From: O"Neal, Chantell

To: O"Neal, Chantell

Subject: FW: The Physics and Biophysics of Electromagnetic Radiation

Date: Thursday, September 12, 2019 8:43:55 AM

From: Helen Sears [mailto:polliwog45@yahoo.com] **Sent:** Wednesday, September 11, 2019 12:23 PM **To:** Miller, Tabatha < TMiller@fortbragg.com>

Subject: The Physics and Biophysics of Electromagnetic Radiation

Dear Ms. Miller,

This is basically a Fact Sheet about electromagnetic radiation, and explains why even 4G and below radiation is harmful to living tissue.

5G will exacerbate damage much more, because it's so much stronger - 10 to 100 times, depending on what's installed at the base stations. It's so strong researchers are saying it will be like living inside an airport scanner 24/7.

I understand that legal precedent basically ties the hands of deciders to favor wireless companies. They've paid out billions to ensure that. But I'm writing to urge you to keep in mind the Precautionary Principle that Mendocino County has adopted. The Principle was written by Dr. William Stewart, the science researcher to Queen Elizabeth, and states that cell towers and antennas should be kept away from schools and from homes where children live.

If there is any way we could keep things as they are now, and have fiber optics installed instead where additional coverage is needed, it would save great harm from being done.

Thank you for anything you can do.

Helen Sears Mendocino, CA 95460

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Many organizations/sites sharing warnings about the wireless health threat have names like 'such-and-such for responsible technology.' Or 'safe technology.' Or 'safer.' This article suggests that the physics and biophysics indicate that all such and similar names are deceptions.

Maybe it's not all controlled opposition, but wittingly or not, these entities flirt with terminal disaster by perpetuating the threat. They suggest we dance with the 2G-4G devil, but 'OMG,' 5G must go! The physics/biophysics are unforgiving, however. 2G-4G is a quite sufficiently terminal nightmare. If we can relinquish 2G-4G, 5G will collapse. If we can't, let 5G develop, it will mercifully shorten the coming agony.

THE PHYSICS

As the name implies (artificial) electromagnetic radiation (EMR) used in wireless systems has electric and magnetic components. It's commonly described by wavelength and frequency.

Wavelength is the distance in meters between where the shape of the wave starts and where it begins to repeat. Frequency is how often the shape repeats. It's measured in cycles per second, or "hertz" (Hz). One Hz is one repetition, or cycle, per second.

Wireless systems use microwave EMR, "micro" meaning short. Definitions vary, but it's generally considered to have wavelengths between 1 meter and 1 millimeter, with frequencies from millions of hertz (MHz) to billions (GHz): 300MHz to 300GHz. Cellular frequencies, commonly 700MHz to 2.5GHz (WiFi 5GHz also) provide for large amounts of data at speed. Transmitted waves are called "carrier" frequencies, because frequency changes are added to the wave, creating signal pulses. These contain the data.

The first mobile phones (1983-4) were 'analog' - the real shape of the wave going from transmitter to receiver. Using pulsed digital frequencies, 2G was introduced in the US in 1992-3. Health issues arose shortly thereafter.

Beginning in the 1950's, pulsed microwave was tested in military stealth-weapon research. Specific pulse rates were found to induce specific diseases. The pathological effects were also well understood in the scientific community by the mid-1970's. Many thousands of studies now exist.

With knowledge of harm in place, then, weapon technology was adapted virtually unchanged to 2G mobile telecom, except that weapons emit much less power than towers, cell phones and WiFi, and that the latter radiations are randomly pulsed by data packets.

"Physics-speaking," it comes down to this: For bandwidth and speed, digital microwave is needed. For data itself, pulsing is needed.

THE BIO-PHYSICS

Life forms are highly susceptible to artificial electromagnetic fields (EMFs) because life forms produce and operate on minute levels of natural electromagnetics. The FCC radiation exposure limit (thermal/tissue heating) is expressed in milliwatts (mW, a thousandth of a watt) per square centimeter. As of this writing, it's .2 mW/cm2. Two tenths of a thousandth of a watt.

