

Affidavit of Professor David Carpenter, MD in Support of Standing

6. I graduated from Harvard Medical School and chose a career in public health and research rather than clinical medical practice. I have been a medical doctor and public health expert for 50 years and have served the federal government and the State of New York. I have published over 450 peer-reviewed scientific papers.

7. Public health medicine practitioners do not directly treat individual patients. We focus on preventing disease. We try to identify what causes disease, and then identify ways to reduce and prevent those causes. We study the health of *populations*, not individuals.

8. In the past 40 years, a major focus of my public health work has been the study of human health effects of electromagnetic fields (EMFs).

9. I have served on both national and international organizations addressing the topic and constantly work on policy and safety guidelines. I have published 12 reviews on various aspects of health effects of EMFs in peer-reviewed journals, wrote an invited chapter on the subject for a standard textbook, edited six books, two of which were entitled *Biological Effects of Electric and Magnetic Fields*, and published many invited book chapters and reviews. I am the Editor in Chief of *Reviews on Environmental Health*. I was the founding Editor-in-Chief and now Editorial Advisor of *Cellular and Molecular Neurobiology*. I am also on the editorial boards of *International Archives of Occupational and Environmental Health*; *Global Health Perspective*; *Environment International*; and *International Journal of Environmental Research and Public Health*.

10. I have testified on the subject at hand before the U.S. House of Representatives and the President's Cancer Panel, in addition to a number of state hearings. I have been confirmed as a testifying expert in court cases on the topic of causation from wireless technology.

11. Two of my previous positions include serving as a Commissioner Officer in the U.S. Public Health Services, stationed at the National Institute of Mental Health in Bethesda, MD, and Director of the Neurobiology Department at the Armed Forces Radiobiology Research Institute, the research arm of the Defense Nuclear Agency located at the Naval Medical Center in Bethesda. In the latter role I became familiar with concerns that exposure to EMFs from radar were causing adverse health effects. This was an active research area within the Navy in 1973-1979. Radar, like wireless technology, uses non-ionizing microwave frequencies and emits radiation at non-thermal intensities. The Navy investigated the potential health effects because soldiers exposed to radar kept getting sick and showing symptoms similar to those now being experienced by the general population after exposure to pulsed and modulated RFR.

12. In 1980 I was appointed Director of the Wadsworth Center for Laboratories and Research of the New York State Department of Health (NYSDOH). At that time, the Wadsworth Center had over 1,000 employees; it was the third largest public health laboratory in the U.S. after the National Institute of Health (NIH) and Centers for Disease Control (CDC). While employed by the NYSDOH I was appointed Administrator of the New York State Powerlines Project. Our task was to determine whether magnetic fields coming from electricity cause adverse health effects. These studies confirmed earlier results showing that children living in homes that had elevated magnetic fields from neighborhood power lines had a higher risk of leukemia, and also found significant biological effects in cellular and animal studies. After the Project concluded in 1987, I served as the spokesperson for New York State on the issue of health effects of EMFs

until I moved to the University at Albany in 1998. My CV is attached and marked Carpenter Exhibit 1.

The BioInitiative Report

13. I am the Co-Editor in Chief of the BioInitiative Report (BIR), which was prepared by the BioInitiative Working Group (BIWG) comprised of 29 the world's leading scientists and public health experts on the subject of health effects of RF/EMFs. It is the most comprehensive independent review of the scientific evidence on the biological and health effects of wireless technology. The purpose was to provide "*a rationale for a biologically-based public exposure standards for electromagnetic fields and RF.*"

14. The 2012 BIR contains 1,500 pages of detailed scientific reviews of 3,800 peer-reviewed studies addressing RF radiation (RFR) and extremely low frequencies (ELFs). The report was first published in 2007, updated in 2012, 2014, 2017 and most recently in 2020.

15. The FCC takes the position that the only hazards of RF are those where the intensity is sufficiently high to cause tissue heating. This position, a disproven hypothesis, comes from organizations such as the Institute of Electrical and Electronics Engineers (IEEE), an organization that has no health expertise, and others in the physics community who believe that non-thermal levels of non-ionizing radiation have insufficient energy to cause biological effects. That is an assumption and it is false. In biology, unlike in physics, it is the response of the organism, not the power of the source, that determines the effects. Organisms respond to RF/EMFs in many ways that have nothing to do with thermal heating, and those responses often lead to human diseases.

