

Consolidated Case Nos. 20-1025 (Lead); 20-1138 (Consolidated)

**In the UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF  
COLUMBIA CIRCUIT**

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ENVIRONMENTAL HEALTH TRUST; CONSUMERS FOR SAFE CELL  
PHONES; ELIZABETH BARRIS; THEODORA SCARATO

CHILDREN'S HEALTH DEFENSE; MICHELE HERTZ; PETRA BROKKEN;  
DR. DAVID O. CARPENTER; DR. PAUL DART; DR. TORIL H. JELTER; DR.  
ANN LEE; VIRGINIA FARVER, JENNIFER BARAN; PAUL STANLEY, M.Ed.

*Petitioners*

v.

FEDERAL COMMUNICATIONS COMMISSION; UNITED STATES OF  
AMERICA

*Respondents*

In the UNITED STATES COURT OF APPEALS for the DISTRICT OF  
COLUMBIA

On Petition for Review of Order of the  
Federal Communications Commission

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**AMICUS BRIEF OF DAN AND CATHERINE KLEIBER  
AS AMICUS CURIAE IN  
SUPPORT OF PETITIONERS ENVIRONMENTAL HEALTH TRUST AND  
CHILDREN'S HEALTH DEFENSE**

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## **GLOSSARY**

ADA - Americans with Disabilities Act

CDC - Centers for Disease Control

COI - Conflict of Interest

Dodge - Refers to a review of Soviet and Eastern European RF/MW literature which discusses radiofrequency/microwave sickness written in 1969 by Christopher Dodge, a U.S. Naval Observatory employee, and submitted into the docket.

EIS - Environmental Impact Statement

EMF - Electromagnetic field

EPA - Environmental Protection Agency

EUROPAEM - European Academy for Environmental Medicine

FCC - Federal Communications Commission

FDA - Food and Drug Administration

FONSI - Finding of No Significant Impact

H.R. Report - H.R. Report No. 104-204, p. 94

ICNIRP - International Commission on Non-Ionizing Radiation Protection

IGNIR - International Guidelines on Non-Ionising Radiation

NEPA - National Environmental Policy Act 1969

RF/MW - Radiofrequency/microwave

TCA - The 1996 Telecommunications Act

WI PSC - Wisconsin Public Service Commission

WHO - World Health Organization

## INTEREST OF THE AMICUS CURIAE

Dan and Catherine Kleiber and their children have been injured by the outdated thermally-based radiofrequency/microwave (RF/MW) exposure guidelines adopted by the Federal Communications Commission (FCC) despite the fact that they have consistently avoided use of wireless technology. The Kleibers have been harmed by **involuntary ambient RF/MW exposures** resulting from the FCC's refusal to enact biologically-based population protective RF/MW radiation exposure safety standards for all RF/MW exposures. Their ability to earn a living has been impaired and their inability to safely tolerate second-hand and ambient RF/MW exposures allowable under the outdated FCC guidelines has directly resulted in social isolation and emotional hardship. Furthermore, device compliance with FCC RF/MW guidelines has been cited by the Wisconsin Public Service Commission (WI PSC) as the reason for denying their family legally mandated Americans with Disabilities Act (ADA) accommodation under the ADA Amendments Act of 2008.<sup>1</sup>

The Kleibers have experienced serious biological effects consistent with RF/MW sickness as discussed in Dodge [a review of Soviet and Eastern European RF/MW literature written in 1969 by Christopher Dodge, a U.S. Naval Observatory

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<sup>1</sup> *ADA Amendments Act of 2008*. <http://www.govtrack.us/congress/bills/110/s3406/text>

employee, and submitted into the docket<sup>2</sup>], including cardiac arrhythmias, serious neurological and cognitive effects, nutrient depletion, electrolyte imbalances, endocrine disruption, nose bleeds and bruising, elevated reticulocyte counts consistent with hemolysis caused by oxidative damage, and pain and inflammation as a direct result of RF/MW exposures that have occurred because "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."<sup>3</sup>

## **INTRODUCTION AND SUMMARY OF ARGUMENT**

Amicus addresses the Court in support of the petition for review by EHT et al. and CHD et al. regarding the inadequacy of the FCC RF/MW guidelines to safeguard public health or the environment, as the rules are stated in FCC Order 19-126.<sup>4</sup>

FCC Order 19-126 deprives the Petitioners, Amicus, and other commentators of their rights to safety, health, employment, social participation and is NOT supported by the information provided in the majority of the comments filed in the docket. Those comments contain a significant body of published peer-reviewed

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<sup>2</sup> Comments for ET Docket Nos. 013-84, 03-137, Dodge, <https://ecfsapi.fcc.gov/file/7022311719.pdf> (Exhibit A).

<sup>3</sup> Comments for ET Docket Nos. 013-84, 03-137, DOI [https://ecfsapi.fcc.gov/file/1001669617135/us\\_doi\\_comments.pdf](https://ecfsapi.fcc.gov/file/1001669617135/us_doi_comments.pdf)

<sup>4</sup> FCC Order 19-126 <https://docs.fcc.gov/public/attachments/FCC-19-126A1.pdf>

scientific research showing detrimental biological effects at levels far below current FCC RF/MW guidelines, along with requests for the FCC to adopt the exposure standards recommended in the BioInitiative Report, written by highly qualified professionals.

“The BioInitiative 2012 Report has been prepared by 29 authors from ten countries\*, ten holding medical degrees (MDs), 21 PhDs, and three MsC, MA or MPHs. Among the authors are three former presidents of the Bioelectromagnetics Society, and five full members of BEMS. One distinguished author is the Chair of the Russian National Committee on Non-Ionizing Radiation. Another is a Senior Advisor to the European Environmental Agency.”(p.6, 2012 BioInitiative Report, [www.BioInitiative.org](http://www.BioInitiative.org))

Numerous commentators were individuals who had already been injured and had their lives altered or destroyed by the effects of RF/MW exposures that occurred despite existing FCC RF/MW guidelines, which is unsurprising since their injuries are the result of biological effects while the guidelines are thermally-based. Their testimonies provide the heart-breaking basis demonstrating the need for revision of FCC RF/MW guidelines. Such injuries to unsuspecting individuals will continue unless the Court steps in and orders the FCC to establish biologically-based RF/MW safety standards to protect public health and the environment and to tap other federal agencies for assistance as necessary since FCC readily admits it is not a public health or environmental agency.

The Telecommunications Act of 1996 (TCA) instructs the FCC “to prescribe and make effective rules regarding the environmental effects of radio frequency

emissions.”<sup>5</sup>, H.R. Report No. 104-204, p. 94-95 (H.R. Report)<sup>6</sup> which said it was “in the national interest that uniform, consistent requirements, with adequate safeguards of the public health and safety, be established as soon as possible” and “Commission rulemaking on this issue (ET Docket 93-62) should contain adequate, appropriate and necessary levels of protection to the public, and needs to be completed expeditiously” and The National Environmental Policy Act of 1969<sup>7</sup> (NEPA) requires the FCC to enact RF/MW safety standards that protect public health and the environment. It is clear from the aforementioned quotes that Congress had been assured that civilian wireless service could be provided while safeguarding public health and the environment. It is equally clear from the evidence in the docket that there is now no doubt that RF/MW radiation has negative biological effects at levels far below current FCC guidelines and both the environment and a growing percentage of Americans are being asked to make serious sacrifices in health and quality of life, so that wireless technology companies can reap huge profits. The quotes from H.R. Report demonstrate that Congress never intended that to happen.