The non-thermal exposure limit suggested after review of existing science, collated and summarized in the 2007 BioInitiative Report (BR, 2000 studies), was one tenth of a microwatt (μ W, a millionth of a watt) per square centimeter - .1 μ W/cm2. By 2012 BR (1800 additional studies and updated in 2019) it became 0.003 μ W/cm2 to 0.006 μ W/cm2.

Thus, the FCC thermal limit - 200 μ W/cm2 - is about 670,000 times higher than the lower BR non-thermal limit. The point, however, is that below heating, and at all non-thermal levels, transmitted power is virtually irrelevant.

NOTE: The BR calls in vain for "...a biologically-based public exposure standard..." It's cited here only to demonstrate the existence of independent science FCC say doesn't exist or is "inconclusive."

So, pulsed microwave somewhere between one tenth of one millionth of a watt and three thousandths of one millionth of a watt has harmful effect. Such figures indicate the sensitivity of biological systems. Also, with 2G-4G wavelengths, the square

centimeter is a 'tube' going through your body (billions of cells).

Transport channels in cell membranes react defensively to non-thermal 2G-4G pulse frequencies, and will shut down. A special channels called "Voltage Gated Calcium Channel" is controlled by the membrane's "voltage sensor." Pulsed EMR disrupts it and excess calcium flows in, creating a severe imbalance. Since any body cell is susceptible in both cases, the range of potential effects is impressive.

Pulses must exist at all power levels for data, including 'biologically based' exposure limits called for by many 'concerned' scientists. The FCC lie about thermal-only harm that underlies its "exposure limit" avoids the pulsing issue. The term for this is scientific fraud.

CUMULATIVE EFFECTS

Like sensitivity, this is absolutely critical. Felt or not, effects can occur any time during or after exposure (there's normally no escape) and build up over time. Using animals with short life spans, scientists have 'guesstimated' the ultimate termination of human reproduction in a few generations.

Some scientists say more research is needed. Academically perhaps. Scientifically speaking, sanity prevailing, however, only one repeatable study showing harm was sufficient to have said, "Wait" originally. Also, without a moratorium (right!), 2G-4G effects bio-accumulate. Meanwhile, the existing sinister violation of the Nuremberg Code—informed consent to be experimented on—will persist. Meanwhile also, torture of lab animals will continue.

"Scientists at the end of WWII were hanged for what scientists are doing today and getting away with."— physicist Barrie Trower, PhD, microwave expert**TJ**

TRENDPOST

"Biophysics-speaking," it comes down to this: The combination of extreme sensitivity and cumulative effect means there can be no safe wireless technology. Now, if you could find a power level at which pulsing and voltage influence had no effect — forever, for all life — power would be too low for the system to function.

"I ask for any scientist(s) from industry / government to 'humiliate' me live 'on-air' with their expert knowledge by answering one question: 'What is the safe level of microwave irradiation for the ovarian follicles during the first

100 days development of the embryo?" — Barrie Trower, PhD, Wi-Fi – A Thalidomide in the Making. Who Cares?

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From: O"Neal, Chantell
To: O"Neal, Chantell

Subject: FW: Please remove today"s 3B item about guidelines wireless from agenda

Date: Monday, September 16, 2019 10:05:22 AM

----Original Message-----

From: Annemarie [mailto:aweibel@mcn.org]
Sent: Wednesday, September 11, 2019 2:01 PM

To: O'Neal, Chantell <COneal@fortbragg.com>; Miller, Tabatha <TMiller@fortbragg.com>; Lee, Will

<Wlee@fortbragg.com>; Jessica Ballard <jessiballa7@aol.com>; Varga, Tom <TVarga@fortbragg.com>; Lemos,

June <Jlemos@fortbragg.com>

Subject: Please remove today's 3B item about guidelines wireless from agenda

Hi,

Please postpone as the public is not notified about this meeting. No place to sign up to receive info about wireless, meeting time not ok for people who work, City staff & committees have no training about wireless, neither does the public. I asked 3 times for the city to bring an expert here. Info submitted at the 8-12 meeting did not get transferred to this meeting. There are other ways to deal with the pressure from the outside, not just guidelines about aesthetics. Please post to comments on agenda with info from agenda city council from 8-12.

