

New Hampshire General Court Statutory and Study Committees

Commission to Study the Environmental and Health Effects of Evolving 5G Technology

Chair: Patrick Abrami

Co-Sponsors Chapter 260 HB 522:

Patrick Abrami (R) Representative Rockingham 19 (2010)

Dr. Tom Sherman MD (D) Senator Rockingham 24 (2018)

Witness: Herman Kelting PhD<sup>1</sup>

Date: July 1, 2020 10:15 AM PDT/1:15 PM EDT

**New Hampshire 5G/4G Lesson Plan**

I. Opening statement by Herman Kelting PhD

“I am grateful that you have invited me to testify on the safety of 5G/4G Small Cell Antennas (SCAs), which I object to based upon the likelihood of adverse health results. In my testimony, I will discuss the attributes of 5G/4G SCAs and 13 objections related thereto; time will permit me to discuss only a few research citations. Since 5G is new and has only limited historical application, and 4G and prior generations well established, my research evidence will emphasize the link between 4G and prior generations RFFR with injury to living organisms. I will also

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<sup>1</sup> Herman Kelting has degrees in industrial engineering/engineering economics from Stanford University (1958), an MBA (evening division) in managerial accounting from Northwestern University (1964), and a PhD in real estate and urban land economics from the University of Wisconsin (1974) under Professor James A. Graaskamp. He has ten years teaching experience in real estate, urban land economics, and finance (professor) at three universities, and 30 years as an engineer/financial analyst for the Internal Revenue Service in which he developed a gross revenue multiplier stock pricing model. His recent published include:

- *Six Pillar Tips for Health Management* (Author House, Sept 2019).
- “Statistical Models Applied to a Log-Normally Distributed Asset/Stock-Pricing Statistic: The Asset Gross Revenue Multiplier (AGRM)” with co-author Sadri Khalassi. *Indian Journal of Applied Research* 6(8) (August 2016): 136-144.
- “Recommendations to Prevent and Treat Post-Traumatic Stress Disorder for Military Personnel.” *Indian Journal of Applied Research* 6(9) (Sept 2016): 510-519. (adapted from a report requested by a staff member of Senator Dianne Feinstein (CA))
- “United States Congressional Research and Legislative Proposals to Educate the American People About the Power Density Safety of Wireless Communications ( $\mu\text{W}/\text{m}^2$ ),” *Indian Journal of Applied Research* 8(1) (Jan 2018): 263-271.
- “Pinocchio and the Spiritual Limit: A Model for Prayer and Health.” *International Journal of Scientific Research* 7(6) (June 2018): 25-28.

Herman has written about a dozen RFFR research letters to Senator Catherine Cortez Masto, Senator Jackie Rosen, the Nevada governor, two Nevada legislators, two members of the President’s cabinet, the Nevada Attorney General, Clark County Board of Commissioners, and the mayor of Costa Mesa, CA opposing, depending upon the research letter, radio frequency field radiation (RFFR) generally and specifically from macro cell phone base stations (MCPBS), 5G/4G Small Cell Antennas (SCAs), cell phones, and Wi-Fi in Clark County busses. He also conducts EMF/RFFR home inspections and furnishes clients written EMF/RFFR reports.

discuss 4G emissions in the context of cell phones, Wi-Fi, macro cell phone base stations (MCPBSs), etc. because 5G/4G SCAs contain three 4G antennas. As a general rule, I oppose air-borne, wireless emissions.”

## II. Abbreviations

ASD	Anxiety, stress, and depression.
BBI	Building Biology Institute formerly the International Institute of Building Biology and Ecology. Herman Kelting, Member.
EF	Electric fields caused by continuous AC voltage with no reference to current. In homes, EFs may be about 30 V/m at a wall with electric lines and decline about 5 V/m per lineal foot from the wall. Attenuated by placing wiring in metal conduits or shielding paint. Placing the headboard of a bed in the center of the room reduces exposure to the head and upper body.
EIS	Environmental Impact Statements required as described with environmental impact assessments in the National Environmental Policy Act and <i>United Keetoowah Band of Cherokee Indians in Oklahoma, Individually and on behalf of all other Native American Indian Tribes and Tribal Organization et al Petitioners vs Federal Communication Commission et al</i> No. 18-1129 decided August 9, 2019.
EMFs	Electromagnetic fields (4) including EFs, MFs, RFFR, and dirty electricity. Dirty electricity is harmonics of 60 cycle alternating current (e.g., 120, 180, 240 cycles per second (Hertz))
EMH	Electromagnetic hypersensitivity, an illness caused by EMF/RFFR
FCC	Federal Communication Commission.
GM	Geometric mean increase is the mean of the product of values. In finance it is the interest rate which equates a present value with a future value at the geometric mean rate of return.
MCPBS	Macro cell phone base station.
MF	Magnetic fields from current.
MW	Microwave.
NIH	National Institute of Health.
RFFR	Radio Frequency Field Radiation begins with information-laden electrons in an antenna emitting photons the latter of which are measured by units of energy at a given frequency. Photons have zero mass, travel at the speed of light, and have both particle and wave attributes. The near field around an antenna contains independent magnetic (caused by current) and electric fields (caused by voltage), which join perpendicularly at about three wave lengths to form RFFR. The power density of RFFR is measured in micro Watts per square meter ( $\mu\text{W}/\text{m}^2$ ) or micro Watts per square centimeter ( $\mu\text{W}/\text{cm}^2$ ). RFFR is a STIMULANT that causes anxiety and other mental illnesses similar to any stimulant (e.g., caffeine, refined carbohydrates) plus the additional harm from electromagnetic fields which place a force on charged particles (i.e., electrons) in living organisms.
SCAs	Small Cell Antennas with 5G beam formed on-demand antennas and three 4G pulsating, continuous-emission 4G antennas.

SR	Schumann Resonance.
TCI	Telecommunications industry.
$\mu\text{W}/\text{cm}^2$	micro Watts per square centimeter. $1 \mu\text{W}/\text{cm}^2 = 10,000 \mu\text{W}/\text{m}^2$ .
$\mu\text{W}/\text{m}^2$	micro Watts per square meter, a measure of radiation power densities.
5G/4G	Small cell antennas contain one 5G beam-formed, on-demand antenna, and three 4G 24/7 RFFR pulsating, <i>continuous</i> -emission antennas. I have never seen any publicly reported measure of the power densities of SCAs c. Oram Miller has indicated some 5G/4G SCAs may be as high as several thousand $\mu\text{W}/\text{m}^2$ .

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**I. Attributes of 5G/4G<sup>2</sup> SCAs that I will use in my objections to 5G/4G define the scope of my discussion.**

- A. 5G/4G SCA contains two sets of antennas: One beam forming on-demand 5G antenna and three 4G antennas, the latter pulsating RFFR 24/7 sited at about every 100 meters in residential neighborhoods. Movement of 5G source (e.g., cell phone) transfers signal to 4G antenna. ***SCA wireless emissions may be avoided by hard wiring from street to home.***
- B. 4G signals are being increasingly modulated, thereby more biologically active, and potentially more harmful to living organisms. [Oram Miller]
- C. 5G beam formed signal envelopes one person with a 10-degree beam.
  - 1. Marginal harms to fetuses and young children with thin skulls over adults who are also harmed.
  - 2. All RFFR is a stimulant causing anxiety, depression, stress, and many other illnesses and its radiation places a force on charged particles (e.g., electrons in the body).
  - 3. **Remember, all manufacturing processes fail in the sense they operate outside engineering design: 5G/4G antennas may mal-function to create very high-power densities and frequencies injuring those nearby, who will not know the extent of the damage because they do not have meters. Even if one can prove harm with a meter, damages are limited to the company's equity because insurance companies do not insure injury from RFFR.**
  - 4. 5G/4G SCAs could be adapted to include facial recognition.
- D. Power densities of SCAs are not publicly disclosed.
  - 1. Oram Miller indicates power densities from 5G/4G SCAs may be up to several hundred thousand  $\mu\text{W}/\text{m}^2$ .

**II. Objection #1: 28/20 illnesses known to be caused by or inferentially linked to RFFR.** [Letter from Herman Kelting to the secretaries of Health and Human Services and Homeland Security; original letter dated October 3, 2019; Revision 1 dated

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<sup>2</sup> “5G/4G” has two integrated yet distinguishable meanings in this document. The first meaning is RFFR emissions from 5G/4G Small Cell Antennas containing one 5G antenna and three 4G antennas. The second meaning expands the 4G in “5G/4G” SCAs to include the global body of man-made environmental RFFR from 4G and prior generations because of the broad range of scientific evidence. This expansion of 4G to include prior generations suggests expanding the inquiry to harm to humans from “5G/4G” to include body proximate devices such as cell phones, Wi-Fi, computers, and other non-5G/4G environmental sources of RFFR that add to the harm from 5G/4G SCAs. Thus, I will hope to discuss the incremental harm from 5G/4G in addition to the harm from all other man-made sources of RFFR.

January 8, 2019; Exhibit C Herman Kelting. “United States Congressional Research and Legislative Proposals to Educate the American People About the Power Density Safety of Wireless Communications (uW/m<sup>2</sup>).” *Indian Journal of Applied Research* 8(1) (January 2018): p. 263-271 (hereinafter “IJAR Jan 2018”).

A. Twenty-eight (28) Illnesses known to be caused by RFFR:

These include increased risk of brain damage to fetuses, miscarriages, children’s behavioral difficulties, ADHD, cancer of the brain, salivary gland, and breasts; leukemia, anxiety, depression, stress, sleep disturbances, reduction in melatonin, cataracts, inflammation; damage to the testes, sperm, blood brain barrier, DNA (damage through strand breaks), eyes, heart, thyroid hormones, electromagnetic hypersensitivity (EMH), damage to the autoimmune system,<sup>3</sup> etc. [IJAR Jan 2018, p. 264-265]

B. Twenty (20) symptoms reported by those living near 4G MCPBS (three 4G antennas housed within 5G/4G SCAs)

1. These include anxiety, depression, sleep disturbances, headache, fatigue, dysesthesia (pain, itchy, burning from nerve damage associated with neurological injury), concentration dysfunction, memory changes, dizziness, irritability, nausea, EEG changes, paranoid states, adverse neurobehavioral symptoms, etc. [IJAR Jan 2018, p. 264]. May experience temporary memory loss from exposure to MCPBS.
2. Given that 5G/4G SCAs have three 4G antennas, it is highly likely the same group of symptoms will be generated by 5G/4G SCAs plus additional symptoms by 5G.

