. After these last 8-9 years is now evident, Wireless utilities electricity, water gas is causing direct health damage to ratepayers and needs to be replaced with safe analog mechanical utility meters.

Joe Esposito  
10110 N.124 E. Ave  
Owasso, Oklahoma 74055  
918-274-8111

# Paul Heroux, PhD - Curriculum Vitae (5 pages)



**CURRICULUM VITAE**

**Paul Héroux, PhD**  
Born 51/01/09, Trois-Rivières, Québec, Canada.

**Positions Held**  
Associate Professor,  
Director of the Occupational Health Program  
Department of Epidemiology, Biostatistics and  
Occupational Health,  
Faculty of Medicine, McGill University,  
and  
Medical Scientist,  
Department of Surgery,  
McGill University Health Center.

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Email: [paul.heroux@mcgill.ca](mailto:paul.heroux@mcgill.ca)  
Phone: 514-767-5556

**QUALIFICATIONS**

**Education, Physical Sciences**

B.Sc. Physics Université Laval, Québec, 1972.

M.Sc. Physics Institut National de la Recherche Scientifique-Energie,  
Université du Québec, Varennes, 1975.  
Subject: Electrodynamics and Acoustics of Corona Discharges.

Ph.D. Physics Institut National de la Recherche Scientifique-Energie,  
Université du Québec, Varennes, 1981.  
Subject: Reduction of Corona Effects of High Voltage Transmission Lines.

**Education, Bio-Medical Sciences**

Courses at the Department of Biology, Université de Montréal:  
Cytology, Cellular Physiology, Genetics, Animal Physiology, Ecology, Nerve and Muscle Physiology,  
Physiological Chemistry. With laboratory work. 1978-1982.

Faculty of Medicine, Université de Montréal:  
Standard course in Hematology, including hospital work. 1982.

Scientific American Medicine's Patient Management Problems (Stanford University Medical School):  
all Continuing Medical Education credits obtained between 1981 and 1985.

EXPERIENCE

1972. Works at the Centre de Recherche sur les Atomes et Molécules, Department of Physics, Laval University, on the crystallography of aluminum surfaces (4 months).

1972. Until 1975, studies corona effects acoustic noise under contract with the Canadian Electrical Association.

1974. Hired part time by Hydro-Québec's Research Institute. Participation in the design of the Brazilian Electrotechnical Laboratory until 1976.

1975. Under contract with the Canadian Electrical Association, studies means of reducing corona effects of high-voltage lines until 1981. Work on the Psychoacoustics of Corona Noise for the Electric Power Research Institute (U.S.A.), in cooperation with the National Bureau of Standards, until 1980.

1976. Full time at Hydro-Québec's Research Institute. Studies the monitoring of fog density in pollution test rooms.

1981. Participant in the First Electrical Burns Project at the Royal Victoria Hospital (until 1985). This work receives an award from the Plastic Surgery Educational Foundation.

1982. US and Canadian Patents: Capillary Ion-Shielded High Voltage Conductor.

1982. Initiates the Hydro-Québec Committee on ElectroBiological Effects.

1983. Initiates work at the Faculty of Medicine, University of Montréal, on the effects of atmospheric ions on serotonin sensitivity in the hippocampus of the rat.

1983. Designs a surgically implantable probe for the measurement of electrical currents inside the body of primates (used in the Electrical Burns study at the Royal Victoria Hospital).

1984. Demonstrates intra-cellular penetration of fluorescein into erythrocytes subjected to brief high-intensity electrical pulses.

1984. Pioneers Electrical Impedance Spectroscopy (EIS) in the evaluation of muscle vitality. In-vivo measurements obtained in various organs, including the brain.

1985. Demonstrates collapse of micro-circulation in muscle subjected to brief high-intensity electrical pulses.

1986. Designs a dosimeter for the measurement of environmental electric, magnetic and transient electromagnetic fields. The instrument was manufactured under license from Hydro-Québec by Positron of Montréal. It won an Honorable Mention at the Canada Export Award 1987 Conference. It also received the 1988 Mica Prize given by the Conseil de l'Industrie Electronique du Québec.

1987. Consultant in an epidemiological study of the impact of electromagnetism on the health on electric utility workers.

1987. Appointed Associate Professor, School of Occupational Health, McGill University. Teaching Health Effects of Electricity and Electromagnetic Radiation.

1988. Appointed Medical Scientist, division of Plastic Surgery, Royal Victoria Hospital.

1988. Principal Investigator and Project Manager in a 4-year contract with the Canadian Electrical Association: "Pathophysiology of Electrical Burns and the Evaluation of Tissue Vitality and Viability by means of Electrical Impedance".

1989. Defines the technique of Electrical Impedance Spectroscopy (EIS) for biological tissues assessment and demonstrates its tissue specificity and inter-species similarity.

1990. US Patent 5151649 A (1992): Pair of electrically shielded triaxial magnetic sensors for determination of electric currents in conductors in air with distance and angle compensation measurement.

1991. Demonstrates capacity of EIS to resolve edema and dielectric stress in muscle.

PROFESSIONAL SOCIETIES

Society of Toxicology, Canadian Society of Toxicology  
BioElectroMagnetics Society (BEMS)

IEEE Standards Coordinating Committee 28 on Non-Ionizing Radiation: SC3, 0-3 kHz; SC4, 3 kHz-300 GHz  
Society for Physical Regulation in Biology and Medicine (SPRBM)  
International Commission on Occupational Health (ICOH): Scientific Committee on Radiation and Work  
American Aging Association (AAA)

Reviewer for

Ontario Workplace Safety Board  
International Journal of Radiation Biology  
Electromagnetic Biology and Medicine  
PLOS ONE

The International Journal of Environmental Research and Public Health.

SCIENTIFIC PUBLICATIONS

A – Refereed Papers

1. P. Héroux, N.G. Trinh:  
"A Statistical Study of Electrical and Acoustical Characteristics of Pulsative Corona", paper A 1976 122-2,  
IEEE Power Engineering Society Winter Meeting and Tesla Symposium, 8 p, New York, 1976.
2. P.S. Maruvada, R.D. Dallaire, P. Héroux, N. Rivest:  
"Corona Studies for bipolar HVDC transmission at voltages between  $\pm 600$  kV and  $\pm 1200$  kV", IEEE  
Transactions on Power Apparatus and Systems, Vol PAS-100, pp 1462-71, March 1981.
3. P.S. Maruvada, P. Héroux, D. Dallaire, N. Rivest, R.E. Kennon, J. Dunlap:  
"Corona and Electric Fields Effects of HVDC Transmission Lines in the range  $\pm 600$  to  $\pm 1200$  kV",  
Symposium of the Conférence Internationale sur les Grands Réseaux Electriques, paper 22-81, 6 p,  
Stockholm, June 1981.
4. P. Héroux, P.S. Maruvada, N.G. Trinh:  
"High Voltage AC Transmission Lines: Reduction of Corona under Foul Weather", IEEE Transactions on  
Power Apparatus and Systems, Vol PAS-101, pp 3009-3017, September 1982.
5. N. Kolcio, P. Héroux, D.N. Keast, J.A. Molino, E.K. Chambers, J.E.K. Foreman:  
"Recording Requirements for Transmission Line Audible Noise Sounds". Report of the IEEE Audible Noise  
Task Force of the Corona and Fields Effects Subcommittee, 1983.
6. P.S. Maruvada, R.D. Dallaire, P. Héroux, N. Rivest:  
"Long Term statistical study of the corona, electric field and ion-current performance of a 900 kV bipolar  
HVDC Transmission line configuration", IEEE Transactions on Power Apparatus and Systems, Vol PAS-  
103, pp 76-83, January 1984.
7. R.G. Zelt, P.A. Ballard, A.A. Common, P. Héroux, R.K. Daniel:  
"Experimental High Voltage Electrical Burns: Role of Progressive Necrosis", Surgical Forum, vol XXXVII,  
37:624-626, American College of Surgeons, October 1986.
8. R.G. Zelt, P.A. Ballard, P. Héroux, R.K. Daniel:

1992. Demonstrates capacity of EIS to resolve intra and extra-cellular edema in brain cortex, liver and muscle. Develops an electrical model of living tissues for EIS which includes cell membrane capacitance evaluated from bulk tissue measurements.

1993. Starts laboratory work on a cell tracking workstation, a real-time computer-vision-based microscope observation system, assessing in detail large numbers of cells growing in a 96-well dish.

1994. Consultant to Northern Telecom on the health effects of microwave electromagnetic radiation.

1994. Participant in the study of the relation between lung cancer and Pulsed Electromagnetic Fields in utility workers.

1995. First cell tracking experiments performed using PC12 and CHO.

1996. Consultant to Siemens on interference between cellular telephones and hearing aids, and on SAR assessments.

1996. Cell tracking experiments on HL60 cells.

1997. Assigned to teach Toxicology at McGill University.

1998. Experiments performed using chemotherapeutic drugs on K562 cells.

1999. Computer-vision capability successfully added to the InVitroPlus automated system.

2003. Studies in vitro on chemotherapeutic agents.

2005. Studies in vitro on industrial metals.

2008. Studies on Karyotype Contraction in cancer cells under metabolic suppression.

2010. Studies on Karyotype Contraction in cancer cells under ELF magnetic field exposure.

2011. Studies on magnetic field interference with ATP Synthase.

2013. Studies on Microwaves and cancer cells.

2016. InVitroPlus laboratory transferred to Nun's Island location.

2017. Work ongoing on a cancer therapy using ELF magnetic fields.

2017. Meetings with State Attorney Generals. Montpelier, Vermont, March 31<sup>st</sup>, 2017, Charlottesville, Virginia, 2017 NAAG Southern Region Meeting, April 4-5<sup>th</sup>, Lincoln, Nebraska, April 24<sup>th</sup>, Columbia, South Carolina, May 22<sup>nd</sup>.

2018. Meeting at U.S. House of Representatives and Senate in Washington D.C., on deployment of cellular telecommunication systems in cooperation with California Brain Tumor Association.

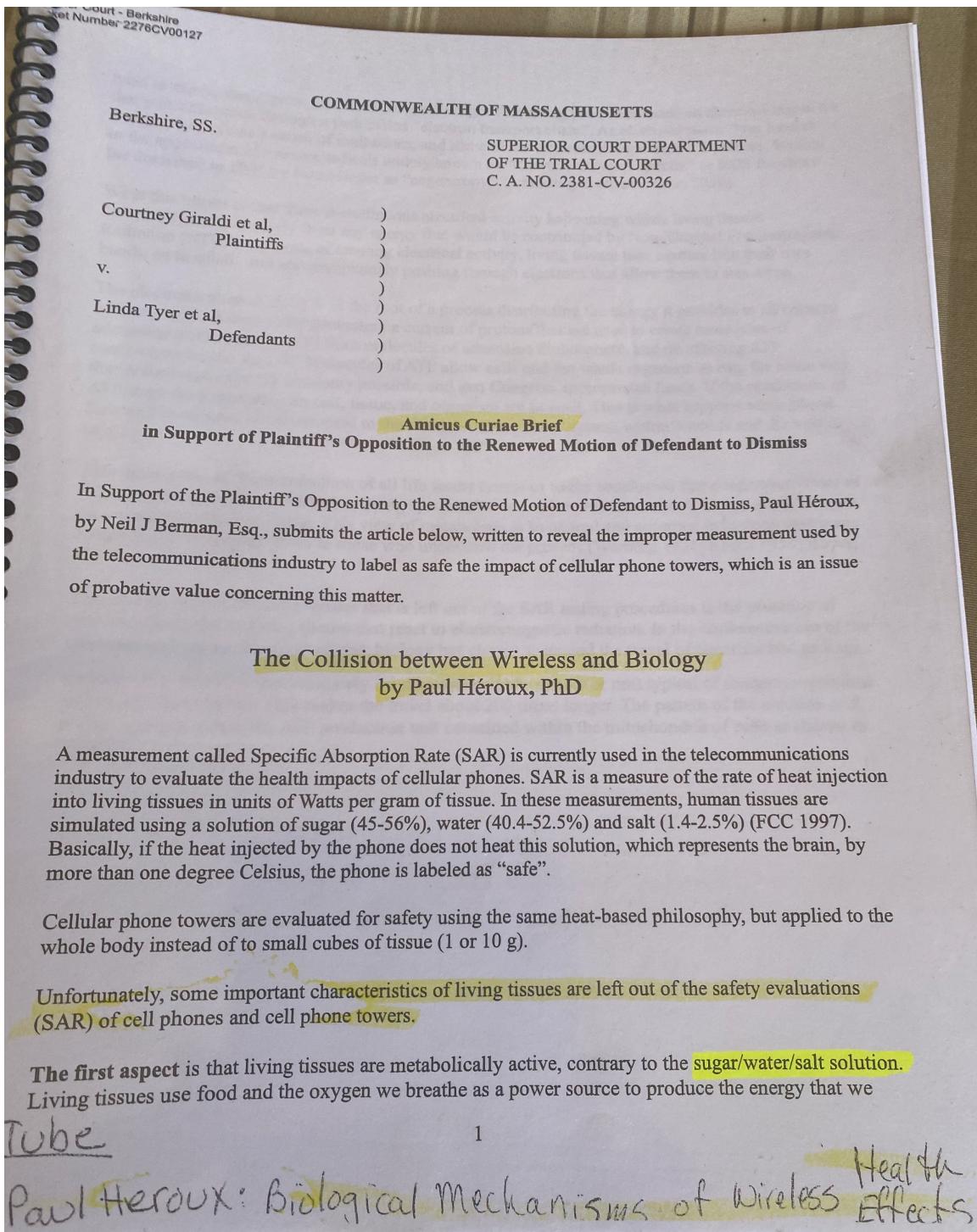
2019. Serving on a New Hampshire Committee studying the potential health effects of 5G radiation.

2021. Topic Editor of the MDPI journal *Toxics*. [https://www.mdpi.com/journal/toxics/topic\\_editors](https://www.mdpi.com/journal/toxics/topic_editors)

2022. Commissioner of the International Commission on the Biological Effects of Electromagnetic Fields ([www.icbe-emf.org](http://www.icbe-emf.org))

2023. Member of the Editorial Board of the journal *Electromagnetic Biology and Medicine*.

# The Collision between Wireless and Biology by Paul Heroux, PhD (5 pages)



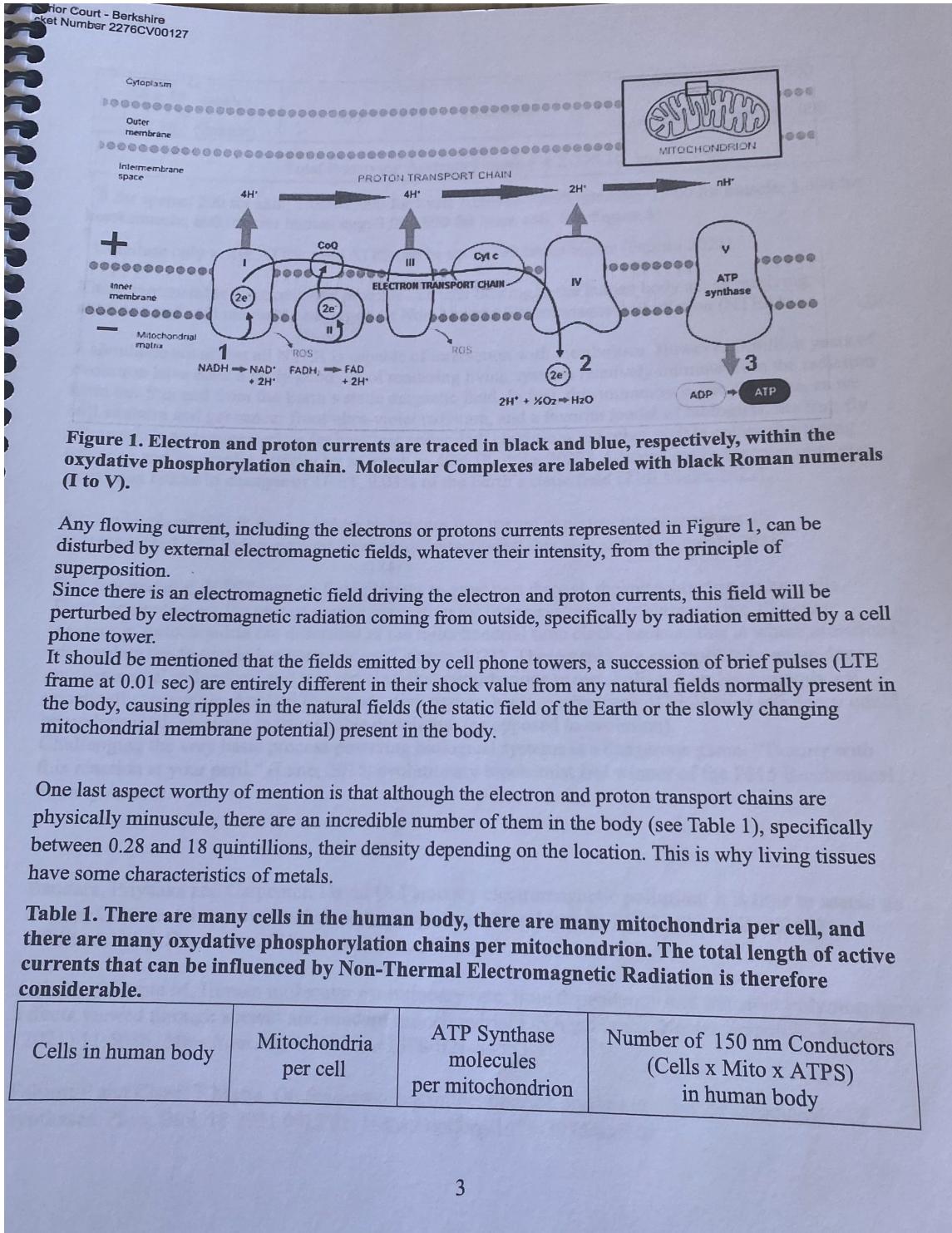
need to move, think, grow, and repair tissue damage. This living process is based on chemical reactions that move electrons through a path called "electron transport chain". As electrons move from food to oxygen, they create a series of ionizations, and some of the electrons escape from the process, leading to the appearance of reactive radicals widely known as "Reactive Oxygen Species" or ROS for short (as described in 1944 by Schrödinger as "negentropy"; Schrödinger, republication 2010).

What this means is that there is continuous electrical activity happening within living tissues completely independently from any energy that would be contributed by Non-Thermal Electromagnetic Radiation (NTER). In terms of creating electrical activity, living tissues take matters into their own hands, so to speak, and are continuously pushing through electrons that allow them to stay alive.

The electron transport chain is at the root of a process distributing the energy it provides to all corners of living cells. It does so by generating a current of protons that are used to create molecules of adenosine triphosphate (ATP) from molecules of adenosine diphosphate, and distributing ATP everywhere within the cell. Molecules of ATP allow cells and the whole organism to run, the same way that dollars make the US economy possible, and that Congress appropriates funds. If the production of ATP stops for a moment, the cell, tissue, and organism are in peril. This is what happens when blood flow and its oxygen are interrupted to the brain. We lose consciousness within seconds and die within minutes.

This description of the metabolism of all life forms brings us to the conclusion that continuous flows of electrons and protons are critical to living systems, but are not represented in any way in the SAR tests on a sugar/water/salt solution. This view of metabolism is so central and accepted in biology that many Nobel prizes have been given to those who uncovered the process (Warburg 1931; Krebs 1953; Boyer, 1997).

**The second aspect** of living tissues that is left out of the SAR testing procedures is the presence of receiving antennas in living tissues that react to electromagnetic radiation. In the implementation of the electrons and proton transport chains, biology has chosen to extend the travel of electrons and protons considerably, from the approximately 0.1 nanometers ( $10^{-9}$  meters or nm) typical of inorganic reactions to 150 nm (Hirst 2018). This makes the travel about 200 times longer. The pattern of the electron and proton currents within the ATP production unit contained within the mitochondria of cells is shown in Figure 1.



<p style="text-align: right;">Berkshire Court - Berkshire Case Number 2276CV00127</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 5px;"><math>36 \times 10^{12}</math> (male)</td><td style="text-align: center; padding: 5px;"><math>100^1</math></td><td style="text-align: center; padding: 5px;"><math>100-5,000^2</math></td><td style="text-align: center; padding: 5px;">280,000,000,000,000,000 to 18,000,000,000,000,000,000</td></tr> <tr> <td colspan="4" style="text-align: center; padding: 5px;">Total Receiving Antenna Length = <math>4.2-270\ 10^7</math> km</td></tr> </table>				$36 \times 10^{12}$ (male)	$100^1$	$100-5,000^2$	280,000,000,000,000,000 to 18,000,000,000,000,000,000	Total Receiving Antenna Length = $4.2-270\ 10^7$ km			
$36 \times 10^{12}$ (male)	$100^1$	$100-5,000^2$	280,000,000,000,000,000 to 18,000,000,000,000,000,000								
Total Receiving Antenna Length = $4.2-270\ 10^7$ km											
<sup>1</sup> 5 for sperm; 200 for skin; 1,000-2,000 for liver; 1,600 for small intestine; 1,700 for muscle; 5,000 for heart muscle; 600,000 for human egg; 2,000,000 for brain cell. See Figure 3.											
<sup>2</sup> Counting only active ATPS; total ATPS can be up to 100 times higher (Fahimi 2021).											
<p>These innumerable electronic and protonic currents flowing in the human body act as receiving antennas, and will inevitably be targets of Non-Thermal Electromagnetic Radiation (NTER).</p> <p>It should be noted that all NTER is capable of interaction with metabolism. However, 3 billion years of evolution have done a fairly good job of rendering living systems relatively immune from the radiation from our Sun and from the Earth's static magnetic field. In fact, this immunity is not complete, as we still sunburn and get cancer from ultra-violet radiation, and a favorite model of biologists, the fruit fly (<i>Drosophila melanogaster</i>), is far healthier under dark conditions, all other visible colors shortening life-span and locomotor activity by as much as 40% (Krittika 2022). Adverse cardiovascular outcomes have been linked to changes of 10 nT, 0.03% of the Earth's static field (Zilli Vieira 2022).</p> <p>But the levels of NTER from wireless techniques that we are experiencing now are totally unprecedented, and living systems have no defense against this new arrival (Bandara 2018).</p> <p>One last warning. NTER acts on living tissues in great part through the mitochondria within cells. These organelles are the seat of energy generation for living systems. Furthermore, the 13 genes resident in mitochondria are described as the mitochondrial time clock, because this is where mutations accumulate the fastest in human genetics (Cabrera 2021). These genes are susceptible to anomalous environmental influences, and it is not clear that perturbations to metabolism over long periods are genetically reversible. Applied to reproductive tissues, basic mechanisms of biological efficiency could be undermined, resulting in irreversible devolution (as opposed to evolution). Challenging the very basic process powering biological systems is a dangerous game. "Tamper with this reaction at your peril." (Lane, 2015; evolutionary biochemist and winner of the 2015 Biochemical Society Award).</p>											
<p>Bandara, Priyanka and Carpenter, David O. Planetary electromagnetic pollution: it is time to assess its impact. Comment. <a href="https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(18)30221-3/fulltext">https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(18)30221-3/fulltext</a> Vol 2. December 2018.</p> <p>Cabrera, Vicente M. Human molecular evolutionary rate, time dependency and transient polymorphism effects viewed through ancient and modern mitochondrial DNA genomes. <i>Nature Scientific Reports</i>   (2021) 11:5036   <a href="https://doi.org/10.1038/s41598-021-84583-1">https://doi.org/10.1038/s41598-021-84583-1</a></p> <p>Fahimi P and Chérif F Matta. On the power per mitochondrion and the number of associated ATP synthases. <i>Phys. Biol.</i> 18 2021 04LT01. <a href="https://doi.org/10.1088/1361-6544/abf7d9">https://doi.org/10.1088/1361-6544/abf7d9</a></p>											

FCC 1997. Office of Engineering & Technology. Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields. Supplement C. (Edition 01-01) to OET Bulletin 65 (Edition 97-01).

Hirst, Judy. Open questions: respiratory chain supercomplexes—why are they there and what do they do? *BMC Biology* (2018) 16:111. <https://doi.org/10.1186/s12915-018-0577-5>.