Annemarie Weibel

From: Pamela Sandberg [mailto:myvoice@oneclickpolitics.com]

Sent: Friday, September 6, 2019 9:27 AM **To:** Miller, Tabatha < TMiller@fortbragg.com>

Subject: We don't want 5G!

Re: We don't want 5G!

Dear Ms. Miller,

You are my elected representative. This legal notice of liability is designed to be used as evidence in court if needed and intends to enlighten you and to protect you from attracting civil and criminal liability in relation to your actions and/or omissions surrounding the deployment of 5G technology within your constituency. 4G/LTE small cells form an integral part of the 5G deployment. This 5G technology will cause me to be exposed to wireless non-ionizing electromagnetic radiation against my consent and in my home.

Contamination of my home with 5G may cause damage to my home if it becomes a health risk to me and thus render my home uninhabitable. Irradiating me with wireless non-ionizing electromagnetic radiation against my consent would be an application of force against my person and which causes fear of bodily injury and could be classed as a civil trespass and/or a criminal assault.

Any level of exposure of man-made non-ionizing electromagnetic radiation can be diagnosed by my medical practitioner as an adverse health effect pursuant to the WHO's International Classification of Diseases ICD-10, code W90 thus rendering any safety limit as set by the government safety standards obsolete as to protecting my health. As needed, I may see my doctor for advice on the 5G issue.

If 5G technology is deployed within your constituency, I expect that you as my elected representative will exercise due diligence to certify that all parties deploying 5G technologies have sufficient insurance cover to compensate for damage or harm caused by the emission of wireless non-ionizing electromagnetic radiation. Please note that this could be a problem, since underwriters such as Lloyds of London do not insure for such harm and damage.

I urge you, as my elected official, to act in the public interest by addressing the potential cumulative harms of densification (the crowding of small cells into a limited area to enable 5G) and insisting that public safety regulatory authorities need to prove that such densification of 5G technology is safe and that any deployment of 5G, Artificial Intelligence (AI), and/or the Internet of Things (IoT), is regulated appropriately to ensure that the national security and the safety and privacy of the public and myself is not compromised.

You need to protect the public from other harmful wireless technologies such as Wi-Fi in schools, "smart" meters on dwellings, and the like, and to replace those technologies with safe and efficient wired technologies, such as Ethernet and/or fiber optics, as the end-nodes of

internet delivery systems to dwellings, schools and commercial buildings. Forward-thinking cities are already doing this.

I implore you, as my elected official, to act in the public interest by protecting the public and myself from being persecuted by the passing of laws that restrict the Courts, law enforcement agencies, municipal councils and local governments from taking action to protect the public from harm to health and damage, caused by 5G and other wireless technologies.

I am genuinely concerned for your welfare, the general public and mine, and this is a situation of the utmost urgency. I have studied the relevant facts and am thus aware of the danger. As a result I am in fear and I take the risk of harm and damage to me very seriously.

To help bring you up to speed on this extremely important topic, please go to the 5G summit.com, and listen for free to what 40 highly regarded experts inclusive of scientists, medical practitioners and lawyers from around the world have to say on the 5G subject. Experts who are not censored by the telecommunications industry, nor their captured governments, nor the captured media. Further, to assist with your education, please look at the Bio-initiative Report 2012 (updated 2017) - A Rationale for Biologically-based Public Exposure Standards for Electromagnetic Fields (ELF and RF) bioinitiative.org and Physicians for Safe Technology – 5G Mobile Communications mdsafetech.org.

I implore you as my civic leader, and as my elected representative to get educated on this important topic, and show me by your decisions, actions and omissions that you are taking precautionary steps to address the risk of harm to me and all the people within your constituency.

As an elected official I believe you are at risk of being liable if you do not take appropriate action to attempt to abate, or prevent such harm to me or the public.

Your people are rising up and I implore you to take leadership and be a champion for the health and safety of all of us. If you do, many voters, legislators and I will wholeheartedly support and campaign for you.