16. The BIR was developed to present in encyclopedic detail the existence of clear and reproducible scientific evidence of biological and adverse effects of RF/EMFs that can lead to significant human harm and illness, and to show that the FCC assumptions are false and guidelines are inadequate to protect the public's health.

17. The BIR conclusions and recommendations are in section 24 which I co-authored. We conclude:

We determined that bioeffects are clearly established and occur at very low levels of exposure to electromagnetic fields and radiofrequency radiation. Bioeffects can occur in the first few minutes at levels associated with cell and cordless phone use. Bioeffects can also occur from just minutes of exposure to mobile phone masts (cell towers), Wi-Fi, and wireless utility 'smart' meters that produce whole-body exposure. Chronic base station level exposures can result in illness. Many of these bioeffects can reasonably be expected to result in adverse health effects if the exposures are prolonged or chronic. This is because they interfere with normal body processes (disrupt homeostasis), prevent the body from healing damaged DNA, produce immune system imbalances, metabolic disruption and lower resistance to disease across multiple pathways. Essential bodily processes can eventually be disabled by incessant external stresses (from system-wide electrophysiological interference) and lead to pervasive impairment of metabolic and reproductive functions.

The BIR Science

18. The BIR reviewed and provided evidence for Effects on Gene And Protein Expression (Section 5); Evidence For Genotoxic Effects (Section 6); Evidence for Stress Response (Stress Proteins) (Section 7); Effects On The Immune System (Section 8); Evidence for Effects on Neurology and Behavior (Section 9); Evidence for effects of Electromagnetic Fields From Wireless Communication upon the Blood-Brain Barrier (Section 10); Evidence For Brain Tumors And Acoustic Neuromas (Section 11); Evidence for Disruption by the Modulating Signal (Section 15); Evidence based on EMF Medical Therapeutics (Section 17); Electromagnetic Field Exposure Effects (ELF-EMF and RFR) on Fertility and Reproduction (Section 18); Fetal and Neonatal Effects of EMF (Section 19); Findings in Autism (ASD) Consistent with Electromagnetic Fields (EMF) and Radiofrequency Radiation (RFR) (Section 20). The evidence of each section was reviewed by the leading relevant experts.

19. To help visualize the extent of the scientific evidence, the BIR includes two RF Color Charts of Reported Biological Effects from Radiofrequency Radiation at Low-Intensity (i.e., non-thermal) Exposure. The charts are color-coded—each of the eight colors represents a different harm. Among the harms shown: creation of stress proteins and disrupted immune function; reproductive effects; DNA repair damage; oxidative stress; disruptive calcium metabolism; brain tumors; damage to the Blood-Brain Barrier (BBB); neurological effects; cancer and cell proliferation; and vascular system effects. Each chart contains about 60 studies. The charts submitted in the record are reproduced as Carpenter Exhibit 2.

20. The first chart presents studies which rely on power density levels. The studies are arranged from the lower levels (the first study shows effects at $0.000,000,000,000,001 \mu\text{W}/\text{cm}^2$) progressing up to the maximum FCC-allowed levels which are between $200\text{--}1,000 \mu\text{W}/\text{cm}^2$ depending on the frequency. This table shows biological effects from levels that are even $50,000,000,000,000,000$ times lower than the FCC-allowed levels. The second table presents studies with Specific Absorption Rate (SAR) levels used for devices in close proximity, such as cell phone. The studies reveal harms at levels $25,000$ times lower (0.000064 w/kg) than the maximum FCC-allowed levels of 1.6 w/kg .