C. Nine Determinants of Injury from Wireless Devices [Herman Kelting]

1. *Distance from the RFFR-emitting device to a body organ.* Since emissions from a device spread out with distance, the closer a body organ is to the emitting device, the greater the percentage of emissions hitting the body—if a cell phone is placed at the ear vs. using speaker phone many inches away, a much higher percentage of total emission hit the brain, salivary gland, and other nearby organs. The brain is obviously the most vulnerable to injury. Storage of a cell phone in the bra for five years has an approximate 100% chance of resulting in breast cancer. 500 meters minimum distance from MCPBS to humans and should be 1,000 meters for a two safety multiple.
2. *Frequency modulation:* RFFR signals (e.g., cell phones) utilize a high-frequency carrier wave that is transmitted over long distanced with an attached modulated, lower frequency that carries information. The modulation may utilize frequency

or amplitude modulation. Signal modulation is an extraordinarily complex technical process that may cause injury to living organisms.

3. ***Peak (not average) power density of pulsed radiation transmitted to the body.*** Power density is the far field (after joining of source magnetic and electric fields) measure of RFFR strength measured by  $\mu\text{W}/\text{m}^2$  (micro watts per square meter). RFFR professionals have concluded that it is pulsating peak power densities that create the most harm to living organisms; RFFR meters have options to measure instantaneous, maximum (peak), and average maximum (peak) RFFR. Peak densities vary widely based upon the nature of the RFFR-emitting device and signal strength. I measured the far field of one cell phone at boot up of  $500,000 \mu\text{W}/\text{m}^2$ , which can exceed  $20,000 \mu\text{W}/\text{m}^2$  in normal operation depending upon signal strength and other factors.
4. ***Spatial RFFR density from multiple sources.*** The spatial RFFR density is a measure of pulsating radiation density from multiple pulsed RFFR devices such as cell phones, Wi-Fi, cordless phones, wireless security systems, *etc.* in an enclosed space. It is distinguishable from the metered power density *per se* because it is a function of the number of RFFR emitters in an enclosure (e.g., Wi-Fi plus 25 cell phones in a classroom)
5. ***Meters understate harm from multiple nearby RFFR emitters. The injury one receives from multiple, nearby pulsating RFFR devices is a linear function of the number of emitters, but meters do not measure the linear true peak multiple simultaneously*** because of the random combinations of peak instantaneous power densities from individual sources; almost impossible to measure two simultaneous true peaks together. To the best of my knowledge no one else has discussed understatement of power densities from multiple nearby RFFR emitters.
6. ***RFFR injury is worse in an enclosure than outdoors.*** RFFR sourced within an enclosure (autos, busses, aircraft, trains, elevators, drywall enclosures; metal is the worst enclosure) reflects off the confining material surfaces making equal RFFRs more harmful indoors than outdoors. In one case, I measured a  $1000 \mu\text{W}/\text{m}^2$  ecliptically shaped RFFR five feet from a wall that was receiving  $1,500 \mu\text{W}/\text{m}^2$  on the outside wall of the housing unit. Enclosing materials are also a factor in the enclosed reflections with metal permitting no spillover to the other side of the enclosure. Thus, using a cell phone in an automobile is more harmful than outdoors and the worst situation is using a cell phone in an auto with a young child present. And a pregnant woman is the super worst thing that can occur and there is no public warning of this.
7. ***Age at first exposure to RFFR.*** Fetuses have thin, incomplete skulls with six separated bones and RFFR will make direct, almost unimpeded contact with their brain through the six thinner skull bones and cranial sutures between bones, which continue to age two. Thereafter, children have thinner skulls for several years, and continue to receive more RFFR than adults. The most dangerous situation is exposing a fetus or small child to RFFR in a metal enclosure such as a car or crawling around a Wi-Fi-sourced RFFR.

*“Children whose mothers used cell phones during pregnancy had 25% more emotional problems, 35% more hyperactivity, 49% more conduct problems, and 34% more peer problems.” [BioInitiative 2012, Section 1 “Summary for the Public 2014 Supplement, Evidence for Fetal and Neonatal Effects,” citing Divan et. al. “Prenatal and postnatal exposure to cell phone use and behavioral problems in children.” *Epidemiology* 19(4) (Jul 2008): 523-529.*

8. *Cumulative life-time exposure to RFFR.* Not age linear; younger people receive proportionally more RFFR in the brain. The cumulative life time exposure includes exposure to RFFR from all sources measured in hours and power densities from cell phones, Wi-Fi, computers, cordless phones, cell phone base stations, *etc.* It is obviously impossible to calculate precisely cumulative time and power density exposure, but your body will measure it through its cellular and organs’ adverse reactions. The risk of glioma doubles after ten years and 1,640 cumulative hours of cell phone use. [BioInitiative 2012, Section 1 “Summary for the Public 2014 Supplement, p. 2]
9. *Unique cellular and organ attributes and receptivity to RFFR.* Each person has different cellular and organ compositions and, thereby, different receptivity to RFFR contamination. EMH.

### III. **Objection #2: Mental illnesses of college and high school students.**

- A. 25% of college students and 20% of high school students (2018) are claiming mental disabilities to take longer course and SAT testing times and private testing rooms because they cannot tolerate the presence of others caused by their anxiety, stress, and depression. [IJAR Jan 2018, Exhibit G: Douglas Belkin. “Colleges Give the Disabled More Leeway.” *Wall Street Journal* 05.25.2018, A3; Exhibit H: Douglas Belkin and Tawnell Hobbs. “More K-12 Students Get Special Help.” *Wall Street Journal*. 07.05.2018, A4.] It is known that anxiety, stress, and depression are caused by RFFR and from this knowledge I deduced that these mental disabilities are caused by cell phones and other RFFR emitting sources.
  1. Issue is the introductory age to cell phones and other wireless. WSJ articles dated 2018 have estimated starting age of about eight. That will continue to decline to fetuses and as the introductory age continues to decline, the percentage of students with mental disabilities will increase to at least 50% (HK prediction).
- B. College student depression rates increased from 30.9% in Fall 2013 to 39.3% in Fall 2017 (“Felt so depressed that it was difficult to function.”) [IJAR Jan 2018. Exhibit E: *National College Health Assessment Survey*, p. 14]. It is known that RFFR causes depression.

#### IV. Objection #3: Increases in suicides

- A. Actual suicides for 10 to 14-year age group declined from 242 in 1999 to 180 in 2007 and increased to 517 in 2017 = **11.1%** Geometric mean (GM) increase for ten years ending in 2017. [IJAR Jan 2018, Exhibit F]
- B. Actual suicides for 15-24-year age group declined from 4316 in 2004 to 4140 in 2007 and then increased to 6252 in 2017 = **4.2%** GM annual increase for ten years ending in 2017. [IJAR Jan 2018, Exhibit F]
- C. College students who “Seriously considered suicide” increased from 6.0% in Fall 2010 to 12.1% in Fall 2017 [IJAR Jan 2018. Exhibit E: National College Health Assessment 2017, p.14; IJAR Jan 2018, p. 266;] “Seriously considered suicides” doubled in 7 years: **10.5% GM annual increase in** “Seriously considered suicides”.
- D. Notice the similarity in IRR growth rates of 11.1% GM actual suicides for 10-14-year age group and 10.5% GM for college students “Seriously considered suicide.”
- E. In my opinion, there is a near 100% probability the increase in actual and contemplation of suicides are caused by RFFR from cell phones, Wi-Fi, MCPBS, and are additional measures of a catastrophic health crisis NOW.
- F. MD: “Doctors know that cell phones cause suicide.”
- G. ***These mental illnesses and suicides*** caused by anxiety, stress, and depression **are a catastrophic health crisis NOW that is being concealed.**
  1. Reported anxiety, depression, stress, and suicides to Secretaries of Health and Human Services and Homeland Security in original letter dated October 3, 2018.
  2. Secretary immediately referred my charge to National Institute of Health.
  3. NIH rejected three days later and stated “no notice to sender.”
  4. HK reported NIH rejection of catastrophic health crisis to appropriate federal agency as an improper rejection *of investigation of a catastrophic health crisis.*
- H. On May 27, 2020, HK accessed the CDC website for precise reference for the suicide data in Exhibit F and was unable to find it after a 45-minute search. Then spent 45 minutes with the CDC call center and they could not find the original table showing suicide annually from 1999 to 2016 by age group. Historical suicide data for 1999 to 2016 has been removed from the CDC website.
- I. *My predictions, which I began to make in June 2014 with the beginning of my research and published in IJAR Jan 2018, p. 265:*
  1. *Decline in Labor Force Productivity Rate: Actual decline to 0.5% from 2011 to 2016.*
  2. *Similarity in delayed symptoms from Chronic Traumatic Encephalopathy (CTC) and delayed symptoms in brain damage from wireless technology.*
  3. *Depression rates would increase which has occurred.*
  4. *Suicides and contemplation of suicides would increase which has occurred.*
  5. *Increases in drug use. Opiate use may be a manifestation of this prediction.*



6. *Increases in violent crime.*
7. *Working lives would decline from the mid-60s to the mid-50s.*

V. **Objection #4: Species extinction from 5G/4G SCAs RFFR** [Letter from Herman Kelting to Mayor Katrina Foley, Costa Mesa, CA. dated January 24, 2020 opposing 5G; HK presentation to Costa Mesa City Council February 18, 2020]