Krittika Sudhakar and Pankaj Yadav. 2022. Alterations in lifespan and sleep:wake duration under selective monochromes of visible light in *Drosophila melanogaster*. *Biol Open*. 2022 Jul 15;11(7):bio059273. doi: 10.1242/bio.059273.

Lane Nick. *The vital question*. WW Norton and Co. New York London, 2015.

Schrödinger, Erwin (2010). *What is life? The physical aspect of the living cell*. Cambridge paperbacks Science (Reprinted edition). Cambridge: Cambridge Univ. Press. ISBN 978-0-521-42708-1.

Zilli Vieria C et al. Geomagnetic disturbances reduce heart rate variability in the Normative Aging Study. *Science of the Total environment* 839 (2022) 156235

# USA Microwave Radiation Misinformation Campaign from about 1947-2020 (73 years)

February 2020 by Joe Esposito, 918-274-8111 (see the following pages for explanation of this one page pictorial)

This is a one page pictorial of the of the U.S.A. Microwave Radiation Misinformation Campaign, from about 1947 to 2020, a period of 73 years.

The misinformation results from using differing health "Standards" for Non-Ionizing Radiation required to cause Damage to Human Health.

**Thermal Non-Ionizing Radiation** Safety Standard of 10,000 uW/cm<sup>2</sup>  
 (1947 - An engineer with no biological experience assumed there *has to be heating before human health damage occurs*)

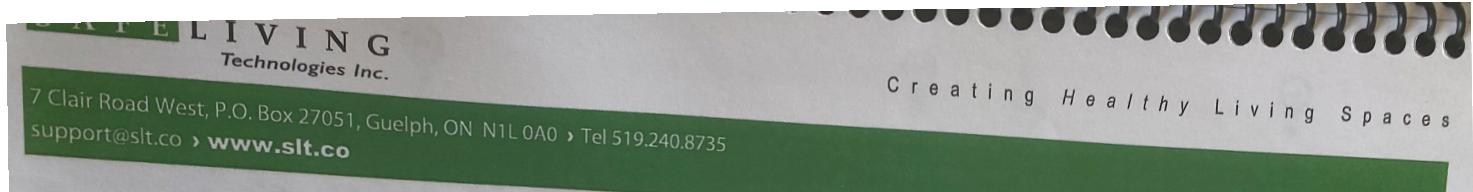
**Non-Thermal Non-Ionizing Radiation** Safety Standard of 3.4 uW/m<sup>2</sup>  
 (2020 - Independent scientists have determined very little radiation, with *no heating causes human health damage*) \*see Bioinitiative Report 2017 and the U.S. Toxicology studies

**Radiation Spectrum Measurement**  
 Aids Used:  
**HFE35C HF-ANALYSER**  
 reads radiation between 27 MHz - 2,500 MHz & microWatts/SqMeter

**MEASUREMENT OF RADIATION CHART**

microWatts/Sq Meter	Watts/Sq Centimeter	milliWatts/Sq Centimeter	microWatts/Sq Centimeter
0.1 uW/m <sup>2</sup>		Jerry G. Flynn,	0.000.01 uW/cm <sup>2</sup>
1.0 uW/m <sup>2</sup>		Anthony B. Miller, MD,	0.000.1 uW/cm <sup>2</sup>
		Martin L. Pall, Ph.D.	
<b>3.4 uW/m<sup>2</sup></b>	<b>5</b>		<b>0.000,1 uW/cm<sup>2</sup></b>
Cellular damage occurs at 3.4 uW/m <sup>2</sup> per the Bioinitiative Report - updated 2017			
10 uW/m <sup>2</sup>			0.001 uW/cm <sup>2</sup>
100 uW/m <sup>2</sup>			0.01 uW/cm <sup>2</sup>
1,000 uW/m <sup>2</sup>			0.1 uW/cm <sup>2</sup>
10,000 uW/m <sup>2</sup>	<b>4</b>		1. uW/cm <sup>2</sup>
U.S. Embassy Moscow: Russians directed radiation at the embassy building for 25 years with 20,000 uW/m <sup>2</sup> to 128,000 uW/m <sup>2</sup>			
100,000 uW/m <sup>2</sup>	<b>3</b>		10 uW/cm <sup>2</sup>
1,000,000 uW/m <sup>2</sup>			100 uW/cm <sup>2</sup>
FCC Guidelines are between 6,000,000 to 10,000,000 uW/m <sup>2</sup> or 600 to 1,000 uW/cm <sup>2</sup>			
10,000,000 uW/m <sup>2</sup>	<b>2</b>		1,000 uW/cm <sup>2</sup>
100,000,000 uW/m <sup>2</sup>			10,000 uW/cm <sup>2</sup>
Herman P. Schwan 1947 (this level for only one hour)			

# Radio Frequency “RF” Power Density to Volts per Meter Unit Conversion Chart



## Radio Frequency “RF” Power Density to Volts Per Meter Unit Conversion Chart

milliVolts Per Meter	Volts Per Meter	Watts/Sq Meter	milliWatts/sq Meter	microWatts/sq Meter	Watts/Sq Centimeter	milliWatts/Sq Centimeter	microWatts/Sq Centimeter
0.001,94 mV/m	0.000,001,94 V/m	0.000,000,000,001 W/m <sup>2</sup>	0.000,000,000,01 mW/m <sup>2</sup>	0.000,000,01 μW/m <sup>2</sup>	0.000,000,000,000,001 W/cm <sup>2</sup>	0.000,000,000,000,001 mW/cm <sup>2</sup>	0.000,000,000,001 μW/cm <sup>2</sup>
0.006,14 mV/m	0.000,006,14 V/m	0.000,000,000,001 W/m <sup>2</sup>	0.000,000,000,01 mW/m <sup>2</sup>	0.000,000,01 μW/m <sup>2</sup>	0.000,000,000,000,01 W/cm <sup>2</sup>	0.000,000,000,000,01 mW/cm <sup>2</sup>	0.000,000,000,01 μW/cm <sup>2</sup>
0.019,4 mV/m	0.000,019,4 V/m	0.000,000,000,001 W/m <sup>2</sup>	0.000,000,000,01 mW/m <sup>2</sup>	0.000,000,01 μW/m <sup>2</sup>	0.000,000,000,000,01 W/cm <sup>2</sup>	0.000,000,000,000,01 mW/cm <sup>2</sup>	0.000,000,000,01 μW/cm <sup>2</sup>
0.0614 mV/m	0.000,061,4 V/m	0.000,000,000,01 W/m <sup>2</sup>	0.000,000,000,01 mW/m <sup>2</sup>	0.000,000,01 μW/m <sup>2</sup>	0.000,000,000,000,01 W/cm <sup>2</sup>	0.000,000,000,000,01 mW/cm <sup>2</sup>	0.000,000,000,01 μW/cm <sup>2</sup>
0.194 mV/m	0.000,194 V/m	0.000,000,000,01 W/m <sup>2</sup>	0.000,000,000,01 mW/m <sup>2</sup>	0.000,000,01 μW/m <sup>2</sup>	0.000,000,000,000,01 W/cm <sup>2</sup>	0.000,000,000,000,01 mW/cm <sup>2</sup>	0.000,000,000,01 μW/cm <sup>2</sup>
0.614 mV/m	0.000,614 V/m	0.000,000,000,01 W/m <sup>2</sup>	0.000,000,000,01 mW/m <sup>2</sup>	0.000,000,01 μW/m <sup>2</sup>	0.000,000,000,000,01 W/cm <sup>2</sup>	0.000,000,000,000,01 mW/cm <sup>2</sup>	0.000,000,000,01 μW/cm <sup>2</sup>
1.94 mV/m	0.001,94 V/m	0.000,000,001 W/m <sup>2</sup>	0.000,000,001 mW/m <sup>2</sup>	0.000,001 μW/m <sup>2</sup>	0.000,000,000,000,01 W/cm <sup>2</sup>	0.000,000,000,000,01 mW/cm <sup>2</sup>	0.000,000,000,01 μW/cm <sup>2</sup>
6.14 mV/m	0.006,14 V/m	0.000,000,001 W/m <sup>2</sup>	0.000,000,001 mW/m <sup>2</sup>	0.000,001 μW/m <sup>2</sup>	0.000,000,000,000,01 W/cm <sup>2</sup>	0.000,000,000,000,01 mW/cm <sup>2</sup>	0.000,000,000,01 μW/cm <sup>2</sup>
19.4 mV/m	0.019,4 V/m	0.000,001 W/m <sup>2</sup>	0.000,001 mW/m <sup>2</sup>	0.001 μW/m <sup>2</sup>	0.000,000,000,000,01 W/cm <sup>2</sup>	0.000,000,000,000,01 mW/cm <sup>2</sup>	0.000,000,000,01 μW/cm <sup>2</sup>
61.4 mV/m	0.061,4 V/m	0.000,01 W/m <sup>2</sup>	0.000,001 mW/m <sup>2</sup>	0.01 μW/m <sup>2</sup>	0.000,000,000,000,01 W/cm <sup>2</sup>	0.000,000,000,000,01 mW/cm <sup>2</sup>	0.000,000,000,01 μW/cm <sup>2</sup>
194 mV/m	0.194 V/m	0.000,1 W/m <sup>2</sup>	0.000,1 mW/m <sup>2</sup>	0.1 μW/m <sup>2</sup>	0.000,000,000,000,01 W/cm <sup>2</sup>	0.000,000,000,000,01 mW/cm <sup>2</sup>	0.000,000,000,01 μW/cm <sup>2</sup>
614 mV/m	0.614 V/m	0.001 W/m <sup>2</sup>	0.001 mW/m <sup>2</sup>	1 μW/m <sup>2</sup>	0.000,000,000,000,01 W/cm <sup>2</sup>	0.000,000,000,000,01 mW/cm <sup>2</sup>	0.000,000,000,01 μW/cm <sup>2</sup>
1,942 mV/m	1.942 V/m	0.01 W/m <sup>2</sup>	0.01 mW/m <sup>2</sup>	10 μW/m <sup>2</sup>	0.000,000,000,000,01 W/cm <sup>2</sup>	0.000,000,000,000,01 mW/cm <sup>2</sup>	0.000,000,000,01 μW/cm <sup>2</sup>
6,140 mV/m	6.140 V/m	0.1 W/m <sup>2</sup>	0.1 mW/m <sup>2</sup>	100 μW/m <sup>2</sup>	0.000,000,000,000,01 W/cm <sup>2</sup>	0.000,000,000,000,01 mW/cm <sup>2</sup>	0.000,000,000,01 μW/cm <sup>2</sup>
19,416 mV/m	19.4 V/m	1 W/m <sup>2</sup>	1,000 mW/m <sup>2</sup>	1,000,000 μW/m <sup>2</sup>	0.000,000,000,000,01 W/cm <sup>2</sup>	0.000,000,000,000,01 mW/cm <sup>2</sup>	0.000,000,000,01 μW/cm <sup>2</sup>
61,400 mV/m	61.4 V/m	10 W/m <sup>2</sup>	10,000 mW/m <sup>2</sup>	10,000,000 μW/m <sup>2</sup>	0.000,000,000,000,01 W/cm <sup>2</sup>	0.000,000,000,000,01 mW/cm <sup>2</sup>	0.000,000,000,01 μW/cm <sup>2</sup>
194,164 mV/m	194 V/m	100 W/m <sup>2</sup>	100,000 mW/m <sup>2</sup>	100,000,000 μW/m <sup>2</sup>	0.000,000,000,000,01 W/cm <sup>2</sup>	0.000,000,000,000,01 mW/cm <sup>2</sup>	0.000,000,000,01 μW/cm <sup>2</sup>
614,003 mV/m	614 V/m	1,000 W/m <sup>2</sup>	1,000,000 mW/m <sup>2</sup>	1,000,000,000 μW/m <sup>2</sup>	0.1 W/cm <sup>2</sup>	100 mW/cm <sup>2</sup>	100,000 μW/cm <sup>2</sup>
1,941,648 mV/m	1942 V/m	10,000 W/m <sup>2</sup>	10,000,000 mW/m <sup>2</sup>	10,000,000,000 μW/m <sup>2</sup>	1 W/cm <sup>2</sup>	1,000 mW/cm <sup>2</sup>	1,000,000 μW/cm <sup>2</sup>
6,140,032 mV/m	6140 V/m	100,000 W/m <sup>2</sup>	100,000,000 mW/m <sup>2</sup>	100,000,000,000 μW/m <sup>2</sup>	10 W/cm <sup>2</sup>	10,000 mW/cm <sup>2</sup>	10,000,000 μW/cm <sup>2</sup>

Formulas:  $V/m = \sqrt{(W/m^2 \times 377)}$  Volts per meter = the square root of the product of Watts per square meter times 377

Note: V/m and mV/m are rounded

1 through 6 on first page are magnifying glasses



### Green Conversion Chart

\*\*\* 8 Vertical Columns: - top to bottom of chart, top is lesser power or energy and going down is greater power or energy ( i.e. power from a spark vs 3 volcanoes)

V spark  
 e match  
 r candle  
 t camp fire  
 i forest fire  
 c volcano  
 a 2 volcanoes  
 L 3 volcanoes

### \*\*\*Horizontal Line:

from right to left side, 8 different columns 8 different headings but all the different measurements in a line drawn from right side to left side of chart is the same power or same energy level

# This is the explanation of the One Page Pictorial Resolution of the USA Microwave Radiation Debate of 73 Years (2 pages)

This is the explanation of the one page pictorial Resolution of the U.S.A. Microwave Radiation Debate of 73 years.

**1** #1.) Herman P. Schwan, an engineer, set the first safety standard in about 1947, the Thermal Non-ionizing Radiation Safety Standard of 10,000  $\mu\text{W}/\text{cm}^2$ . (Schwan Incorrectly assumed, "There has to be heating before human health damage occurs.") Schwan came from Germany during the Nazi era and accepted a post at the University of Pennsylvania. Most of his research was for the Department of Defense. Although not a biologist, Schwan assumed heating was the only effect EMR would have on living tissue. In this respect he considered living things no different from the hot dogs that World War II radarmen roasted in their microwave beams, so cooking was the only harm he foresaw.

Appreciable heating occurred in Schwan's models only at levels of 100,000  $\mu\text{W}/\text{cm}^2$  or above, so, incorporating a safety factor of ten, Schwan in 1953 proposed an exposure limit of 10,000  $\mu\text{W}/\text{cm}^2$  for humans. Read the full story (Becker M.D., Robert *The Body Electric* 1985 p. 305). Schwan had NO Physiology, Biology, Chemistry or Epidemiological Studies on which to base his empirical assumption!

**2** #2.) The equivalent reading to 10,000  $\mu\text{W}/\text{cm}^2$  set by Schwan in 1947 will be found by moving to the left side of the radiation chart to the heading of microWatts/ Sq Meter. The amount will be 100,000,000  $\mu\text{W}/\text{m}^2$ . This large amount of radiation can not be read with a HFE 35C HF-Analyser which can only read up to 200,000  $\mu\text{W}/\text{m}^2$ .

**3** #3.) Moving up the chart is the lesser power of radiation we see the FCC Guidelines that are between 6,000,000 to 10,000,000  $\mu\text{W}/\text{m}^2$ . This FCC guideline is also based on ("There has to be heating before human health damage occurs"). "Documentary *Generation Zapped*" - A Film by Sabine El Gemayel features George Carlo, MSC, JD, PhD, former chairman of the "Wireless Technology Research Team 1996". George Carlo was the facilitator for the Telecoms and the U.S. Government's setting the allowable limits of microwave wireless radiation to be used by the public. I took his transcript out of Gemayel's documentary and at 10:23 and 11:00 min, Carlo stated - "So back in 1984, the two key agencies were the FDA for the devices and the EPA for the infrastructure. Both of those agencies preempted either pre-market testing or post-market surveillance because at the time, it was felt [a presumption with out any proof] that the power was so low for cellphones transmissions, that there could not be heating. And without heating, there could not be health effects."

Carlo- At 27:00 min: "But the FCC's job as a commission was fair and equitable use of spectrum. The FCC was not a policing agency, had nothing to do with safety, had nothing to do with monitoring."

Carlo- At 31:00 min: "We were sort of caught in a difficult place, because some of the claims that were being made about health effects were so severe that, had there been pre market testing, cell phones never would've made it into the marketplace."

Joe Esposito March 4, 2020: "Today, the FCC has NO NON-THERMAL microwave radiation safe standard at all!"

**4** #4.) Moving up the microWatts/ Sq Meter column, finding even less power of radiation, we see the U.S. Embassy Moscow: The Soviets directed non-thermal radiation at the U.S. embassy building for 25 years with 20,000  $\mu\text{W}/\text{m}^2$  to 128,000  $\mu\text{W}/\text{m}^2$ . It should be understood that these levels of power are much, much less than 100,000,000  $\mu\text{W}/\text{m}^2$  set by Schwan in 1947. In U.S. households today, a common reading of radiation, on a 24-hour basis, is 20,000  $\mu\text{W}/\text{m}^2$  to 128,000  $\mu\text{W}/\text{m}^2$ .

The 25-year-incident (1953-1978) of the Soviets irradiating the U.S. Embassy staff with non-thermal non-ionizing microwave radiation is a known fact.

"Exposed embassy staff experienced a statistically significant excess of several problems, including: depression, irritability, difficulty in concentrating, memory loss, ear problems, skin problems,

For more documentation see the November 2019 book by Captain Jerry G. Flynn - (retired Electronic Warfare Specialist-26 years): **HIDDEN DANGERS How governments, telecom and electric power utilities suppress the truth about the known hazards of electro-magnetic field (EMF) radiation – Plus 5G.** Two hundred and twenty three pages in twenty chapters –each chapter explaining the harm from man-made microwave wireless radiation coming from different sources and from each device.

#### COMPARISONS OF OTHER WIRELESS MICROWAVE RADIATION DEVICES

4

Magnifying Glass #4 - one page pictorial - U.S. Embassy Moscow: Soviets directed radiation at the embassy for 25 years with 20,000 uW/m<sup>2</sup> to 128,000 uW/m<sup>2</sup>.

- **AEP-PSO** Oklahoma electric utility's (Tri-Fold Customer Guide, a public hand out) **SMART METERS** are transmitting at up to 400,000 uW/m<sup>2</sup> - with a varying transmitting rate of 14,000 to 190,000 times per day. (Also in AEP-PSO Customer Guide it is stated that Cell Phones are transmitting at "1,000 - 5,000 microwatts at ear during use"). This statement by AEP-PSO was exposed as false by Dr. Daniel Hirsch Jan 21, 2011 (Flynn, Hidden Dangers - 2019 Pages 176 & 177).
- **Oklahoma Natural Gas Company** utility meters are transmitting up to 250,000 uW/m<sup>2</sup> every 15 seconds and can be read by ONG truck's at 2 miles from a ratepayers ONG utility gas meter.
- **Rural Water District #3** Collinsville, Oklahoma, Water Meters  
Transmits up to 6,000,000 to 7,000,000 uW/m<sup>2</sup>

CALL YOUR STATE OF OKLAHOMA LEGISLATORS HOUSE AND SENATE TELL THEM TO PASS  
**Dr. Dale Derby's M. D. - House Bill # 2872, 2018 - to STOP THE OKLAHOMA UTILITIES FROM RADIATING OKLAHOMA FAMILIES** (Utilities should be using mechanical analog meters).  
LIKE THE U.S. EMBASSY STAFF IN MOSCOW FOR 25 YEARS, MOST OF THE OKLAHOMA PUBLIC CAN NOT DETECT WITH THEIR SENSES HOW MUCH THEY ARE BEING RADIATED WITH MICROWAVES FROM THE OKLAHOMA UTILITY METERS.

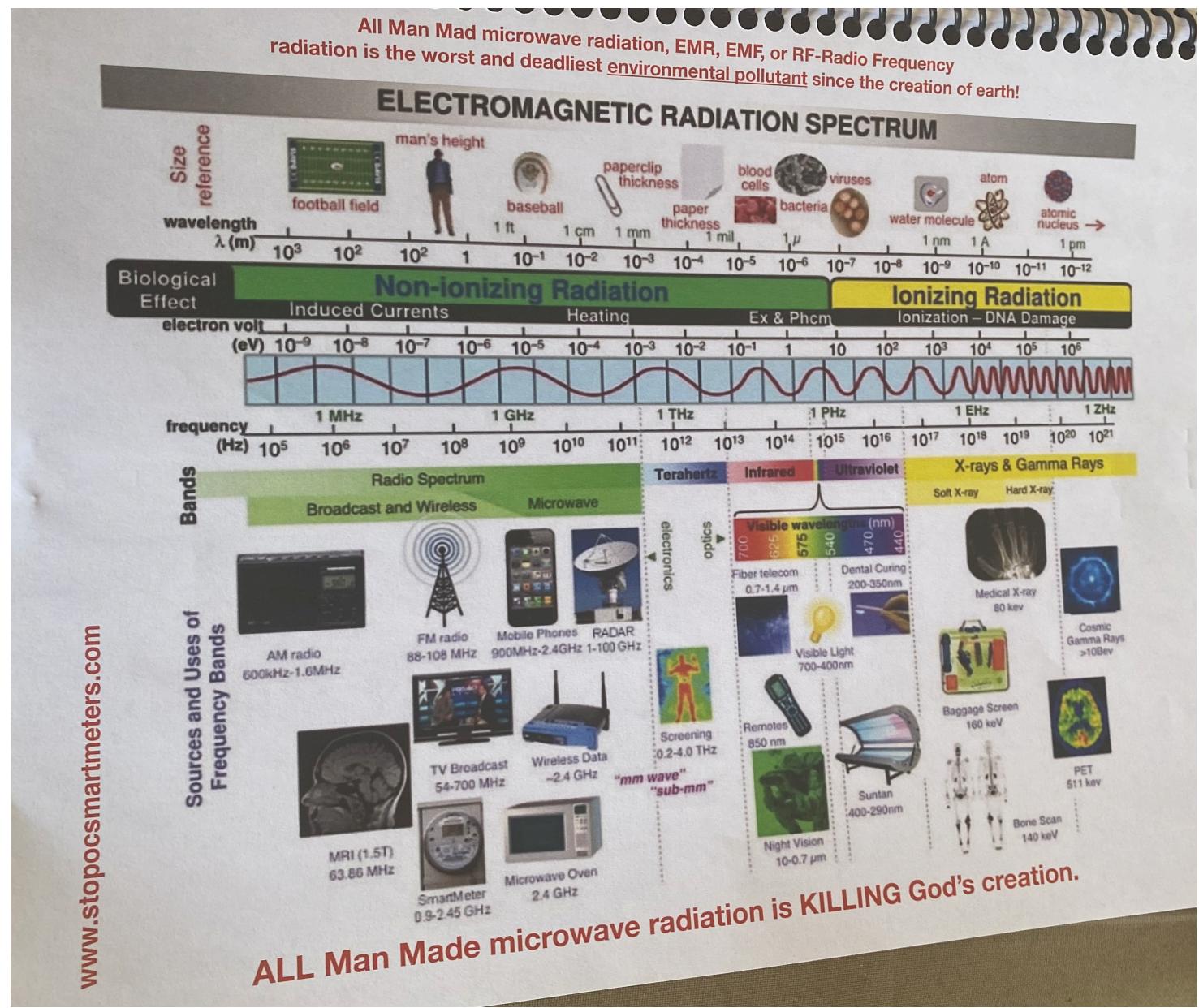
"Researchers say: If there is a safe level of exposure to EMR, it's so low that we can't detect it" (Flynn, Hidden Dangers - 2019 Page 71).

"There is no SAFE 'threshold' level. The only SAFE 'exposure' level is ZERO, a position confirmed by epidemiological studies." So said New Zealand's world-renowned scientist Dr. Neil Cherry, PhD, ONZM. (Flynn, Hidden Dangers - 2019 Page 66).

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# Electromagnetic Radiation Spectrum



## 'Uncontrolled Experiment': How Smart Devices are Damaging Kids Brains (2 pages)

07/06/23 • BIG TECH • VIEWS

### 'Uncontrolled Experiment': How Smart Devices Are Damaging Kids Brains

As little as two hours of screen time per day can impair a child's thinking and language skills, interfere with sleep, and increase anxiety and depression.

By Dr. Joseph Mercola

Miss a day, miss a lot. Subscribe to The Defender's Top News of the Day. It's free.