The Amicus respectfully submits this brief to demonstrate the necessity of

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<sup>5</sup> Telecommunications Act of 1996, Sec. 704(b) Radio Frequency Emissions  
<https://transition.fcc.gov/Reports/tcom1996.pdf>

<sup>6</sup> H.R. Report No. 104-204, p. 94-95 <https://www.congress.gov/104/crpt/hrpt204/CRPT-104hrpt204-pt1.pdf>

<sup>7</sup> National Environmental Policy Act (NEPA) 42 U.S.C. §4331, 4332 et seq.

updating the existing outdated thermally-based FCC RF/MW exposure guidelines to biologically-based RF/MW exposure safety standards that protect the public and the environment.

Given the negative effect that FCC Order 19-126 would have on public health, the environment, and individuals' ability to conduct their lives, it is of the utmost importance that the Court vacate the order and require the FCC to update their RF/MW exposure guidelines to protect the public and the environment from biological effects during chronic ambient RF/MW exposures occurring ubiquitously as a result of wireless technology.

## **ARGUMENT**

### **I. The FCC Cannot Comply With The National Environmental Policy Act While Refusing To Enact Biologically-based RF/MW Safety Standards.**

NEPA requires that FCC “assure for all Americans safe, healthful ... surroundings” 42 U.S.C. §§ 4331. In its recent decision, the FCC refused to adopt the BioInitiative Group’s recommended biologically-based population-protective standards stating “No device could reliably transmit any usable level of energy by today’s technological standards while meeting those limits.”(p.8 FCC Order 19-126) This is akin to refusing to adopt biologically protective standards for lead in drinking water because it would prevent the use of lead service pipes. As with lead pipes, there are viable alternatives. Fiber optic internet is faster, more secure,



more energy efficient, and has far greater capacity than wireless does.<sup>8</sup>

The FCC claims that it made this decision because “there is no scientific evidence in the record that such restrictive limits would produce any tangible benefit to human health, or provide any improvement over current protections against established risks.” (FCC Order 19-126 p.8) This is demonstrably false.

The Petitioners discuss the scientific evidence contained in the Docket at length<sup>9</sup>.

Of particular note are studies showing harm from ambient or nearby second-hand RF/MW exposures. These exposures are virtually unavoidable since wireless technology has become ubiquitous in society. Effects include: endocrine

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<sup>8</sup> **Re-Inventing Wires: The Future of Landlines and Networks** by Timothy Schoechle, PhD Senior Research Fellow National Institute for Science, Law and Public Policy <http://electromagnetichealth.org/wp-content/uploads/2018/02/Reinventing-Wires-1-25-18.pdf>

<sup>9</sup> *EHT et al. and CHD et al. v. U.S. Federal Communications Commission*, Petition for Review of Order Issued by the Federal Communications Commission, **Petitioner’s Joint Opening Brief**, p. 16-27

disruption<sup>10</sup>, cancer<sup>11</sup>, cardiac arrhythmia<sup>12</sup>, and numerous other health impacts<sup>13</sup>.

Exhibit B contains excerpts from some of the numerous comments containing accounts of harm experienced as a result of RF/MW exposures allowed by the outdated FCC guidelines and improvements in health experienced when RF/MW exposures were reduced. Furthermore, a number of studies were submitted that

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<sup>10</sup> “How does long term exposure to base stations and mobile phones affect human hormone profiles?” <https://ecfsapi.fcc.gov/file/7520941843.pdf>

“Changes of Clinically Important Neurotransmitters under the Influence of Modulated RF Fields A Long-term Study under Real-life Conditions” <https://ecfsapi.fcc.gov/file/7520940778.pdf>

<sup>11</sup> “The Influence of Being Physically Near to a Cell Phone Transmission Mast on the Incidence of Cancer” <https://ecfsapi.fcc.gov/file/7520958393.pdf>

<sup>12</sup> Provocation study using heart rate variability shows microwave radiation from DECT phone affects autonomic nervous system. <https://ecfsapi.fcc.gov/file/7520940834.pdf>

Replication of Heart Rate Variability Provocation Study with 2.4 GHz Cordless Phone Confirms Original Findings, cited in (<https://ecfsapi.fcc.gov/file/1001669617135/WirelessViolatesHumanRights2016.pdf>)

Radiation from wireless technology affects the blood, the heart, and the autonomic nervous system <http://apps.fcc.gov/ecfs/document/view?id=7520958029>

<sup>13</sup> S Sivani, D Sudarsanam, *Impacts of radio-frequency electromagnetic field (RF-EMF) from cell phone towers and wireless devices on biosystem and ecosystem – a review* Biology and Medicine, 4 (4): 202–216, 2012 <https://ecfsapi.fcc.gov/file/7520940779.pdf>

CRITICISM OF THE HEALTH ASSESSMENT IN THE ICNIRP GUIDELINES FOR RADIOFREQUENCY AND MICROWAVE RADIATION (100 kHz - 300 GHz) Dr Neil Cherry <https://ecfsapi.fcc.gov/file/7520958388.pdf>

found detrimental effects on pollinators<sup>14</sup>, wildlife<sup>15</sup> and trees<sup>16</sup> from permitted ambient RF/MW exposures. The FCC did not respond to these comments. Thus, the FCC decision not to adopt biologically-based population- and environmentally-protective safety standards is arbitrary and capricious, an abuse of discretion, and not in accordance with the law.

## **II. Any NEPA Process Must Involve A Programmatic Environmental Impact Statement Comparing The Energy Use, Public Health Impacts, and Environmental Effect of Wired Communication Versus Wireless Communication**

Wireless communication is not the only possible communication method, yet the FCC has promoted it over other safer, higher speed, more secure, and more energy efficient options, including fiber optic. The presence of choices and potentially serious human health and environmental impacts obligated the FCC to conduct a

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<sup>14</sup> Report on Possible Impacts of Communication Towers on Wildlife Including Birds and Bees commissioned by the Ministry of Environment and Forest, Government of India <https://ecfsapi.fcc.gov/file/7022311565.pdf>

<sup>15</sup> Electromagnetic pollution from phone masts. Effects on wildlife <https://ecfsapi.fcc.gov/file/7520940774.pdf>

<sup>16</sup> Radiofrequency radiation injures trees around mobile phone base stations <https://ecfsapi.fcc.gov/file/1001669617135/RF-Radiation%20injures%20trees%202016.pdf>

Adverse Influence of Radio Frequency Background on Trembling Aspen Seedlings: Preliminary Observations <https://ecfsapi.fcc.gov/file/7520940764.pdf>  
Tree damage in the vicinity of mobile phone base stations <https://ecfsapi.fcc.gov/file/1001669617135/Tree-damages-in-the-vicinity-of-mobile-phone-base-stations.pdf>

The trees make it easy to recognize the effects of RF-EMF. Examples of tree damage: <https://ecfsapi.fcc.gov/file/1001669617135/Trees-in-Bamberg-and-Hallstadt-Documentation-2006-2016.pdf>

comprehensive NEPA review [*Env'tl. Def. Fund v. Tenn. Valley Auth.*, 468 F.2d 1164, 1174 (6th Cir. 1972)] and, specifically, a formal Environmental Impact Statement (EIS). NEPA obligations do not just stem from the environmental and human health hazard posed by RF/MW emitted by wireless technology.