- A. Barry Trower: Physicist and well-known UK 5G weapons expert, who was associated with 5G weapon systems used to injure Catholics in Northern Ireland stated:
  1. “Installation of 5G/4G SCAs will result in only one child in eight births being born normal three generations (60 years) from date of 5G/4G SCAs installation.” Most probable cause of specie extingishment is damage to reproductive organs and cellular systems.
  2. RFFR injures 4,500 electrical subsystems in the human body *by placing a force on charged particles*. These systems communicate endogenously and exogenously with other electrical subsystems with natural, endogenous RFFR emissions. Exogenous sources of RFFR from cell phones, MCPBS, SCAs, interfere with these natural RFFR signals (e.g., Schumann Resonance).
  3. The only differences between weapons grade 5G and 5G/4G SCAs are the frequency, modulation, power densities, and time it will take for human injury to occur.
- B. Evidence of species extinction in five generations or less is supported by the following scientific studies and other evidence: (ten supporting references follow)
  1. A Greek study of the reproduction of rodent births exposed to RFFR resulted in “...mice exposed to 0.168 nW/cm<sup>2</sup> (1,680 μW/m<sup>2</sup>) became sterile after five generations, while those exposed to 1.053 nW/cm<sup>2</sup> (10,530 μW/m<sup>2</sup>) became sterile after only three generations.” [A Balmori, 194] “A progressive decrease in the number of newborns per dam was observed, which ended in irreversible infertility” [Magras IN, Xenos, TD. “Radiation Induced Changes in the Prenatal Development of Mice.” *Bioelectromagnetics* 18 (6) (1997): Abstract, 455-461 cited in A Balmori. “Electromagnetic Pollution from Phone Masts.” *Effects on Wildlife.* *Pathophysiology* 16 (2009): 191-199, 194] (Foley 01.24.2020)
  2. Study of 361 men in fertility clinic had reduced sperm count, motility, (moving property through the female reproductive tract), viability, and normal morphology (size and shape of sperm under microscope, >14% normal) as daily cell phone usage increased from zero, < 2 hours/day, 2-4 hours daily, and to >4 hours daily usage [IJAR Jan 2018, Ref 47, Agarwal, 2008]. When you follow these decreases through multiple generations you have the end of species.

CP Sperm

Group	Usage	Count	Motility	Viability	WHO Morphology % Normal
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A	No use	85.89	67.80	71.77	40.32
B	< 2 H/D	69.03	64.57	68.21	31.24
C	2-4 H/D	58.87	54.72	57.95	21.36
D	> 4 H/D	50.30	44.81	47.61	18.40

3. Rats were exposed to 2.437 GHz Wi-Fi for 24 hours per day for 20 weeks resulting in a significant increase in serum 8-hydroxy-2-deoxyguanosine levels and 8-hydroxyguanosine straining indicating DNA damage in the testes due to Wi-Fi exposure. [IJAR Jan 2018, Ref 48; Atasoy, 2012] Wi-Fi creates full body emersion in RFFR unlike cell phones that focus on head.
4. In a review of the literature finding damage to male sperm from RFFR associated with cell phones, laptops, Wi-Fi, and microwave ovens, the authors found "...deleterious effects on sperm parameters (like sperm count, morphology, motility), affects the role of kinases in cellular metabolism and the endocrine system and produces genotoxicity, genomic instability, and oxidative stress...with an increased level of reactive oxygen species, which may lead to infertility." [Kesari, KK, Agarwei, A, and Henkel, R. "Radiations and Male Fertility" *Reproductive Biology and Endocrinology*. 16:118 (Dec. 9, 2018)]. This article provides 179 references and may be supportive of Mr. Trower's prediction of only one child in eight being born normal in three generations if 5G/4G is installed. (Foley 01.24.2020)
5. Experiment showed that the reproductive capacity of the insect *Drosophila Melanogaster* declined 36.4% (1 min), 42.5% (6 min), 49.2% (11 min), 56.1% (16 min), and 63.0% (21 minutes) exposure to a GSM 900 MHz carrier frequency and 217 Hz information frequency with exposure at a power density of 100,000  $\mu\text{W}/\text{m}^2$  (10  $\mu\text{W}/\text{cm}^2$ ). This power density of 100,000  $\mu\text{W}/\text{m}^2$  is far less than the 6,000,000 to 10,000,000  $\mu\text{W}/\text{m}^2$  FCC MPE safe limits *and less than the example MCPBS I describe in Section XI averaging 197,000  $\mu\text{W}/\text{m}^2$* . This experiment showed the important relationship between time of exposure to RFFR and injury to a living organism. [Panagipoulos DJ et.al. "The Effect of Exposure Duration on the Biological Activity of Mobile Telephony Radiation." *Mutation Research* 699 (2010): 17:22.<sup>4</sup>
6. Cell phones operating at 900 MHz were placed in three colonies of honeybees and turned on for 10 minutes for ten days. After ten days the worker bees never returned to the three test hives because the cell phone *was* "...frying the navigational skills of honey bees and preventing them from returning back to their hives." Production of eggs by the queens was reduced from 350 to 100 eggs/day. The authors concluded that cell phone RFFR is a better explanation of

- Colony Collapse Disorder than any other theory. [Sainudeen Sahib S. “Impact of mobile phones on the density of honeybees.” *Journal of Public Administration and Policy Research* 3(4) (Apr 2011): 131-133.] (Sisolac 08.29.2019, 13-14)
7. RFFR from 900 and 1800 MHz cell phone base stations showed “fewer House Sparrow males were seen at locations with relatively high electric fields strength value of GSM base stations and therefore support the notion that long-term exposure to higher levels of radiation negatively affect the abundance or behavior of House Sparrows in the wild. [Evernert, J and D Bauwens. “A possible effect of electromagnetic radiation for mobile phone base stations on the number of breeding house sparrows (*Passer domesticus*).” *Electromagnetic Biology and Medicine* 26(1) (2007): 63-72. Sisolac 08.29.2019, 13-14]
  8. A nine-year study of tree damage in Germany showed that tree sides facing a phone mast were damaged. The control group of trees were in a power density of  $50 \mu\text{W}/\text{m}^2$ . The authors concluded that “These results are consistent with the fact that damage afflicted on trees by mobile phone towers usually start on one side, extending to the whole tree over time. [Waldmann SC, Balmori PA, et, al. “Radiofrequency Radiation Injures Trees Around Mobile Phone Base Stations.” *Science of the Total Environment* (Dec 1, 2016); Sisolac 08.29.2019, 13-14] That’s about what will happen to our civilization if we do not reduce RFFR in the environment.
  9. The productivity of hatched eggs from white stork nests in Valladolid, Spain within 200 meters of a cell phone base station was 0.86 chicks vs. twice that amount, 1.6 chicks, for nests more than 300 meters from the phone masts. Twelve (12) nests (40%) less than 200 meters from the masts hatched no chicks vs. only one (3.3%) hatching no chicks at distances greater than 300 meters. [Balmori, Alfonso. “Possible Effects of Electromagnetic Fields from Phone Masts on a Population of White Stork (*Ciconia ciconia*)” *Electromagnetic Biology and Medicine* 24 (2005): 109-119; Sisolac 08.29.2019, 13-14].
  10. Five ninth grade girls in Denmark noticed that if they slept with their mobile phones near their head at night, they had trouble concentrating at school the next day. In order to test the effect of cell phone radiation, they place six trays of garden cress seeds in a room without radiation and six trays in another room with two Wi-Fi routers that were about equivalent to a cell phone. The seeds in the clean room grew in a 12-day period, while the seeds in the room with the Wi-Fi routers did not grow. They concluded that radiation defeated growth of the cress seeds. [Jenn Savedge. “Student Science Experiment Finds Plants Won’t Grow Near Wi-Fi.” MNN.com (05.23.2013)].

#### C. Doctors and scientists opposing 5G/4G SCAs

8. Letter to Marlene H. Dortch, Secretary FCC date June 17, 2020 from over 400 signing doctors listed in the letter.

- a. Letter opposed FCC proposed rule (Docket 19-226) “Targeted Changes to the Commission’s Rules Regarding Human Exposure to Radio Frequency Electromagnetic Fields.”
- b. “...proposed rule completely ignores the documented adverse health effects that can occur at the FCC current radiation frequency (RF) exposure limits, much less those that may occur at the expanded range of frequencies contemplated in the proposed rule. ...Commission failed to even mention ‘health effects’, ‘toxicity’, or carcinogenicity’ anywhere in this document is astonishing, given the extensive and expanding scientific literature currently available and the Commission’s obligation to ensure the “safety of life” for all Americans as set forth in the Communications Act of 1934.”
- c. There is evidence of harm from 2G, 3g, and 4G and no safety studies of harm from the expanded range of frequencies.
- d. Letter opposes using average power densities that do not reflect real world situations. [From my experience, average power densities are less than ten percent of peak power densities. Peak power densities and modulation are what harm living organisms.]
- e. Recommends that FCC require manufacturers to conduct pre-market testing to demonstrate the safety of Wireless Power Transfer devices operating at ranges in excess of 50 cm.

## 2. Baden Wurttemberg, Germany October 23, 2019

Seventy (70) doctors in Baden Wurttemberg signed and 25 doctors in white coats delivered the letter, “Doctors Warn Against 5G Mobile Communications” to the prime minister on October 23, 2019 asking for a moratorium on 5G small cell antennas because of harm to living organisms. They expressed particular concern with “electro hypersensitivity (EHS)” which now affects 5-10 percent of their population. One doctor-signatory in Baden Wurttemberg stated ***“To protect the population, we need Wi-Fi free schools and a 5G moratorium!”***

## 3. European Union September 13, 2017: The 5G Appeal

On September 13, 2017, over 180 scientists and doctors in the European Union issued “Scientists and Doctors Warn of Potential Serious Health Effects of 5G” stating in part:

“We, the undersigned scientists, recommend a moratorium on the roll-out of the fifth generation, 5G, for telecommunications until potential hazards for human health and the environment have been fully investigated by scientists independent from industry. 5G will substantially increase exposure to radio frequency electromagnetic fields (RF-EMF) on top of the 2g, 3G, 4G, Wi-Fi, etc. for telecommunications already in place. RF-EMF has been proven to be harmful for humans and the environment.”