**Story at a glance:**

- Children ages 9 to 10 who use electronic devices for seven hours or more per day exhibit premature thinning of the brain cortex, the outer brain layer that processes information from the five physical senses.
- As little as two hours of screen time per day may impact cognition, resulting in lower scores on thinking and language tests.
- Infants under the age of 2 do not effectively learn language from videos; they need live interaction.
- Babies do not transfer what they learn from the iPad to the real world. For example, the ability to play with virtual Legos does not transfer over to the skill of manipulating real Lego blocks.
- Apps and social media are designed to be addictive, and young children are far more susceptible to addiction than adults.

Most people today live in a sea of radio frequencies emitted from wireless technologies of all kinds, from routers to smartphones, tablets, baby monitors, TVs, appliances, smart meters and many more.

According to many experts, chronic, heavy exposure could have severe repercussions for our health, especially that of children, who are now exposed even before birth.

Research also suggests interaction with social media, games and apps online produces a number of effects, both physical and psychological.

**Heavy use of wireless devices changes kids' brain structure**

In the largest long-term study of brain development and youth health in the U.S., the Adolescent Brain Cognitive Development (ABCD) Study, reveals the brains of the most prolific users of electronic devices look different compared to those who use smartphones, tablets and video games less frequently.

In all, more than 11,000 children will be followed for a decade to assess how various childhood experiences and environments affect brain development and psychological health.

As noted by the researchers:

"The data will provide a resource of unprecedented scale and depth for studying typical and atypical development."

These preliminary findings, based on the brain scans of 4,500 9- to 10-year-olds, reveal children who use electronic devices for seven hours or more each day have premature thinning of the brain cortex, the

Cover

outer brain layer that processes information from the five physical senses (taste, touch, sight, smell and sound).

The exact ramifications of this anomaly are still unknown.

According to [Dr. Gaya Dowling](#), a researcher with the National Institutes of Health, which is sponsoring the \$300 million study, thinning of the cortex is thought to be part of the brain maturation process, so what these scans are showing is that this process is being sped up in children who get a lot of screen time (7-plus hours a day).

They cannot prove that the changes are definitively caused by screen time, and the full effects won't be known until years from now, as the emotional and [mental health](#) outcomes of these children are evaluated.

Still, preliminary results suggest as little as two hours of screen time per day may impact cognition, resulting in [lower scores on thinking and language tests](#).

#### **American Academy of Pediatrics guidelines for screen time**

According to the "Growing Up Digital" report by the [American Academy of Pediatrics \(AAP\)](#), published in October 2015:

"The 2013 Zero to Eight study ... showed that 38 percent of infants younger than age 2 use mobile devices like smartphones. A 2015 Pew Research study reports that 73 percent of 13- to 17-year-olds have smartphones and 24 percent admit using their phones almost constantly."

The report cites data from research showing infants under the age of 1 do not effectively learn language from videos, whereas they do learn language from live interactions. Up to age 2, live presentations are far superior for language processing and learning compared to video presentations.

According to the report, "It is clear that very young children need 'contingent interaction — two-way social interchange — to promote learning.'

This is also noted in the "60 Minutes" report (see video below).

Is screen time affecting kids' brains?



# Reported Biological Effects from Radiofrequency Radiation at Low-Intensity Exposure (Cell Tower, Wi-Fi, Wireless Laptop and 'Smart' Meter RF Intensities) (12 pages)

## Reported Biological Effects from Radiofrequency Radiation at Low-Intensity Exposure (Cell Tower, Wi-Fi, Wireless Laptop and 'Smart' Meter RF Intensities)

Power Density (Microwatts/centimeter <sup>2</sup> - uW/cm <sup>2</sup> )	Reference
As low as ( $10^{-13}$ ) or 100 femtowatts/cm <sup>2</sup>	Super-low intensity RFR effects at MW resonant frequencies resulted in changes in genes; problems with chromatin conformation (DNA) Belyaev, 1997
5 picowatts/cm <sup>2</sup> ( $10^{-12}$ )	Changed growth rates in yeast cells Grundler, 1992
0.1 nanowatt/cm <sup>2</sup> ( $10^{-10}$ ) or 100 picowatts/cm <sup>2</sup>	Super-low intensity RFR effects at MW resonant frequencies resulted in changes in genes; problems with chromatin condensation (DNA) intensities comparable to base stations Belyaev, 1997
0.00034 uW/cm <sup>2</sup>	Chronic exposure to mobile phone pulsed RF significantly reduced sperm count, Behari, 2006
0.0005 uW/cm <sup>2</sup>	RFR decreased cell proliferation at 960 MHz GSM 217 Hz for 30-min exposure Velizarov, 1999
0.0006 - 0.0128 uW/cm <sup>2</sup>	Fatigue, depressive tendency, sleeping disorders, concentration difficulties, cardio- vascular problems reported with exposure to GSM 900/1800 MHz cell phone signal at base station level exposures. Oberfeld, 2004
0.003 - 0.02 uW/cm <sup>2</sup>	In children and adolescents (8-17 yrs) short-term exposure caused headache, irritation, concentration difficulties in school. Heinrich, 2010
0.003 to 0.05 uW/cm <sup>2</sup>	In children and adolescents (8-17 yrs) short-term exposure caused conduct problems in school (behavioral problems) Thomas, 2010
0.005 uW/cm <sup>2</sup>	In adults (30-60 yrs) chronic exposure caused sleep disturbances, (but not significantly increased across the entire population) Mohler, 2010
0.005 - 0.04 uW/cm <sup>2</sup>	Adults exposed to short-term cell phone radiation reported headaches, concentration difficulties (differences not significant, but elevated) Thomas, 2008
0.006 - 0.01 uW/cm <sup>2</sup>	Chronic exposure to base station RF (whole-body) in humans showed increased stress hormones; dopamine levels substantially decreased; higher levels of adrenaline and nor-adrenaline; dose-response seen; produced chronic physiological stress in cells even after 1.5 years. Buchner, 2012
0.01 - 0.11 uW/cm <sup>2</sup>	RFR from cell towers caused fatigue, headaches, sleeping problems Navarro, 2003

Stress proteins, HSP, disrupted immune function	Brain tumors and blood-brain barrier
Reproduction/fertility effects	Sleep, neuron firing rate, EEG, memory, learning, behavior
Oxidative damage/ROS/DNA damage/DNA repair failure	Cancer (other than brain), cell proliferation
Disrupted calcium metabolism	Cardiac, heart muscle, blood-pressure, vascular effects

## Reported Biological Effects from Radiofrequency Radiation at Low-Intensity Exposure (Cell Tower, Wi-Fi, Wireless Laptop and 'Smart' Meter RF Intensities)

Power Density (Microwatts/centimeter <sup>2</sup> - uW/cm <sup>2</sup> )	Reference
0.01 - 0.05 uW/cm <sup>2</sup>	Adults (18-91 yrs) with short-term exposure to GSM cell phone radiation reported headache, neurological problems, sleep and concentration problems. Hutter, 2006
0.005 - 0.04 uW/cm <sup>2</sup>	Adults exposed to short-term cell phone radiation reported headaches, concentration difficulties (differences not significant, but elevated) Thomas, 2008
0.015 - 0.21 uW/cm <sup>2</sup>	Adults exposed to short-term GSM 900 radiation reported changes in mental state (e.g., calmness) but limitations of study on language descriptors prevented refined word choices (stupified, zoned-out) Augner, 2009
0.05 - 0.1 uW/cm <sup>2</sup>	RFR linked to adverse neurological, cardio symptoms and cancer risk Khurana, 2010
0.05 - 0.1 uW/cm <sup>2</sup>	RFR related to headache, concentration and sleeping problems, fatigue Kundl, 2009
0.07 - 0.1 uW/cm <sup>2</sup>	Sperm head abnormalities in mice exposed for 6-months to base station level RF/MW. Sperm head abnormalities occurred in 39% to 46% exposed mice (only 2% in controls) abnormalities was also found to be dose dependent. The implications of the pin-head and banana-shaped sperm head. The occurrence of sperm head observed increase occurrence of sperm head abnormalities on the reproductive health of humans living in close proximity to GSM base stations were discussed. Otitoloju, 2010
0.38 uW/cm <sup>2</sup>	RFR affected calcium metabolism in heart cells Schwartz, 1990
0.8 - 10 uW/cm <sup>2</sup>	RFR caused emotional behavior changes, free-radical damage by super-weak MWs Akoev, 2002
0.13 uW/cm <sup>2</sup>	RFR from 3G cell towers decreased cognition, well-being Zwamborn, 2003
0.16 uW/cm <sup>2</sup>	Motor function, memory and attention of school children affected (Latvia) Kolodynski, 1996
0.168 - 1.053 uW/cm <sup>2</sup>	Irreversible infertility in mice after 5 generations of exposure to RFR from an 'antenna park' Magras & Zenos, 1997
0.2 - 8 uW/cm <sup>2</sup>	RFR caused a two-fold increase in leukemia in children Hocking, 1996
0.2 - 8 uW/cm <sup>2</sup>	RFR decreased survival in children with leukemia Hocking, 2000
0.21 - 1.28 uW/cm <sup>2</sup>	Adolescents and adults exposed only 45 min to UMTS cell phone radiation reported increases In headaches. Riddervold, 2008

Stress proteins, HSP, disrupted immune function	Brain tumors and blood-brain barrier
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## Reported Biological Effects from Radiofrequency Radiation at Low-Intensity Exposure (Cell Tower, Wi-Fi, Wireless Laptop and 'Smart' Meter RF Intensities)

Power Density (Microwatts/centimeter <sup>2</sup> - $\mu$ W/cm <sup>2</sup> )		Reference
0.5 $\mu$ W/cm <sup>2</sup>	Significant degeneration of seminiferous epithelium in mice at 2.45 GHz, 30-40 min.	Saunders, 1981
0.5 - 1.0 $\mu$ W/cm <sup>2</sup>	Wi-Fi level laptop exposure for 4-hr resulted in decrease in sperm viability, DNA fragmentation with sperm samples placed in petri dishes under a laptop connected via WI-FI to the internet.	Avendano, 2012
1.0 $\mu$ W/cm <sup>2</sup>	RFR induced pathological leakage of the blood-brain barrier	Persson, 1997
1.0 $\mu$ W/cm <sup>2</sup>	RFR caused significant effect on immune function in mice	Fesenko, 1999
1.0 $\mu$ W/cm <sup>2</sup>	RFR affected function of the immune system	Novoselova, 1999
1.0 $\mu$ W/cm <sup>2</sup>	Short-term (50 min) exposure in electrosensitive patients, caused loss of well-being after GSM and especially UMTS cell phone radiation exposure	Elititi, 2007
1.3 - 5.7 $\mu$ W/cm <sup>2</sup>	RFR associated with a doubling of leukemia in adults	Dolk, 1997
1.25 $\mu$ W/cm <sup>2</sup>	RFR exposure affected kidney development in rats (in-utero exposure)	Pyrgasopoulou, 2004
1.5 $\mu$ W/cm <sup>2</sup>	RFR reduced memory function in rats	Nittby, 2007
2 $\mu$ W/cm <sup>2</sup>	RFR induced double-strand DNA damage in rat brain cells	Kesari, 2008
2.5 $\mu$ W/cm <sup>2</sup>	RFR affected calcium concentrations in heart muscle cells	Wolke, 1996
2 - 4 $\mu$ W/cm <sup>2</sup>	Altered cell membranes; acetylcholine-induced ion channel disruption	D'Inzeo, 1988
4 $\mu$ W/cm <sup>2</sup>	RFR caused changes in hippocampus (brain memory and learning)	Tattersall, 2001
4 - 15 $\mu$ W/cm <sup>2</sup>	Memory impairment, slowed motor skills and retarded learning in children	Chiang, 1989
5 $\mu$ W/cm <sup>2</sup>	RFR caused drop in NK lymphocytes (immune function decreased)	Boscolo, 2001
5.25 $\mu$ W/cm <sup>2</sup>	20 minutes of RFR at cell tower frequencies induced cell stress response	Kwee, 2001
5 - 10 $\mu$ W/cm <sup>2</sup>	RFR caused impaired nervous system activity	Dumansky, 1974
6 $\mu$ W/cm <sup>2</sup>	RFR induced DNA damage in cells	Phillips, 1998

Stress proteins, HSP, disrupted immune function	Brain tumors and blood-brain barrier
Reproduction/fertility effects	Sleep, neuron firing rate, EEG, memory, learning, behavior
Oxidative damage/ROS/DNA damage/DNA repair failure	Cancer (other than brain), cell proliferation
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**Reported Biological Effects from Radiofrequency Radiation at Low-Intensity Exposure  
(Cell Tower, Wi-Fi, Wireless Laptop and 'Smart' Meter RF Intensities)**

Power Density (Microwatts/centimeter <sup>2</sup> - $\mu$ W/cm <sup>2</sup> )		Reference
8.75 $\mu$ W/cm <sup>2</sup>	RFR at 900 MHz for 2-12 hours caused DNA breaks in leukemia cells	
10 $\mu$ W/cm <sup>2</sup>	Changes in behavior (avoidance) after 0.5 hour exposure to pulsed RFR	Marinelli, 2004
10 - 100 $\mu$ W/cm <sup>2</sup>	Increased risk in radar operators of cancer; very short latency period; dose response to exposure level of RFR reported.	Navakatikian, 1994
12.5 $\mu$ W/cm <sup>2</sup>	RFR caused calcium efflux in cells - can affect many critical cell functions	Richter, 2000
13.5 $\mu$ W/cm <sup>2</sup>	RFR affected human lymphocytes - induced stress response in cells	Dutta, 1989
20 $\mu$ W/cm <sup>2</sup>	Increase in serum cortisol (a stress hormone)	Sarimov, 2004
28.2 $\mu$ W/cm <sup>2</sup>	RFR increased free radical production in rat cells	Mann, 1998
37.5 $\mu$ W/cm <sup>2</sup>	Immune system effects - elevation of PFC count (antibody producing cells)	Yurekli, 2006
45 $\mu$ W/cm <sup>2</sup>	Pulsed RFR affected serum testosterone levels in mice	Veyret, 1991
50 $\mu$ W/cm <sup>2</sup>	Cell phone RFR caused a pathological leakage of the blood-brain barrier in 1 hour	Forgacs, 2006
50 $\mu$ W/cm <sup>2</sup>	An 18% reduction in REM sleep (important to memory and learning functions)	Salford, 2003
60 $\mu$ W/cm <sup>2</sup>	RFR caused structural changes in cells of mouse embryos	Mann, 1996
60 $\mu$ W/cm <sup>2</sup>	Pulsed RFR affected immune function in white blood cells	Somozy, 1991
60 $\mu$ W/cm <sup>2</sup>	Cortex of the brain was activated by 15 minutes of 902 MHz cell phone	Stankiewicz, 2006
65 $\mu$ W/cm <sup>2</sup>	RFR affected genes related to cancer	Lebedeva, 2000
92.5 $\mu$ W/cm <sup>2</sup>	RFR caused genetic changes in human white blood cells	Ivaschuk, 1999
92.5 $\mu$ W/cm <sup>2</sup>	Changes in immune function	Belyaev, 2005
100 $\mu$ W/cm <sup>2</sup>	A 24.3% drop in testosterone after 6 hours of CW RFR exposure	Elekes, 1996
100 $\mu$ W/cm <sup>2</sup>	A 24.3% drop in testosterone after 6 hours of CW RFR exposure	Navakatikian, 1994
120 $\mu$ W/cm <sup>2</sup>	A pathological leakage in the blood-brain barrier with 915 MHz cell RF	Salford, 1994

Stress proteins, HSP, disrupted immune function	Brain tumors and blood-brain barrier
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## Reported Biological Effects from Radiofrequency Radiation at Low-Intensity Exposure (Cell Tower, Wi-Fi, Wireless Laptop and 'Smart' Meter RF Intensities)

Power Density (Microwatts/centimeter <sup>2</sup> - uW/cm <sup>2</sup> )		Reference
500 uW/cm <sup>2</sup>	Intestinal epithelial cells exposed to 2.45 GHz pulsed at 16 Hz showed changes in intercellular calcium.	Somozy, 1993
500 uW/cm <sup>2</sup>	A 24.6% drop in testosterone and 23.2% drop in insulin after 12 hrs of pulsed RFR exposure.	Navakatikian, 1994
<b>STANDARDS</b>		
530 - 600 uW/cm <sup>2</sup>	Limit for uncontrolled public exposure to 800-900 MHz	ANSI/IEEE and FCC
1000 uW/cm <sup>2</sup>	PCS STANDARD for public exposure (as of September 1,1997)	FCC, 1996
5000 uW/cm <sup>2</sup>	PCS STANDARD for occupational exposure (as of September 1, 1997)	FCC, 1996
<b>BACKGROUND LEVELS</b>		
0.003 uW/cm <sup>2</sup>	Background RF levels in US cities and suburbs in the 1990s	Mantiply, 1997
0.05 uW/cm <sup>2</sup>	Median ambient power density in cities in Sweden (30-2000 MHz)	Hamnierius, 2000
0.1 - 10 uW/cm <sup>2</sup>	Ambient power density within 100-200' of cell site in US (data from 2000)	Sage, 2000

Stress proteins, HSP, disrupted immune function	Brain tumors and blood-brain barrier
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## Reported Biological Effects from Radiofrequency Radiation at Low-Intensity Exposure (Cell Tower, Wi-Fi, Wireless Laptop and 'Smart' Meter RF Intensities)

SAR (Watts/Kilogram)		Reference
0.000064 - 0.000078 W/Kg	Well-being and cognitive function affected in humans exposed to GSM-UMTS cell phone frequencies; RF levels similar near cell sites	
0.00015 - 0.003 W/Kg	Calcium ion movement in isolated frog heart tissue is increased 18% (P<.01) and by 21% (P<.05) by weak RF field modulated at 16 Hz	TNO Physics and Schwartz, 1990
0.000021 - 0.0021 W/Kg	Changes in cell cycle; cell proliferation (960 MHz GSM mobile phone)	Kwee, 1997
0.0003 - 0.06 W/Kg	Neurobehavioral disorders in offspring of pregnant mice exposed in utero to cell phones - dose-response impaired glutamatergic synaptic transmission onto layer V pyramidal neurons of the prefrontal cortex. Hyperactivity and impaired memory function in offspring. Altered brain development.	Aldad, 2012
0.0016 - 0.0044 W/Kg	Very low power 700 MHz CW affects excitability of hippocampus tissue, consistent with reported behavioral changes.	Tattersall, 2001
0.0021 W/Kg	Heat shock protein HSP 70 is activated by very low intensity microwave exposure in human epithelial amnion cells	Kwee, 2001
0.0024 - 0.024 W/Kg	Digital cell phone RFR at very low intensities causes DNA damage in human cells; both DNA damage and impairment of DNA is reported	Phillips, 1998
0.0027 W/Kg	Changes in active avoidance conditioned behavioral effect is seen after one-half hour of pulsed radiofrequency radiation	Navakatikian, 1994
0.0035 W/Kg	900 MHz cell phone signal induces DNA breaks and early activation of p53 gene; short exposure of 2-12 hours leads cells to acquire greater survival chance - linked to tumor aggressiveness.	Marinelli, 2004
0.0095 W/Kg	MW modulated at 7 Hz produces more errors in short-term memory function on complex tasks (can affect cognitive processes such as attention and memory)	Lass, 2002
0.001 W/Kg	750 MHz continuous wave (CW) RFR exposure caused increase in heat shock protein (stress proteins). Equivalent to what would be induced by 3 degree C. heating of tissue (but no heating occurred)	De Pomerai, 2000
0.001 W/Kg	Statistically significant change in intracellular calcium concentration in heart muscle cells exposed to RFR (900 MHz/50 Hz modulation)	Wolke, 1996

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SAR (Watts/Kilogram)		Reference
0.0021 W/Kg	A significant change in cell proliferation not attributable to thermal heating. RFR induces non-thermal stress proteins (960 MHz GSM)	Velizarov, 1999
0.004 - 0.008 W/Kg	915 MHz cell phone RFR caused pathological leakage of blood-brain barrier. Worst at lower SAR levels and worse with CW compared to Frequency of pathological changes was 35% in rats exposed to pulsed radiation at 50% to continuous wave RFR. Effects observed at a specific absorption (SA) of > 1.5 joules/Kg in human tissues	Persson, 1997
0.0059 W/Kg	Cell phone RFR induces glioma (brain cancer) cells to significantly increase thymidine uptake, which may be indication of more cell division	Stagg, 1997
0.014 W/Kg	Sperm damage from oxidative stress and lowered melatonin levels resulted from 2-hr per day/45 days exposure to 10 GHz.	Kumar, 2012
0.015 W/Kg	Immune system effects - elevation of PFC count (antibody-producing cells)	Veyret, 1991
0.02 W/Kg	A single, 2-hr exposure to GSM cell phone radiation results in serious neuron damage (brain cell damage) and death in cortex, hippocampus, and basal ganglia of brain- even 50+ days later blood-brain barrier is still leaking albumin ( $P < .002$ ) following only one cell phone exposure	Salford, 2003
0.026 W/Kg	Activity of c-jun (oncogene or cancer gene) was altered in cells after 20 minutes exposure to cell phone digital TDMA signal	Ivaschuk, 1997
0.0317 W/Kg	Decrease in eating and drinking behavior	Ray, 1990
0.037 W/Kg	Hyperactivity caused by nitric oxide synthase inhibitor is countered by exposure to ultra-wide band pulses (600/sec) for 30 min	Seaman, 1999
0.037 - 0.040 W/Kg	A 1-hr cell phone exposure causes chromatin condensation; impaired DNA repair mechanisms; last 3 days (longer than stress response) the effect reaches saturation in only one hour of exposure; electro- sensitive (ES) people have different response in formation of DNA repair foci, compared to healthy individuals; effects depend on carrier frequency (915 MHz = 0.037 W/Kg but 1947 MHz = 0.040 W/Kg)	Belyaev, 2008
0.05 W/Kg	Significant increase in firing rate of neurons (350%) with pulsed 900 MHz cell phone radiation exposure (but not with CW) in avian brain cells	Beason, 2002

Stress proteins, HSP, disrupted immune function	Brain tumors and blood-brain barrier
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SAR (Watts/Kilogram)	Reference
0.0021 W/Kg	A significant change in cell proliferation not attributable to thermal heating. RFR induces non-thermal stress proteins (960 MHz GSM)
0.004 - 0.008 W/Kg	915 MHz cell phone RFR caused pathological leakage of blood-brain barrier. Worst at lower SAR levels and worse with CW compared to Frequency of pathological changes was 35% in rats exposed to pulsed radiation at 50% to continuous wave RFR. Effects observed at a specific absorption (SA) of > 1.5 joules/Kg in human tissues
0.0059 W/Kg	Cell phone RFR induces glioma (brain cancer) cells to significantly increase thymidine uptake, which may be indication of more cell division
0.014 W/Kg	Sperm damage from oxidative stress and lowered melatonin levels resulted from 2-hr per day/45 days exposure to 10 GHz.
0.015 W/Kg	Immune system effects - elevation of PFC count (antibody-producing cells)
0.02 W/Kg	A single, 2-hr exposure to GSM cell phone radiation results in serious neuron damage (brain cell damage) and death in cortex, hippocampus, and basal ganglia of brain- even 50+ days later blood-brain barrier is still leaking albumin ( $P < .002$ ) following only one cell phone exposure
0.026 W/Kg	Activity of c-jun (oncogene or cancer gene) was altered in cells after 20 minutes exposure to cell phone digital TDMA signal
0.0317 W/Kg	Decrease in eating and drinking behavior
0.037 W/Kg	Hyperactivity caused by nitric oxide synthase inhibitor is countered by exposure to ultra-wide band pulses (600/sec) for 30 min
0.037 - 0.040 W/Kg	A 1-hr cell phone exposure causes chromatin condensation; impaired DNA repair mechanisms; last 3 days (longer than stress response) the effect reaches saturation in only one hour of exposure; electro- sensitive (ES) people have different response in formation of DNA repair foci, compared to healthy individuals; effects depend on carrier frequency (915 MHz = 0.037 W/Kg but 1947 MHz = 0.040 W/Kg)
0.05 W/Kg	Significant increase in firing rate of neurons (350%) with pulsed 900 MHz cell phone radiation exposure (but not with CW) in avian brain cells