WIRELESS communication also consumes much more energy than WIRED communication to transmit the same amount of data. A fact that the FCC was made aware of in the docket, along with its implications:

“Contrary to industry representations, **wireless technology is neither a sustainable nor environmentally-friendly technology** because wireless connectivity uses far more energy than wired connectivity. According to *Energy Consumption in Wired and Wireless Access Networks*, “**Wireless technologies will continue to consume at least 10 times more power than wired technologies** when providing comparable access rates and traffic volumes. PON [passive optical networks] will continue to be the most energy-efficient access technology.” ([http:// people.eng.unimelb.edu.au/rtucker/publications/files/energy-wired-wireless.pdf](http://people.eng.unimelb.edu.au/rtucker/publications/files/energy-wired-wireless.pdf)). A paper looking at the energy consumption of cloud computing states, “**Our energy calculations show that by 2015, wireless cloud will consume up to 43 TWh**, compared to only 9.2 TWh in 2012, an increase of 460%. This is an increase in carbon footprint from 6 megatonnes of CO<sub>2</sub> in 2012 to up to 30 megatonnes of CO<sub>2</sub> in 2015, **the equivalent of adding 4.9 million cars to the roads**. Up to **90% of this consumption is attributable to wireless access network technologies**, data centres account for only 9%.” (<http://www.ceet.unimelb.edu.au/publications/ceet-white-paper-wireless-cloud.pdf>)”<sup>17</sup>

Thus, the FCC is obligated to prepare an EIS due to both the differing environmental and public health impacts engendered by the choice between

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<sup>17</sup> <https://ecfsapi.fcc.gov/file/10206223777000/FCC5GCathFeb2017.pdf> Exhibit C

keeping RF/MW limits the same v.s. lowering them and the vastly disparate energy footprint of wired vs. wireless technologies and the implications for the future survival of the human race.

**III. Compliance With FCC RF/MW Exposure Guidelines Is Used To Justify Denial of ADA Accommodation, Thus FCC RF/MW Exposure Guidelines Must Be Updated To Protect ALL Individuals During ALL Legal Exposures.**

As we testified in Docket 13-84<sup>18</sup>, our request that the electric utility accommodate us by allowing us to keep our analog utility meter as required by Title III of the 2008 ADA Amendments was denied. The 2008 ADA Amendments seek to provide “‘a clear and comprehensive national mandate for the elimination of discrimination’ and ‘clear, strong, consistent, enforceable standards addressing discrimination’ by reinstating a broad scope of protection to be available under the ADA”<sup>19</sup>. Then, WI PSC refused to intervene as required by Title II of the 2008 ADA Amendments because the transmitting meter complied with FCC RF/MW guidelines<sup>20</sup>. This occurred despite the fact that the 2008 ADA Amendments clearly covered a case like ours:

***“SEC. 3. DEFINITION OF DISABILITY.***

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<sup>18</sup> Catherine (<https://ecfsapi.fcc.gov/file/7520941883.pdf>) and Dan (<https://ecfsapi.fcc.gov/file/7022311569.pdf>)

<sup>19</sup> 2008 ADA Amendments were submitted to Docket 13-84 in full <https://ecfsapi.fcc.gov/file/7520940920.pdf>)

<sup>20</sup> WI PSC denies ADA Accommodation <https://ecfsapi.fcc.gov/file/7520941885.pdf>

*As used in this Act:*

1) *DISABILITY*.—The term “disability” means, with respect to an individual—

(A) a **physical** or mental impairment that substantially limits one or more major life activities of such individual; ...

(3) *MAJOR LIFE ACTIVITIES*.—

(A) *IN GENERAL*.—For purposes of paragraph (1), major life activities include, but are not limited to, caring for oneself, performing manual tasks, seeing, hearing, eating, sleeping, walking, standing, lifting, bending, speaking, breathing, learning, reading, concentrating, thinking, communicating and working.

(B) *MAJOR BODILY FUNCTIONS*.—For purposes of paragraph (1), a major life activity also includes the operation of a major bodily function, including but not limited to, functions of the immune system, normal cell growth, digestive, bowel, bladder, neurological, brain, respiratory, circulatory, endocrine, and reproductive functions.”

Charyl Zefus documented similar denials of ADA Accommodation for herself and others in Wisconsin in the docket<sup>21</sup>. The docket contains numerous accounts of people being forced from their homes by transmitting or “smart” utility meters. So, even individual ADA accommodations that should be available to all Americans with disabilities are being denied due to compliance with FCC guidelines. Thus, **ALL** FCC RF/MW guidelines must protect **ALL** Americans from experiencing adverse effects during **ALL** possible legal exposures or the FCC is not fulfilling its legal obligations under TCA, NEPA or the H.R. Report.

At the time our utility first told us that they were installing transmitting

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<sup>21</sup> Comments for ET Docket Nos. 013-84, 03-137, Charyl Zehfus, <https://www.fcc.gov/ecfs/filing/6017339269>

electrical meters, Catherine already had RF/MW sickness due to the FCC's inadequate RF/MW limits for Incidental and Unintentional emitters and for conducted emissions that result in "dirty" electricity. We immediately began the process of seeking ADA accommodation. After installation of the transmitting utility meters on surrounding homes, it became clear that despite not having any transmitting utility meters ourselves, we were still experiencing detrimental health effects related to the increased ambient radiation levels and especially due to RF/MW frequencies conducting into our building site and home on the electrical wiring.

Soon after installation of transmitting utility meters in our area, our sons developed sinus arrhythmias which were documented on Holter monitor studies. Sinus arrhythmias are discussed in Dodge as being an expected result of overexposure to RF/MW. This was a terrifying time, discussed p.9-10 of Catherine's testimony<sup>22</sup>

"We had been forced to sleep in a tent a half mile from our home site (and at least that from other electrical services) from the end of July through October 13, 2011 - the start of early deer hunting season - in order to stabilize our sons' cardiac health."

"Both sons were affected, although our younger son was affected more severely. After initial tachycardia incidents which we became aware of in the fall of 2010, they moved on to irregular heartbeat and heart rate which finally

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<sup>22</sup> Comments for ET Docket Nos. 013-84, 03-137, Catherine (<https://ecfsapi.fcc.gov/file/7520941883.pdf>)



got quite slow and irregular, particularly during sleep. Additionally, Holter monitoring found that both boys had sinus arrhythmia. This is consistent with the descriptions of stages one and two of radiofrequency sickness in Dodge (attached). On a Holter monitor, our younger son only had a high of 242 bradycardia incidents hourly at the tent versus 1637 hourly at home. Our older son had a high of 165 bradycardia incidents hourly at home with no comparable due to a mistake on the part of the hospital. Our younger son's heart rate got so slow one night when we were forced by broken tent poles to sleep at home that he lost bladder control, wetting only his underwear [a wet spot about the size of a quarter] because the volume of urine was so small. When I went to him in response to his call, he was agitated and upset, but his heart rate was very slow and the beats were weak and irregular. This continued for a couple of hours. We did not sleep in the house again after that until after the secondary lines were removed. [We were forced to go off-grid to eliminate this exposure.]”