Sincerely, Pamela Sandberg pamwillsurf@vahoo.com

32800 Sutliff Ln Fort Bragg, CA 95437 Constituent

Lemos, June

From: Annemarie <aweibel@mcn.org>

Sent: Wednesday, September 11, 2019 2:01 PM

To: O'Neal, Chantell; Miller, Tabatha; Lee, Will; Jessica Ballard; Varga, Tom; Lemos, June

Subject: Please remove today's 3B item about guidelines wireless from agenda

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Annemarie Weibel



What You Need To Know About 5G Wireless and "Small" Cells

"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."

— 2017 5G Scientific Appeal (signed by more than 200 scientists and doctors from 35 countries)

Nationwide, communities are being told by wireless companies that it is necessary to build "small cell" wireless facilities in neighborhoods on streetlight and utility poles in order to offer 5G, a new technology that will connect the Internet of Things (IoT). At the local, state, and federal level, new legislation and new zoning aim to streamline the installation of these 5G "small cell" antennas in public rights-of-way.

The radiation from small cells is not small: Wireless antennas emit microwaves — non-ionizing radiofrequency radiation — and essentially function as cell towers. Each installation can have over a thousand antennas that are transmitting simultaneously.

Millions of small cells to be built in front yards: The Federal Communications Commission estimates that millions of these wireless transmitters will be built in our rights-of-way, directly in front of our homes.

5G will add to — not replace — our current wireless technology: 5G will not only utilize current 3G and 4G wireless frequencies already in use but also add higher frequency — submillimeter and millimeter waves — in order to transmit data at superfast speeds.

Community authority is overruled: Communities are being stripped of their right to make decisions about this new technology. "Streamlining" means almost automatic approval. Public notice and public hearings are being eliminated. Even if every homeowner on the block opposes the antennas on their street, the opposition will be disregarded.

Scientists worldwide are calling for a halt to the 5G Roll-out: Over 200 scientists and doctors issued a declaration calling for a moratorium on the increase of 5G cell antennas citing human health effects and impacts to wildlife.

Read the 2017 Scientific Appeal on 5G To the European Commission

Read the 2015 EMF Scientist Appeal to the United Nations

Read Letters From Dozens of Scientists on Health Risks of 5G

Cumulative daily radiation exposure poses serious public health risks: Peer reviewed, published science indicates that exposures to wireless radiation can increase cancer risk, alter brain development and damage sperm. Most people are unaware that wireless technology was never tested for long-term safety, that children are more vulnerable and that the accumulated scientific evidence shows harm.

Decreased property values: Studies show property values drop up to 20% on homes near cell towers. Would you buy a home with a mini cell tower in the yard? Read research showing decreased property value from cell towers near homes.

Microwave antennas in front yards present several worker and public safety issues: Unions have already filed comments that workers were injured, unaware they were working near transmitting antennas. How will HVAC workers, window washers, and tree cutters be protected? The heavy large equipment cabinets mounted on poles along our sidewalks also present new hazards. Cars run into utility poles, often, what then? US Dept of Labor letters on cell tower safety

Fiber is the safe alternative: Worldwide, many regions are investing in wired fiberoptic connections which are are safer, faster, more reliable, provide greater capacity, and are more cyber-secure. Read "Re-Inventing Wires: The Future of Landlines and Networks," by the National Institute for Science, Law & Public Policy

www.ehtrust.org

KEY RESEARCH AND REPORTS

5G Frequencies Are Absorbed Into the Skin

Physicists found that the higher millimeter frequencies intended for 5G use are preferentially absorbed into the sweat duct at much higher rates than other organ tissues. Read two published studies "The Modeling of the Absorbance of the Sub-THz Radiation by Human Skin." The human skin as a sub-THz receiver – Does 5G pose a danger to it or not? Paul Ben-Ishai, PhD Lecture.

5G Frequencies Are Used As Weapons

Millimeter frequencies have the capacity to cause a severe burning sensation in the skin and are used by the U.S. Department of Defense in crowd control guns called Active Denial Systems.