Stress proteins, HSP, disrupted immune function	Brain tumors and blood-brain barrier
Reproduction/fertility effects	Sleep, neuron firing rate, EEG, memory, learning, behavior
Oxidative damage/ROS/DNA damage/DNA repair failure	Cancer (other than brain), cell proliferation
Disrupted calcium metabolism	Cardiac, heart muscle, blood-pressure, vascular effects

## Reported Biological Effects from Radiofrequency Radiation at Low-Intensity Exposure (Cell Tower, Wi-Fi, Wireless Laptop and 'Smart' Meter RF Intensities)

SAR (Watts/Kilogram)		Reference
0.09 W/Kg	900 MHz study of mice for 7 days, 12-hr per day (whole-body) resulted in significant effect on mitochondria and genome stability	Aitken, 2005
0.091 W/Kg	Wireless internet 2400 MHz, 24-hrs per day/20 weeks increased DNA damage and reduced DNA repair; levels below 802.11 g Authors say "findings raise questions about safety of radiofrequency exposure from Wi-Fi internet access devices for growing organisms of reproductive age, with a potential effect on fertility and integrity of germ cells" (male germ cells are the reproductive cells=sperm)	Atasoy, 2012
0.11 W/Kg	Increased cell death (apoptosis) and DNA fragmentation at 2.45 GHz for 35 days exposure (chronic exposure study)	Kesari, 2010
0.121 W/Kg	Cardiovascular system shows significant decrease in arterial blood pressure (hypotension) after exposure to ultra-wide band pulses	Lu, 1999
0.13 - 1.4 W/Kg	Lymphoma cancer rate doubled with two 1/2-hr exposures per day of cell phone radiation for 18 months (pulsed 900 MHz cell signal)	Repacholi, 1997
0.14 W/Kg	Elevation of immune response to RFR exposure	Elekes, 1996
0.141 W/Kg	Structural changes in testes - smaller diameter of seminiferous	Dasdag, 1999
0.15 - 0.4 W/Kg	Statistically significant increase in malignant tumors in rats chronically exposed to RFR	Chou, 1992
0.26 W/Kg	Harmful effects to the eye/certain drugs sensitize the eye to RFR	Kues, 1992
0.28 - 1.33 W/Kg	Significant increase in reported headaches with increasing use of hand-held cell phone use (maximum tested was 60 min per day)	Chia, 2000
0.3 - 0.44 W/Kg	Cell phone use results in changes in cognitive thinking/mental tasks related to memory retrieval	Krause, 2000
0.3 - 0.44 W/Kg	Attention function of brain and brain responses are speeded up	Preece, 1999
0.3 - 0.46 W/Kg	Cell phone RFR doubles pathological leakage of blood-brain barrier permeability at two days ( $P=.002$ ) and triples permeability at four days ( $P=.001$ ) at 1800 MHz GSM cell phone radiation	Schirmacher, 2000
0.43 W/Kg	Significant decrease in sperm mobility; drop in sperm concentration; and decrease in seminiferous tubules at 800 MHz, 8-hr/day, 12 weeks, with mobile phone radiation level on STANDBY ONLY (in rabbits)	Salama, 2008

Stress proteins, HSP, disrupted immune function	Brain tumors and blood-brain barrier
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## Reported Biological Effects from Radiofrequency Radiation at Low-Intensity Exposure (Cell Tower, Wi-Fi, Wireless Laptop and 'Smart' Meter RF Intensities)

SAR (Watts/Kilogram)		Reference
0.5 W/Kg	900 MHz pulsed RF affects firing rate of neurons ( <i>Lymnea stagnalis</i> ) but continuous wave had no effect	Bolshakov, 1992
0.58 - 0.75 W/Kg	Decrease in brain tumors after chronic exposure to RFR at 836 MHz	Adey, 1999
0.6 - 0.9 W/Kg	Mouse embryos develop fragile cranial bones from in utero 900 MHz. The authors say "(O)ur results clearly show that even modest exposure (e.g., 6 min daily for 21 days" is sufficient to interfere with the normal mouse developmental process"	Fragopoulou, 2009
0.6 and 1.2 W/Kg	Increase in DNA single and double-strand DNA breaks in rat brain cells with exposure to 2450 MHz RFR	Lai & Singh, 1996
0.795 W/Kg	GSM 900 MHz, 217 Hz significantly decreases ovarian development and size of ovaries, due to DNA damage and premature cell death of nurse cells and follicles in ovaries (that nourish egg cells)	Panagopoulous, 2012
0.87 W/Kg	Altered human mental performance after exposure to GSM cell phone radiation (900 MHz TDMA digital cell phone signal)	Hamblin, 2004
0.87 W/Kg	Change in human brainwaves; decrease in EEG potential and statistically significant change in alpha (8-13 Hz) and beta (13-22 Hz) brainwave activity in humans at 900 MHz; exposures 6/min per day for 21 days (chronic exposure)	D'Costa, 2003
0.9 W/Kg	Decreased sperm count and more sperm cell death (apoptosis) after 35 days exposure, 2-hr per day	Kesari, 2012
< 1.0 W/Kg	Rats exposed to mobile phone radiation on STANDBY ONLY for 11-hr 45-min plus 15-min TRANSMIT mode; 2 times per day for 21 days showed decreased number of ovarian follicles in pups born to these pregnant rats. The authors conclude "the decreased number of follicles in pups exposed to mobile phone microwaves suggest that intrauterine exposure has toxic effects on ovaries."	Gul, 2009
0.4 - 1.0 W/Kg	One 6-hr exposure to 1800 MHz cell phone radiation in human sperm cells caused a significant dose response and reduced sperm motility and viability; reactive oxygen species levels were significantly increased after exposure to 1.0 W/Kg; study confirms detrimental effects of RF/MW to human sperm. The authors conclude "(T)hese findings have clear implications for the safety of extensive mobile phone use by males of reproductive age, potentially affecting both their fertility and the health and wellbeing of their offspring."	De Iuliis, 2009
1.0 W/Kg	Human semen degraded by exposure to cell phone frequency RF increased free-radical damage.	De Iuliis, 2009
<b>Stress proteins, HSP, disrupted immune function</b> <b>Reproduction/fertility effects</b> <b>Oxidative damage/ROS/DNA damage/DNA repair failure</b> <b>Disrupted calcium metabolism</b>		
<b>Brain tumors and blood-brain barrier</b> <b>Sleep, neuron firing rate, EEG, memory, learning, behavior</b> <b>Cancer (other than brain), cell proliferation</b> <b>Cardiac, heart muscle, blood-pressure, vascular effects</b>		

**Reported Biological Effects from Radiofrequency Radiation at Low-Intensity Exposure**  
**(Cell Tower, Wi-Fi, Wireless Laptop and 'Smart' Meter RF Intensities)**

SAR (Watts/Kilogram)		Reference
1.0 W/Kg	Motility, sperm count, sperm morphology, and viability reduced in active cell phone users (human males) in dose-dependent manner.	Agarwal, 2008
1.0 W/Kg	GSM cell phone use modulates brain wave oscillations and sleep EEG	Huber, 2002
1.0 W/Kg	Cell phone RFR during waking hours affects brain wave activity. (EEG patterns) during subsequent sleep	Achermann, 2000
1.0 W/Kg	Cell phone use causes nitric oxide (NO) nasal vasodilation (swelling inside nasal passage) on side of head phone use	Paredi, 2001
1.0 W/Kg	Increase in headache, fatigue and heating behind ear in cell phone users	Sandstrom, 2001
1.0 W/Kg	Significant increase in concentration difficulties using 1800 MHz cell phone compared to 900 MHz cell phone	Santini, 2001
1.0 W/Kg	Sleep patterns and brain wave activity are changed with 900 MHz cell phone radiation exposure during sleep	Borbely, 1999
1.4 W/Kg	GSM cell phone exposure induced heat shock protein HSP 70 by 360% (stress response) and phosphorylation of ELK-1 by 390%	Weisbrod, 2003
1.46 W/Kg	850 MHz cell phone radiation decreases sperm motility, viability is significantly decreased; increased oxidative damage (free-radicals) significantly decreased; increased oxidative damage (free-radicals)	Agarwal, 2009
1.48 W/Kg	A significant decrease in protein kinase C activity at 112 MHz with 2-hr per day for 35 days; hippocampus is site, consistent with reports that RFR negatively affects learning and memory functions	Paulraj, 2004
1.0 - 2.0 W/Kg	Significant elevation in micronuclei in peripheral blood cells at 2450 MHz (8 treatments of 2-hr each)	Trosic, 2002
1.5 W/Kg	GSM cell phone exposure affected gene expression levels in tumor suppressor p53-deficient embryonic stem cells; and significantly increased HSP 70 heat shock protein production	Czyz, 2004
1.8 W/Kg	Whole-body exposure to RF cell phone radiation of 900-1800 MHz 1 cm from head of rats caused high incidence of sperm cell death; deformation of sperm cells; prominent clumping together of sperm cells into "grass bundle shapes" that are unable to separate/swim. Sperm cells unable to swim and fertilize in normal manner.	Yan, 2007

Stress proteins, HSP, disrupted immune function	Brain tumors and blood-brain barrier
Reproduction/fertility effects	Sleep, neuron firing rate, EEG, memory, learning, behavior
Oxidative damage/ROS/DNA damage/DNA repair failure	Cancer (other than brain), cell proliferation
Disrupted calcium metabolism	Cardiac, heart muscle, blood-pressure, vascular effects

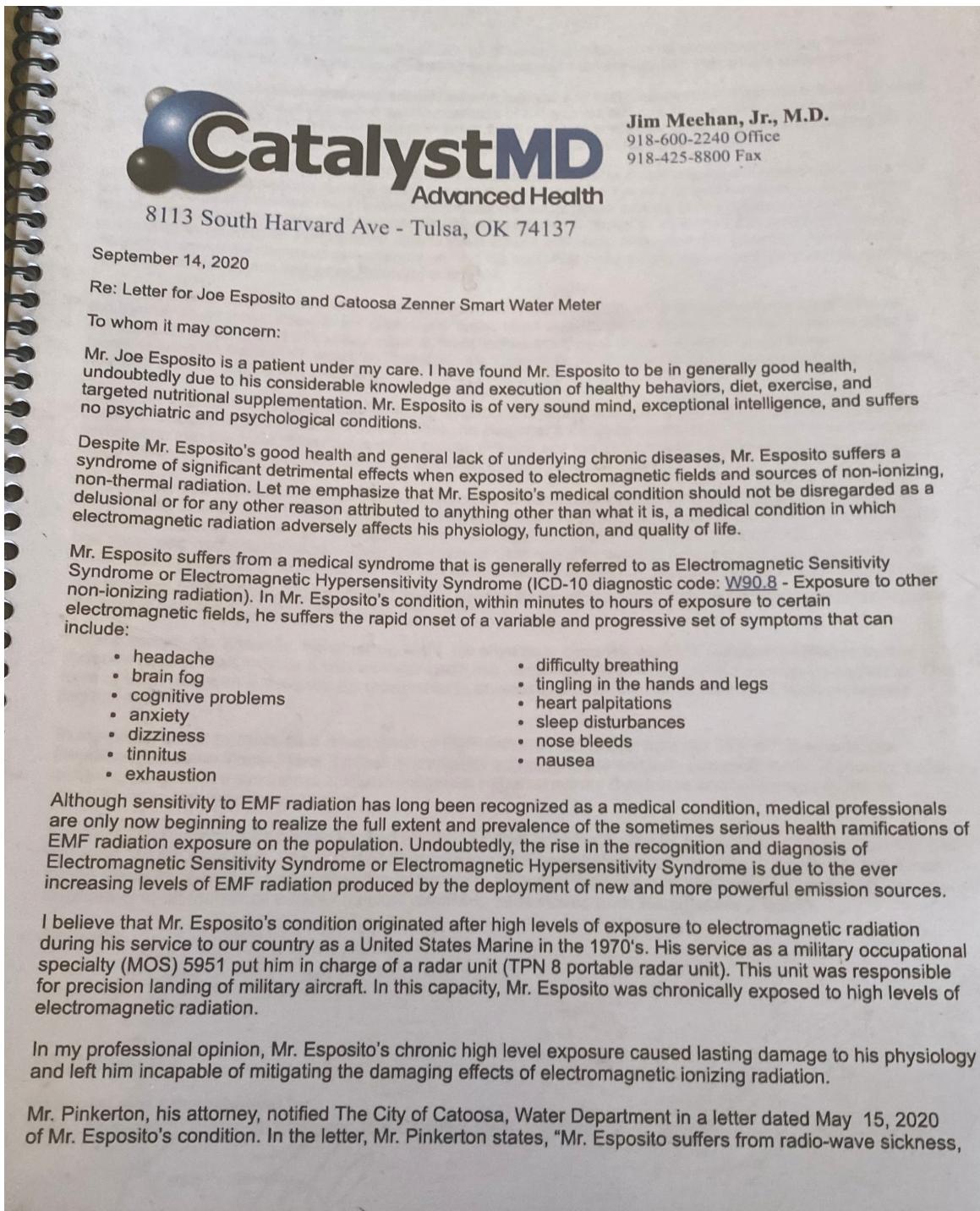
**Reported Biological Effects from Radiofrequency Radiation at Low-Intensity Exposure**  
**(Cell Tower, Wi-Fi, Wireless Laptop and 'Smart' Meter RF Intensities)**

SAR (Watts/Kilogram)		Reference
2.0 W/Kg	GSM cell phone exposure of 1-hr activated heat shock protein HSP 27 (stress response) and P38 MAPK (mutagen-activated protein kinase) that authors say facilitates brain cancer and increased blood-brain barrier permeability, allowing toxins to cross BBB into brain	Leszczynski, 2002
2 W/Kg	900 MHz cell phone exposure caused brain cell oxidative damage by increasing levels of NO, MDA, XO and ADA in brain cells; caused statistically significant increase in 'dark neurons' or damaged brain cells in cortex, hippocampus and basal ganglia with a 1-hr exposure for 7 consecutive days	Ilhan, 2004
2.6 W/Kg	900 MHz cell phone exposure for 1-hr significantly altered protein expression levels in 38 proteins following irradiation; activates P38 MAP kinase stress signalling pathway and leads to changes in cell size and shape (shrinking and rounding up) and to activation of HSP 27, a stress protein (heat shock protein)	Leszczynski, 2004
2.0 - 3.0 W/Kg	RFR accelerated development of both skin and breast tumors	Szmielski, 1982
2 W/Kg	Pulse-modulated RFR and MF affect brain physiology (sleep study)	Schmidt, 2012

STANDARDS		
0.08 W/Kg	IEEE Standard uncontrolled public environment (whole body)	IEEE
0.4 W/Kg	IEEE Standard controlled occupational environment (whole body)	IEEE
1.6 W/Kg	FCC (IEEE) SAR limit for 1 gram of tissue in a partial body exposure	FCC, 1996
2 W/Kg	ICNIRP SAR limit for 10 grams of tissue	ICNIRP, 1996

Stress proteins, HSP, disrupted immune function	Brain tumors and blood-brain barrier
Reproduction/fertility effects	Sleep, neuron firing rate, EEG, memory, learning, behavior
Oxidative damage/ROS/DNA damage/DNA repair failure	Cancer (other than brain), cell proliferation
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## Letter from Dr. Jim Meehan Re: Joe Esposito and Catoosa Zenner Smart Water Meter (2020) (3 pages)



electro hypersensitivity and microwave sickness, all of which conditions will be exacerbated by the radiation that will be transmitted by the Reader, if installed at his house." I concur with Mr. Pinkerton's statement.

To avoid the rapid onset of symptoms associated with exposure to EMF radiation, Mr. Esposito is forced to wear expensive and specialized protective clothing capable of mitigating EMF radiation. He is forced to shield himself any time he enters an environment in which EMF radiation is present at levels capable of eliciting his negative symptoms. He has a medical letter from a previous physician for this purpose.

Unfortunately, the EMF radiation emitted by the Catoosa Zenner water meter creates a hostile environment that not only produces symptoms outside of Mr. Esposito's home, but the symptoms also manifest when he enters the three rooms of his home most proximal to the Zenner water meter located on the adjacent property. As a result of his neighbor's meter's emissions, Mr. Esposito has been forced to wear his EMF shielding protective clothing in his own home. Furthermore, due to the ill effects and sleep disruption, Mr. Esposito was forced to develop a shielded Faraday cage enclosure around his bed. This has partially decreased the sleep disruption and negative symptoms that were occurring overnight.

As I understand it, the City of Catoosa Water Department was understanding enough to forgo installation of the Zenner smart water meter in Mr. Esposito's "water box." Unfortunately, there is a Zenner meter installed in the adjacent property and this active meter is mere inches from the position intended for a Zenner meter serving Mr. Esposito's property. Therefore, Mr. Esposito's neighbor's Zenner meter emissions are just as debilitating to Mr. Esposito's condition.

The active Zenner smart water installed in his neighbor's adjacent property is 58 feet from the northwest of Mr. Esposito's house at 214 Waterford Street. Thus, his neighbor's Zenner smart water meter is transmitting and penetrating into the front three rooms of his house. (Please see the accompanying [five still pictures and video](#) documenting this radiation penetration into Mr. Esposito's house.)[1]

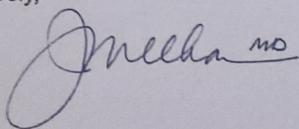
Mr. Esposito has the hardware, training, and expertise to accurately measure the EMF radiation emitted from the Catoosa Zenner Smart Water Meter. He owns and uses a HFE 35C High Frequency Analyser, a \$1,000.00 microwave detection meter with a detection spectrum ranging from 27 MHz to 2500 MHz/meter. Mr. Esposito has measured and documented in detail the levels of EMF radiation emitted from the Catoosa Zenner Smart Water Meter penetrating his home.[2] From this data, it was clear that the Catoosa Zenner Smart Water Meter was emitting EMF radiation at levels that greatly exceed the level (3.4 microwatts/meter<sup>2</sup>) known to be capable of causing damage to biological systems.[3]

For the record, Mr. Esposito, his attorney, and I, his physician, describe the EMF radiation produced by the Catoosa Zenner Smart Water Meter as man-made, non-ionizing, non-thermal, pulsed microwave radiation. This form of EMF radiation is increasingly recognized in science and medicine for its adverse effects on human health.[4][5][6]

In my professional opinion, as a direct result of EMF radiation emissions from the City of Catoosa Water Department Zenner Water Meter located immediately adjacent to the property occupied by Mr. Esposito, he is suffering progressive symptoms of Electromagnetic Hypersensitivity Syndrome and at increasing risk of disability from the ongoing exposure.

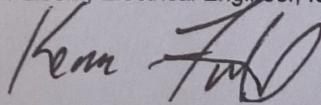
For Mr. Esposito to protect his health, and function without adverse ill effects, he must limit his exposure to EMF radiation. As his physician, I beg your understanding and respectfully request that the Catoosa Zenner Smart Water Meter emitting and penetrating the home of Mr. Esposito Esposito with levels of EMF radiation that are debilitating to an individual with his medical condition, be removed from the adjacent property.

Sincerely,



Jim Meehan, MD

Reviewed and acknowledged by  
Kenwone Fulsom, Electrical Engineer, ISA Certified CST



**Attachments and References**

- [1] pictures and video documenting this radiation penetration into Mr. Esposito's house.
- [2] See Mr. Esposito's document dated 8/26/20 to the City of Catoosa: "Smart water meter -- Oklahoma Zenner Automatic Water Meter Reader Radio Frequency is/or Microwave Radiation." Mr. Esposito documents the serial recordings of the EMF radiation levels emitted by the Catoosa Zenner Smart Water Meter as the radiation was penetrating his home. He also produced a video of the process and readings. (see video)
- [3] BioInitiative Working Group, Cindy Sage and David O. Carpenter, Editors. BioInitiative Report: A Rationale for a Biologically-based Public Exposure Standard for Electromagnetic Radiation at [www.bioinitiative.org](http://www.bioinitiative.org), December 31, 2012
- [4] Bandara, P., and S. Weller. 2017. "Biological Effects of Low-Intensity Radiofrequency Electromagnetic Radiation—time for a Paradigm Shift in Regulation of Public Exposure." *Radiat Protect Australas* 34 (2): 2–6.
- [5] Bandara, Priyanka, and David O. Carpenter. 2018. "Planetary Electromagnetic Pollution: It Is Time to Assess Its Impact." *The Lancet. Planetary Health* 2 (12): e512–14.
- [6] Ruediger, Hugo W. 2009. "Genotoxic Effects of Radiofrequency Electromagnetic Fields." *Pathophysiology: The Official Journal of the International Society for Pathophysiology / ISP* 16 (2-3): 89–102.
- [7] Zenner document: "MIUs take advantage of military-level technology by operating on unlicensed, frequency-hopping 902 Mhz-928 Mhz wireless signals. Because each radio unit acts as a repeater, you can maximize distance of reading collection to about 1/2 mile from your last radio unit".

## EMF Safety Network <http://emfsafetynetwork.org> (also on facebook) (3 pages)

[http://emfsafetynetwork.org/?page\\_id=2292](http://emfsafetynetwork.org/?page_id=2292)

**EMF Safety Network**  
*Environmental protections, education and science based precaution for EMF and RF technologies: smart meters, cell phones, cordless phones, cell towers, wi-fi, dirty electricity, power lines.*

**Smart Meter Health Complaints**  
Utility customers have reported new or worsening health problems since the utility smart meter system has been installed on their home or in their neighborhood. Symptoms include:

- Sleep problems (insomnia, difficulty falling asleep, night waking, nightmares)
- Stress, agitation, anxiety, irritability
- Headaches, sharp pain or pressure in the head
- Ringing in the ears, ear pain, high pitched ringing
- Concentration, memory or learning problems
- Fatigue, muscle or physical weakness
- Disorientation, dizziness, or balance problems
- Eye problems, including eye pain, pressure in the eyes,
- Cardiac symptoms, heart palpitations, heart arrhythmias, chest pain
- Leg cramps, or neuropathy
- Arthritis, body pain, sharp, stabbing pains
- Nausea, flu-like symptoms
- Sinus problems, nose bleeds
- Respiratory problems, cough, asthma
- Skin rashes, facial flushing
- Urinary problems
- Endocrine disorders, thyroid problems, diabetes
- High blood pressure
- Changes in menstrual cycle
- Hyperactivity or changes in children's behavior
- Seizures
- Recurrence of cancer

(In California) If you suspect you have health problems related to the installation of Smart Meters: file a complaint with your utility and follow up with a CPUC Complaint. Also contact the California Department of Public Health (CDPH): [SmartMeter@cdph.ca.gov](mailto:SmartMeter@cdph.ca.gov)

The following comments about how the new utility 'Smart' Meters have affected people's health were sent to the EMF Safety Network, or publicly posted.

<http://emfsafetynetwork.org/>

## **EMF Safety Network**

*Environmental protections, education and science based precaution for EMF and RF technologies: smart meters, cell phones, cordless phones, cell towers, wi-fi, dirty electricity, power lines.*

### **BioInitiative 2012 Report: new urgent warnings on wireless and EMF public health risks**

Posted on January 5, 2013 by admin

A new updated BioInitiative 2012 Report says that evidence for risks to health has substantially increased since 2007 from electromagnetic fields (EMF) and wireless technologies/radiofrequency radiation (RFR). **The report reviews over 1800 new scientific studies and includes 29 independent science and medical experts from around the world.** Cell phone users, parents-to-be, young children and pregnant women are at particular risk.