By May 18,2020, 377 scientists and medical doctors had signed The 5G Appeal to halt the rollout of 5G due to serious potential health effects. RF-EMF has been proven to be harmful for humans and the environment.

4. Recommend that doctors report any injuries caused by RFFR to a federal or state agency.

#### D. Haifa, Israel banned Wi-Fi in schools April 20, 2016

On April 20, 2016, Haifa, Israel banned Wi-Fi in schools because of the increase in EHS/EMH and because many children were contemplating suicide. It is known that Jenny Fry, a UK teenager, committed suicide because of Wi-Fi in her school, and there is a dramatic increase in contemplation of suicides and actual suicides in the United States since 2007.

#### E. HK request for medical school research (SU) dated May 18, 2020 9:50 AM

1. Does RFFR make Covid-19 more virulent? Asked for Covid-19 (1) free of and (2) attached to host cells to be placed under an electron microscope with a variable frequency/variable power density RFFR to determine if the virus is more active under RFFR bombardment similar to neurons being more active in an RFFR field (e.g., six CA firemen receiving brain and neurological injury from cell phones on the roofs of their fire stations resulting in permanent excitement of brain neurons).
2. Will Wobenzym-N, a protein digesting enzyme, digest Covid-19 a lipid-coated protein?
3. Does Colloidal Silver defeat Covid-19 as it defeats some, but not all, other viruses?

### VI. Objection #5: Injury specifically from 5G

- A. “Preliminary observations showed that MMM [millimeter waves > 30 GHz] increase the skin temperature, alter gene expression, promote cellular proliferation and synthesis of proteins linked with oxidative stress, inflammatory and metabolic processes, could generate ocular damages, affect neuro-muscular dynamics...available findings seem sufficient to demonstrate the existence of biomedical effects...” [Di Caula A. “Towards 5G Communication Systems: Are There Health Implications?” *International Journal of Hygiene and Environmental Health* 221(3) (Apr 22, 2018): 367-375. Damaged gene expression leads to mutations that cause cancer, other illnesses, and aging. Cellular proliferation refers to the unregulated growth of cancer cells caused by ineffective cancer cell apoptosis (i.e., cancer cell death). Oxidative stress leads to atherosclerosis, diabetes, hypertension, neurological disorders such as Alzheimer’s and Parkinson’s disease, and cardiovascular disease. [Vogel C, “Protein Expression Regulation under Oxidative Stress.” *Molecular & Cellular Proteomics* 10(12) (Sep 20, 2011)]. Chronic inflammation causes cancer, and, indeed, continuous exposure to 5G would be chronic.

Neuro-muscular dynamics refer to motor operation of tendons, muscles, etc. governing athletic performance and damage to this system may lead to lack of overall body control. Based upon this article, 5G is harmful across range of serious illnesses. (Sisolac 08.29.2019, 11-12)

- B. 5G transmits data in a very short time period, but there are indications that "...these bursts may lead to short temperature spikes in the skin of exposed people." Research has also shown that peak to average temperature ratios "...may lead to permanent tissue damage after even short exposures highlighting the importance of revisiting existing exposure guidelines." This means that current heat standards are too high and should be lowered. [Neufeld E and N Kuster. "Systematic Derivation of Safety Limits for Timer-Varying 5G Radio frequency Exposure Based on Analytical Models and Thermal Dose." *Health Physics* Sept 21, 2018.] [Letter from Herman Kelting to Nevada Governor Steve Sisolac, Nevada Senator Nicole Cannizzaro, and Nevada Assemblywoman Shay Backus dated August 29, 2019 (Revision 02), 11-12].
- C. 5G operates at the same frequencies (e.g. greater than 24 GHz) as the sweat duct, which is a helical antenna operating at a high specific absorption rate in extremely high frequency bands. This suggests 5G will heat the skin, one of the adverse consequences of 5G.
- D. In an e-mail dated May 27, 2020 2:05 PM , Professor Joel Moskowitz stated "**My note:** This review summarizes research on the effects of millimeter waves (>30 GHz) on the skin. None of these studies has examined 5G millimeter waves. 5G employs specialized technology including phased arrays, beam-forming, and massive MIMO (sending multiple data signals simultaneously over the same radio channel). 5G millimeter waves may be more biologically active and result in more adverse health effects than the earlier millimeter wave studies found."

## **VII. Objection #6: Injury from secondary, endogenous RFFR: Sommerfeld and Brillouin precursors**

1. Sommerfeld and Brillouin precursors are induced, propagating transient RFFRs generated endogenously in the human body (or other mediums) from an exogenous source RFFR with a changed sinusoidal structure (about 6 times smaller amplitude) that displaces charged particles in human tissue, thus damaging those particles. (A117). This means that Sommerfeld and Brillouin Precursors are RFFR that propagate endogenously within the body from a source exogenous to the body without attenuation and travel faster than the source pulse. They induce movement of proteins, DNA, and ions of potassium, sodium, chloride, calcium, and magnesium. (A117) These movements damage cells and organs [Albanese,R, Blaschak, J, Medina, R, Penn, J. "Ultrashort Electromagnetic Signals: Biophysical Questions, Safety issues, and Medical Opportunities." *Aviation, Space, and Environmental Medicine*. May 1994: A116-A120 ("Albanese May 1994".; see also OMB No. 0704-0188 94-24875 AD-A282 990 dated Jan 90-Aug 93; Jakobsen PK and Masud Mansuripur. "On the Nature of the Sommerfeld-Brillouin Forerunners (or

- Precursors.” *Quantum Studies: Mathematics and Foundations* (November 8, 2019)]  
Thus, 5G beams immerse the body in a 10-degree RFFR, enter the skin and breed new, induced RFFR that travel faster than the original pulse with the radiation of the propagated RFFR damaging cells deep in the body just as 4G RFFR does.
2. Regarding the failure of FCC safety limits to consider Sommerfeld and Brillouin Precursors, Albanese stated “However, IEEE C95.1, 1991 was developed from biomedical data on pulses whose onset and offset times (or rise and fall times) were much slower than those shown in Fig 2; the standard does not embody the precursors phenomenon. Thus, in practical term, the sharp ultrafast category of pulses being discussed are not covered by IEEE C95.1-1991 or by any other formal guideline known to us...**Until the issue of tissue damage mechanisms associated to pulses that cause precursors is fully studied, the authors recommend zero human exposure to such unique precursor and gendering pulses.**” [Albanese May 1994, A118]
  3. Sommerfeld and Brillouin precursors promote internal damage. The authors conclude “...we are raising a warning flag against the unrestricted use of sub-THz technologies for communications, before the possible consequences for public health are explored.” [Betael N, et.al. “The Human Skin as a sub-THZ receiver-Does 5G pose a danger to it or not? *Environmental Research* Vol. 163 (May 2018):208-216]. This article suggests the importance of additional research to evaluate skin overheating, which is not being under taken before the Nevada legislature votes on AB 344. [Sisolac 08.29.2019, 11-12]

#### VIII. Objection #7: FCC antenna safety standards applied to MCPBS ignore radiation injury to living organisms at power densities many times lower than the FCC antenna safety standards.

- A. RFFR power density meter readings from emissions of a MCPBS (MCPBS) taken 06.09.2020. MCPBS located 150 feet from about 100 two-story apartments with more apartments adjacent and to the east of the front 100 apartments. Meter reading taken about 100 feet from the MCPBS and 50 feet from apartments. Meter used: Safe Living Technology Safe and Sound Pro II.

1. Power density meter readings in  $\mu\text{W}/\text{m}^2$ :

108,000	97,300	<b>224,000</b>	159,000
<b>212,000</b>	97,300	147,000	135,000
97,300	<b>311,000</b>	162,000	145,000
135,000	<b>580,000</b>	175,000	<b>200,000</b>
147,000	<b>208,000</b>	<b>224,000</b>	

2. Descriptive statistics

Average	196,663 $\mu\text{W}/\text{m}^2$	Rounded 197,000 $\mu\text{W}/\text{m}^2$
Stdev	109,569 $\mu\text{W}/\text{m}^2$	
Coefficient of variation	0.56	

3. Six CA firemen received brain and neurological injury from MCPBS on the roofs of their fire stations emitting 10,000 to 20,000  $\mu\text{W}/\text{m}^2$ . [Letter to two secretaries Revision 01 dated 01.08.2019, Exhibit N]
- B. FCC antenna safety standards: 6,000,000 to 10,000,000  $\mu\text{W}/\text{m}^2$  based upon frequency.
  1. These FCC safety limits ignore actual injury from radiation at much lower limits than 6,000,000 to 10,000,000  $\mu\text{W}/\text{m}^2$ .
- C. International antenna safety standards:
  - (1) Compare the safety of FCC safe limits of 6,000,000 to 10,000,000  $\mu\text{W}/\text{m}^2$  with other countries antennae safety limits.
  - (2) The wide range in country antenna safety limits means no country really knows antenna safety limits and that the US, with the highest antenna safety limits is clearly in conflict with all other countries in this list. [Remke, Amar and Mahesh Chavan. "A Review on RF Exposure from Cellular Base Stations." *International Journal of Computer Applications*. 104(12) (Oct 2014): 9-16]