Landmark US National Toxicology Program (NTP) Study Finds "Clear Evidence of Cancer" and DNA Damage

The NTP studies found male rats exposed for two years to cell phone radiation developed significantly increased gliomas (brain cancer) and schwann cell tumors, the very same types of tumors increased in long-term human cell phone users. NIH/NTP presentation on DNA results states "exposure to RFR has the potential to induce measurable DNA damage under certain exposure conditions." Press Coverage, Peer Review Report

Cell Tower Radiation is Linked To Damage in Human Blood

A published study compared people living close and far from cell antennas and found people living closer to cellular antennas had changes in blood that predicts cancer development. Read Zothansiama et al, 2017. Read a Compilation of Research on Cell Tower Radiation

Published Scientific Review on 5G Finds Adverse Effects

Scientific literature documents evidence of nonthermal cellular damage from wireless radiation used in telecommunications to DNA integrity, cellular membranes, gene expression, protein synthesis, neuronal function, the blood brain barrier, melatonin production, sperm damage and immune dysfunction. Russell 2018

Cellular Radiation Negatively Impacts Birds and Bees

Published research finds the frequencies alter bird navigation and disturb honeybee colonies. Research on EMF and Bees. Research on Wildlife

RESOURCES

Research on 5G and Cell Tower Radiation

A 5G Wireless Future: Will it give us a smart nation or contribute to an unhealthy one?" Santa Clara Medical Association Bulletin, Cindy Russell MD, 2017

Letters by Scientists in Opposition To 5G Research on Cell Tower Radiation, 2017

Biological Effects from Exposure to Electromagnetic Radiation Emitted by Cell Tower Base Stations and Other Antenna Arrays, Levitt and Lai, 2010

Radiofrequency radiation injures trees around mobile phone base stations, Waldmann-Selsam et al., 2016

Department of Interior Letter on the Impact of Cell Towers on Migratory Birds, Willie R. Taylor Director, Office of Environmental Policy and Compliance, 2014

 $Anthropogenic\ radio frequency\ electromagnetic\ fields\ as\ an\ emerging\ threat\ to\ wildlife\ orientation,\ Balmori,\ 2015$

Briefing Memorandum On The Impacts from Thermal and Non-thermal Non-ionizing Radiation to Birds and Other Wildlife, Manville, 2016

Database of Worldwide International Policy To Reduce EMF

Youtube Scientific Videos on 5G

TAKE ACTION

Contact local, state and federal elected officials in person.

Share this information with your friends, family and community.

Ask for government policy that reduces RFR exposure to the public.

Citizens in all states must organize and take action to halt legislation that increases cell antennas in neighborhoods.

LEARN MORE

Federal Legislation To Know
US States With Streamlining Bills

5G Small Cell Antennas To Be Placed On:

- Street lights
- Trashcans
- Utility poles
- Bus stops
- Sides of buildings

5 Reasons Why Small Cells Are Not Small

- Increased radiation near homes
- Refrigerator-sized equipment cabinet
- Drop in property values
- Taller poles
- Fixtures weigh hundreds of pounds

Crown Castle's 2016 10-K Annual Report says:

"If radio frequency emissions from wireless handsets or equipment on our wireless infrastructure are demonstrated to cause negative health effects, potential future claims could adversely affect our operations, costs or revenues... We currently do not maintain any significant insurance with respect to these matters."

Read warnings from Crown Castle, Verizon and other wireless companies.

The American Academy of Pediatrics says:

"An Egyptian study confirmed concerns that living nearby mobile phone base stations increased the risk for developing:

- Headaches
- Memory problems
- Dizziness
- Depression
- Sleep problems"

AAP on Cell Towers

Letter from oncologist Lennart Hardell MD &

Colleagues: "There is a substantial body of evidence that this technology is harmful to humans and the environment. The 5G millimeter wave is known to heat the eyes, skin and testes... Of particular concern are the most vulnerable among us — the unborn, children, the infirm, the elderly and the disabled. It is also expected that populations of bees and birds will drastically decline."