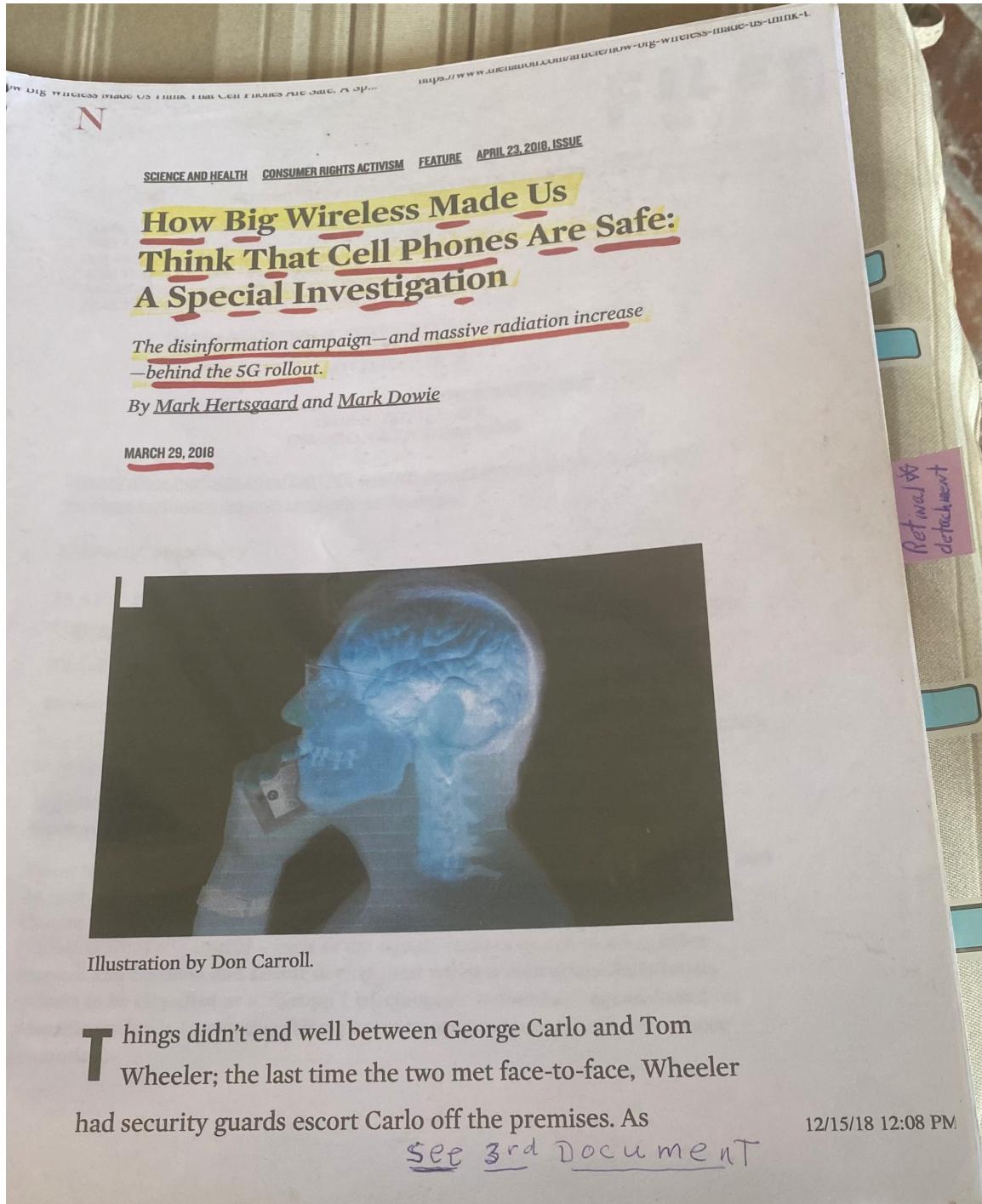
#### **Summary of Key Scientific Evidence:**

- Evidence for Damage to Sperm and Reproduction
- Evidence that Children are More Vulnerable
- Evidence for Fetal and Neonatal Effects
- Evidence for Effects on Autism (Autism Spectrum Disorders)
- Evidence for Electrohypersensitivity
- Evidence for Effects from Cell Tower-Level RFR Exposures
- Evidence for Effects on the Blood-brain Barrier
- Evidence for Effects on Brain Tumors
- Evidence for Effects on Genes (Genotoxicity)
- Evidence for Effects on the Nervous System (Neurotoxicity)
- Evidence for Effects on Cancer (Childhood Leukemia, Adult Cancers)
- Melatonin, Breast Cancer and Alzheimer's Disease
- Stress, Stress Proteins and DNA as a Fractal Antenna
- Effects of Weak-Field Interactions on Non-Linear Biological Oscillators and Synchronized Neural Activity

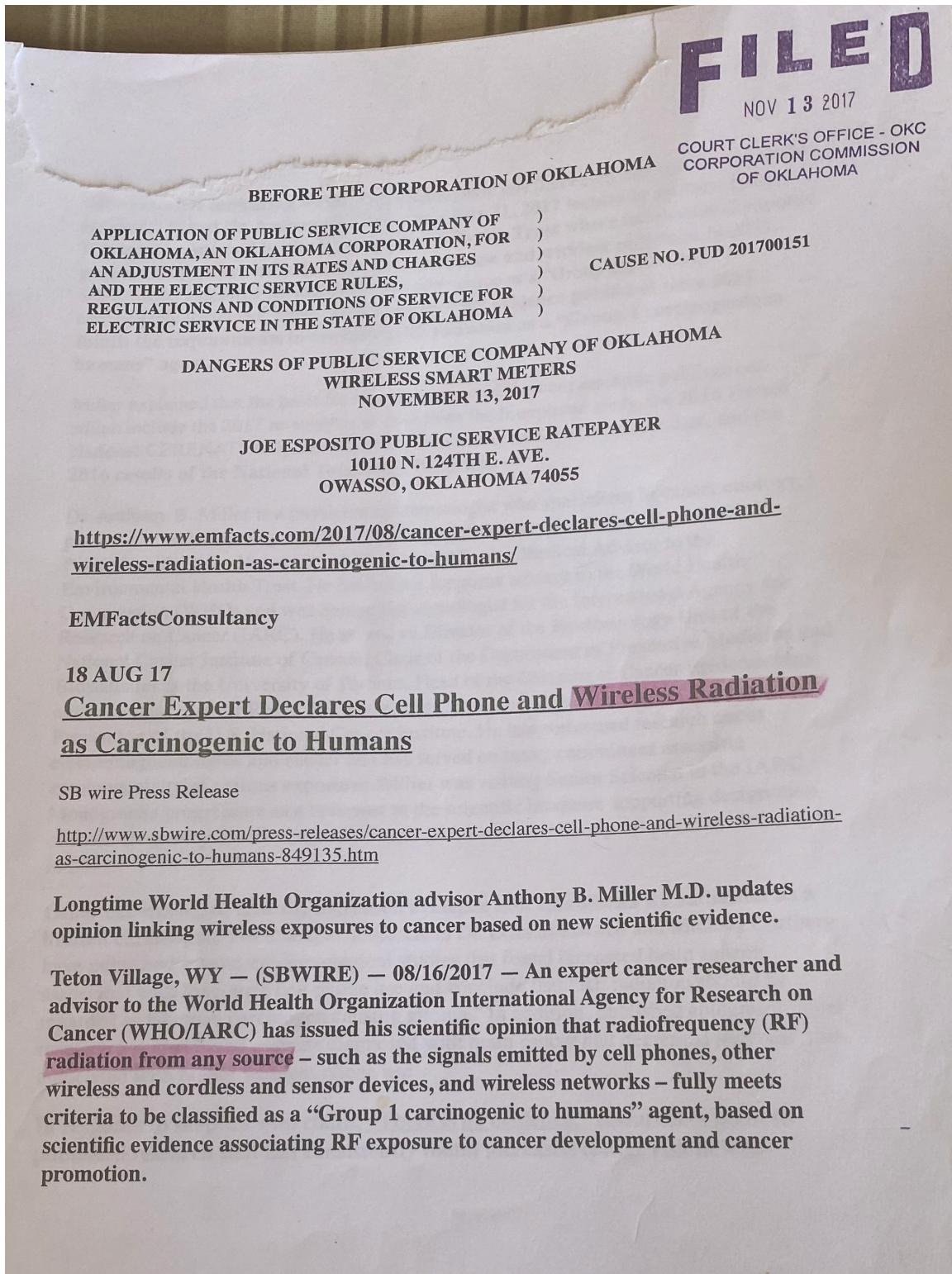
Lennart Hardell, MD at Orebro University, Sweden says, “*There is a consistent pattern of increased risk for glioma (a malignant brain tumor) and acoustic neuroma with use of mobile and cordless phones.*” He further states:

*“Epidemiological evidence shows that radiofrequency should be classified as a human carcinogen. The existing FCC/IEEE and ICNIRP public safety limits and reference levels are not adequate to protect public health.”*

# How Big Wireless Made Us Think That Cell Phones Are Safe: A Special Investigation



## Court Case 2017 - Cancer Expert Declares Cell Phone and Wireless Radiation as Carcinogenic to Humans (3 pages)



“The evidence indicating wireless is carcinogenic has increased and can no longer be ignored,” stated Dr. Anthony B. Miller at a July 31, 2017 lecture in Jackson Hole, Wyoming sponsored by the Environmental Health Trust where international experts presented the best available science on cell phone and wireless radiation. In 2011, WHO/IARC classified RF radiation from any source as a “Group 2B possibly carcinogenic to human” agent. Miller believes the evidence published since 2011 fulfills the requirements to re-classify RF radiation as a “Group 1 carcinogenic to humans” agent.

Miller explained that the basis for his opinion includes recent scientific publications which include the 2017 re-analysis of data from the Interphone study, the 2014 French National CERENAT Study, several new publications on Swedish cancer data, and the 2016 results of the National Toxicology Program.

Dr. Anthony B. Miller is a physician epidemiologist who specializes in cancer etiology, prevention, and screening. Miller is Professor Emeritus at the Dalla Lana School of Public Health of the University of Toronto and Senior Medical Advisor to the Environmental Health Trust. He has been a longtime advisor to the World Health Organization (WHO) and was Senior Epidemiologist for the International Agency for Research on Cancer (IARC). He served as Director of the Epidemiology Unit of the National Cancer Institute of Canada, Chair of the Department of Preventive Medicine and Biostatistics at the University of Toronto, Head of the Division of Cancer Epidemiology at the German Cancer Research Centre, and Consultant to the Division of Cancer Prevention of the U.S. National Cancer Institute. He has performed research about electromagnetic fields and cancer and has served on many committees assessing carcinogenicity of various exposures. Miller was visiting Senior Scientist in the IARC Monographs programme as a reviewer to the scientific literature supporting designation of Radiofrequency Electromagnetic Fields (RF-EMF) as a Group 2B possible carcinogen in 2011.

Other experts agree that the increased evidence now establishes RF radiation as a human carcinogen. For example, researchers Dr. Lennart Hardell and Michael Carlberg have published several epidemiological studies that found increased brain cancer associated with long-term cell phone use and conclude that “RF radiation should be regarded as a human carcinogen causing glioma.” In addition, published epidemiological research has also found persons diagnosed with brain cancer had decreased survival rates associated with higher wireless phone use.

In response to skeptics who claim, “There is no evidence,” researchers point to published research that has consistently found increased cancer risk in well-

designed case control studies that have looked at persons who used cell phones for more than ten years.

The July 31, 2017 panel presentation included international experts. Dr. Annie Sasco presented the WHO/IARC process used to classify carcinogenic agents. Dr. Devra Davis presented research finding wireless radiation results in sperm damage and alters brain development. Dr. Moe Mellion presented Dr. Iris Udasin's clinical cases of World Trade Center first responders who developed brain cancer after combined environmental exposures to chemical toxins and wireless radiation. Theodora Scarato, MSW presented policies enacted by governments worldwide to reduce RF radiation exposures. Dr. Marc Arazi presented data released by the cell phone radiation test program of the Government of France, which found that when cell phones are tested in body contact positions, RF radiation exposure exceeds regulatory limits. Environmental Health Trust plans to post all lectures and videos from the July 31, 2017 presentation online.

#### About Environmental Health Trust

Environmental Health Trust (EHT) educates individuals, health professionals and communities about controllable environmental health risks and policy changes needed to reduce those risks. Currently EHT is raising health concerns about cell phones and wireless in schools and recommends practical steps to reduce exposures. The Environmental Health Trust maintains a regularly updated database of worldwide precautionary policies on cell phone radiation and health. The foundation's website is the go-to place for clear, science-based information to prevent disease.

View and Download Dr. Anthony Miller's July 31, 2017 Presentation from the Symposium

<https://ehtrust.org/wp-content/uploads/Dr.-Anthony-Miller-Presentation-July-31-2017.pdf>

Scientific Publications on Cell Phone Radiation and Cancer Referenced in Dr. Miller's Presentation

<https://ehtrust.org/references-cell-phone-radio-frequency-radiation-cancer/>

Watch an excerpt from Dr. Anthony Miller's lecture on July 31, 2017

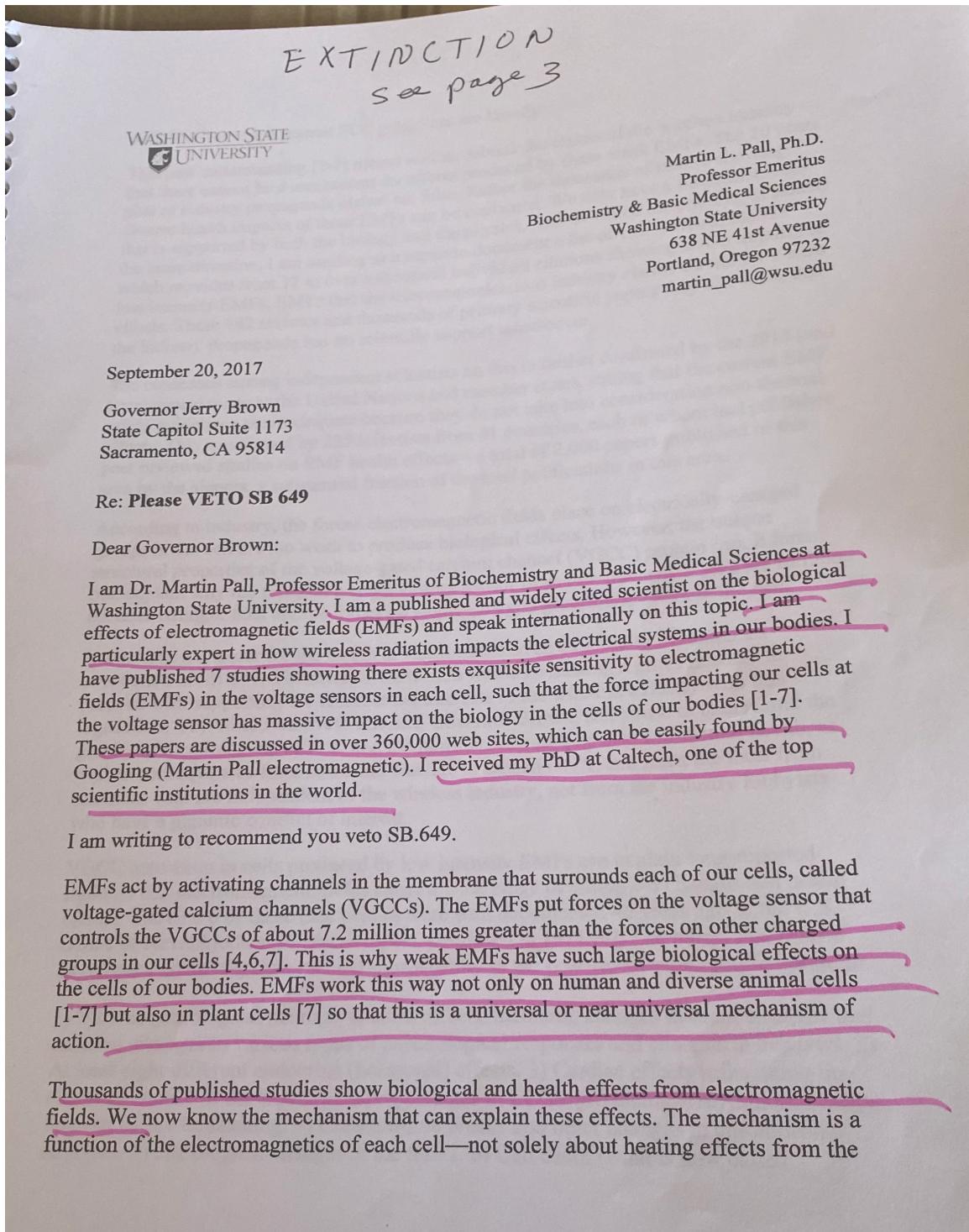
<https://www.youtube.com/watch?v=bgGJeOVEDQs>

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# Letter from Martin L Pall, PhD to Governor Jerry Brown California Re: Please Veto SB649 (2017) (6 pages)



radiation (on which present FCC guidelines are based).

This new understanding [1-7] means we can debunk the claims of the wireless industry that there cannot be a mechanism for effects produced by these weak EMFs. The 20 years plus of industry propaganda claims are false. Rather the thousands of studies showing diverse health impacts of these EMFs can be explained. We now have a mechanism, one that is supported by both the biology and the physics, both of which are pointing in exactly the same direction. I am sending as a separate document a list of 142 reviews, each of which provides from 12 to over a thousand individual citations showing health impacts of low intensity EMFs, EMFs that the telecommunications industry claims cannot have such effects. These 142 reviews and thousands of primary scientific papers they cite show that the industry propaganda has no scientific support whatsoever.

The consensus among independent scientists on this is further confirmed by the 2015 (and later) appeal made to the United Nations and member states, stating that the current EMF safety guidelines are inadequate because they do not take into consideration non-thermal effects. This was signed by 225 scientists from 41 countries, each of whom had published peer reviewed studies on EMF health effects – a total of 2,000 papers published in this area by the signers, a substantial fraction of the total publications in this area.

According to industry, the forces electromagnetic fields place on electrically-charged groups in the cell are too weak to produce biological effects. However, the unique structural properties of the voltage-gated calcium channel (VGCC) protein can, it turns out, explain why the force on a cell's voltage sensor from low-intensity EMFs are millions of times stronger than are the forces on singly-charged groups elsewhere in the cell.

It would be a disaster for the health of Californians to be exposed to the antennas envisioned in SB 649. The State of California would be making a grave mistake to proceed with supporting the commercial interests of the wireless industry with this legislation. You would best veto this bill, Governor Brown, and pause to understand the gravity of the biological effects, and the ramifications for physical and mental health, as well as consequences from continual damage to human DNA, and learn the facts from scientists who are independent of the wireless industry, not from the industry lobbyists who have a gigantic conflict of interest.

VGCC activation in cells produced by low intensity EMFs can explain long-reported findings that electromagnetic fields cause a wide range of biological changes and health effects. The first 6 of these (see below) were well documented 46 years ago in the U.S. Office of Naval Medical Research report, published in 1971 [8]. The others that follow have been extensively documented subsequently in the peer-reviewed scientific literature:

- 1) Various neurological/neuropsychiatric effects, including changes in brain structure and function, changes in various types of psychological responses and changes in behavior.
- 2) At least eight different endocrine (hormonal) effects.
- 3) Cardiac effects influencing the electrical control of the heart, including changes in ECGs, producing arrhythmias, changes that can be life threatening.
- 4) Chromosome breaks and other changes in chromosome structure.
- 5) Histological changes in the testes.
- 6) Cell death (what is now called

apoptosis, a process important in neurodegenerative diseases).

Since 1971 many other effects of such EMFs must be added to that list: 7) Lowered male fertility including lowered sperm quality and function and also lowered female fertility (less studied). 8) Oxidative stress. 9) Changes in calcium fluxes and calcium signaling. 10) Cellular DNA damage including single strand breaks and double strand breaks in cellular DNA and also 8-OHdG in cellular DNA. 11) Cancer which is likely to involve these DNA changes but also increased rates of tumor promotion-like events. 12) Therapeutic effects including stimulation of bone growth. 13) Cataract formation (previously thought to be thermal, now known not to be). 14) Breakdown of the blood-brain barrier. 15) Melatonin depletion and sleep disruption.

They may be low intensity but with regard to the VGCCs, electromagnetic fields can have a tremendously powerful impact on the cells of our bodies. Furthermore, published studies showing that calcium channel blocker drugs block or greatly lower biological effects from electromagnetic fields confirm there is a VGCC activation mechanism that is causing various effects. Higher frequency electromagnetic fields from 5G technologies on the horizon pose even greater biological concern than those to which we are exposed today. We should be moving, instead, to wired technologies at every opportunity, based on what we know in science today, not expanding and supporting the proliferation of wireless.

I want to make several additional points very clear:

The Physics and the Biology are both pointing in the same direction. Both show that EMFs act primarily via activating the VGCCs in the cells of our bodies.

DNA damage known to be produced by these EMFs occur in human sperm and may also occur in human eggs, leading to large increases in mutation in any children born. It is thought that an increase in mutation frequency of 2.5 to 3-fold will lead to extinction because of accumulation of large numbers of damaging mutations. We may already be over this level, and if so, simply continuing our current exposures will lead to eventual extinction. Further increases in exposures will be more rapidly self-destructive.

Pulsed EMFs are, in most cases, more biologically active and therefore more dangerous than are non-pulsed (continuous wave) EMFs. All cordless communication devices communicate via pulsations, because it is the pulsations that carry the information communicated. All the industry claims of safety are based on a theory (only thermal effects) that was known to be wrong back in 1971 [8] – and that was before many thousands of additional studies were published providing massive confirmation that industry claims are false.

The industry is trying to move to much higher frequencies with 5G because these much higher frequencies allow much higher pulsations and therefore much faster transmission of information. However, these higher pulsation rates make these ultra-high devices vastly more dangerous. This is part of the reason why it is so important to vote down SB 649.

None of our wireless communication devices are ever tested biologically for safety – not cell phone towers, not cell phones, not Wi-Fi, not cordless phones, not smart meters and

certainly not 5G phones, or radar units in cars – before they are put out to irradiate an unsuspecting public.

The telecommunications industry has corrupted the agencies that are supposed to be regulating them. The best example of this is that the FCC which regulates EMFs in the U.S. is a “captured agency”, captured by the industry it is supposed to regulate, according to an 8-chapter document published by the Edmond J. Safra Center for Ethics at Harvard University [9]. Is it any wonder, therefore, that the industry keeps touting that their devices are within the safety guidelines set by the FCC?

We know how the EMFs work in the body and that the industry propaganda has no science behind it. But what can we say about the 5G EMFs and what effects it will have on our bodies? 5G will be much more active in activating the VGCCs and producing health impacts because of its rapid absorption by materials in the body, because of its very rapid pulsations and because of the huge number antennae they are planning to put up, at least 200 times the number of antennae from all current cell phone towers. What this means is that the impacts on the outer one to two inches of our bodies will be massive. Because of this we can expect humans to suffer from:

1. Very large increases in blindness from each of the four major causes of blindness: cataracts, macular degeneration, glaucoma and retinal detachment. Each of these involves excessive calcium levels in different parts of the eye and 3 of them also involve excessive voltage-gated calcium activity. I conclude that each of them is likely to be massively elevated by 5G.
2. Large increases in hearing loss and tinnitus, leading in many cases to deafness.
3. Very large increases in male infertility, as well as universal drops in sperm count.
4. Very substantial numbers of melanoma skin cancer and leukemia and possibly other types of cancer. EMFs appear to be particularly active in causing cancer in children and consequently children are at special risk from 5G.
5. Impacts on the peripheral nervous system leading to near universal neuropathic pain and peripheral neuropathy.
6. Large increases in thyroid dysfunction, because of the location of the thyroid gland near the surface of the body.
7. Impacts on the immune system cells, possibly leading to autoimmune diseases and other deficiencies.
8. Impacts on the erythrocytes (red blood cells), leading to stacking of the erythrocytes into rouleaux (long chains) and also cell lysis, leading to very low oxygen in the tissues and lowered nutrients transport to the tissues.

Because plants and animals are affected much as we are, but they have much larger parts of them are highly exposed to the 5G radiation, the impacts on insects (including bees

*and other pollinators), birds, small mammals and almost all plants will be much more severe than the effects of humans.* Even large trees have their leaves and reproductive organs highly exposed to 5G radiation. It is quite possible that the attempts by industry to put 5G in rural areas of California will have tremendous impact on California's unique agriculture. It is hard to imagine the chaos that will be generated on thousands of different species. To put 5G out with no biological safety testing is, in my view, a travesty.

I urge you to do the right thing on behalf of the health of Californians and future generations: **Please VETO SB 649.** Please let me know if I can provide further information, or if you'd like to meet in person to learn more, feel free to contact me at (503) 232-3883.