Country or other geographical area	Power density		%US
	W/m <sup>2</sup>	$\mu\text{W}/\text{m}^2$	
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USA public exposure guidelines at 1800 MHz	10	10,000,000	100%
India	9.2	9,200,000	92%
Canada (see Attachment)	3.0	3,000,000	30%
Australia	2	2,000,000	20%
Belgium	1.2	1,200,000	12%
New Zealand	0.5	500,000	5%
Exposure limit in CSSR, Belgium, Luxemburg	0.21	210,000	2.1%
Exposure limit in Poland, China, Italy, Paris	0.1	100,000	1.0%
Exposure limit in Italy in areas with duration hour	0.095	95,000	0.95%
Exposure limit in Switzerland	0.095	95,000	0.95%
Germany: Precautionary recommendation only	0.09	90,000	0.90%
Italy: Sensitive areas only	0.025	25,000	0.25%
Exposure limit in Russia, Bulgaria, Hungary	0.02	20,000	0.20%
Austria: Precautionary limit in Salsbury only	0.001	1,000	0.01%
Germany BUND 199	0.0009	900	0.009%
New South Wales, Australia	0.00001	10	0.0001%

D. Building Biology Institute RFFR anomaly standards for sleeping:

None    Slight    Severe    Extreme



radiation (High freq., EM waves) $\mu\text{W}/\text{m}^2$	<0.1	0.1 – 10	10-1000	>1000
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- E. January 14, 2020 HK research letter to Clark County Board of Commissioners reported on two sets of two MCPBS each (in addition to the one shown above).
1. Power densities up to  $218,000 \mu\text{W}/\text{m}^2$  about 100 yards from the two MCPBS with an average of  $137,000 \mu\text{W}/\text{m}^2$ .
  2. Power densities in building with two MCPBS concealed on the roof of up to  $37,100 \mu\text{W}/\text{m}^2$  inside the building.
- F. Studies of harm from 4G MCPBS at power densities small fractions of FCC MPE limits,
1. In a study of 1000 individuals living for ten years within less than 400 meters from a GSM cellular transmitter site in Germany, it was found that the likelihood of getting cancer was three times greater than for those not near a cellular transmitter and that the patients fell ill an average 8 years earlier. Radiation in the inner area was 100 times the radiation in the outer area. The authors concluded it was necessary to monitor the health of individuals living near high radio frequency emissions from cellular base stations. [Eger, Horst, Klaus Uwe Hagen, et. al. "The Influence of Being Physically Near to a Cell Phone Transmission Mast on the Incidence of Cancer." *Umwelt-Medizin-Gesellschaft* 17(4) (2004): 7 pages]. (Sisolac 08.29.2019, 12-13)
  2. In a study of 47 individuals (total of 101 including the control group) living within 150 meters of a cell phone base station with average power densities in the bedroom above the bed of  $1,100 \mu\text{W}/\text{m}^2$  compared with the control group average of  $100 \mu\text{W}/\text{m}^2$ , it was found that there were statistically significant differences in symptoms of discomfort, irritability, appetite loss, fatigue, headache, difficulty in concentrating, and sleep disruption. Differences in the use of cell phones and computers may have accounted for some of these differences. The authors recommended that health surveys of individuals living nears base stations should be carried out immediately. From other studies of adverse health from RFFR, the authors found insomnia, cancer, leukemia in children, brain tumors, and disturbances of the central nervous system. [Navarro, EA, J. Segura, et. al. "The Microwave Syndrome: A Preliminary Study in Spain." *Electromagnetic Medicine and Biology*. (Dec 2002)] (Sisolac 08.29.2019, 12-13)
  3. In a study of individuals living at varying distances of 10, 10-50 meters, 50-100 meters, 100-200 meters, 200-300 meters, and over 300 meters from a cell phone base station, respondents reported nausea, loss of appetite, visual disturbances, difficulty in moving, irritability, depressive tendencies, difficulty in concentration, loss of memory, dizziness, lowering of libido, headaches, sleep disruption, feeling of discomfort, and skin problems. [Santini, R, P. Santini, et.al. "Survey Study of

People Living in the Vicinity of Cellular Phone Base Stations.” *Electromagnetic Biology and Medicine*. 22(1) (2003): 41-49.] (Sisolac 08.29.2019, 12-13)

4. An apartment building with two cell phone base stations on the roof had a mean power density of  $3,811 \mu\text{W}/\text{m}^2$  with a power density range of  $15.2 \mu\text{W}/\text{m}^2$  to  $112,318 \mu\text{W}/\text{m}^2$ . The mean radiation was reduced by 98% when the power density from the two cell phone base stations was disregarded. The authors concluded:

“Due to the current high RF radiation, the apartment is not suitable for long-term living, particularly for children who may be more sensitive than adults...the simplest and safest solution would be to turn them off and dismantle them.” [Hardell, Lennart, Michael Carlberg, et.al. “Radio Frequency Radiation from Nearby Base Stations Gives High Levels in an Apartment in Stockholm, Sweden: A Case Report.” *Oncology Letters* 15(5) (May 2018): Pages 1-29]. (Sisolac 08.29.2019, 12-13)

5. In a study of the relationship of salivary cortisol (main stress hormone controlling mood, fear, emotions; regulates immune and inflammation, blood pressure, blood sugar, sleep wake cycle, energy) and alpha-amylase (enzyme which digest starch), each markers of stress, to RFFR, it was found that both cortisol and alpha-amylase increased in the presence of a cell phone base station with power densities of  $153.6 \mu\text{W}/\text{m}^2$  and  $2126.8 \mu\text{W}/\text{m}^2$  from a GSM 900 MHz base station in a kindergarten classroom. The experiment lasted for five 50-minute sessions. Notably, these power densities are vastly below the FCC MPE limits of 6,000,000 to 10,000,000  $\mu\text{W}/\text{m}^2$ . In my opinion, this rise in cortisol and alpha-amylase may explain the anxiety, depression, and stress claimed by high school and college students to take longer testing times and private testing rooms for classroom and SAT tests. [Augner C, et.al. “Effects of Exposure to GSM Mobile Phone Base Station Signals on Salivary Cortisol, Alpha-Amylase, and immunoglobulin A” *Biomedical and Environmental Sciences* 23 (2010): 199-207].
6. In Belo Horizonte, Brazil, it was found that deaths from neoplasia (i.e., abnormal growth of tissue; cancer) increased with close proximity to cell phone base stations. For those living within 100 meters of a CPBS, the death rate was a relative risk of 1.35, for 500 meters 1.08, and for 1000 meters 1.00. The death rate from neoplasia varied from 5.83 per 1000 individuals to 2.05 per 1000 individuals. Cell phone base stations were concentrated in the Central Southern region and varied from  $8,980 \mu\text{W}/\text{m}^2$  ( $0.898 \mu\text{W}/\text{cm}^2$ ) to  $30,660 \mu\text{W}/\text{m}^2$  ( $3.066 \mu\text{W}/\text{cm}^2$ ) in 2003. Brazilian power density standards were  $4,513,400 \mu\text{W}/\text{m}^2$  ( $451.34 \mu\text{W}/\text{cm}^2$ ) at 900 MHz and  $9,024,900 \mu\text{W}/\text{m}^2$  ( $902.49 \mu\text{W}/\text{cm}^2$ ) at 1800 MHz. Notably, the death rate from neoplasia in Belo Horizonte occurred at power densities much lower than the US standard of between 6,000,000-10,000,000  $\mu\text{W}/\text{m}^2$ . [Dode, AC, Et.al. “Mortality by neoplasia and cellular telephone base stations in the Belo Horizonte municipality, Minas Gerais state, Brazil” *Science of the Total Environment* 409 (2011): 3649-3665].

7. In a study of tree damage in Germany, it was discovered that cell phone base stations damaged the sides of 60 trees facing the MCPBS. The median power density from the MCPBS on the damaged side was  $995 \mu\text{W}/\text{m}^2$  and on the undamaged side was  $125 \mu\text{W}/\text{m}^2$  using peak and peak hold values. A power density of  $995 \mu\text{W}/\text{m}^2$  is obviously far less than the FCC safe threshold of 6,000,000 to 10,000,000  $\mu\text{W}/\text{m}^2$ . The authors quote from M. Repacholi, head of the International EMF Project of the WHO (p. 567), who said in part: [Waldmann-Selsam C, et.al. "Radiofrequency Radiation Injures Trees Around Mobile Phone Base Stations" *Science of the Total Environment*. 572 (2016): 554-569.]

"Given that any adverse impact on the environment will ultimately affect human life, it is difficult to understand why more work has not been done...research should focus on the long-term, low level EMF exposure for which almost no information is available"

8. In an Israel study of cancer rates near a cell phone base station, it was discovered that 3-7 years' exposure times had cancer rates 4.15 times the cancer rate in the entire population and that the cancer rate for women was 10.5 vs. 1.0 for the whole town of Netanya. The power densities were "far below" current guidelines of  $5,300 \mu\text{W}/\text{m}^2$  ( $0.53 \mu\text{W}/\text{cm}^2$ ) for thermal effects. [Wolf, et. al. "Increased Incidence of Cancer Near a Cell Phone Transmitter Station." *International Journal of Cancer Prevention*. 1(2) (April 2004).]
9. In an Egyptian study of perceived symptoms by residents living in a building with a cell phone base station with three antennas it was indicated that there were statistically significant differences in percentage symptoms for headaches (23.5%/10%), memory changes (28.2%/5%), dizziness (18.8%/5%), tremors (9.4%/0%), depressive symptoms (21.7%/8.8%), and sleep disturbances (23.5%/10%) compared with controls. Exposed residents performed more poorly in one neurobehavioral test and superior in two others. Antenna01 had power densities of 20,000 to 63,000  $\mu\text{W}/\text{m}^2$ , Antenna02 had power densities of 24,000 to 67,000  $\mu\text{W}/\text{m}^2$ , and Antenna03 had power densities of 27,000 to 55,000  $\mu\text{W}/\text{m}^2$ . The Egyptian safety standard for continuous exposure to RFFR was 80,000  $\mu\text{W}/\text{m}^2$ . One apartment below Antenna01 had an internal power density of 1,000  $\mu\text{W}/\text{m}^2$ . Again, all of the power densities in this study were well below the 6,000,000-10,000,000  $\mu\text{W}/\text{m}^2$  FCC power density and created several adverse health symptoms. [Abdel-Rassoul G et. al. "Neurobehavioral Effects Among Inhabitants Around Mobile Phone Base Stations." *Neuro/Toxicology* 28 (2007): 434-440.]
10. In a German study of individuals living within 400 meters of a cell phone base station, it was discovered that the risk of getting cancer tripled and the cancer developed 8.5 years earlier. The relative risk of getting breast cancer for those living within 400 meters of the tower increased to 3.4. The radiation within 400 meters was 100 times the radiation beyond 400 meters. [Eger H, et. al. "The Influence of

Being Physically Near to a Cell Phone Transmission Mast on the Incidence of Cancer.” Umwelt -Medizin-Gesellschaft 17(4) (2004).]