2017 Scientific Letter

Peer Reviewed Research Studies on Radiofrequency Radiation Have Found:

- Headaches
- Sperm damage
- Altered brain development
- Depression
- Neurological symptoms
- Hormone changes
- Memory problems
- Sleep problems
- Cancer

Science:

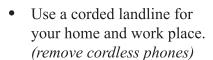
BioInitiative 2012 Report by Independent Scientists Dr. Moskowitz, University of California at Berkeley Dr. Lennnart Hardell Örebro University Sweden The Baby Safe Project Whatis5g.info Physicians for Safe Technology Environmental Health Trust 5G Resources

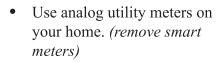
www.ehtrust.org

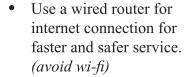


Solutions

We recommend prudent avoidance of EMFs, which means being cautious, sensible, and reducing or avoiding EMFs when and where you can.







 Reduce cell phone use. Keep cell phones away from your body. Keep cell phones away from children. (Best to use cell phones for emergencies only)

 Learn more safety tips: www.emfsafetynetwork.org/safetyprecautions/













Oppose 5G! 5G would add another layer of harmful radiation in our homes and communities. https://goo.gl/Hj4XrV

EMF Safety Network mission is to educate and empower people by providing science and solutions to reduce EMFs to improve lives, achieve public policy change, and obtain environmental justice.

Become a member! Membership dues are \$50 annually. To pay by check mail to EMF Safety Network or donate on our website.



PO Box 1016 Sebastopol CA, 95472 (707) 827-0109

www.emfs a fety network.org

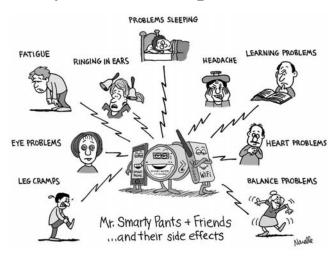
EMF Safety Network is a sponsored project of Ecological Options Network (EON) a 501 (c)(3) not-for-profit organization.

What are EMFs?



EMFs are electromagnetic fields. They include electric and magnetic fields, and wireless radiation emitted by cell towers, cell and cordless phones, smart meters, smart grid, wifi, computers, power lines, fluorescent lights, indoor wiring, appliances, cars, inverters and other electronic devices.

Why are EMFs a problem?



EMFs can cause fatigue, headaches, sleep problems, anxiety, ringing in the ears, heart problems, learning and memory disorders, fertility problems, electrosensitivity, increased cancer risk and more. Children, the ill, and the elderly are more vulnerable.

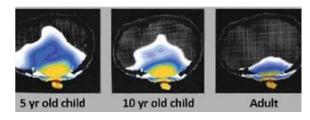
EMFs are now so common and widespread that they've become environmental pollution.



Studies show wireless radiation harms nature: birds, bees, and trees.

"Man-made electromagnetic fields impact all living organisms. We must reduce our dependence on wireless technologies." Marie-Claire Cammaerts, PhD, Belgium

Studies show children's brains absorb more radiation than adults'.



Brain scans of radiation absorption at different ages. Reprinted from O. Gandhi et al., IEEE Transactions on Microwave Theory & Techniques, 1996.

"The harmful effects of electromagnetic fields, regardless of their frequencies, are now scientifically settled. Pregnant women (the fetus) and children and adolescents are particularly vulnerable." Dominique Belpomme, MD, France

Aren't EMFs regulated by the government? Many common EMF devices sold today have not been proven safe for long term exposure. The Federal Communications Commission (FCC) safety guidelines are outdated. The FCC is promoting rapid expansion of higher frequency (5G) cell towers in our communities. The FCC cannot be relied on to protect public health or the environment.

Learn about the science: The International Agency for Research on Cancer at the World Health Organization classifies EMFs as possible carcinogens. https://goo.gl/9DQC6M

The National Toxicology Program found clear evidence of cancer in rats from exposure to cell phone frequencies. https://goo.gl/jgh5kf

The BioInitiative Reports reference more than 3,800 peer-reviewed published studies. The authors conclude that EMFs jeopardize global health and recommend stricter biologically-based standards and lower exposure limits. www.bioinitiative.org

Independent scientists who have published peer-reviewed studies on EMFs signed the International Scientists Appeal, which calls for greater public and environmental protections from EMF exposure.

www.emfscientist.org