21. The BIR authors have extraordinary credentials and associations. They include some of the most accomplished scientists on EMF/RFR worldwide. Prof. Martin Blank was a professor at Columbia university with PhDs from Columbia and Cambridge. He conducted studies that show effects of EMFs including RFs on cells and DNA. Prof. Henri Lai, PhD, Professor Emeritus of Bioengineering in the University of Washington. His 1995 study was the first to show that modulated RF/EMF can break DNA. Prof. Lennart Hardell MD, PhD is an oncologist and a renowned expert on RF/EMF and brain cancer. Dr. Carl Blackman, is a retired EPA RF lab scientist. His studies showed the effects of modulations. Prof. Leif Salford MD PhD., chairs the Department of Neurosurgery in Lund University Hospital, Sweden. His RF/EMF studies show RF damage to the Blood-Brain-Barrier (BBB) and other neurological effects. Igor Belyaev, DSc, PhD. wrote the technical sections because of his superior understanding of RF/EMF/bodily interaction complexities. He was part of the EMF working Group that wrote the diagnosis guidelines for Radiation Sickness. Prof. Yury Grigoriev, MD is Chairman, Russian National Committee on Non-Ionizing Radiation Protection.

22. Among the authors are three former Presidents (Blank, Blackman and Mild) and five full members of the prestigious Bioelectromagnetics Society (BEMS). One distinguished author is

the Chair of the Russian National Committee on Non-Ionizing Radiation (Grigoriev). Another is a former Senior Advisor to the European Environmental Agency (Gee).³ Three of the authors (Blackman, Hardell and Belyaev) were part of the 2011 IARC panel that classified RFR as a “Possible” (2B) human carcinogen. These are truly the leading scientists on this issue worldwide.

23. Additional BIR sections address policy issues including Summary for the Public and Conclusions (Section 1); Statement of the Problem (Section 2); The Existing Public Exposure Standards (Section 3); Evidence of Inadequacy of the Standards (Section 4); and Key Scientific Evidence and Public Health Policy Recommendations (Section 24).

24. The BIR has always been published as a website to make the information accessible to everyone without cost. In addition much of the 2007 BIR content was published in a special two-volume issue of the peer-reviewed journal, *Pathophysiology*.⁴ The public health chapter with slight revision was published after peer-review in *Reviews on Environmental Health* in 2008.

25. The 2007 BIR formed the basis for the European Parliament’s 2009 Resolution on “Health concerns associated with electromagnetic fields”⁵ calling for greater transparency relating to RFR exposure and adoption of precautionary measures.

26. The BIR 2012 update found stronger and more consistent scientific evidence for health harm, and at even lower exposure levels. The 2014 and 2017 updates continued to see this trend, and the evidence continues to get stronger each year.

27. The BIR alone (independent of all the other evidence presented to the FCC) demonstrates that any objective and unbiased review of the current science leaves no doubt that wireless technology has biological effects at non-thermal intensities. These exposures can be and are highly injurious to health at radiation intensities an order of magnitude below the FCC’s current guidelines, especially when the frequencies are pulsed and modulated.

28. My expert report advised the FCC that “The cost of doing nothing is unacceptable. Substantial evidence for health risks from chronic exposure to wireless technologies cannot be dismissed, and if we do nothing, it will simply worsen rates of chronic diseases, disability and premature mortality.” I also published two papers on the public health implications “*Human Health Effects of EMFs: The Cost of Doing Nothing*”⁶ and “*Electromagnetic Fields and Cancer: The Cost of Doing Nothing*.”⁷

29. The BIR conclusion urged the FCC to 1) recognize non-thermal health effects harms caused by constant and ever-growing RF emissions 2) adopt immediate measures to warn the public 3) develop concrete and biologically based guidelines based on “observed effects” in humans and 4) establish guidelines that take into account long-term chronic exposure to non-thermal effects of RF/EMF, including effects of pulsation modulation and peak exposures.

³ Full titles and affiliations of authors is in Section 25 of the BioInitiative Report at www.bioinitiative.org.

⁴ August 2009, *Pathophysiology* 16: 2,3.

⁵ Resolution (INI/2008/2211), <https://ecfsapi.fcc.gov/file/7521323876.pdf>.

⁶ <https://ecfsapi.fcc.gov/file/109303096909269/Carpenter.2010.Human%20health%20effects%20of%20EMFs.Cost%20of%20doing%20nothing.pdf>

⁷ January, 2010, *Reviews on environmental health* 25(1):75-80.

The FCC treatment.

30. The Commission dismissed the evidence in the record, including the BIR, without any substantive or scientific analysis.