11. In a Greek study of the reproduction of rodent births in response to a microwave power density of  $1,680 \mu\text{W}/\text{m}^2$  ( $0.168 \mu\text{W}/\text{cm}^2$ ) it was found that the rodents became sterile after five generations and those exposed to  $10,530 \mu\text{W}/\text{m}^2$  ( $1,053 \mu\text{W}/\text{cm}^2$ ) became sterile after three generations. Note that these damaging-to-living-organisms’ power densities are considerably less than the FCC safe limit of  $6,000,000$ - $10,000,000 \mu\text{W}/\text{m}^2$ . [Magras IN. “Radiation induced changes in the Prenatal Development of Mice.” Bio electromagnetics 18 (1997): 455-461 cited in A Balmori. “Electromagnetic Pollution from Phone Masts. Effects on Wildlife.” Pathophysiology 16 (2009): 191-199.,]
12. In a review-of-the-literature article titled “Mobile Phone Base Stations—Effects on Wellbeing and Health,” Kundi and Hutter stated [Pathophysiology 16 (2009): 123-135]:

“...at least with respect to wellbeing, around  $0.5$ - $1 \text{ mW}/\text{m}^2$  [ $500$  to  $1000 \mu\text{W}/\text{m}^2$ ] must be exceeded in order to observe an effect.”

Note that power densities of  $500$ - $1,000 \mu\text{W}/\text{m}^2$  suggesting the lower threshold range for adverse health consequences are far below the FCC safety threshold of  $6,000,000$ - $10,000,000 \mu\text{W}/\text{m}^2$ — $1/20,000^{\text{th}}$  to  $1/10,000^{\text{th}}$  but within the extreme anomaly of the IIBBE of  $1,000 \mu\text{W}/\text{m}^2$ .

- G. Suggests need for research and legislation to prohibit MCPBS within first-tier distance restrictions of 1000 meters of concentrations of people in residential, commercial, industrial areas, and roadways, and second-tier distance restrictions for unique frequency and modulation, and line-of-sight. First-tier safety factor of 2X because it is known that injury results within 500 meters.

## **IX. Objection #8: FCC antenna safety standards disregard power densities emitted by body proximate devices (i.e., personal property).**

- A. There is no power density safety standard for body proximate devices.
- B. There is only a heat standard and it has been shown many times there is radiation injury even though the heat standard is met.
- C. Substantially all of the 28 illnesses shown to be caused by RFFR in an earlier section of this NHLP were within the heat standard but still created the illness.
- D. In a letter dated February 7, 2014, the Office of the Secretary of the Interior, stated: Have they been updated? NO.

**“The electromagnetic radiation standards used by the Federal Communications Commission (FCC) continue to be based on thermal heating, a criterion now nearly 30 years out of date and inapplicable today.”**

- E. School teacher with EMH testified before a city council of new Wi-Fi introduced in her classrooms with student cell phones present. Became ill, quit job, and now works at 50% of income and misses the job she loved.

**X. Objection #9: RFFR meters understate power densities from multiple nearby RFFR emitters. [see also Nine Determinants of Wireless Safety #4]**

- A. Small Cell Antennas contain one 5G antenna and three 4G antennas (four total antennas in 12" of each other) within about 100 yards of other SCAs each with four antennas.
- B. Two similar RFFR emitting devices (e.g., MCPBS, cell phones) create twice the injury of only one similar device, but RFFR meter emitting peaks<sup>5</sup> will not measure twice the  $\mu\text{W}/\text{m}^2$ . They will measure only a small increment of only one emitting device because of the random pulse distribution. This may explain why 2 MCPBS are being placed close to each other.
- C. Assume two single 4G MCPBS emitting antennas each emitting peak power densities of  $10,000 \mu\text{W}/\text{m}^2$  with a combined theoretical peak of  $20,000 \mu\text{W}/\text{m}^2$ .
1. Issue: What is the distribution of metered peak power densities from the two combined nearby MCPBS?
  2. Corollary issue: What is the probability of metering a peak power density of  $20,000 \mu\text{W}/\text{m}^2$ ? Answer Zero.
  3. Analysis: Meters provide instantaneous power density readings from all nearby sources of RFFR. RFFR have incredible noise as can be seen from the differences between average power densities and peak power densities. Two ADJACENT antennas will be emitting *unsynchronized* peaks and lows. The probability of measuring two MAX peaks of  $10,000 \mu\text{W}/\text{m}^2$  each for a combined total power density of  $20,000 \mu\text{W}/\text{m}^2$  is zero. Thus, if we have a metered instantaneous peak of  $8,000 \mu\text{W}/\text{m}^2$  for Antenna #1 and a metered instantaneous peak of  $4,000 \mu\text{W}/\text{m}^2$  for Antennas #2 for a combined instantaneous peak of  $12,000 \mu\text{W}/\text{m}^2$ ,  $12,000 \mu\text{W}/\text{m}^2$  will be the peak for the two combined antennas, which is  $12,000/20,000 \mu\text{W}/\text{m}^2 = 60\%$  of the true combined peaks, but there are TWO SETS OF ADJACENT BROADCASTS, WHICH DOUBLES THE INJURY TO NEARBY RESIDENTS. The only way to find the true combined MAX peaks is to measure each antenna with one emitting and one off with zero emissions and add the two independent peaks. In my opinion, the probable metered MAX peaks of the combined two antennas will be no more than about 65% of the true MAX peaks measured with only one emitting RFFR or about 20% in excess of the true peak of either antenna. In our example, the excess would be  $2,000 \mu\text{W}/\text{m}^2$  ( $12,000 \mu\text{W}/\text{m}^2$  combined –  $10,000 \mu\text{W}/\text{m}^2 = 2,000 \mu\text{W}/\text{m}^2$  excess from the two antennas over the true peak for either of  $10,000 \mu\text{W}/\text{m}^2$ . Remember, the harm from RFFR

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<sup>5</sup> Harm from on-off pulsating power densities is measured by maximum (MAX) power density pulses, not by instantaneous or averages of the pulses, or continuous, non-pulsing power output.

emissions is the number of pulses from RFFR emission frequencies and their power densities. Thus, if you have two pulses from two ADJACENT MCPBS, you should get a metered power density that is double the power density from one alone (assuming equal peaks), but that will not happen because of the unsynchronized character of the two emissions.

4. The issue is how to measure human injury from two MCPBS broadcast signals and I do not believe there is any study to measure the injury in part because of the understatement of power densities and nothing available to measure modulation.

**XI. Objection #10: Use equitable not legal standards to measure safe human exposure limits: US statutes and case law.**

- A. Legal Standard from Telecommunications Act of 1995 Section 704(a)(7)(B)(iv) Public law 104 104<sup>th</sup> Congress 110 Stat 66:

“No state or local government...may regulate the placement, construction, and modification of personal wireless facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the Commissions regulations concerning such emissions.” [Telecommunications Act of 1995 Section 704(a)(7)(B)(iv) Public law 104 104<sup>th</sup> Congress 110 Stat 66].

Telecommunications Act sets a legal statutory, not equitable standard, for safety unrelated to actual known injury. **704(a)(7)(B)(iv) is unconstitutional because it violates equitable safe power densities.**

**B. Use equitable standards set by the NEPA, *United Keetoowah Band of Cherokee Indians, and research evidence I prove herein***

- C. The issue is the dichotomy between antenna legal safe exposure limits set by the FCC under the Telecommunications Act of 1995 and equitable safe antenna and body proximate RFFR emitting devices based upon equitable standards under the *United Keetoowah Band of Cherokee Indians* and National Environmental Policy Act from scientific research showing harm to humans from radiation.

- D. *It is essential that the equitable standards under the NEPA not be overridden by federal legislation*

- E. There are no FCC safe power density standards for body proximate RFFR emitting devices. There are heat standards, but many studies have found injury from radiation within the heat standard.

- F. *Cellular Phone Task Force vs. FCC* [205 F 3d 82 (CA-2, 2000)]

1. Up held FCC guidelines prohibiting local government from considering health effects of cellular tower radiation in zoning decisions.

E. *United Keetoowah Band of Cherokee Indians in Oklahoma, Individually and on behalf of all other Native American Indian Tribes and Tribal Organization et al Petitioners vs Federal Communication Commission et al* No. 18-1129 decided August 9, 2019, DC Court

of Appeals rules requiring environmental assessments and Environmental Impact Statements for Small Cell Antennas

1. In *United Keetoowah Band of Cherokee Indians in Oklahoma, Individually and on behalf of all other Native American Indian Tribes and Tribal Organization et al Petitioners vs Federal Communication Commission et al* No. 18-1129 decided August 9, 2019, the court was faced with the following issues and factual situations and held as indicated:

2. *Principal issue:* Was the FCC order “Acceleration Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment (Second Report & Order) (Order), FCC Order 18-30 2018 WL 1559856 (F.C.C.) Mar 30, 2018 [hereinafter FCC 18-30] removing regulatory requirements to install SCA required under the National Historic Preservation Act (NHPA) and National Environmental Policy Act (NEPA) arbitrary and capricious, an unjustified policy reversal, and contrary to the NHPA and NEPA. [3, 4]<sup>6</sup>

3. *Decision:* Yes.