Respectfully,

/s/ Martin Pall

Martin Pall, PhD

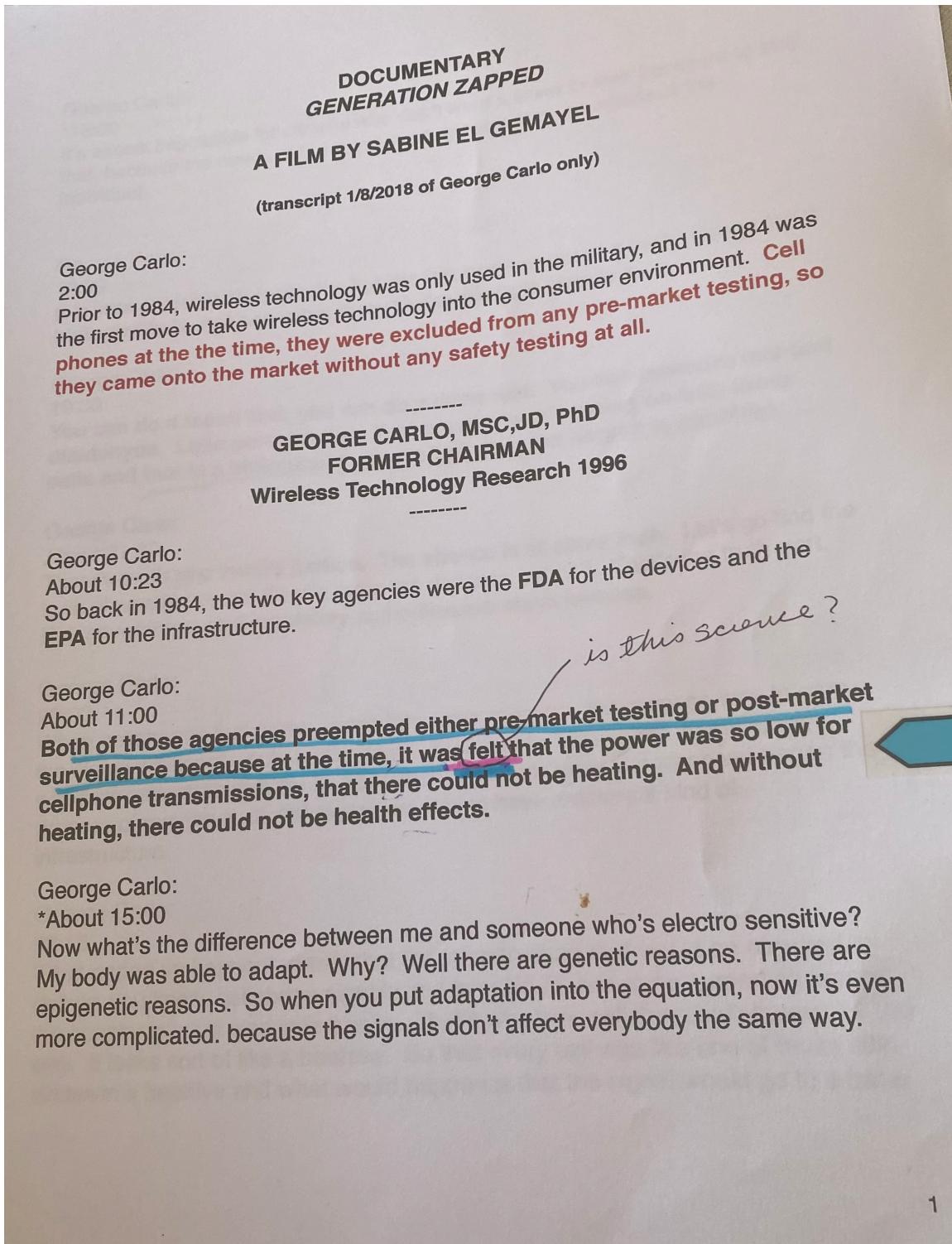
Citations:

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<https://creativecommons.org/licenses/by/4>

## Documentary Generation Zapped - a film by Sabine El Gemayel (2018) - with George Carlo, MSC, JD, PhD and former chairman Wireless Technology Research 1996 (5 pages)



George Carlo:

\*18:00

It's almost impossible for citizens who don't want a tower in their backyard to stop that, because the needs of the masses are greater than the needs of the individual.

George Carlo:

19:00

It is recognizable biologically, but the information about how to recognize it biologically is, not pervaded through the medical literature.

George Carlo:

19:30

You can do a blood test, you can do a urine test. You can measure mal-and diaidhyde. Lipid peroxidation. You can see what's going on with those cells and that is a biological measure that says the person is impaired.

George Carlo:

About 21:30

There's **truth and there's justice.** The science is all about truth. Let's go find the truth of whether or not there's there are dangers. All of it. That's the truth part. But government and regulatory authorities are about fairness.

George Carlo:

22:00

When cellphones first came, came into consumer use, the purpose was to carry the signal wirelessly, only a little ways. And then to convert the signal to the wired infrastructure that we had on landline phone lines. But when we began the process of moving to digital signal, we had to have a different kind of infrastructure.

George Carlo:

23:16

What ended up happening was that the infrastructure that would be required to deliver, you know, cellphone signals and later Wi-Fi, had to be spread all across the country in what was called cells. That's why they call them cellphones, by the way. It looks sort of like a beehive. So that every cell was like one of those little circles in a beehive and what would happen is that the signal would go to a base

station and then as long as you were within the cell on your phone, that cell tower would be handing your call.

24:00 But as soon as you moved into another cell, it would hand off the signal to the next cell tower. And that required an infrastructure so that there's always a transmission and reception loop between the cell phone and the infrastructure or the closest base station. That's also how the base station knows where you are. If you have good signals in Maryland, but you don't have good signals in Virginia, Maryland would have a commercial advantage in business

\*24:30 It's about fairness and when you go back to our constitution, the Commerce Clause is one of the big fairness clauses. So it became a federal program to build out the infrastructure. That was the rational for the federal government to come in and in effect, in some cases, step on the rights of individual citizens in order to build out the infrastructure.

George Carlo:

25:00

It's our system.

George Carlo:

27:00

In 1995 and 1996, we began the process of a new telecommunication act. The telecommunications act now, was for the first time, **written to put the FCC in the role of a policing agency. But the FCC's job as a commission was fair and equitable use of spectrum. The FCC was not a policing agency, had nothing to do with safety, had nothing to do with monitoring.** Only to make sure that the different phone companies didn't cheat each other. That's an important point, because it was the industry that lobbied to have those changes made.

George Carlo:

28:00

So the wireless industry agreed to put up money from the, from the cell phone industry and an inter agency working group of the United States government was put in place to oversee the work. That project was called the **WTR Wireless Tech Research and that's the program that I ran, looking into the health**

effects of wireless technology. This program was put in place under what we would call a regulatory paradigm.

George Carlo:

28:30

There was an argument going on between the EPA and the FDA, and the FCC was in the middle of it about the safety standards that should be put in place for analog phones. And that standard was the specific absorption rate-

George Carlo:

About 29:00

But the standard was based on microwave oven studies from the 70s and 80s. Was really not relevant to anything other than heating effects.

George Carlo:

30:30

In that time frame, 1995, 1996. It was really the industry that was pushing for the SAR standard. The reason was because they knew that they could easily meet the SAR standard. If you got into standards that were biologically based, actually looking at health effects and all that stuff, the industry was worried.

We do have one finding in experiments that indicates the potential for genetic damage, coming from radiofrequency radiation such as that that comes from the phones. We also have an epidemiological finding of, uh, an increase risk of a very rare type of brain tumor among report who report using cellular phones.

George Carlo:

About 31:00

We were sort of caught in a difficult place, because some of the claims that were being made about health effects were so severe that had there been pre market testing, cell phones never would've made it into the marketplace.

KEY

George Carlo:

31:30

So what happened was, through some lobbying efforts and in the telecommunication act, when it was finally passed, the EPA's RF program was defunded. We didn't like what they were saying, so let's get rid of them. That's what happened.

George Carlo:

52:30

**Kids became addicted to the signals.** You know, you can go into a nice restaurant and there are four people sitting at a table and they're all doing this. They're not even interacting with each other. And there's been such a, such a change in the way that people interact with each other, it's all about them. It's not just because of Facebook. It's all about this, is more important than interacting with you. From a psychological point of view, form a development point of view, those things are important

George Carlo:

About 58:00

5G has an enormous amount of promise. It's expected to enable all sorts of things like virtual reality, self-driving cars. You could potentially download a movie within a couple of seconds.

George Carlo:

\*59:00

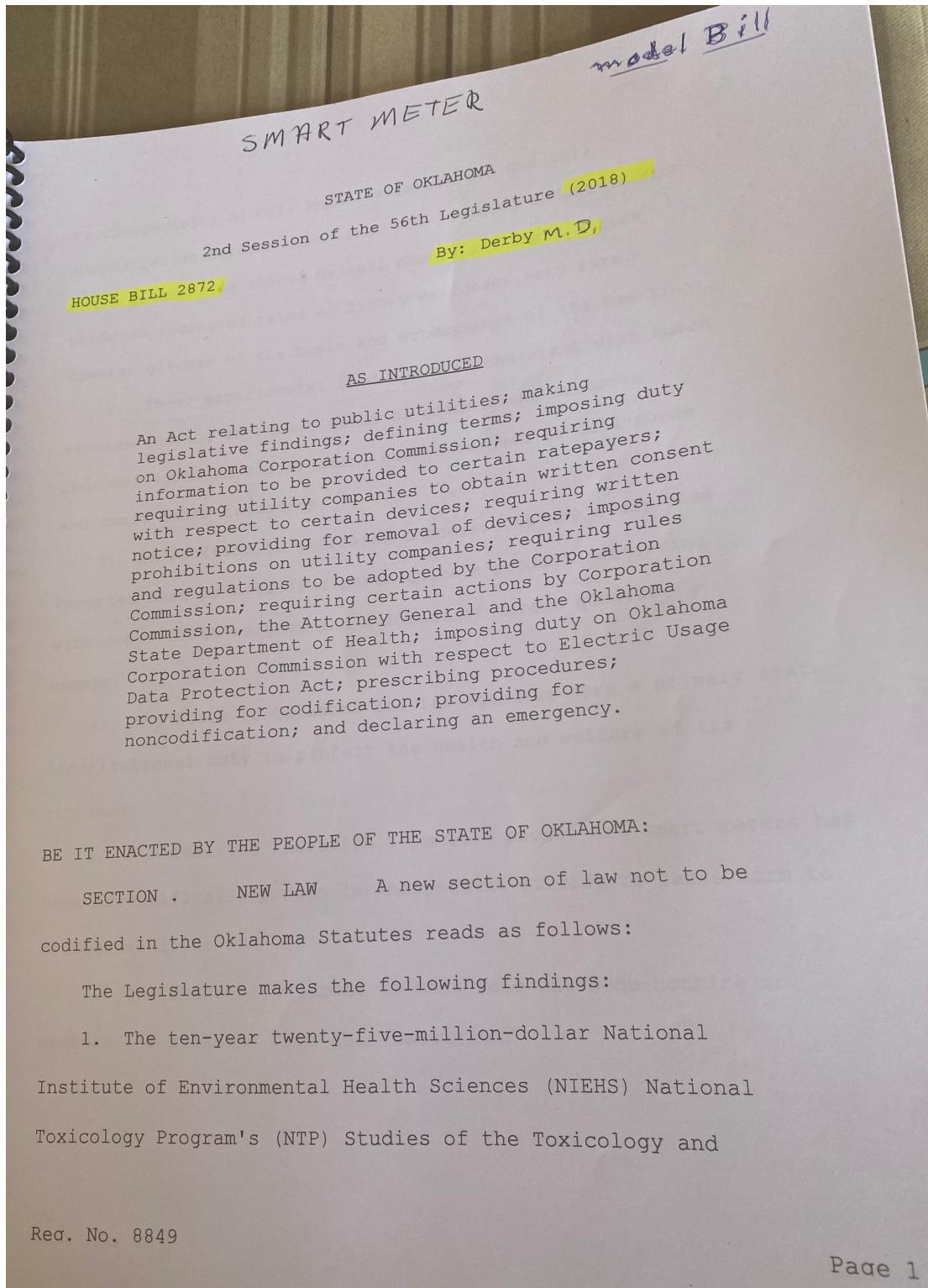
So many people involved in the science around this are out there arguing for massive change to everything from you know, tearing down the structure that we have of regulation and public's safety, to getting rid of technology, to doing all kinds of things that are extreme. Fact is, none of those things are going to happen. So what could we do now?

George Carlo:

\*About 1:03

It really has to be solved more from a regulatory point of view. More form a population based point of view.

# State of Oklahoma - House Bill 2872 (by Derby) (12 pages)



Carcinogenicity of Cell Phone Radiation and the 2012 BioInitiative Reports state that non-ionizing radiation from radio frequencies shared by cell phones and smart meters produced increased rates of highly malignant very rare tumors: gliomas of the brain and schwannomas of the heart;

2. These experimental findings are consistent with human studies showing increased rates of gliomas and acoustic neuromas (schwann cells) among humans exposed to cell-phone and smart-meter radiation;

3. In addition to increased cancers, the NTP study also reported that prenatally exposed animals produced offspring with lower birth weights and evidence of direct genetic damage;

4. The State of Oklahoma and its agencies have a primary state constitutional duty to protect the health and welfare of its citizens;

5. Non-ionizing radiation from cell phones and smart meters has been scientifically proven in independent studies to cause harm to biological life; and

6. The State of Oklahoma to this date has done nothing to protect its citizens from this radiation.

Rea. No. 8849

Page 2

SECTION . NEW LAW A new section of law to be codified in the Oklahoma Statutes as Section 710.15 of Title 17, unless there is created a duplication in numbering, reads as follows:

A. As used in this section, the following terms shall have the following meanings:

1. "Electromechanical analog meter" means a purely electric and mechanical device, using no switch-mode power supply, no transmitter, no antenna and no radio frequency emissions;
2. "Utility company" means an electric, gas or water company, or town or city-owned utility or other utility provider that holds a protected monopoly to operate in the State of Oklahoma;
3. "Wireless meter" means any transmitting metering device with electronic components and/or any electric- or battery-operated meter that is capable of measuring, recording and sending utility data (such as water, gas, electricity, cell phone, cable TV or Internet) by means of a wireless signal from a utility consumer or member to a utility company, municipality or cooperative association in a manner utilizing one-way communication, two-way communication, or a combination of one-way and two-way communication either through the meter itself or through a device ancillary to the meter or through cell towers/phones or ISPs. Common names include, but are not limited to, AMR, ERT, smart, AMI and Comprehensive Advanced Metering Plan (CAMP);

Rea. No. 8849

Page 3

4. "Equivalent technology" means utility infrastructure, or Internet Service Providers (ISP), that communicate data using wireless frequencies, but which may be undisclosed due to proprietary rights. This also includes devices that communicate wirelessly with any home appliance or computer;

5. "Cell phone" means or indicate any part of a cellular phone system that operates wirelessly for the consumer and carries phone or data wirelessly;

6. "WiFi" means any wireless communication device or appliance used in any wireless communication system based on the Institute of Electrical and Electronic Engineers (IEEE) 802.11 Standard;

7. "Ratepayer" or "consumer" means a person who pays or consumes the product of any utility operating within the State of Oklahoma; and

8. "Opt-in" or "opt-out" means the desire of the ratepayer or consumer of a product from a utility as to whether or not they wish to participate with the utility in wireless metering which may cause health problems for the ratepayer or consumer. An opt-in position is a desire to participate and an opt-out is a desire not to participate in wireless metering with the utility.

B. The Oklahoma Corporation Commission (OCC) shall direct utility companies, including natural gas providers, water providers and electric power providers, to provide ratepayers the following:

Req. No. 8849

Page 4

1. A choice of the type of utility meters to be installed and operated on their places of residence, property or business; among the choices offered shall be the installation or ongoing operation of a nontransmitting electromechanical analog meter;

2. The ability to retain and operate an electromechanical analog meter on an ongoing basis at no cost; and

3. The right to replacement of a wireless meter with a nontransmitting electromechanical meter at no cost.

C. The utility companies in Oklahoma shall be required to obtain the ratepayer's written consent, i.e. opt-in or opt-out:

1. Before installing wireless meters or equivalent technology on the ratepayer's property; and
2. Before altering the functionality of said meters.

D. The utility companies shall provide written notice to ratepayers within ninety (90) days of the effective date of this act for the purpose of informing said ratepayers if wireless meters have been installed on their properties. Ratepayers shall have the right to request that the utility companies remove said wireless meters and install in their place electromechanical analog meters that emit no radio frequency, electromagnetic, non-ionizing radiation. There shall be no cost or other periodic usage charges to the ratepayer for such removal, replacement installation and use of a nonwireless utility meter. The utility company shall promptly comply with such

Rea. No. 8849

Page 5

removal and replacement installation request made by the ratepayer to said company.

E. Utility companies by this section of law shall be:

1. Prohibited from shutting off service to a ratepayer based on the ratepayer's utility usage or on the ratepayer having electromechanical analog meters;
2. Prohibited from imposing any disincentive on a ratepayer for not consenting to the installation or use of wireless meters;
3. Required to notify ratepayers in writing that the installation and use of wireless meters are not mandated by state or federal law and are not permitted without the ratepayer's consent;
4. Prohibited from discriminating against ratepayers who may have medical conditions that are exacerbated by exposures to pulsed microwave radio frequencies; and
5. Prohibited from installing equivalent technology, such as direct wireless connection to devices in the home or business, placing devices on poles or in any other manner near the home or business of an individual requesting a nontransmitting meter, such that the utility is not exposing persons who opt-out to non-ionizing radiation.

F. The Oklahoma Corporation Commission shall establish terms, conditions and regulations to comply with the requirements of this section, said regulations to be submitted for approval to the

Rea. No. 8849

Page 6

Oklahoma Legislature not later than eighteen (18) months after adoption of this section of law.

G. Pursuant to the provisions of this section, the Oklahoma Corporation Commission shall operate in conjunction with the Oklahoma Attorney General's Office and the State Health Department to protect the health and welfare of all Oklahoma citizens. Working jointly and immediately upon enactment of this act, the OCC, Oklahoma Attorney General's Office and State Health Department shall ensure that the above and foregoing as well as the following provisions of this legislation are fully carried out:

1. Shall establish an absolute state-wide moratorium on the deployment of smart meter AMI (advanced metering infrastructure), metering equipment that uses microwave technology to communicate information from the consumer to the utility, whether it is an electric utility or other. Such moratorium to remain in place until released by action of the State Legislature rescinding the requirements of this paragraph;

2. Shall ensure that all utility and phone service providers properly notice all customers of potential health hazards of any and all of their services and allow the customer to opt-out or modify services if desired by the customer;

3. The OCC shall exercise its constitutional duty to independently review the safety of devices, such as smart meters,

Reg. No. 8849

Page 7

used for transmitting information in a wireless environment and shall do so in a manner not relying upon information provided by industry (utility) sources, but shall, through independent experts and input from consumers, examine the entire universe of valid scientific information available to make a reasoned decision as to whether it is likely or not that microwaves pose a threat to the citizens of Oklahoma at today's usage rates and the power levels currently used by equipment in service or requested by the utility to be put into use. To this end, the OCC shall conduct public hearings across the State of Oklahoma to assure that all Oklahomans, who have any kind of problem with smart meters, can be heard along with the requisite utilities and independent scientists;

4. During the interim, while OCC studies the safety of microwave radiation, the OCC shall promulgate rules that shall require all utilities to shut down present smart meter systems and have consumer meters read by either meter readers, consumer call-in or email of readings to the impacted utility for billing purposes. All utility providers shall maintain service as long as a ratepayer is paying for the services rendered, without regard to the type of meter specified by the utility;

5. The OCC shall also promulgate rules that shall make Oklahoma permanently an opt-in state for any kind of smart meter application. Unless the consumer requests the smart meter, it shall not be

Reg. No. 8849

Page 8

installed. Consumers that opt-in, until the Legislature determines differently, shall only have available a smart meter in configurations that do not require wireless deployment; such as deployment by telephone line or fiber optic. Persons who have had wireless smart meters installed may opt-out and the transmitting and receiving capability of their meters rendered inoperative or the meter replaced with an analogue meter at no charge to the consumer based on the preference of the consumer, who shall bear no added costs. Additionally, OCC shall promulgate rules that protect consumers and ratepayers who do not have or claim, and those who have or claim, a sensitivity to electromagnetic radiation. This includes denial of requested smart meters to persons where the installation and deployment would necessarily cause microwave radiation exposure to innocent persons wanting to opt-out, if such meter is wireless in deployment;

6. The OCC is hereby directed to develop revisions to the Electric Usage Data Protection Act, Section 710.1 et seq. of Title 17 of the Oklahoma Statutes, to revise said legislation and remove the capability of the utility to have access to any information from the consumer except for what is necessary, in calculating gross consumption of the utilities services, to bill for the amount of the utility used by the consumer. The revised language is to make it clear that the consumer, not the utility, owns consumer information

Reg. No. 8849

Page 9

and any information that is unnecessary for billing may be released only for good and valuable consideration received by the consumer from the utility through a written agreement. Additionally, the utility may not sell the information, whether it identifies the consumer or not, nor may it aggregate the information to sell it, unless each individual consumer owner has given permission in writing to the utility. The OCC shall submit this new proposed rewrite of this act to the Legislature for promulgation within its rules sixty (60) days after adequate public hearings on the measure and consumer input have been received and actually considered by OCC, but in no case shall OCC exceed eighteen (18) months to resubmit to the Legislature. It is the intent of the Legislature that OCC shall adopt a position of protecting the health, safety, welfare and financial resources of the ratepayer and citizens of Oklahoma and any provision for error should be on the side of the ratepayers of Oklahoma for this section and all other related sections of Oklahoma law;

7. The OCC shall promulgate new rules that shall prevent any utility from denying or suspending service to any consumer because of any disagreement with said utility as long as the consumer is paying for the amount of the utility used. Said rules shall make the utility responsible for any and all damages that may be sustained by the consumer, including attorney fees; and if the

Rea. No. 8849

Page 10

consumer can prove retaliation, willfulness, maliciousness, carelessness, indifference or negligence on the part of the utility, the Legislature hereby approves that a court of competent jurisdiction may apply triple damages in such cases along with automatic attorney fee awards. In addition, OCC shall adopt rules that allow consumers to make changes to the metering of their property if such changes are done in self-defense of health for themselves or other family members and the utility is advised beforehand and has not responded to the consumer's need. OCC shall additionally incorporate into its present rules that the utility, in ignoring a ratepayer communication for any matter, denies the utility the use of any defenses it may have under current rules; and

8. The OCC shall develop new rules for ratepayers and consumers that have disputes with utility actions. Said disputes shall not be allowed to be dismissed by a motion to dismiss from the utility. Every such dispute shall be given full due process, including an opportunity to be heard en banc before a tribunal of all three elected Commissioners, before final resolution, and all presumptions, if any, shall be in favor of the ratepayer. The elected Corporation Commissioners and staff of OCC are to take each ratepayer or consumer complaint as an opportunity to review the adequacy of the agency's due process system, and there shall be no restraint on the right to be heard. If the rulings are not

Rea. No. 8849

Page 11

satisfactory to the ratepayer, they may be taken to district court for rehearing; however, appeal beyond the Commissioners shall remain to the Supreme Court, if appeal is desired instead of rehearing. The OCC is to understand by this legislation that they work for the consumers and citizens of the State of Oklahoma and not the utility. All district courts in Oklahoma shall have jurisdiction to hear such rehearings and the ratepayers shall qualify for damages and attorney fees with double damages from the OCC, and utility if warranted, should there be a due process violation involved.