31. The only discussion appears in *RF Order* ¶¶10-15 and the essence of it is in ¶12. The FCC made a conclusory statement that the evidence of harm was not persuasive.

32. The only explanation the FCC gave for rejecting the scientific and medical evidence of harm in the BIR was because it would allegedly require emissions levels so low that “No device could reliably transmit any usable level of energy by today’s technological standards while meeting those limits.”

33. The FCC guidelines are based on obsolete and disproven assumptions. In contrast the BIR 2012 recommended levels are goals that are based on actual effects found in humans. The BIR-recommended levels are based on an ‘observed effects level’ in individuals living near cell towers.

34. It is important to note that the BIR recommended goals, not regulatory standards. It is true that achieving such low exposure levels and developing safer and less bio-active modulations levels would require effort on the part of the FCC and the telecom industry. However, the fact that achieving lower standards is difficult is not an excuse to deny the evidence of harm at current exposure levels.

35. I advised the FCC that the responsible action would be to accept and admit that non-thermal RF/EMF poses danger to human health. I asked the FCC to take immediate action to reduce exposures to the greatest degree that can be accomplished without undue social disruption. As in every situation where public health confronts economic and social barriers, one must balance cost vs. benefit. But the first step for responsible action is to stop denying the scientific facts and the evidence of human injuries.

The FCC’s Guidelines

36. The FCC’s 1996 guidelines are entirely based on the fallacious assumption that the only effects from exposure to non-ionizing EMFs can occur from levels that create tissue heating, a concept known as the “thermal effect.” The FCC guidelines do not even protect from thermal effects from long-term exposure. They look at only 30 minutes of exposure and from only one source of radiation.

37. To ensure the “safety” of wireless devices, the FCC is using a mannequin head which approximates the size of a head of a 6 foot, 220-pound man. It is filled with liquid, supposedly to simulate brain tissue. The mannequin measures the absorption of “heat” from the RFR in the brain. Mannequins do not have brains, and human brains are an extremely complex bioelectrical organ, not liquid. Exposure to RF/EMFs could induce chemical, physiological, psychological and behavioral effects in the brain that have nothing to do with heat absorption. The effects are documented in brain scans, functional MRIs, SPECT scans and EEGs. For example, human EEG studies reveal the effects of RF/EMFs on brain physiology, alpha brain waves, cortical activity, brain synchronization, sleep and epileptic seizures. Studies show effects on cognitive functions, sleep, memory, learning, perception, vision, motor abilities and auditory effects. Studies also showed impaired blood flow to the brain, damage to the Blood Brain Barrier and metabolic effects in humans. There is also evidence of effects on brain glucose metabolism.

38. Pulsed and modulated EMFs have been successfully used for medical purposes for many years. BIR Section 17 addressed “Evidence based on EMF Medical Therapeutics,” showing how pulsed EMFs have been used to promote bone healing after a fracture when all other efforts have failed. Pulsed EMFs are also used for chronic pain management. This every-day beneficial medical use belies the assumption behind the FCC standards.

39. The FCC guidelines do not even protect from exposure to thermal damage from peak exposures. The FCC “safety” measurements only protect from 30 minutes exposure and the exposure measurements are averaged. We advised the FCC that its failure to address this issue is leading to sickness from “Smart Meters.” Smart meters are wireless transmitting devices that record electricity usage and wirelessly send that information to the utility. These meters have been installed on homes, sometimes without people’s knowledge or permission. They send a cluster of very brief but extremely high intensity pulses, repeated multiple times a minute, 24/7 continuously, sometimes up to 190,000 pulses a day. While the average intensity over periods of time is not particularly high, many people have been injured by smart meters. The very high intensity pulses would likely exceed FCC thermal guidelines if maintained, but because of the FCC “averaging,” the real exposure levels are obscured. EMF pulses are known to be bioactive (to have effects on living tissue). Despite many complaints by individuals who have been injured from these meters, and despite the evidence provided by the BIR and other experts, the FCC has done nothing to address the problem and completely ignored them in its decision. For years now I have received desperate pleas from the injured who cannot even be in their own home. I have written letters, provided expert opinions and traveled extensively, trying to support them with legislators or in courts. Because of the FCC decision, I will have to continue and work to support their efforts, but I am not sure what more can be done. This is why I joined this Petition.