4. *Factual situation:*

- a. The FCC granted licenses for telecommunication companies to install SCA on Indian lands without any historical preservation or environmental review.
- b. Held:
  - (1) “...the Commission failed to justify its confidence that small cell deployments pose little to no cognizable religious, cultural, or environmental risk. Particularly given the vast number of proposed deployments and the reality that the Order will principally affect small cells that require new construction. The Commission accordingly did not, pursuant to its public interest authority, 47 USC §319(d), adequately address possible harms of deregulation and benefits of environmental and historic preservation review. The Order’s deregulation of small cells is thus arbitrary and capricious.” [4]
  - (2) “All ‘major Federal actions significantly affecting the quality of the human environment’ trigger environmental review under NEPA...42 USC §4332(C). Major federal actions ‘include actions ...which are potentially subject to Federal; control and responsibility.’40 CFR §1508.18. Under the Commissions procedures implementing NEPA, if an action may significantly affect the environment, applicants must conduct a preliminary Environmental Assessment to help the Commission determine whether ‘the proposal will have a significant environmental impact upon the quality of the human environment’ and so perhaps necessitate a more detailed Environmental Impact Statement 47 CFR §1.1308; see also 40 CFR §1.1508.9. [7]
  - (3) With the approval of the Council on Environmental Quality, Executive Office of the President, and by following mandated procedures, agencies may establish categorical exclusions for federal actions that require neither an

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<sup>6</sup> Page numbers for **United Keetoowah Band of Cherokee Indians**, 18-1129, are based upon page 1 being the first page of the printed case because the full citation was not available to me when I wrote this material.

Environmental Assessment or Environmental Impact Statement. But the categorical exclusions may not “individually or cumulatively have a significant effect on the human environment.” [8] I interpret “individually” to include individual MCPBS or small cell antennas having a significant effect on the human environment.

**D. Apply *United Keetoowah Band of Cherokee Indians* EIS decision rules to Issue #1 and #2 MCPBS in this letter.**

In order to apply the rules in *United Keetoowah Band of Cherokee Indians* to the factual situation in Issue #1 and #2, it is necessary to describe the similarities and distinguishing features in the two situations—I count each of MCPBS in this letter as a unit whole.

In *United Keetoowah* factual situation, the plaintiffs had lands of cultural and religious significance but the court did not base its arguments on cultural/religious facts. It based its decision on the principal that:

“All ‘major Federal actions significantly affecting the quality of the human environment’ trigger environmental review under NEPA...42 USC §4332(C). Major federal actions ‘include actions ...which are potentially subject to Federal; control and responsibility.’40 CFR §1508.18. Under the Commissions procedures implementing NEPA, if an action may significantly affect the environment, applicants must conduct a preliminary Environmental Assessment to help the Commission determine whether ‘the proposal will have a significant environmental impact upon the quality of the human environment’ and so perhaps necessitate a more detailed Environmental Impact Statement 47CFR §1.1308; see also 40 CFR §1.1508.9. [7]

In *United Keetoowah* the factual situation concerned a large number of Small Cell Antennas, while in Issue #1 and #2, there are two MCPBS at Issue #1 and two concealed MCPBS at the Issue #2 site. While the number of antennas and emissions of each of these is distinguishable from *United Keetoowah*, each of the two issue groups of antennas is emitting high power densities shown to injure living organisms and which are not publicly reported to a local government agency. For examples, did local government agencies know the transmitting power densities when they approved the Issue #1 and #2 installations, and how many individuals working, driving, living, or walking on or near the Issue #1 and #2 antennas know the power density emissions of these antennas or the safety limits of any institution setting standards in the US or internationally. And how many of individuals living, working, or shopping nearby would be deeply concerned with MAX emissions of as high as 218,000  $\mu\text{W}/\text{m}^2$  when BBI sets 1,000  $\mu\text{W}/\text{m}^2$  as an extreme anomaly?

*United Keetoowah*, discussed federal actions and the issue I discuss is local regulatory control of MCPBS RFFR emissions. I do understand the application of the *legal* requirements of *United Keetoowah* to local government regulatory activity of Issue #1 and #2 MCPBS. But what I do understand is that *equitable* requirements to protect Nevada citizens require environmental review and Environmental Impact Statements to prohibit dangerous RFFR-emitting MCPBSs.



And I have shown in this letter and its attachments that there is harm to humans as low as 153.6  $\mu\text{W}/\text{m}^2$ .

## **XII. Objection #11: RFFR-emitting devices may interfere with *human* reception of the Schumann Resonance**

- A. The Schumann Resonance is a set of Extremely Low Frequencies caused by lightening in the ionosphere/atmosphere with a main frequency of 7.83 Hertz (cycles per second) and harmonics of 14, 20, 26, 33, 39, and 45 Hertz.
- B. *Schumann harmonics are similar to RFFR harmonics in the human brain.*
- C. Practical application of Schumann Resonance
  1. Experiments with individuals living underground indicate they became depressed until the Schumann Resonance was added to their environment.
  2. Indications are that the Schumann Resonance is added to spacecraft to assure no depression [Letter from Herman Kelting to the secretaries of Health and Human Services and Homeland Security; original letter dated October 3, 2019; revision 1 dated January 8, 2019; Exhibit L “Ying Yang.”]
- D. Issue for RFFR emitters near humans:
  1. Do RFFR emitters (cell phones, Wi-Fi, cordless phones, MCPBS, 5G/4G SCAs) interfere with the Schuman Resonance causing injury (e.g., cell phones) to living organisms?
  2. Is the Schumann Resonance a Tuning Fork for Life “...influencing biological oscillators within the mammalian brain” and changed by RFFR emitters? [Steems.com]
  3. HK used bike helmet lined with heavy duty tin foil. Got severe headache several times; then removed tin foil and no severe headache. Hypothesis: HK separated from Schumann Resonance like underground humans and that separation caused the headache.
- E. Schumann Resonance (0.22-1.12 mV/m Electric Field) has been connected to the alpha rhythm of brain waves by Dr. Ankermueller, a physician.
  1. Konig, a student of Schumann, correlated the Schumann Resonance and brain rhythms. Main frequency by Schumann oscillations very close to frequency of alpha rhythms. [Heart Math Institute. HeartMath.org]
  2. Main frequency of SR is 7.73 Hertz; Septal driving of hippocampal rhythm in rats has minimum threshold of 7.7 Hertz [Lanfume L. et.al. “Septal driving of hippocampal theta rhythm as a function of frequency in infant male rat.” *Experimental Brain Research*. (Jan 1982): 230-232.
  3. Man needs two environmental signals
    - (a) In Chinese medicine, man needs Yang masculine signal from above (SR) and Yin below within the planet and each of these must be in balance
    - (b) Presence of Yang SR from above with no Yin from earth caused serious health problems.
    - (c) Absence of Yang SR also creates serious health problems. (R. Wever; Max Planck Institute for Behavioral Physiology); Underground bunker screened out SR and students there for four weeks changed Circadian

- rhythms diverged and they suffered emotional distress and migraines headaches. Brief exposure to 7.8 HZ health stabilized.)
- (d) Astronauts had same problem, until SR was placed in space craft and their health returned.
4. For literature on Schumann Resonance see:
- a. Saroak, KS, Vares, DE, Persinger, MA. Similar Spectral Power Densities Within the Schumann Resonance and a Large Population of Quantitative Electroencephalographic Profiles: Supportive Evidence for Koenig and Pobachenko." PLOS One (January 19, 2016).
  - b. Cherry, Neil J.. "Schumann Resonances, a Plausible Biophysical Mechanism for the Human Health Effects of Solar/Geomagnetic Activity." *Natural Hazards* 26(3) (2002).\
  - c. Cherry, Neil J. "Cell Phone Radiation Poses a Serious Biological and Health Risk." [www. Drscheriner-Muenchen.de/Cherryeng.htm](http://www.Drscheriner-Muenchen.de/Cherryeng.htm).
  - d. Konig, H.L. "Electrophysical Aspects. In: Electromagnetic Bioinformation, Popp. F.A., Beckler, G.,Konig, H.L., Peschka, W., (eds) Urban und Schwarzenberg, p. 25, 1979
  - e. Gray, J.A. "The Neuropsychology of Anxiety; An Enquiry into the Functions of the Septo-Hippocampal System." Clarendon Press. (1982)
  - f. Ludwig, W. Informationative Medizin, VGM Verlag fuer Ganzheitsmedizin, Essen 1999
  - g. Schumann, W.O. Ueber die strahlungslosen Eigenschwingungen einer leitenden Kugel, die von einer Luftschicht und einer. Ionosphaerenhuelle umgeben ist, Z. Naturforsch, 7a, 149, (1952)
  - h. Schumann, W.O., Konig, H. Ueber die Beobachtung von Atmospheric bei geringsten Frequenzen, Naturwissenschaften, 41, 183, (1954)
  - i. Rutger Wever. "The Circadian System of Man: Results of Experiments Under Temporal Isolation."