We both made the FCC aware of these effects and provided research supporting the connection we had made<sup>23</sup>. We have been unable to spend any substantial amount of time in on-grid buildings or local towns since the installation of transmitting utility meters in the area. All of the health effects we are attributing to RF/MW exposure have improved when we have been able to lower RF/MW exposures and worsened when exposures increased. As discussed earlier, the health effects are also documented in the scientific literature in the docket as resulting from RF/MW exposures. In short, we also challenge the current FCC RF/MW exposure guidelines because we (and numerous others, see Exhibit B) “have suffered an ‘injury in fact’ that is concrete and particularized; is actual or

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<sup>23</sup> Comments for ET Docket Nos. 013-84, 03-137, Dan (<https://www.fcc.gov/ecfs/filing/6017339211>) and Catherine (<https://www.fcc.gov/ecfs/filing/6017465939>) Exhibit D



imminent; is traceable to wireless exposure; and it is likely that this injury will be redressed by lower exposure guidelines”<sup>24</sup> (No. 09-5761 Heartwood, Inc., et al. v. Agpaoa, et al.)<sup>25</sup>.

#### **IV. Reduction of RF/MW Exposure By Individuals Helpful, But Difficult And Expensive**

Contrary to claims by the FCC that “there is no evidence to support that adverse health effects in humans are caused by exposures at, under, or even in some cases above, the current RF limits.”(p.8 FCC Order 19-126), numerous comments, including ours, discuss health benefits occurring after reducing RF/MW exposures (Exhibit B) and often refer to the costliness and difficulty of doing so individually. Since the FCC RF/MW guidelines are thermally-based, they allow second-hand and ambient RF/MW exposures that are far higher than those that can cause serious biological effects. Martin L. Pall, PhD, Professor Emeritus of Biochemistry and Basic Medical Sciences, Washington State University states in the docket:

“The forces on the voltage sensor are calculated to be about 7.2 million times higher than are the forces on singly charged chemical groups [predominant mechanism for thermal effects] in the aqueous phase of the cell. This very high level sensitivity also predicts that the safety guidelines allow us to be exposed to EMF [electromagnetic field] intensities that are approximately 7.2 million times too high.” (<https://www.fcc.gov/ecfs/filing/109270263626314>)

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<sup>24</sup> Comments for ET Docket Nos. 013-84, 03-137, Garril Page <https://ecfsapi.fcc.gov/file/7520940483.pdf>

<sup>25</sup> <http://www.ca6.uscourts.gov/opinions.pdf/10a0374p-06.pdf>

The voltage sensor Dr. Pall discusses is present in voltage-gated ion channels throughout the body. Proper function of these channels is essential for good health. Dr. Pall hypothesizes, based on the evidence, that inappropriate voltage-gated ion channel activation causes many of the adverse health effects and symptoms associated with RF/MW sickness<sup>26</sup>.

RF/MW exposure is well-documented to cause oxidation which is biologically active as part of the signaling system in the body and can thus disrupt communication and cause damage - leading to a variety of downstream effects including nutrient depletion, hemolysis, and pain and inflammation<sup>27</sup>. Dodge discusses the progressively worsening nature of RF/MW sickness with continued exposure.

We had “three heavenly weeks” after going off-grid to escape the conducted then radiated RF/MW that utility wiring had brought into our homesite from transmitting electrical meters, then 4G was installed in our area and all our

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<sup>26</sup> Pall ML. Microwave frequency electromagnetic fields (EMFs) produce widespread neuropsychiatric effects including depression. J Chemical Neuroanatomy. 2015.

<https://ecfsapi.fcc.gov/file/1001669617135/PallNeuropsychiatric2015.pdf>

<sup>27</sup> Yakymenko et al. Oxidative mechanisms of biological activity of low-intensity radiofrequency radiation. Electromagnetic Biology and Medicine. 2015.

<https://ecfsapi.fcc.gov/file/1001669617135/Yakymenko-et-al-2015.pdf>

Bennett and Plum, Cecil Textbook of Medicine 20th Edition, p. 856-859, 1144-1151, et al..

symptoms came roaring back. At the time we filed our comment, it had cost us over \$85,000 to protect our family first from transmitting utility meters and then from 4G. Costs continue to mount as we install additional shielding and mitigate exposure from passive intermodulation (discussed below) in order to protect our health.

## **V. Evidence Suggests FCC Is Causing A Public Health Disaster - The Centers for Disease Control and Prevention Must Be Asked And Funded To Investigate**

As noted in Dan's testimony to the FCC, reducing ambient RF/MW exposure has directly and measurably improved Dan's blood sugar control and made his blood sugars more consistent, reducing his basal insulin needs by about 16% in a little over a month.<sup>28</sup> Similar improvements occurred on multiple occasions. The exacerbating effect involuntary RF/MW exposure has on Dan's Type 1 diabetes has a direct and deleterious effect on his potential lifespan and healthspan since poor blood sugar control leads directly to serious detrimental outcomes - neuropathy, retinopathy, and kidney failure. The increased blood sugar volatility he experiences as a result of RF/MW exposure can lead directly to life threatening hypoglycemia. Dan's experience has immediate implications for public health which Dan stated clearly in his comment. Another comment mentions similar

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<sup>28</sup> Comments for ET Docket Nos. 013-84, 03-137, Dan <https://ecfsapi.fcc.gov/file/7022311569.pdf>

blood sugar effects - “A young boy with juvenile diabetes, which had been completely under control, had his numbers spike into the danger zone. ALL OF THIS HAPPENED DIRECTLY AFTER SMART METERS WERE INSTALLED.”<sup>29</sup>

The 1965 decision in the case of *Scenic Hudson v. Federal Power Commission* states, “If an agency charged with the public interest is properly to discharge its duty, the record on which it bases its determination must be complete. The petitioners and the public at large have a right to demand this completeness.”<sup>30</sup> Thus, the serious public health implications obligated the FCC to seek the CDC’s involvement in evaluating public health related information in the docket, including the possibility that RF/MW exposure is causally related to the increasing incidences of both Type 1 and Type 2 diabetes, inflammatory diseases, autism, amyotrophic lateral sclerosis (ALS), and chronic fatigue syndrome.

Autism has increased from 1 in 150 children in 2000 to 1 in 54 children in 2016

<sup>31</sup> and a comment by Cindy Sage, Dr. Lennart Hardell, and Dr. Martha Herbert notes that clinical findings related to autism spectrum disorders and their

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<sup>29</sup> Comments for ET Docket Nos. 013-84, 03-137, Cynthia Edwards <https://ecfsapi.fcc.gov/file/7022311409.pdf>

<sup>30</sup> 354 F.2d 608 *Scenic Hudson Preservation Conference v. Federal Power Commission* (Scenic Hudson 2nd Cir, 1965)

<sup>31</sup> Data & Statistics on Autism Spectrum Disorder <https://www.cdc.gov/ncbddd/autism/data.html>

symptoms appear to be essentially identical to those caused by RF/MW exposure.<sup>32</sup>

In a 2016 comment<sup>33</sup>, Dan makes the connection between ALS-like symptoms and being in high RF/MW environments and further cited a paper from the CDC website linking ALS to oxidative damage (from smoking), electromagnetic field (EMF) exposure (which could encompass RF/MW exposure), and military service which almost certainly involves high levels of RF/MW exposure. The paper states, “Any factor that favors a pro-oxidative state could contribute to oxidative stress, and there are many indicators that oxidative stress is one of the central pathways in motor neuron disease.”<sup>34</sup> As discussed previously, RF/MW is a well-established oxidative agent.