40. The current radiation levels may even be a quintillion-times higher than what humans have evolved to tolerate. See exhibit 3. The FCC’s guidelines completely fail to protect the public from current real exposures - from constant exposure to RFR/EMFs from numerous sources, operating on different frequencies and using different pulsations and modulations. They test for only one device for 30 minutes. No tests using pulsation and modulations are required, though this is what people encounter in the real world.

41. The BIR established that the FCC’s thermal assumption is invalid. It has been disproven, and the SAR levels are completely irrelevant to assess the effects of existing exposures and protect the public’s health. The FCC failure not only does not protect the public; it has actually been creating harm. I see it every day in my work.

42. The human evidence of the failure and irrelevance of the FCC guidelines are most apparent from the growing reports of Radiation Sickness, also known as “microwave illness,” “microwave syndrome” or “electro-hypersensitivity.” The sickness is growing but is largely an ignored public health problem.

43. The syndrome consists mainly of neurological symptoms, including headaches, fatigue, cognitive dysfunction, ringing in the ears, and often cardiac arrhythmias. Radiation Sickness is likely the most immediate and widespread manifestation of the harm from exposure to wireless emissions within the FCC’s current limits. Many studies have shown that Radiation Sickness symptoms can be caused by exposure to RF/EMFs. Studies also suggest these symptoms indicate serious physiological injuries such as impaired blood flow to the brain, BBB leakage and oxidative stress.

44. The first reports of this sickness started decades ago. U.S. soldiers were exposed to RF systems and radar. At the time, only military personnel and a few professionals were exposed to the RFR levels that are now inflicted on the entire civilian population. I published two papers on the history of the condition: *Excessive exposure to radiofrequency electromagnetic fields may cause the development of a syndrome of electro-hypersensitivity*⁸ and *“The microwave syndrome or electro-hypersensitivity: Historical background.”*⁹

45. For over a decade I have been approached by growing numbers of people. They or their children have developed the sickness and they are desperate. It is becoming a health and human rights crisis. Some of this illness could have been avoided if the public had been warned about the potential effects. Instead, because of FCC assurances of safety, people who are suffering from Radiation Sickness often don't know that it is their wireless devices that are the cause of their symptoms and problems. Doctors are often unaware of the science and misdiagnose their patients and give them incorrect treatment and unnecessary medications. Children are getting psychiatric medications for ADHD while for many turning off the Wi-Fi router would solve their problem.

46. As a doctor who dedicated his life to public health, I have been working tirelessly to raise public awareness and to educate public health professionals about the RF harms and the resulting sickness. Because of the FCC's failures, denial of harm, and its insistence to force even more of this toxic radiation on the public I will have to continue to work to help protect the public not only from RF/EMFs, but also from the FCC.

Response to The FCC Claims

47. The FCC summarily dismissed all the evidence in the BIR and pretended none of it was convincing or reliable. *RF Order* ¶10 states “we find no appropriate basis for and thus decline to initiate a rulemaking to reevaluate the existing RF exposure limits. This decision is supported by our expert sister agencies, and the lack of data in the record to support modifying our existing exposure limits.”

48. **Claim 1: “Sister Agencies” Support:** The FCC referred to “sister agencies,” but the only agency that meaningfully participated was the Food and Drug Administration (FDA). The director of the FDA Center for Devices and Radiological Health filed a letter in April 2019 stating that “no changes to the current standards are warranted at this time.” In one short paragraph, without any meaningful analysis or explanation, he rejected all the science.

49. This rejection is astounding considering the FDA commissioned the National Toxicology Program (NTP) of the National Institute of Environmental and Health Science (NIEHS) to conduct a study that would provide definitive answers relating to health implications from wireless emissions. The NTP study was designed to address long-term exposure to non-thermal levels of RFR similar to those from using a cell phone. The study found clear evidence of carcinogenic effect. The cancers in rodents were gliomas of the brain and Schwannomas, the

⁸ *Excessive exposure to radiofrequency electromagnetic fields may cause the development of a syndrome of electro-hypersensitivity*; Altern Ther Health Med. 2014;20(6):40-42.