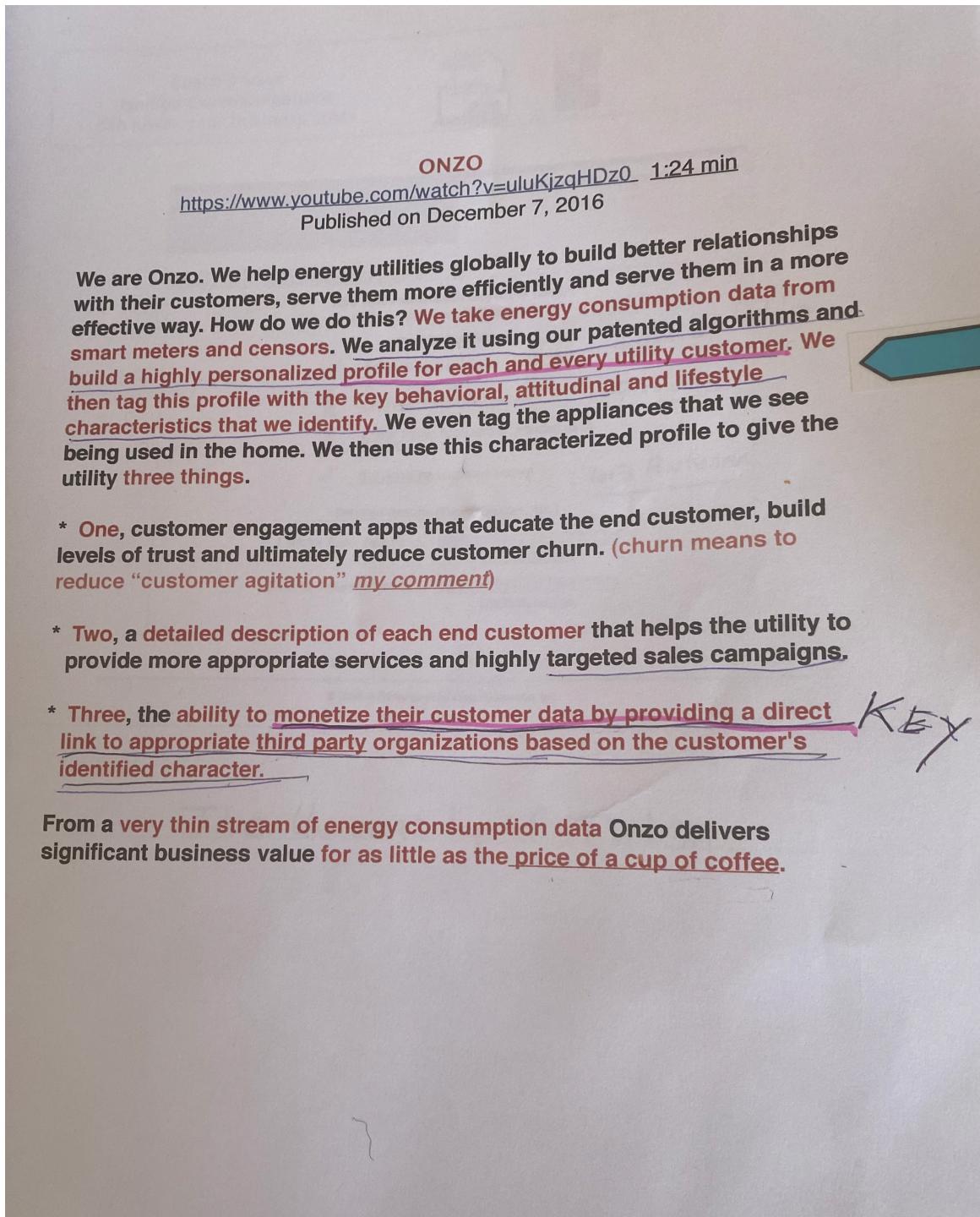
SECTION . It being immediately necessary for the preservation of the public peace, health or safety, an emergency is hereby declared to exist, by reason whereof this act shall take effect and be in full force from and after its passage and approval.

56-2-8849      MAH      01/15/18

Rea. No. 8849

Page 12

## ONZO (youtube link) 2016 - Details the 'plan'



## The University of Tulsa (2018) - 120 Towers (3 pages)

Learn 5 ways  
Unified Communications  
can lower your business costs

Your report is ready!  
\* Use links below...

Report Viewer

Your AntennaSearch Report is ready!  
(Tulsa, Oklahoma, United States)

- Results Summary -

Search Radius at max - 4.0 miles 4.0 miles Radius

**120 Tower Structures Detected!** 120 Towers

2 New Tower Applications Detected as of  
11/29/18

613 Antenna Locations Found! 613 Antenna

- Detailed Results (Maps, Owners, etc.) -

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The University of Tulsa

f1

11/29/18 12:22 PM

Learn 5 ways  
Unified Communications  
can lower your business costs

● Tower Structures - (Tulsa, Oklahoma, United States)

Map | Report a map error

**Tower Search Results**

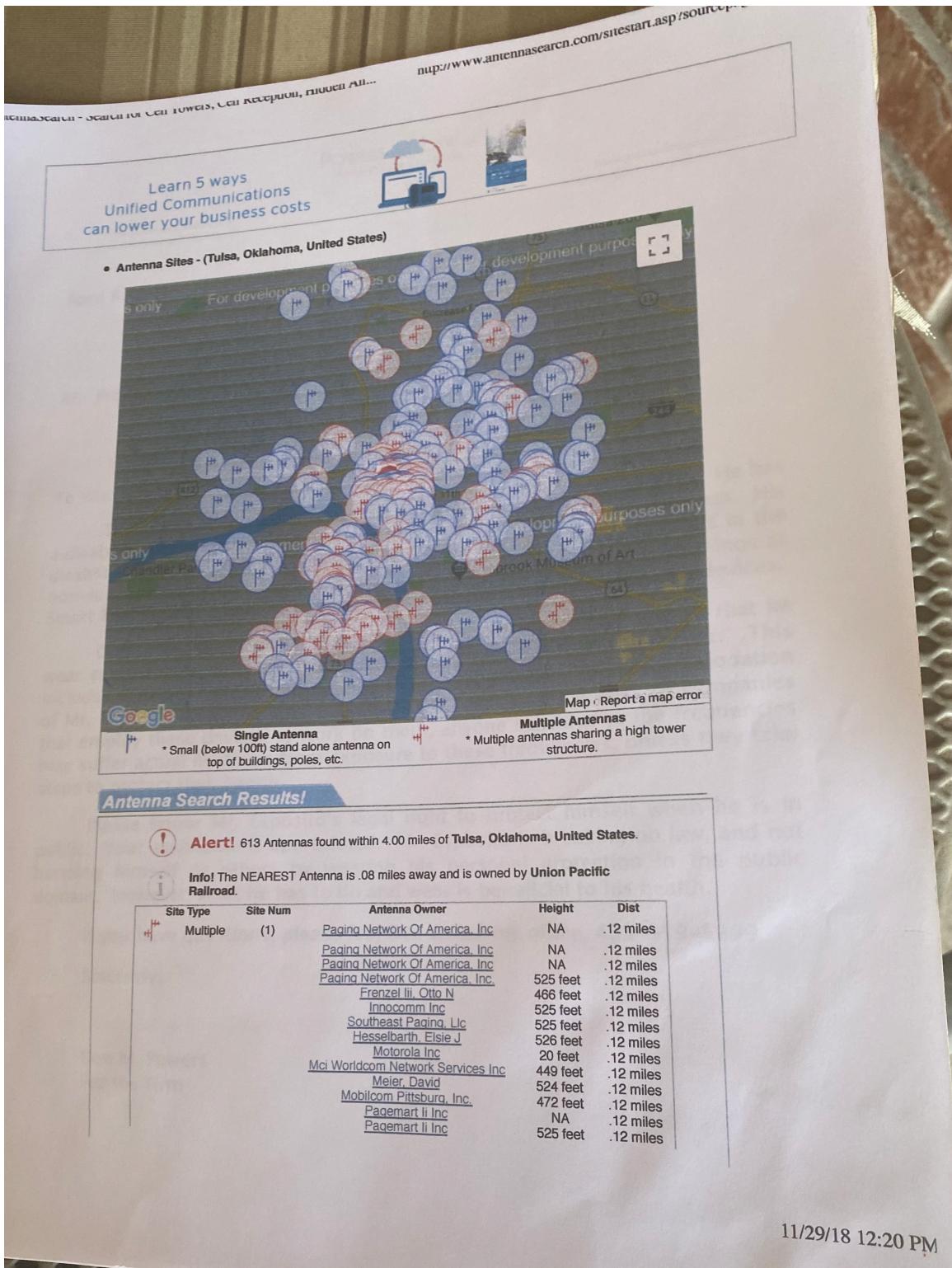
**!** **Alert!** 120 Towers (58 Registered, 62 Not Registered) found within 4.00 miles of Tulsa, Oklahoma, United States.

**!** **Info!** The NEAREST Tower is .08 miles away and is owned by Blank.

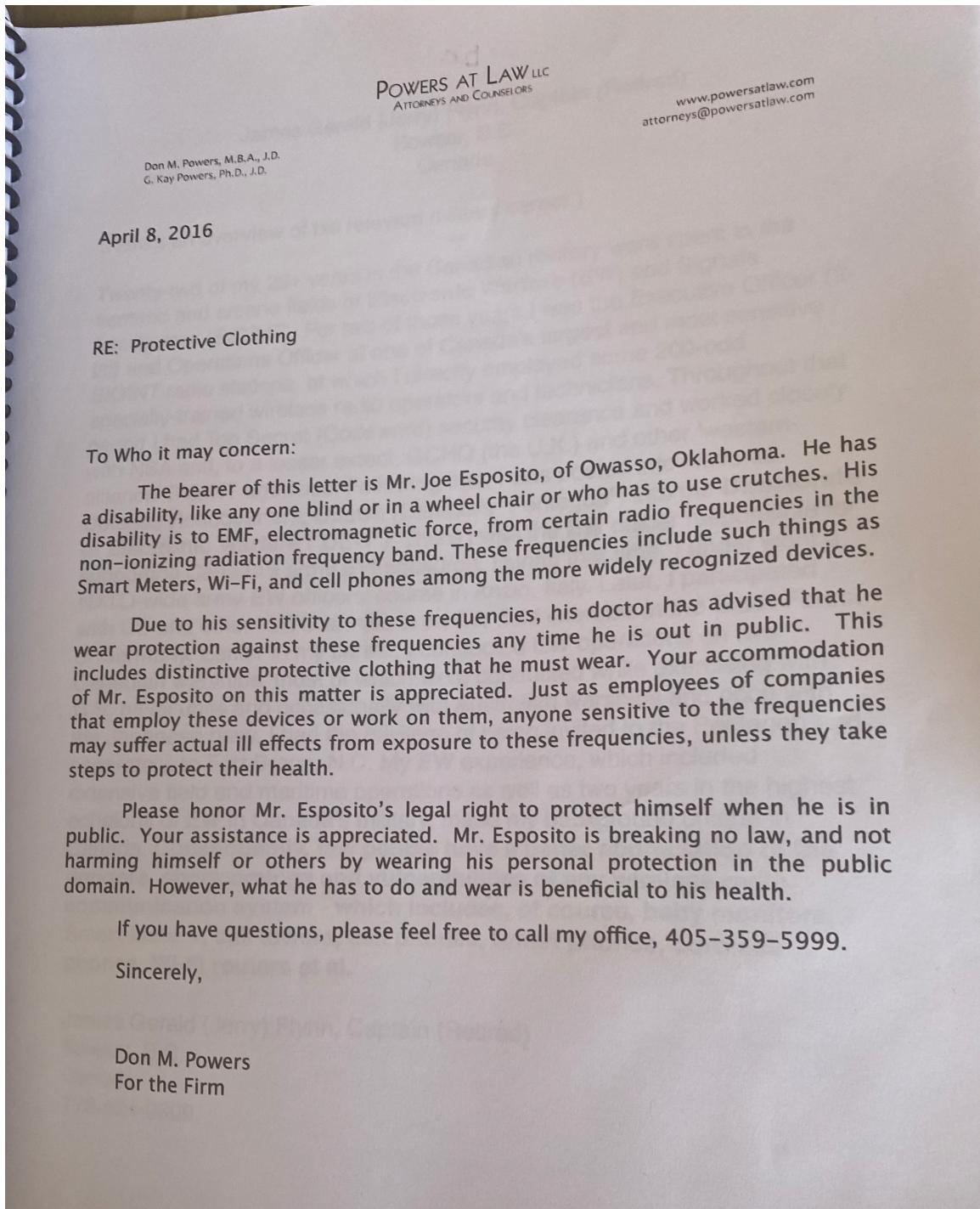
**!** **Alert!** 2 New Tower Applications found within 4.00 miles of Tulsa, Oklahoma, United States.

Tower Type	ID Num	Site Owner	Height	Dist
Registered	(1)	<u>Fourth National Associates Lp Dba = Paramount Group Inc</u>	436 feet	.13 miles
	(2)	<u>Spectrasite Communications, Llc</u>	257 feet	.40 miles
	(3)	<u>Stc Five Llc</u>	109 feet	.51 miles
	(4)	<u>Oklahoma Community Television, Llc</u>	304 feet	.56 miles
	(5)	<u>Sba Infrastructures, Llc</u>	320 feet	.57 miles
	(6)	<u>United States Cellular Corporation</u>	192 feet	.68 miles
	(7)	<u>Sba Infrastructures, Llc</u>	320 feet	.75 miles
	(8)	<u>United States Cellular Corporation</u>	85 feet	.85 miles
	(9)	<u>Global Tower, Llc. Through American Towers, Llc</u>	500 feet	.98 miles

11/29/18 12:17 PM



## Powers at Law Letter Re: Protective Clothing (2016)



## James Gerald Flynn, Captain (Retired) Canada - Electronic Warfare (EW) experience/articles (7 pages)

James Gerald (Jerry) Flynn, Captain (Retired)  
Bowser, B.C.  
Canada

(Here's an overview of his relevant military career.)

Twenty-two of my 26+ years in the Canadian military were spent in the esoteric and arcane fields of **Electronic Warfare (EW)** and Signals Intelligence (SIGINT). For two of those years I was the Executive Officer (2-i/c) and Operations Officer at one of Canada's largest and most sensitive SIGINT radio stations, at which I directly employed some 200-odd specially-trained wireless radio operators and technicians. Throughout that period I had Top Secret (Codeword) security clearance and worked closely with NSA and, to a lesser extent, GCHQ (the U.K.) and other 'western-alliance' SIGINT agencies. Following that, I was posted into National Defense Headquarters, Ottawa (Canada's "Pentagon") into the **Directorate of Electronic Warfare ("DEW")**. There I was the **EW** officer responsible for supporting Canada's army **EW** squadron. During that time, I under went a NATO-wide army **EW** officers' course in Anzio, Italy. Later, I participated with US and other NATO armies in an **EW** field exercise in the Black Forest of Germany. Earlier in my career, I conducted **EW** operations on two Canadian warships, most of which were conducted while exercising with U.S. naval units and occasionally with Australian warships and once with the Japanese navy. I had the privilege of being invited to the Pentagon and, separately, to Fort Bragg, N.C. My **EW** experience, which included extensive field and maritime operations as well as two years in the highest echelons of **EW** in Canada's military, made my background unique in Canada. **Consequently, few people have a better appreciation of the dangers, shortcomings and vulnerabilities of any wireless radio communication system - which includes, of course, baby monitors, Smart Meters, cell towers, cell phones, Smart phones, cordless phones, Wi-Fi routers et al.**

James Gerald (Jerry) Flynn, Captain (Retired)  
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March 25, 2016

## Imprisoning Children and Teachers in Microwaved Classrooms Is a Crime Beyond Belief!

Time is running out for Americans to wake up and realize that their children are being unintentionally but seriously harmed by technologically-ignorant, irresponsible authorities who, sadly, have allowed themselves to be co-opted by the wireless and telecom industry and electric utilities whose sole concern is profit – even at the expense of an unsuspecting and defenseless public's health and well-being!

### My Bio

I am a retired Canadian Armed Forces captain who spent 22 of my 26+ years in the 'Forces' in Electronic Warfare (EW) and Signals Intelligence (SIGINT), the former of which included two years in National Defense Headquarters (NDHQ) Ottawa, in the Directorate of Electronic Warfare (DEW). In EW I worked closely with U.S. and NATO armies; attended a major NATO army EW officers' course in Anzio, Italy, and participated in a major NATO army EW field exercise in Germany. I accepted invitations to visit both the U.S. Pentagon and, subsequently, Fort Bragg, North Carolina (the US Army's principal EW base). Earlier still, I conducted Radio Warfare/EW at sea aboard two Canadian warships. In SIGINT, I was the Executive Officer and Operations Officer for two years at one of Canada's largest and most sensitive radio intelligence-gathering stations, where I employed some 200+ specially-trained radio operators who conducted both COMINT and ELINT under my direction. Throughout this period, I worked closely with the USA's NSA and Britain's GCHQ.

\* The US military have long known that THE most harmful radio/microwave frequencies to man are those within the band 900 MHz to 5 GHz (900 million to 5 billion Herz), for they penetrate all organs and organ systems of the body, thus putting all human organ systems at risk. This is precisely why these frequencies are used in M/W weapons of war!

\* Renowned scientists such as Dr. Neil Cherry, Dr. Sam Milham, Dr. Robert O. Becker and others have long said that ANY man-made radio frequency radiation, no matter how weak the signal, is hazardous to humans and all forms of life - especially 'pulsed' M/W radiation!

Microwave (M/W) ovens cook/burn food and heat/boil liquids on the M/W frequency of 2.4 GHz (see para 3)! While M/W ovens emit very high powered radiation, they do so for relatively short periods of time before they shut OFF. Note: The form of radiation emitted by M/W ovens is 'continuous wave,' which is less harmful to humans and all living things than is a Wi-Fi router's 'pulsed' radiation.

Inconceivably, precious children and their teachers are forced – every moment they are at school - to sit in classrooms with powerful industrial-grade Wi-Fi routers above their heads.

Prepared by Jerry Flynn

Page 1 of 2

Stop the Lies!  
Stop the Corruption!  
Stop the Fifty Years of Cover-up!  
Radiation Belongs in Weapons – Not in Consumer Products and Smart Meters!

Executive Summary

People, like all living things, are electrical beings. Medical doctors use an "EEG" or electroencephalography to assess the electrical activity (voltage fluctuations) of the human brain. They also use an "ECG" or electrocardiography to measure the electrical activity of your heart. However, today's wireless consumer products and Smart Meters all emit low-level, pulsed' non-thermal radio / microwave frequency (RF) radiation which is foreign, disruptive and harmful to all living things, not just to humans! It is especially harmful to the exquisitely sensitive and extremely delicate human brain which does not recognize and cannot defend itself against today's alien and ubiquitous man-made pulsed, non-thermal radiation!

Never in the history of mankind has one technology - wireless radio - so completely captivated, enthralled and helplessly addicted people of all ages, academic and socio-economic backgrounds around the globe in so few years! No one can deny that wireless radio has radically altered our lives forever, making us more efficient at work and at home, and making life considerably easier and more enjoyable for most of us. Yet militaries have known since the 1950s that the frequencies, i.e., the invisible electro-magnetic energy or "radiation" which all wireless devices emit belong in weapons of war – not in consumer products and Smart Meters!

For close to 30 years now all of us, especially provincial and municipal governments, have been told that wireless technology is safe – but who is saying that? From BC's perspective, those championing wireless technology begin with Health Canada (HC) and Industry Canada (IC), followed by CWTA (Canadian Wireless and Telecommunications Association), then our BC Government, our PHO (Provincial Health Officer), our two electric utilities and BCUC (BC Utilities Commission) and, of course, all of the retail companies selling wireless products.

But the absolute TRUTH is very, very different:

- No major insurance company today will insure any wireless or telecom company or electric utility against lawsuits alleging harm or adverse health effects attributed to the non-thermal radiation (the kind that does not heat the skin) emitted by today's wireless products!
- In June, 2015, more than 50 of Canada's top scientists publicly condemned HC and the so-called 'safe' radiation Exposure Limits reflected in its Safety Code 6 (SC6) and urged HC to drastically reduce them.
- In May, 2015, more than 200 leading scientists and health experts from 40 countries issued the *International EMF Scientist Appeal*. Addressed to the Secretary General of the United Nations, to all U.N.-member countries and to the Director General of

Prepared by Jerry Flynn

Page 1 or 4

Executive Summary: Stop the Lies ... (Cont'd)

- the WHO (World Health Organization), it appealed to all of them to: a) protect humans and wildlife from the dangers of EMFs (electric and magnetic fields) and wireless technology; and, b) make EMF standards more protective!
- July, 2014 – Globally, 53 Scientists from 18 countries condemned SC6 saying it was: “flawed, obsolete and did not protect Canadians” and called on HC to intervene to help avoid an emerging health crisis!
- Today's wireless devices all emit “low-level, pulsed, *non-thermal* radio / microwave frequency radiation, many of which are constantly on and cannot be shut off (Smart Meters, cell phone towers, cordless phones, GPS, etc.).
- Militaries have known for more than 50 years that ‘pulsed’ radiation is more harmful to humans than is “continuous wave” (CW) radiation - which microwave ovens emit;
- HC refuses to recognize *non-thermal* radiation; nor will they admit that *non-thermal* radiation can be harmful to people and other life forms! HC's ‘safe’ radiation Exposure Limits, reflected in SC6, offer protection only against *thermal* radiation (the kind that heats the skin)!
- Even though HC's SC6 was lowered 66x in 2015, it still is one of the highest, most dangerous limits in the world! Eminent non-industry scientists said, by inference, in 2007 that it needed to be lowered 10,000 times (see Bioinitiative 2007 Report, below)!
- Not one of today's wireless devices has had to undergo independent pre-market testing to insure it is safe to be used by, on or around people (of all ages and size, but especially pregnant women, tiny babies, children, the sick and the elderly) on a continuous basis 24/7/365!
- Every cell phone Owner's Manual contains the warning in small print at the back saying: “Avoid direct contact with the body”; hold the phone” ---- “from the body.” Blackberry says 0.98”; Apple says 5/8”; others say 1”!
- World-class scientists globally know that the latency period for cancers and most major diseases is anywhere from 10 to 40 years.
- Industry studies seldom last even six (6) years – enhancing the likelihood that their studies will prove their technology is harmless!
- Industry studies also consider only *thermal* radiation!
- Despite the above, cell phone companies' own studies in the U.S. and in Germany have shown that cell phones are harmful and can lead to or cause cancers!
- All major cell phone companies have applied for patents to modify their phones which clearly reveal that cell phone radiation leads to and/or causes cancers!
- Lawsuits alleging cell phones caused brain cancers have been successful in high courts of Italy and the U.S., and countless others are quietly underway in courts

Prepared by Jerry Flynn

Page 2 of 4

Executive Summary: Stop the Lies ... (Cont'd)

around the world. (USA VP Joe Biden's son, Beau, died just recently from brain cancer);

- Lawsuits against electric utilities have been quietly won in France and Quebec where pig and/or dairy farmers sued their local utility because their animals suffered countless birth defects, physical deformities and numerous other health problems, and the farmers themselves suffered significant financial losses due to the electric and magnetic fields (EMFs) given off by overhead high voltage transmission and/or distribution lines!
- Electric-Magnetic Fields (EMFs) Both fields are associated with all electricity, including electrical home appliances, tools and machinery (when turned on), with overhead high voltage and power distribution lines, electrical sub-stations, voltage transformers etc. Epidemiological studies have shown that magnetic fields of just 3-4 milliGauss (mG) can cause leukemia in children! Russia recommends an ambient magnetic field of just 1.5 mG; Sweden recommends just 2.5 mG! Contrast this with ICNIRP, WHO and HC, all three of whom say there is no conclusive evidence showing that EMFs are harmful! For short term duration, ICNIRP and WHO say ambient levels of up to 2,000 mG are safe for the public and up to 10,000 mG for occupational exposures! Yet this same WHO, in 2001, classified EMFs a "Possible Carcinogen"! HC says ambient levels of magnetic fields of up to 1,000 mG are safe; whereas IEEE/ICES (Institute of Electrical and Electronics Engineers/International Committee on Electromagnetic Safety – who determine the standard for the USA) says ambient levels up to 9,000 mG are safe!
- The same lead scientist who set ICNIRP's dangerously high electro-magnetic radiation (EMR) 'guidelines' had previously set HC's SC6 EMR guidelines (assisted by another scientist)! From ICNIRP he moved on to the WHO, where he was the lead scientist responsible for setting that world body's EMR Exposure Limits. Consequently, all three agencies shared virtually identical dangerously high EMR Exposure Limits – thanks to this one scientist! And it was this same scientist who was responsible for HC, ICNIRP and WHO all saying that EMFs are harmless to people and all living things!
- Historically, most European Union countries (47 countries, 800-million people) followed ICNIRP's recommended Exposure Limits – until, that is, 2011, when the EU issued a press release urging all its member nations to "reconsider" their reliance on ICNIRP and, instead, follow the recommendations of the BioInitiative 2007 Report – which would have required HC, the WHO, ICNIRP, IEEE/ICES and FCC (Federal Communications Commission) all to lower their 'safe' radiation Exposure Limits by 10,000 times!
- Russia, China, Switzerland, Italy and many other countries have 'safe' radiation Exposure Limits at least 100 times lower (safer) than HC, ICNIRP, WHO, IEEE/ICES

Prepared by Jerry Flynn

Page 3 of 4

Executive Summary: Stop the Lies ... (Cont'd)

- HC, like ICNIRP, IEEE/ICES and FCC, refuses to admit that there is such a condition known as electro-hypersensitivity or "EHS", which is officially recognized in Sweden as a debilitating physical impairment. Many other countries of the world have recognized it, even the WHO!
- For more than 50 years, major militaries of the world have had weapons of war that use the exact same microwave frequencies, with similar pulse modulations and similar (and even lower) power densities as those used in today's baby monitors, Smart Meters, cordless phones, Wi-Fi routers etc.!
- Disgracefully, HC (like the WHO, ICNIRP, IEEE/ICES and FCC) chooses to ignore: a) the hundreds of Soviet/Russian peer-reviewed scientific studies; b) more than 2,000 studies conducted by the U.S. military; and, c) over 6,000 peer-reviewed studies done by non-industry scientists from around the world - all of which show the harmful effects humans experience when chronically exposed to non-thermal radiation!
- It is believed that, with few exceptions, only the USA, UK, Canada, Australia and New Zealand use wireless Smart Meters similar to those used in B.C., which contain two, pulsing microwave transmitters and are envisaged to eventually accommodate 15-or-so 'Smart Appliances' per home (with each appliance having its own pulsing microwave radio circuit). Japan, Russia, China, India and most European countries have Smart Meters, but they all elected not to use wireless radio. Also, their Smart Meters are not nearly as dangerous (from a health perspective); nor do they violate the sanctity and privacy of a home as do B.C.'s Smart Meters. Nor would their meters be prone to catching fire, as are those in B.C.