**Scientific American** suggests an environmental cause for increasing type 1 diabetes rates, reporting that the 2006 DIAMOND survey by the World Health Organization (WHO) “which looked at 10 years of records from 112 diabetes research centers in 57 countries, found that type 1 had risen an average of 5.3 percent a year in North America, 4 percent in Asia and 3.2 percent in Europe” and

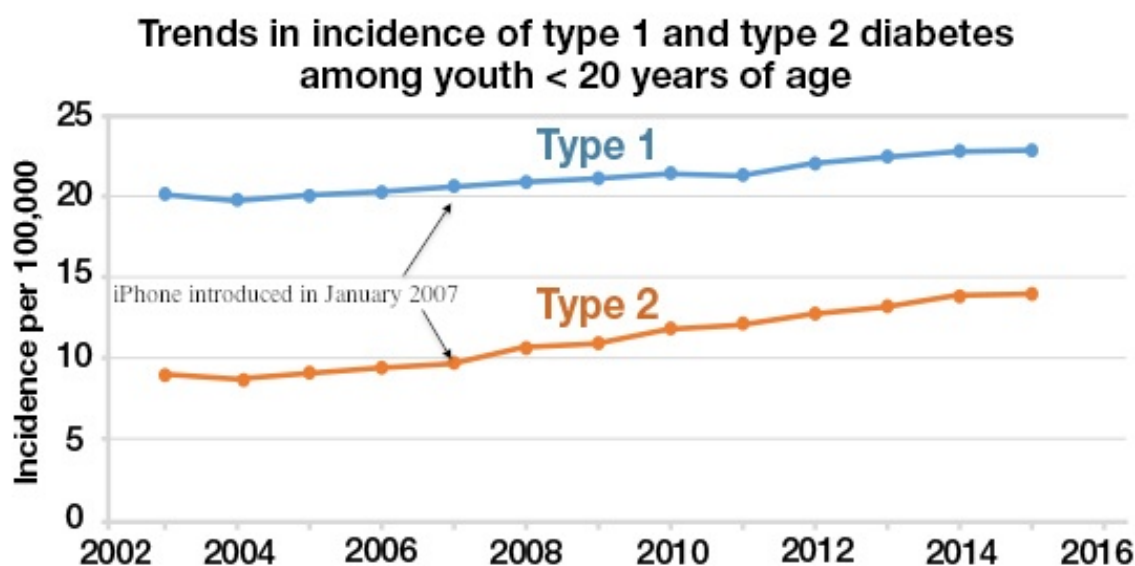
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<sup>32</sup> Sage, Hardell, and Herbert comment contains scientific findings showing RF/MW exposure is a public health threat <https://ecfsapi.fcc.gov/file/7520940054.pdf>

<sup>33</sup> Comments for ET Docket Nos. 013-84, 03-137, Dan <https://www.fcc.gov/ecfs/filing/10011773529766>

<sup>34</sup> Potential Environmental Factors in Amyotrophic Lateral Sclerosis <https://ecfsapi.fcc.gov/file/10011773529766/Neurology%20Clinical%20ALS%20Risk%20Factors%202015.pdf>

2009 EURODIAB survey which “compared diabetes incidence across 17 countries and found not only that type 1 was rising—by 3.9 percent a year on average—but also that it was increasing most quickly among children younger than five.”<sup>35</sup> The first iPhone was introduced in 2007.<sup>36</sup> Parents quickly began using iPhones as babysitting crutches, so children began using them almost immediately. The change in childhood diabetes rates<sup>37</sup> that followed the introduction of the iPhone strongly suggests a connection that the CDC should be investigating.



One study discussed in Dodge found that 75% percent of individuals working in RF/MW fields were prediabetic. The FCC refusal to adopt biologically-based

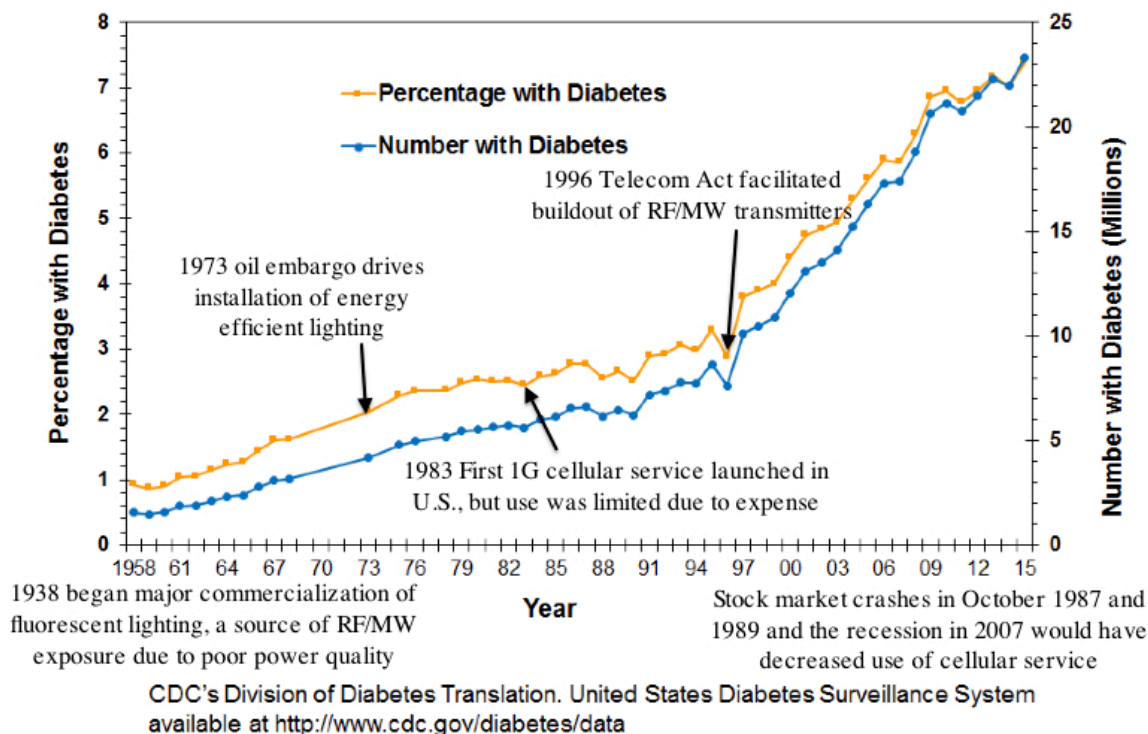
<sup>35</sup> M McKenna, Diabetes Mystery: Why Are Type 1 Cases Surging? Scientific American, February 1, 2012

<sup>36</sup> <https://www.apple.com/newsroom/2007/01/09Apple-Reinvents-the-Phone-with-iPhone/>

<sup>37</sup> <https://www.cdc.gov/diabetes/research/reports/children-diabetes-rates-rise.html>

population-protective RF/MW safety standards is forcing all Americans to live and work in biologically-active RF/MW fields. In the graph<sup>38</sup> annotated below, note

### Number and Percentage of U.S. Population with Diagnosed Diabetes, 1958-2015



that diabetes rates start increasing steeply in 1997 almost immediately after the 1996 Telecommunications Act allowed cellular antenna buildout to proceed unimpeded by local health concerns and therefore dramatically increased the number of Americans living and working in RF/MW fields. Coupled with the known mechanisms by which RF exposure could cause or exacerbate diabetes