⁹ *“The microwave syndrome or electro-hypersensitivity: Historical background*; Reviews on Environmental Health 30: 217-222: 2015.

same tumor that causes acoustic neuromas of the auditory nerve. Some additional cancers were seen from whole body exposure, not just the head. It also confirmed the effects of modulation. Very importantly, the NTP studies also demonstrated clear damage to DNA which can be a precursor for the development of cancer.

50. The Ramazzini Institute in Italy performed a similar study, but one where the intensity of exposure to the rodents was at the levels similar to those that humans would be exposed to if they live near a cell tower. This study, even though conducted at a much lower intensity, confirmed the development of the same two cancers seen in the NTP results. These studies, combined with other animal and epidemiological studies, leave no room for doubt regarding the carcinogenic effects and DNA damage of RFR.

51. In 2011, the International Agency for Research on Cancer (IARC), a part of the World Health Organization (WHO) which is assigned with the classification of carcinogens, classified non-thermal RFR from cell-phones, Wi-Fi, cell towers and other sources of RF as a “Possible” (2B) Carcinogen. Considering the relatively short time we have been using wireless technology and the long time it takes cancer to develop, a 2B carcinogen classification at that time should have been alarming. IARC explained that while there was epidemiological evidence for a higher classification, more animal studies were needed. The NTP and Ramazzini Institute studies have now established the missing link that held IARC back. But even so, the lower designation should have given the Commission pause, especially after the NTP and Ramazzini findings.

52. Nevertheless, the FDA director of the Department of Radiology and Devices rejected the conclusions of the \$25 million NTP study commissioned by his own office. Although the protocols of the study were confirmed by the FDA, he stated that the results “should not be applied to humans.” This position was rejected by a panel of 11 experts that were appointed by the NIEHS. The FCC never explained why it decided to ignore all the independent experts, including many in government or appointed by government, who say the FCC regulations are based on false premises and are causing great harm.

53. **Claim 2: No evidence in the docket:** The FCC claims that “The record does not demonstrate that the science underpinning the current RF exposure limits is outdated or insufficient to protect human safety.” The BIR as well as hundreds of additional reports and studies published since the last BIR version (and referenced in the docket) completely contradict that claim. The FCC assertion is scientifically and factually indefensible.

54. **Claim 3: Evidence is not persuasive:** *RF Order* ¶12 states: “While the record includes some research information, there is no persuasive case in the record to evaluate the quality and significance of that research.” The BIR provides a strong and persuasive case showing the FCC guidelines are irrelevant and not evidence-based. It is the FCC that fails to provide any evidence, let alone “persuasive” evidence, to support its decision or claims.

55. **Claim 4: The Commission goes on to claim that “no scientific evidence establishes a causal link between wireless device use and cancer or other illnesses.”** We already know at least some of the causal mechanisms between RF/MW radiation and biological systems. The BIR reported that 90% of 225 studies show RF/EMF causes oxidative stress, an established mechanism of harm that can lead to cancer, non-cancer illnesses and DNA damage. Oxidative stress is the central mechanism leading to cancer, radiation sickness and neurological damage from RF/EMF. There is evidence of other related mechanisms of harm such as damage to cell

membranes, and mitochondria, which are the energy factories of our cells, and damage to the Blood Brain Barrier (BBB).

56. **Claim 5: Multi-agency consensus:** The FCC asserts it has support of “sister” agencies. One FDA department [REDACTED] position. The only agency with current expertise is the NTP, which is another arm of DHHS. The FDA had to contract with the NTP to perform the NTP cell phone study. When the EPA had experts on this issue, before its EMF program was defunded, EPA studies revealed harms. Dr. Carl Blackman, one of the BIR authors, participated in these studies. The EPA repeatedly advised the FCC that the current guidelines do not protect against long-term exposure to pulsed and modulated non-thermal levels RFR.

57. In the 50 years working in public health, I’ve seen numerous public health failures. Many are a result of government agencies’ reliance on industry-friendly science committees (think: Tobacco). The failure to protect the public health from wireless radiation is, in my opinion, the worst failure. Everyone is exposed and no one can any longer choose **not** to be exposed, even those who must not be exposed in order to be functional. The damage has manifested, and the sickness is all around us. Ignoring the evidence is merely increasing the size of an already gargantuan problem. This situation cannot and must not continue.