**XIII. Objection #12: 5G/4G SCA enabling legislation does not provide a reasonable accommodation for those with Electromagnetic Hypersensitive (EMH)**

- A. SCAs will be universally installed throughout cities and those who are EMH will have no place to go for freedom from RFFR except suicide. Creation of a Master Race until the members of the Master Race become ill.
1. No state or federal law provides an accommodation for EMH individuals and they will be required to stay in their homes as prisoners as illustrated by one EMH woman who has others bring in her food.
  2. At least 2-3% of the population is EMS and in Haifa Israel up to 10% of people are believed to be EMH.
  3. This will create a Master Race with EMH forced into suicide.
  4. *Kalamata, Greece had a pilot study of 5G/4G and rejected it partially on the grounds of no protection of EMH individuals.*

**XIV. Objection #13: Environmental power densities should be disclosed in transfers of interests in real and personal property and in the use and occupancy of public buildings.**

- A. Strategic Objective: Inform the public of power densities ( $\mu\text{W}/\text{m}^2$ ) in their environment.
- B. *These three regulatory responses are the Golden Arrow of defeating the grossly excessive power densities of the FCC because it will quickly inform the public of the scale of RFFR power densities and, inferentially their harm---and it's not essential to mention immediately a safety standard per se.*
- C. Regulatory issue #1: Power density disclosure to buyers and lessees of residential real estate.<sup>7</sup>
  - 1. Power density disclosure of  $\mu\text{W}/\text{m}^2$  to buyers and renters by state law
    - a. Meter immediately outside the housing unit. "Outside" means around the outside the walls of the building including only the detached housing unit or around the outside walls of a multistory building containing several housing units all at ground level.
    - b. Meter inside the housing units within three feet of all interior walls during ordinary working hours or evening hours as required by the buyer or lessee. Date, day, and time must be shown on the inspection.
    - c. Estimate spillover RFFR from adjacent housing units. Turn off electricity in target housing unit and turn off all endogenous RFFR-emitting devices. The remainder RFFR is from outdoors + spillover RFFR from an adjacent housing unit. Can estimate spillover RFFR by metering near party wall.
    - d. Measure of harm: Imagine a six-month old baby crawling on the floor with a  $1,000,000 \mu\text{W}/\text{m}^2$  Wi-Fi at the party wall in an adjacent apartment spilling over and frying his or her brain and body with grossly excessive RFFR/EF.
    - e. Satisfies the Wilsonian doctrine of "Open covenants openly arrived at."
- D. Regulatory issue #2: Need power density disclosure and prohibition of RFFR emitting devices in public buildings.
  - 1. "Public buildings" mean all buildings that have unrestricted public access including government buildings, retail stores selling personal property or services, restaurants, exercise facilities, *etc.*
  - 2. The disclosure should be made using a visible, time-dynamic RFFR meter showing power densities in  $\mu\text{W}/\text{m}^2$  with one time-dynamic meter for the lesser of 10,000 square feet of floor area or the actual floor area.
  - 3. Prohibit use of portable wireless devices in public buildings (e.g., government buildings, schools, anyplace there are concentrations of people in an enclosure).

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<sup>7</sup> I am deliberately omitting commercial real estate to simplify this presentation.

- E. Regulatory issue #3: Need power density/*electric field* disclosure to buyers of RFFR-emitting personal property (e.g., cell phones, Wi-Fi, cordless phones, automobiles) at point-of-sale.
1. Electric field within about one inch of the item (near field), if not a moving vehicle
  2. Power densities (i.e.,  $\mu\text{W}/\text{m}^2$ ) within three feet (far field) of the device, if not a moving vehicle.
  3. For autos, meter inside vehicles in an environmentally near-zero geographic area.
- XV. Closing Summary
- A. *"I have provided you with 13 objections of my opposition to 5G/4G SCAs and radio frequency emitting devices in general because of harm to living organisms. They include:*
- *28 illnesses caused by RFFR.*
  - *20 illness perceived by those living near MCPBSs.*
  - *Nine (9) determinants of harm to living organisms such as distance to and power density of emitting devices.*
  - *Imputed harm to high school and college students from RFFR measured by increases in anxiety, depression, and stress leading to increases in suicides.*
  - *Likelihood of species extinction, if 5G SCAs are installed in residential neighborhoods.*
  - *Grossly excessive FCC antennae safety limits based upon research studies and comparison with other countries.*
  - *No FCC power density safety standards for body proximate RFFR-emitting devices.*
  - *Importance of using equitable, not legal standards under FCC Section 704, and ensure the integrity of the NEPA to enforce equitable standards.*
  - *RFFR interference with the Schumann Resonance may cause depression.*
  - *No provision to protect EMH individuals in 5G/4G legislation.*
  - *Prohibit MCPBS within 1000 meters of concentrations of people subject to additional restrictions because of frequency, modulation, and line-of-sight.*
  - *Recommend doctors' report of illnesses caused by RFFR to a state or federal agency (e.g. EMH, damage to brain and neurological systems).*
  - *Inform the public of radiation in their environment, which may be the Golden Arrow to defeat the unconstitutional environmental rules of the FCC.*

*I welcome your questions and criticisms of this material and I thank your Commission for giving me the opportunity to share these ideas with you."*

Attachments: [Furnished USPS September 5, 2019 and electronically June 22, 2020]

Item 1: Letter from Herman Kelting to the secretaries of Health and Human Services and Homeland Security; original letter dated October 3, 2019; revision 1 dated January 8, 2019. Revision 01 added Exhibit N, Affidavit of Susan D. Foster, MSW, before the Federal Communication Commission, FCC 12-152, dated February 2, 2013, describing the injuries of six California firemen from MCPBS on their fire stations emitting 10,000 to 20,000  $\mu\text{W}/\text{m}^2$ . Hard copy provided to the New Hampshire Commission on 09.05.2020 with attachments.

- A. Herman Kelting. *Six Pillar Tips for Healthy Living* August 2018 Edition 26
- B. White House Action Line e-mail dated July 7, 2018.
- C. Herman Kelting. "United States Congressional Research and Legislative Proposals to Educate the American People About the Power Density Safety of Wireless Communications ( $\mu\text{W}/\text{m}^2$ ).” *Indian Journal of Applied Research* 8(1) (January 2018): 263-271.
- D. Daniela Hernandez and Betsy Morris. "Risk of ADHD Grows With Screen Time.” *Wall Street Journal* 07.18.2018, A3.
- E. National College Health Assessment Survey, 2017 p. 14. *[Is it reasonable to infer that RFFR from cell phones, Wi-Fi, MCPBS and other wireless communications caused the increase in depression and contemplation of suicide?]*
- F. RFFR Suicide Data *[Is it reasonable to infer that RFFR from cell phones, Wi-Fi, MCPBS and other wireless communications caused the increase in suicides?]*
- G. Douglas Belkin. "Colleges Give The Disabled More Leeway.” *Wall Street Journal* 05.25.2018, A3. *[Is it reasonable to infer that RFFR from cell phones, Wi-Fi, MCPBS and other wireless communications caused the increase in mentally disabled college students?]*
- H. Douglas Belkin and Tawnell Hobbs. "More K-12 Students Get Special Help.” *Wall Street Journal*. 07.05.2018, A4. *[Is it reasonable to infer that RFFR from cell phones, Wi-Fi, MCPBS and other wireless communications caused the increase in mentally disabled high school students?]*
- I. Herman Kelting. "Recommendations to Prevent and Treat Traumatic Stress Disorder for Military Personnel.” *Indian Journal of Applied Research* 6(9) (September 2016):510-518.
- J. Herman Kelting. "On Physician Burnout.” *Stanford Magazine*, Online Letters to the Editor July 2018.
- K. Devra Davis. "Can Your Cell Phone Really Cause Cancer?” *Bottom Line Yearbook* 2018, p. 12-14.

**L. “Yin Yang.”**

M. Resume Herman Kelting PhD.

N. Affidavit of Susan D. Foster, MSW, before the Federal Communication Commission, FCC 12-152, dated February 2, 2013. [Sent to New Hampshire on 06.22.2020]

Item 2: E-mail from Laura Atwell, Director of Operations, FCC, dated April 26, 2019. This e-mail provides evidence of FCC antenna RFFR safety standards of 6,000,000 to 10,000,000  $\mu\text{W}/\text{m}^2$ . (Frequency range of 1,500 (1.5 GHz) to 100,000 (100 GHz) MHz power density of 1.0  $\text{mW}/\text{cm}^2$  translates to 10,000,000  $\mu\text{W}/\text{m}^2$  ( $1.0 \text{ mW}/\text{cm}^2 \times 1,000 \mu/\text{m} \times 10,000 \text{ cm}^2/\text{m}^2 = 10,000,000 \mu\text{W}/\text{m}^2$ ). Hard copy provided to the New Hampshire Commission on 09.05.2020.

Item 3. Letter from Herman Kelting to Nevada Governor Steve Sisolac, Nevada Senator Nicole Cannizzaro, and Nevada Assemblywoman Shay Backus dated August 29, 2019 (Revision 02). The original letter dated May 8, 2019 was sent to Nevada Senator Nicole Cannizzaro. Revision 01 dated June 17, 2019 was sent to the same elected officials as Revision 02 and added Exhibit N, Affidavit of Susan D. Foster, MSW, before the Federal Communication Commission, FCC 12-152, dated February 2, 2013, describing the injuries of six California firemen from MCPBS on their fire stations emitting 10,000 to 20,000  $\mu\text{W}/\text{m}^2$ . Revision 02 adds a description of the operation of 5G/4G small cell antennas, describes injuries from 5G antennas in combination with 4G injuries described throughout this letter and its attachments, proposes adding Fiber to the Premises rather than 5G/4G SCA emissions within a few feet of homes, notes that RFFR meters for broadcasting frequencies from 20 to 100 GHz are very expensive, and that there is no public information currently available that gives the power densities emitted by 5G/4G SCA. Hard copy provided to the New Hampshire Commission on 09.05.2020.

Item 4: Letter from Herman Kelting to Mayor Katrina Foley, Costa Mesa, CA. dated January 24, 2020 opposing 5G enabling act. Electronic copy provided to the New Hampshire Commission on 06.22.2020.

Item 5: Albanese, R, Blaschak, J, Medina, R, Penn, J. “Ultrashort Electromagnetic Signals: Biophysical Questions, Safety issues, and Medical Opportunities.” *Aviation, Space, and Environmental Medicine*. May 1994: A116-A120.; see also OMB No. 0704-0188 94-24875 AD-A282 990 dated Jan 90-Aug 93. Electronic copy provided to the New Hampshire Commission on 06.22.2020.

Item 6: Guidelines to Prevent and Treat Covid-19, June 22, 2020 with a discussion on injury to the immune system from RFFR. Electronic copy provided to the New Hampshire Commission on 06.22.2020.