<sup>38</sup> [https://www.cdc.gov/diabetes/statistics/slides/long\\_term\\_trends.pdf](https://www.cdc.gov/diabetes/statistics/slides/long_term_trends.pdf)

discussed in papers in the docket (e.g. oxidative and  $\text{Ca}^{2+}$  channels effects - which can cause and exacerbate inflammation - and direct metabolic effects), this is damning evidence that RF/MW exposure may be causing the dramatic increase in diabetes rates. “*Radiation from wireless technology elevates blood glucose and body temperature in 40-year-old type 1 diabetic male*”<sup>39</sup> is a case study that provides evidence that reducing RF/MW exposures improves blood sugar control, supporting the need for the CDC to investigate this connection. “The total direct and indirect estimated costs of diagnosed diabetes in the United States in 2017 was \$327 billion.”<sup>40</sup>

## **VI. FCC Is Violating Americans With Disabilities Act By Refusing To Enact Biologically-based RF/MW Safety Standards.**

The purpose of “*the ‘ADA Amendments Act of 2008,’ is to restore the intention and protections of the Americans with Disabilities Act of 1990, providing a clear and comprehensive national mandate for the elimination of discrimination on the basis of disability.*” and guarantee access to society, including medical care, education, entertainment, etc. Because the FCC has refused to adopt biologically-based population-protective RF/MW safety limits, millions of individuals with RF/MW

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<sup>39</sup> Kleiber C (2017) Radiation from wireless technology elevates blood glucose and body temperature in 40-year-old type 1 diabetic male, *Electromagnetic Biology and Medicine*. Issue 3. <http://dx.doi.org/10.1080/15368378.2017.1323762>  
Exhibit E

<sup>40</sup> <https://www.cdc.gov/diabetes/pdfs/data/statistics/national-diabetes-statistics-report.pdf>



sickness (prevalence is estimated at 1.5-29.3%, depending on timeframe, location, and degree of effect with prevalence increasing as RF/MW exposures become more common)<sup>41</sup> are being denied safe access to society in violation of the ADA due to biologically-active second-hand and ambient RF/MW exposures allowed by thermally-based FCC RF/MW guidelines. Even well-meaning individuals and venues often cannot easily reduce RF/MW exposures sufficiently to allow full accessibility due to RF/MW pollution from transmitting utility meters and surrounding antennas, wireless systems, and devices which penetrates walls, invading personal spaces without permission. Thus, the only remedy that allows equal access for RF/MW injured individuals and protects public health and the environment is for the FCC to adopt biologically-based population-protective RF/MW exposure standards.

There are at least three people, including Catherine<sup>42</sup>, who raised the issue of FCC violating the ADA in their comments and three more who submitted the Sage Smart Meter Report which states, **"The FCC's Grants of Authorization and other certification procedures do not ensure adequate safety to safeguard**

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<sup>41</sup> Comments for ET Docket Nos. 013-84, 03-137, <https://ecfsapi.fcc.gov/file/7520940904.pdf>

<sup>42</sup> Comments for ET Docket Nos. 013-84, 03-137, Catherine (<https://ecfsapi.fcc.gov/file/7022311718.pdf> and <https://ecfsapi.fcc.gov/file/7520941883.pdf>), Charyl Zefus (<https://ecfsapi.fcc.gov/file/7022311658.pdf>), and Cynthia Edwards <https://ecfsapi.fcc.gov/file/7022311409.pdf>

**people under Department of Justice protection under the Americans with Disabilities Act."**<sup>43</sup> Catherine also raised the issue directly to the FCC Disability Advisory Committee<sup>44</sup>.

The absence of biologically-based RF/MW safety standards, coupled with the public perception that the outdated FCC thermally-based RF/MW guidelines are far more protective than they are, causes injured individuals to experience social isolation, disability, unemployment, and financial hardship, as discussed in numerous improperly dismissed comments (Exhibit B).

Social isolation and physical isolation take an enormous toll which is why community participation is considered a basic human right. The corona virus has given society as a whole a taste of physical isolation, but it in no way duplicates the social isolation people with RF/MW sickness experience.

FCC Order 19-126 never mentions the ADA or the effect of their guidelines on injured individuals access to society. Thus, there was no reasoned decision-making and the order is arbitrary and capricious.

## **VII. Approval Of Wireless Technology For Widespread Civilian Use Without**

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<sup>43</sup> Comments for ET Docket Nos. 013-84, 03-137, Sage Smart Meter Report submitted by Rachel Cooper (<https://ecfsapi.fcc.gov/file/7520941758.pdf>), Leslee Cooper (<https://ecfsapi.fcc.gov/file/7520942014.pdf>), and John Puccetti (<https://ecfsapi.fcc.gov/file/7520937483.pdf>)

<sup>44</sup> Catherine's Comment to FCC Disability Advisory Committee, Exhibit F

### **Biologically-based Population-protective RF/MW Exposure Standards Violates Constitutional and Human Rights.**

Yet another wireless technology is being rolled out without biologically-based population-and environmentally-protective RF/MW safety standards in place. Sufficient science and experience with past RF/MW-emitting technologies exists to show that there is a reasonable expectation that 5G will also cause serious harm. In violation of the Nuremberg Code of Ethics<sup>45</sup>, TCA, NEPA, and H.R. Report, 5G is being rolled out without being safety tested and without biologically-based population-and environmentally-protective RF/MW safety standards in place despite a study in the docket even showing the potential for thermal harm<sup>46</sup>. This will result, as previous wireless technologies have, in society and the environment being forced to be exposed to a ubiquitous pollutant with great potential for harm and no meaningful ability to individually reduce or avoid that exposure, a human rights violation.

This was brought to the attention of the FCC in the Docket in a comment titled **“Wireless Technology Violates Human Rights: How universal exposure to radiation from wireless devices complying with existing inadequate safety**

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<sup>45</sup> Nuremberg Code of Ethics <http://www.hhs.gov/ohrp/archive/nurcode.html>

<sup>46</sup> Comments for ET Docket Nos. 013-84, 03-137, <https://www.fcc.gov/ecfs/filing/101311141824823>

**limits violates the Nuremberg Code of Ethics**<sup>47</sup> which also contained numerous links to peer-reviewed published papers showing evidence of serious biological harm that also translated into detrimental health effects:

“Indeed, in light of evidence that harm could be expected from its use and exposure is involuntary in many cases, there has been a violation of the entire Nuremberg Code of Ethics since RF technology was approved for civilian use without biologically-meaningful RF safety limits in place, specifically “1. The voluntary consent of the human subject is absolutely essential ...” and “9. During the course of the experiment, the human subject should be at liberty to bring the experiment to an end...”. Millions of people are being exposed to a dangerous toxin in an open-ended non-consenting experiment which they cannot bring to an end and over which they have no control.

**Performing additional studies without immediate action to put protective safety limits in place based on the array of existing studies showing harm, only continues the massive violation of human rights.**

The fact that any new microwave-based technology **might** be safer is no excuse to contend that this open-ended non-consenting experiment should continue. Any new **possibly** safer technology should be studied in double-blind placebo controlled medical-style laboratory safety studies using approved protocols carefully designed to detect health effects before being allowed to undergo **controlled consenting** medical-style human studies. The track record of previous microwave-based (wireless) technology and the Nuremberg Code of Ethics demands it!”