In conclusion, even the most obdurate government should see from the above that they have, once again, allowed themselves to be duped, deceived, misinformed and even lied to by an immoral, unconscionably greedy alliance of Health Canada, Industry Canada and private Industry who have far too easily convinced naïve governments everywhere that wireless radio technology is safe, when it simply is not! **Militaries have known for more than 50 years: a) the lethality of each and every frequency within the entire RF spectrum; b) that today's frequencies, on which wireless consumer products and Smart Meters are authorized to emit their "low-level, pulsed, non-thermal RF radiation" are THE most harmful frequencies known to man; c) that pulsed non-thermal radiation can inflict more harm on people (the human brain, central nervous system, and immune system) than can continuous wave (CW) radiation - the kind emitted by microwave ovens; and, d) humans can selectively be inflicted with any of a host of diseases, illnesses and harmful effects – even killed – by pulsed non-thermal radiation on certain precise frequencies!**

Governments everywhere must finally stand up and put a merciful end to the lies, the corruption, and the 50-year suppression of the truth! Microwave radiation must never

Executive Summary: Stop the Lies ... (Cont'd)

again be used in consumer products and Smart Meters! The alternative, wired technology, is much faster, far more secure, and it is harmless. Microwave radiation – especially pulsed – belongs only in weapons of war!

All references are provided in the full report, which will be provided to those requesting a copy.

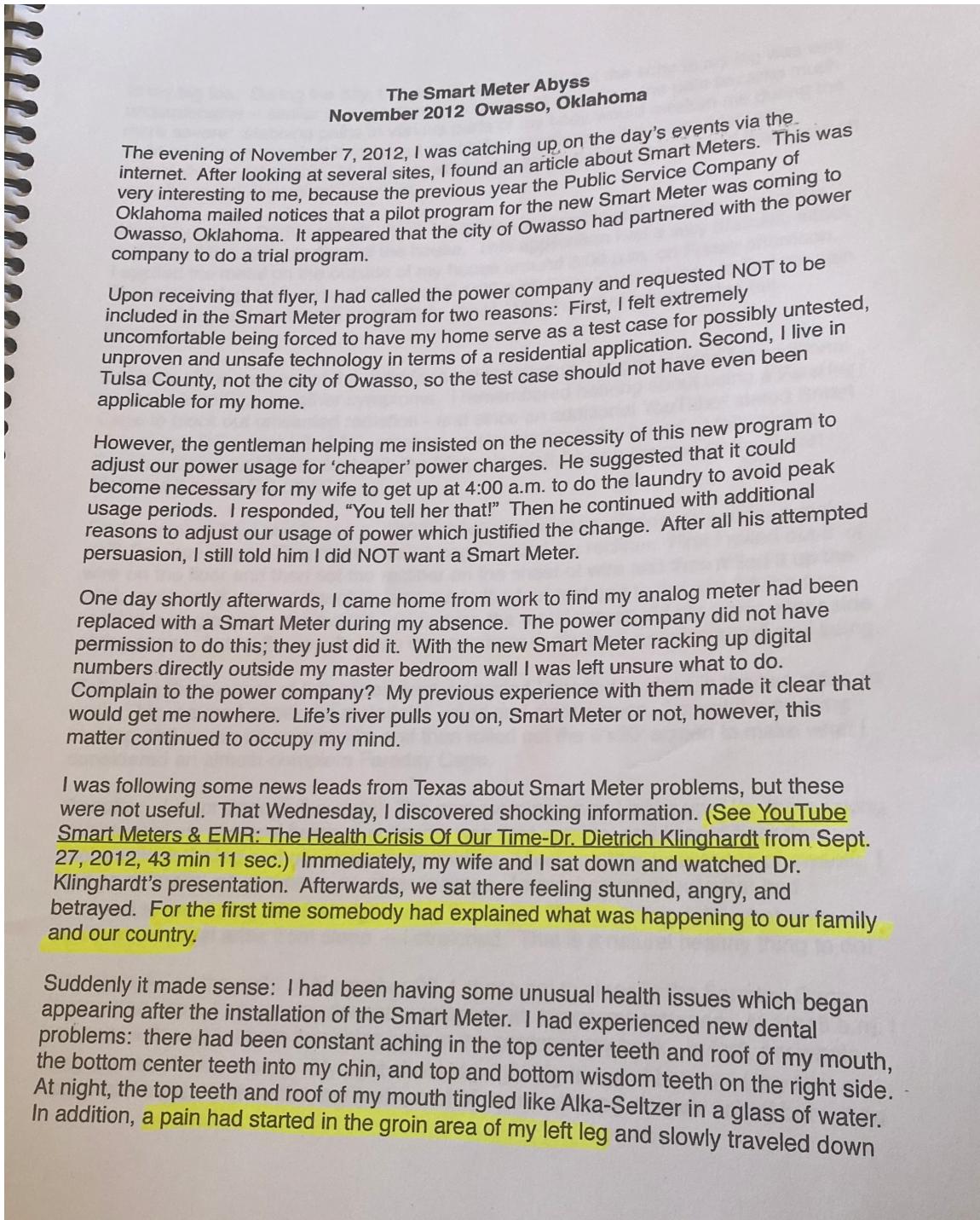
Sincerely,

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Prepared by Jerry Flynn

Page 5 of 4

## The Smart Meter Abyss by Joe Esposito - November 2012 Owasso Oklahoma (3 pages)



to my big toe. During the day, I could still do my work, but the ache in my leg was very uncomfortable -- similar to a constant toothache. At nighttime, the pain became much more severe: stabbing pains in various parts of my body would awaken me during the night and would manifest throughout my body, partially my elbow, shoulder, and especially the right hand. My left ear would also have stabbing pains, and there was an overall general abdominal soreness.

After listening to Dr. Klinghardt, I took his advice to install metal sheeting around the meter on the outside surface of the house. This application had a very dramatic effect. I applied the metal on the outside of my house around 3:00 p.m. on Friday afternoon. That night I slept well, not waking up until 1:00 a.m. Saturday morning - to find the pain in my left leg and my mouth were totally gone! With the other issues I also felt improvement.

Because of the success of the outside metal installation, I began looking for additional methods to reduce my other symptoms. I remembered hearing about using a **Faraday Cage** to block out unwanted radiation - and since an additional YouTube<sup>2</sup> stated Smart Meters pull DC power off of AC, creating an electric fog in the house - I felt using a Faraday Cage could help deal with the "**dirty electricity**" being created by the Smart Meter as it pulled DC off AC.

On November 16, I purchased a 6'x20' sheet of aluminum window-screen for a make-shift Faraday Cage. That night, I built a cage around my recliner. First I rolled out 8' of wire on the floor and then set the recliner on the sheet of wire and then rolled it up the back and over the top of the chair, and out to the foot rest and to the wire on the floor, making a single sheet around me. (However, the metal screen did not cover either side of the chair.) Again, the results were improvement in physical symptoms and well being.

Following the success of this experiment, I decided I needed to close in the two sides as well. This required additional materials: wood and more screen. I spent the evening making end caps with screen wire and then rolled out the 6'x20' screen to make what I considered an almost-complete Faraday Cage.

**Results:** I slept through the night! The next morning when I woke up, I lay there taking inventory of my physical being. I noticed it was light outside, and I could hear the kitchen clock ticking and my stomach grumbling. I had no other awareness of myself: I had no stiffness, no soreness, no other feelings. I was stunned about what had occurred to me during this first night using the cage. That morning, I did what animals do when they first arise from sleep -- I stretched. That is a natural healthy thing to do!

Interestingly, on the night of November 20, I chose not to sleep in the Faraday Cage. During that night, I again experienced a relapse: all symptoms returned. At 12:15 a.m. I woke up with a very sharp throbbing pain in the center of my back. In fact, my whole body ached. It was creepy. My right shoulder, right big toe, and bottom of my feet all had a mild ache. Meanwhile, my teeth, roof of my mouth and sinuses ached but not as

severe, as before the Faraday Cage. To make matters worse, my right heel ached, my gut hurt - even my skin itched in several areas of my body.

I again slept in the Faraday Cage on the night of November 21. Results: Another great night! I experienced all the same good things as before. I felt very refreshed and restored from the great night's sleep.

However, I occasionally experienced returning symptoms until it was suggested that the cage needed to be grounded to the earth. Once that was completed, I have been free from symptoms!

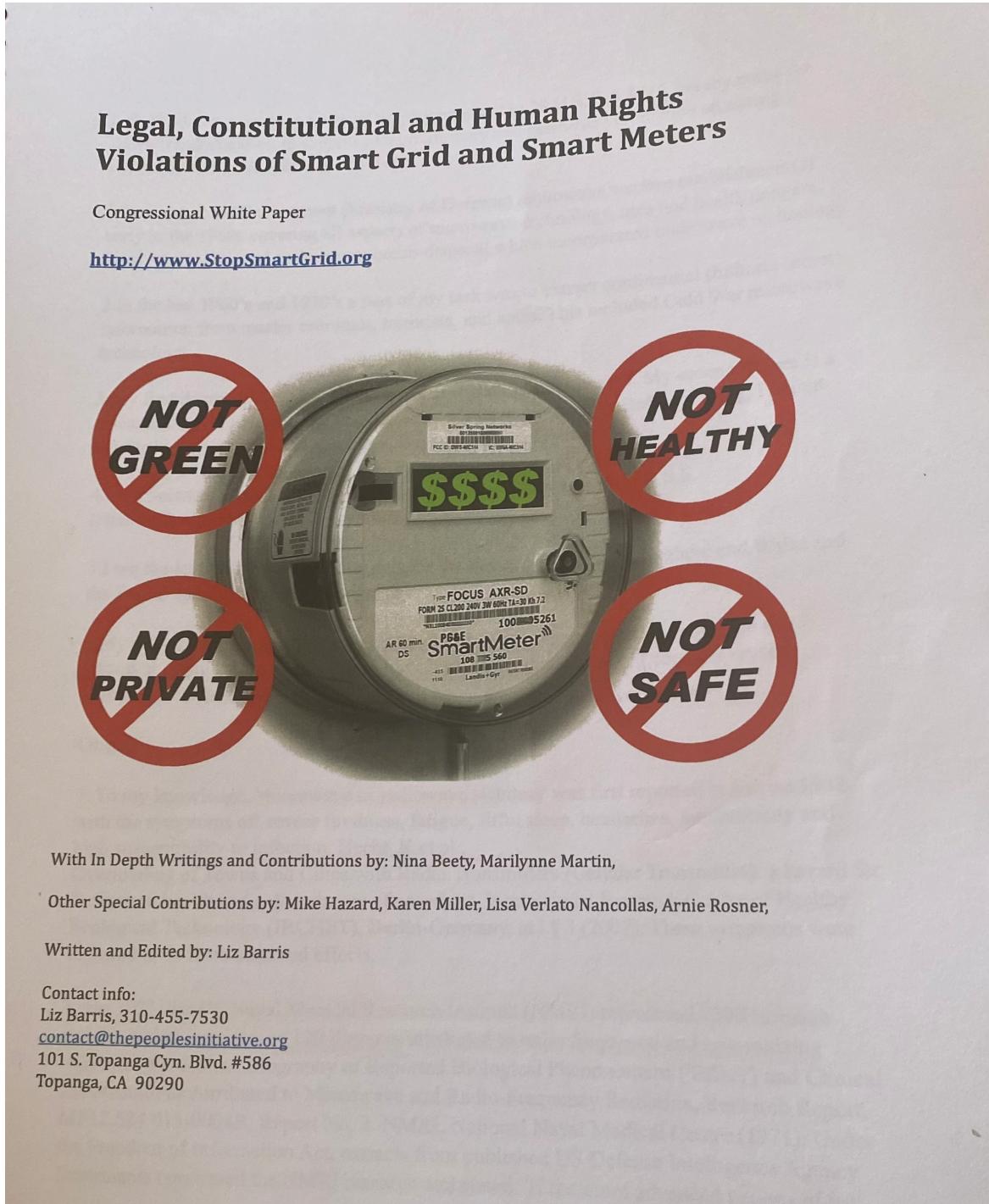
#### ENDNOTES

<sup>1</sup>Flynn, Jerry. Canadian Armed Forces Captain (Retired). "National Day Of Action Against Smart Meters." YouTube. 21 Oct. 2012. Web.

Side note: It appears that humans are not the only victims of this technology. After successfully keeping bees for over fourteen years, I have lost my hives this year. This is a topic for further investigation!

Experienced, attested to and submitted by Joe Esposito 11-23-12

## Legal, Constitutional and Human Rights / Violations of Smart Grid and Smart Meters - Congressional White Paper by Liz Harris (5 pages)



I, Barrie Trower, under penalty of perjury pursuant to 28 U.S.C. § 1746, hereby make the following declaration in support of a preliminary and permanent injunction enjoining Portland Public Schools' use of WI-FI:

1. I trained at the Government (Ministry of Defense) microwave warfare establishment(s) early in the 1960s covering all aspects of microwave technology, uses and health dangers. Later works included under water bomb-disposal which incorporated microwave technology.

2. In the late 1960's and 1970's a part of my task was to extract confidential (hitherto secret) information from master criminals, terrorists, and spies. This included Cold War microwave technology.

3. My first degree is in Physics with a specialization in microwaves. My second degree is a research degree. I have a teaching diploma in human physiology. Before retiring, I taught advanced physics and mathematics at South Dartmoor College.

4. I am Scientific Advisor to the Radiation Research Trust and the H.E.S.E. (Human Ecological Social Economical) Project.

5. I am the author of both Tetra Reports for the Police Federation of England and Wales and the Public and Commercial Service Union.

6. My work is done entirely free of charge and I have never accepted money from any person or organization in the years I have been doing this research. I consider myself absolutely independent.

#### Origins

7. To my knowledge, 'microwave or radiowave sickness' was first reported in August 1932 with the symptoms of: severe tiredness, fatigue, fitful sleep, headaches, intolerability and high susceptibility to infection. Hecht, K et al.

Overloading of Towns and Cities with Radio Transmitters (Cellular Transmitter): a hazard for the human health and a disturbance of ecoethics, International Research Centre of Healthy Ecological Technology (IRCHET), Berlin-Germany, at 1 ¶ 3 (2007). These symptoms were reported to be from athermal effects.

8. By 1971, the US Naval Medical Research Institute (NMRI) referenced 2300 research articles listing in excess of 120 illnesses attributed to radio frequency and non-ionizing microwave radiation. Biography of Reported Biological Phenomena ('Effect') and Clinical Manifestations Attributed to Microwave and Radio-Frequency Radiation, Research Report. MF12.524.015-0004B, Report No. 2. NMRI, National Naval Medical Centre (1971). Under the Freedom of Information Act, extracts from published US Defense Intelligence Agency Documents confirmed the NMRI research and stated: 'If the more advanced nations of the

West are strict in enforcement of stringent exposure standards, there could be unfavorable effects on industrial output and military functions.' Defense Intelligence Agency Documents: DST - 1810S - 076-76, ST-c5-01-169-72, DST-18105-074-76 (1972-1983).

9. In 1975, after an extensive study, the United States Defense Intelligence Agency warned all of its personnel of the risk from low level microwaves including illnesses ranging from microwave sickness (flu like symptoms, depression, suicidal tendencies) to cancers and leukemia. Biological effects of electromagnetic radiation (radio waves and microwaves) – Eurasian Communist Countries, Defense Intelligence Agency: DST-1810S-074-76, March (1976).

10. During the Cold War, the Russian Embassy microwaved the United States Embassy in Moscow with low level microwaves for many years from across the road; why and how is outside the scope of this Declaration. After many changes of staff for multiple cancers / leukemia's and other illnesses to both male and female employees and their children, the late John R. Goldsmith, M.D., was invited to investigate this matter. His investigative report on this incident showed that continuous long term low level microwaves were responsible for those illnesses. Goldsmith, J. R., Radiofrequency Epidemiology, Environmental Health Perspectives, Vol 105, at 1585, Supp 6, Table 8, Dec (1997). Dr. Goldsmith held 11 Professorships and was the World Health Organization (WHO) representative for Europe. Interestingly the power of the microwaves used by the Russians in some cases was less than the power used by modern day transmitters. Dr. Goldsworthy, [http://www.radiationresearch.org/goldsworthy\\_bio\\_weak\\_em\\_07.pdf](http://www.radiationresearch.org/goldsworthy_bio_weak_em_07.pdf); Warning on health and fertility, <http://omega.twoday.net/stories/1755556/>.

11. Debriefing spies during The Cold War extended my military education into the full diversity of stealth microwave warfare and communication systems. In so doing, I learned a list of approximately 30 pulse frequencies that could induce some 50 mental and physical ailments by entrainment.

12. As soon as ordinary microwave transmitters became common place residents started to complain of illnesses and cancer clusters. Independent researcher Sue Webster took data from just 19 transmitters and found approx 92 cancers (breast, thyroid, bowel, leukemia) the average age of those affected was roughly 39. Health Dangers from Wireless Laptops, Sue Webster was quoted in Canceractive's ICON magazine in January 2003 article,

<http://www.canceractive.com/shop/product.php?productid=16157&cat=255&page=1>.

13. Microwave sickness was well documented by 1997 where over 100 further research documents were referenced. Grant, L., Microwave Sickness, Electrical Sensitivity News, Vol I No 6, Vol 2 Nos 1-4 (1997).

14. Portland Public Schools is transmitting electromagnetic frequencies (EMFs) at low levels (2.5 GHz to 5 GHz frequency that means between 2.4 and 5.8 billion Hz). When I realized that similar frequencies and powers that were used as weapons during the Cold War were being used as WI-FI in schools, I decided to come out of retirement and travel around the world free of charge and explain exactly what the problem is going to be in the future.

15. HAARP was originally researched by Sister Dr. Rosalie Bertell who was concerned about electromagnetic interference to our atmosphere. HAARP reflects electromagnetic waves off the ionosphere and can influence any part of the air or land on this Planet. This has the potential to cause physiological and neurological effects on humans, animals and plants.

16. The paradox of course is how can microwave radiation be used as a weapon to cause illness or death and at the same time be used as a safe communications instrument. Therefore, I fail to see how WI-FI can possibly be safe for the school children and teachers exposed to it. Also, why is there a still an on-going stealth microwave warfare industry, continuing from the 1950's.

#### Technology

17. The International Commission for Non-Ionizing Radiation (ICNIRP) classifies microwaves as electromagnetic waves from 300 MHz to 300 GHz. ICNIRP Guidelines, Guidelines for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (Up to 300 GHz), Health Physics April 1998, Vol 74, No 4, 522, [www.icnirp.de/documents/emfgdl.pdf](http://www.icnirp.de/documents/emfgdl.pdf). Therefore, everything discussed in this report is in the microwave 'band.'

18. Microwaves react very differently in our water-based bodies to radio waves. The term 'Radio Frequency' is often used to describe microwave based communication systems. It is important that the term 'Radio Frequency' is not associated with Radio Waves, but associated with microwaves. Microwaves are the preferred medium for communication, over radiowaves, due to their superior penetrative properties

19. What is all this really about? Imagine the field around a magnet and imagine ordinary everyday static electricity. If you put the force field from the magnet with the force field from the static electricity you make a wave. This wave is called an electromagnetic wave. There are lots of different types of electromagnetic waves but they are all made of the same two things, magnetic and static fields. The main difference between these waves is their wavelength or the length of the wave hence the number of waves that can be produced per second, i.e. the frequency. All electromagnetic waves are put into a table called the electromagnetic spectrum.

20. At one end of this electromagnetic spectrum you have the very short waves,



namely gamma rays and x-rays, and at the other end of the spectrum you have the very long ways, namely TV and radio. All waves have the same properties. They can be reflected, diffracted, and they all travel at the same speed, which is the speed of light. For interest, if you were one wave of light you would be able to travel around the world nearly seven times every second; that is the speed of light. The electromagnetic spectrum is ordered; starting with the short wave end you have gamma rays, x-rays, ultra-violet, visible light, infra red, microwaves, TV and radio being the longest, in that order. The ultra-violet and above are known as ionizing waves and there is no argument as to the damage they can cause when entering the body. Longer than ultraviolet is said to be non-ionizing and this is where arguments occur between scientists as to whether damage can occur inside the human body through exposure to these waves. The microwaves used in the WI-FI system are in the non-ionizing section of the electromagnetic spectrum and I will be discussing the arguments concerning microwaves and health herein.

#### Adverse Health Effects

21. There is a plethora of extensive, well-researched documents highlighting illnesses caused by microwave sickness around the world. These papers (in their thousands) highlight the illnesses caused by low level (below thermal) microwaves as: arrhythmia, heart attack, cell death, diseases of the blood, interference to bone marrow, brain tumors, DNA damage, altered calcium level in cells, reduction in night-time melatonin, suppression of the immune system, arthritis, rheumatism, skin problem, lymphatic diseases, vaginal discharge, vascular system disease, tinnitus, leukemia, childhood cancer, sleep problems, mental problems involving depression, irritability, memory loss, difficulty in concentrating, headache, dizziness and fatigue, suicidal tendencies, miscarriage and infertility.

22. It is often argued that these illnesses are psychosomatic. For example, when a neighborhood sees the erection of a transmitter, any illness is instantly blamed on that transmitter. Psychologically the mast is deemed to have caused the illnesses. However, an argument against this are the many cases where disguised, stealth, or concealed transmitters have been erected without local knowledge and similar illnesses still occur.

23. Before I go further, I wish to comment on the telecommunication industry's own research. In February 2007, I was invited to give a short presentation concerning low-level microwave irradiation and cancer at London's Great Ormond Street Hospital for Children. One of the other speakers present was Dr. George Carlo. Sharing the same hotel afforded me the opportunity to engage in several conversations with Dr. Carlo during the two days we were in London. Dr. Carlo explained how he was commissioned by the mobile industry to conduct research on its products. His study ([www.health/concerns.org](http://www.health/concerns.org)) involved 200 research doctors and 15 epidemiological studies (1993-1999), at a cost of 28.5 million US dollars. 'Our data showed increased risk to children, concerning tumors, genetic damage and other problems,' explained Dr Carlo. He continued, 'my results were suppressed by the telecommunications industry.'