We first asked for the FCC to establish biologically-based population-protective RF/MW limits in 2003 in Notice of Proposed Rule Making (Notice), ET Docket 03-137, Proposed Changes in the Commission’s Rules Regarding Human

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<sup>47</sup> Comments for ET Docket Nos. 013-84, 03-137, Catherine, 2013 (<https://ecfsapi.fcc.gov/file/7520958149.pdf>) and 2016 (<https://ecfsapi.fcc.gov/file/1001669617135/WirelessViolatesHumanRights2016.pdf>) Exhibit G

Exposure to Radio Frequency Electromagnetic Fields, 18 FCC Rcd 13187 (2003).

We asked again in 2013 with greater urgency due to further injury we had suffered.

Numerous other injured individuals also filed, adding further urgency to the plea.

In the time since then, additional individuals have been injured.

The compelling comments by injured individuals excerpted in Exhibit B show that even if the Court refuses to believe that the FCC has been conducting a poorly-designed poorly-monitored experiment that violates the Nuremberg Code of Ethics, it has certainly been torturing a significant portion of the population which is still a human rights violation. No human rights violation can possibly be Constitutional, specifically the Fifth Amendment guarantees “No person shall be ... deprived of life, liberty, or property, without due process of law”, yet commentators describe the FCC making just such a taking over and over again - lives ruined, lives ended, people forced to sell property, etc. Thus, we respectfully petition the Court to do what the FCC, a “captured” agency<sup>48</sup>, has not. Please place a moratorium on additional spectrum sales, antenna installation, transmitting utility meter installations, and approvals of wireless devices until meaningful biologically-based population and environmentally protective RF/MW safety

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<sup>48</sup> Captured Agency: How the Federal Communications Commission Is Dominated by the Industries It Presumably Regulates by Norm Alster, published by Harvard University’s Edmond J. Safra Center for Ethics [http://ethics.harvard.edu/files/center-for-ethics/files/capturedagency\\_alster.pdf](http://ethics.harvard.edu/files/center-for-ethics/files/capturedagency_alster.pdf).

standards have been established. There is precedent for such a step in the recent Dakota Access Pipeline Decision, as a motivator for action and to discourage neglect of NEPA responsibilities, and to reduce further injuries:

“Yet, given the seriousness of the Corps’ NEPA error, the impossibility of a simple fix, the fact that Dakota Access did assume much of its economic risk knowingly, and the potential harm each day the pipeline operates, the Court is forced to conclude that the flow of oil must cease.”<sup>49</sup>

The situation with the FCC and the wireless industry parallels that of the Dakota Access Pipeline. FCC has known it should conduct a NEPA review and that the outcome would likely be negative or it would have concluded the docket in a reasonable time frame with the proper Findings of No Significant Impact (FONSI) or EIS. Telecom companies have been engaged in “war-gaming the science” so they know and knew that the truth would be exposed. To date the FCC and the industries it regulates have been allowed to largely ignore NEPA and public health protection while conducting business to their benefit and profit and to the detriment of public health and the environment. These moratoria would provide motivation for establishing meaningful biologically-based population-and environmentally-protective RF/MW safety standards. Since this process should

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<sup>49</sup> *STANDING ROCK SIOUX TRIBE, et al. v. U.S. ARMY CORPS OF ENGINEERS*, Civil Action No. 16-1534 (JEB), UNITED STATES DISTRICT COURT FOR THE DISTRICT OF COLUMBIA, 2020, p. 23

have been begun in 2013 and finished shortly thereafter, a Court ordered requirement to turn off antenna and transmitting utility meters installed since then would provide welcome relief to individuals harmed by the FCC's negligent attitude toward its NEPA and public health protection responsibilities and additional motivation to the FCC not to neglect those responsibilities in future.

### **VIII. The FCC Negligently Failed To Complete The Record By Failing To Consider Its Own Institutional Knowledge**

The FCC failed to “see to it that the record is complete.”<sup>50</sup> The FCC negligently failed to consider its own knowledge about *Incidental* and *Unintentional* radiators<sup>51</sup> and, therefore abused its discretion, when it dismissed the accounts of harm as a whole in the statement “The vast majority of filings were unscientific, and even the filings that sought to present scientific evidence failed to make a persuasive case for revisiting our existing RF limits.” (FCC Order 19-126, p.8) In fact, *Scenic Hudson v. Federal Power Commission* states “A regulatory commission can insure continuing confidence in its decisions only when it has used its staff and its own expertise in manner not possible for the uninformed and poorly financed public.”<sup>52</sup> Meaning, in this case, that no individual should have to

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<sup>50</sup> 354 F.2D 608 *Scenic Hudson Preservation Conference v. Federal Power Commission* (Scenic Hudson 2nd Cir, 1965)

<sup>51</sup> Equipment Authorization – RF Device <https://www.fcc.gov/oet/ea/rfdevice>

<sup>52</sup> 354 F.2D 608 *Scenic Hudson Preservation Conference v. Federal Power Commission* (Scenic Hudson 2nd Cir, 1965)

get a degree in engineering in order to get harm by RF/MW taken seriously. The sheer number of complaints, well over 170, combined with scientific papers showing serious biological effects requires the FCC to evaluate both fully within the whole frame of their knowledge and formally solicit help from other government agencies as necessary for their expertise.

Injured individuals reported harm caused by RF/MW exposure which included harm from wireless devices and other electronic products which the FCC knows to also be RF/MW emitters since the FCC classifies them as *Incidental* and *Unintentional* emitters. Thus, these accounts of harm show that not only are FCC RF/MW exposure guidelines for *Intentional* emitters inadequate and outdated, so are the exposure limits for *Incidental* and *Unintentional* radiators and electronic products that cause power quality problems which result in “dirty” electricity (yet another source of RF/MW exposure that the FCC is aware of). Therefore, the FCC was negligent in its duty to protect public health when it failed to consider the numerous accounts of harm from RF/MW exposures within the framework of its own institutional knowledge and take the necessary actions to establish biologically-based population-protective RF/MW safety standards for all classes of RF/MW emitters and all sources of RF/MW exposure in coordination with the U.S. Food and Drug Administration (FDA) and U.S. Environmental Protection Agency (EPA) which also have statutory authority.



The 1965 decision in the case of *Scenic Hudson v. Federal Power Commission* made it clear that it is the agency's duty to make sure that the record relevant to making decisions is complete. FCC *Inquiry* and Order 19-126 negligently did not consider the biological activity of RF/MW exposures caused by passive intermodulation ("The Rusty-bolt Effect") and RF/MW sparking (a phenomenon that the communication industry is broadly aware of dating back to before 1990<sup>53</sup>).

Passive intermodulation and RF/MW sparking cause strong wide-spectrum RF/MW exposures as transmitted RF/MW radiation conducts across metal to metal junctions<sup>54</sup>. Since finding out about this phenomenon in 2016, our family has systematically eliminated sources of RF/MW transmission due to passive intermodulation and RF/MW sparking. We have found forced air ducts, stranded aluminum wire, stranded copper wire, steel plumbing, copper plumbing, metal gas pipes, steel heat pipes, metal pipe brackets, wiring connections using wire nuts, steel I-beams with even a little bit of rust, metal roofing (especially with corrosion), woven wire fencing, barbed wire fencing, metal drywall corners, and our whole grain handling facility (grain bins, grain leg, downspouting, metal guy

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<sup>53</sup> P.L.Lui, *Passive Intermodulation Interference in Communication Systems*, Electronics & Communication Engineering Journal, June 1990.

<sup>54</sup> . Radio Frequency Interference: How to Find It and Fix It (ISBN 0-87259-375-4) and AC Power Interference Handbook: All about power-line and electrical interference with new insights into causes & effects, and locating and correction of interference sources by Marv Loftness

wires, etc.) to be sources of biologically hazardous RF/MW exposure when in a transmitted RF/MW field. In the aforementioned list, we have removed, disconnected, cleaned and painted, or rubberized all of the items except the grain handling facility to stop this passive RF/MW transmission. Each time it has improved our health and/or our animals' health and helped us to recover. Dodge acknowledges that eliminating RF/MW exposure is the only way to recover. The steps we have taken have helped our sows to start having reproductive cycles again and our hens to start laying eggs again. They have allowed sows and young pigs to be more relaxed and even mellow, making them safer to work with. And, they have decreased Dan's basal insulin needs and improved his blood sugar control by making it less volatile. **In short, passive intermodulation and RF/MW sparking are hazardous side effects of wireless technology that MUST be considered by the FCC in determining safe ambient RF/MW levels.** We ask the Court to order consideration of passive intermodulation and RF/MW sparking exposures when biologically-based RF/MW exposure standards are set.

#### **IX. No Statute Supports The FCC's Contention That It Must "Balance" Public Health And Environmental Health Against Promoting Wireless Technology**

FCC actions are "not in accordance with law" when it "balances" its mission to promote wireless technology against its duty to protect public health and the environment. The TCA, NEPA and the H.R. Report make it clear that the FCC is

to protect public health in the event that the two missions conflict, as they do now. Thus, we ask the court to direct the FCC to seek the aid of the FDA and EPA in setting biologically-based population-and environmentally-protective RF/MW exposure standards for all sources of exposure and the guidance of the CDC to ensure that epidemiological tracking of the health effects of both past and future technological changes is done in order to protect public health.

### CONCLUSION

We ask the Court to bar the FCC from adopting thermally-based guidelines developed by non-governmental industry-tied engineering organizations since they do not protect protect public health. This has been the subject of several recent reports discussed in **“Health risks from radiofrequency radiation, including 5G, should be assessed by experts with no conflicts of interest”**<sup>55</sup> which states:

“WHO and all nations should adopt the EUROPAEM [European Academy for Environmental Medicine]/Bioinitiative/IGNIR [International Guidelines on Non-Ionising Radiation] safety recommendations, supported by the majority of the scientific community, instead of the obsolete ICNIRP standards.

In conclusion, it is important that all experts evaluating scientific evidence and assessing health risks from RF radiation do not have COIs [conflicts of interest] or bias. Being a member of ICNIRP and being funded by the industry directly, or through an industry-funded foundation, constitute clear COIs.”

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<sup>55</sup>Lennart Hardell and Michael Carlberg (The Environment and Cancer Research Foundation), Comment: “Health risks from radiofrequency radiation, including 5G, should be assessed by experts with no conflicts of interest”, *Oncology Letters* 20: 15, 2020, DOI: 10.3892/ol.2020.11876

In light of the damage and suffering the outdated thermally-based FCC RF/MW guidelines are causing daily and the fact that neither the FDA nor EPA currently have the capacity to establish biologically-based population and environmentally protective limits immediately, we ask the Court to order immediate adoption by the FCC of the most recent BioInitiative Recommendations with periodic review and lowering to be performed by FDA and EPA in consultation with the CDC, once they develop capacity, as additional science warrants.

## APPENDIX

### Appears on Pages

#### **Exhibit A**

Comment for ET Docket Nos. 013-84, 03-137, *Clinical and Hygienic Aspects of Exposure to Electromagnetic Fields*, a review of Soviet and Eastern European RF/MW literature written in 1969 by Christopher Dodge, a U.S. Naval Observatory employee .....1, 2, 12, 13, 15, 19, 31

#### **Exhibit B**

Comments for ET Docket Nos. 013-84, 03-137, Quotes from comments by individuals injured by inadequate FCC radiofrequency/microwave exposure guidelines .....7, 13, 14, 23, 26

#### **Exhibit C**

Comment for ET Docket Nos. 013-84, 03-137, Catherine .....9

#### **Exhibit D**

Comments for ET Docket Nos. 013-84, 03-137, Dan and Catherine .....13

#### **Exhibit E**

Kleiber C (2017) *Radiation from wireless technology elevates blood glucose and body temperature in 40-year-old type 1 diabetic male*, *Electromagnetic Biology and Medicine*. Issue 3. ....21

#### **Exhibit F**

Catherine's Comment to FCC Disability Advisory Committee, .....23

#### **Exhibit G**

Comments for ET Docket Nos. 013-84, 03-137, **"Wireless Technology Violates Human Rights: How universal exposure to radiation from wireless devices complying with existing inadequate safety limits violates the Nuremberg Code of Ethics"** ..... 25

## STATEMENT OF RELATED CASES

None

## **CERTIFICATES OF COMPLIANCE**

### **CERTIFICATION OF COMPLIANCE WITH RULE 29(d) Single Brief**

We spoke with Julian Gresser, Swankin & Turner, Counsel for The Building Biology Institute about the potential for joining our briefs, but found that we have distinct perspectives and, thus, were not compatible.

### **CERTIFICATE OF COMPLIANCE WITH TYPEFACE AND WORD LIMITS**

1. This brief complies with the type-volume limitation of Fed. R. App. P.29 (a)(5) because this brief contains 6,364 words, excluding the parts of the brief exempted by Fed. R. App. P. 32(f). This statement is based on the word count function of Pages 2009 version 4.1.

2. This brief complies with the typeface requirements of Fed. R. App. P. 32 (a)(5) and the type style requirements of Fed. R. App. P. 32(a)(6) because this brief has been prepared in a proportionally spaced typeface using Pages 2009 version 4.1 in 14-point Times New Roman font for the main text and 14-point Times New Roman font for footnotes.

Dated: Catherine E. Kleiber, Pro Se  
August 4, 2020

**CERTIFICATE OF SERVICE**

I hereby certify that on this 5<sup>th</sup> day of August, 2020, I electronically filed the foregoing Amicus Brief in Support of Petitioners on behalf of Catherine and Dan Kleiber with the Clerk of the Court for the United States Court of Appeals for the District of Columbia by emailing [ProSeFilings@cadc.uscourts.gov](mailto:ProSeFilings@cadc.uscourts.gov) as instructed in Pro Se filing instructions at [https://www.cadc.uscourts.gov/internet/home.nsf/Content/Announcement+-+Update+to+Court+Operations+in+Light+of+the+COVID-19+Pandemic/\\$FILE/ElectronicFilingNotice.pdf](https://www.cadc.uscourts.gov/internet/home.nsf/Content/Announcement+-+Update+to+Court+Operations+in+Light+of+the+COVID-19+Pandemic/$FILE/ElectronicFilingNotice.pdf) .

Should further action be required of us immediately to complete the filing, please contact us at (920) 478-9696. Email contact ([webmaster@electricalpollution.com](mailto:webmaster@electricalpollution.com)) is sufficient in the event of a more relaxed deadline. Thank you!

Catherine Kleiber

Dated: August 5, 2020