Standing

58. I have a direct and personal stake in this matter. First, and most fundamentally, I and my family are personally injured by EMF/RFR emissions pursuant to the FCC’s authority and within its guidelines. My wife suffers from a mild case of Radiation Sickness. When she is exposed to high levels of Wi-Fi she develops tinnitus (ringing in the ears) that goes away when she is not close to the source. I clearly understand the science showing this radiation adversely affects our cells and DNA with every minute of exposure. This damage over prolonged exposure can lead to illness. I personally object to the harmful bodily intrusions that constantly occur without my consent, and which are causing me direct personal injury. All the petitioners in this case are similarly injured.

59. The FCC’s and FDA’s denial of the science has been harmful to my reputation as a scientist. Scientists who have publicly acknowledged the harms are dismissed by FCC officials and called “conspiracy theorists” and even Russian or Chinese agents; our science is labelled “bogus.” I have personally been subjected to professional injury. In an article in the New York Times on July 16, 2019, entitled “The 5G Health Hazard that Isn’t,” William J. Broad implied that I was an agent of the Russian government only because I did an interview on RT America on the adverse health effects of cell phones. His article was found to have violated the truth and accuracy code of Ireland by the Press Ombudsman for the Press Council of Ireland. The BIR has been attacked as “unscientific” and “scientifically discredited.” The FCC has harmed my name, my professional integrity and my professionalism.

60. The FCC did not disclose its reasoning, if there even was any. The BIR research used and applied all the necessary protocols and tools for analysis. Much of it was peer-reviewed and published. Yet the FCC rejected it. I now have no idea what information the Commission deems relevant, or what it would take to secure the needed change. As a result, I cannot provide evaluation or analysis, or conduct research on the topic since I simply do not know what more to do. This materially impedes my ability to practice public health.

61. I am bound by professional ethics even though I am a public health practitioner and researcher rather than a clinical physician. My Hippocratic oath¹⁰ requires that I take all necessary steps to "prevent disease whenever I can, for prevention is preferable to cure." The AMA Code of Ethics has a section relating to medical research and innovation. Code of Medical Ethics Opinion 7.2.1 states that:

Physicians have an ethical responsibility to learn from and contribute to the total store of scientific knowledge. When they engage in biomedical or health research, physicians have obligations as scientists, which include disseminating research findings. Prompt presentation to scientific peers and publication of research findings are foundational to good medical care and promote enhanced patient care, early evaluation of clinical innovations, and rapid dissemination of improved techniques.¹¹

62. Opinion 7.2.1 recognizes that research and dissemination of findings is for the "ultimate benefit of patients," so my research is ultimately about how to care for individuals with health conditions, and actively preventing environmental conditions that harm human beings. My ethical duties require that I do everything in my power to expose the FCC's active suppression and denial of the science on this topic, because the bottom line is that the FCC's current standards threaten the population at large and are inflicting grave harm on large numbers of individuals who suffer from exposure-related sicknesses.

63. The FCC order did not adequately consider or reasonably respond to my or others' expert reports and comments. Their decision to retain existing guidelines entirely fails to resolve the problems caused by harmful radiation at currently permitted levels. These injuries and harms will continue until the rules are changed to take into account the needs of those who are or may become injured by electromagnetic radiation and to truly protect health and safety.

64. If the Court reverses and remands the order, the FCC will have to acknowledge the harm it has been causing, then craft standards that reduce or eliminate the harm. Changes to the FCC guidelines that would address non-thermal levels and modulated, pulsed signals will safeguard my life and the lives of others. A remand that requires the FCC to address the situation and allow accommodations for those who are already suffering and who need to avoid nonconsensual exposure to wireless radiation would significantly mitigate the harm.

65. This concludes my Affidavit.

I hereby swear or affirm, under penalty of perjury, that to the best of my knowledge and belief, the above averments are true. I acknowledge that this affidavit will be submitted as evidence in a court of law and that false statements may result in legal penalties.

David O. Carpenter 29 July 2020

¹⁰ "A Modern Hippocratic Oath" by Dr. Louis Lasagna, Dean, School of Medicine at Tufts University, 1964.

¹¹ Full text available at <https://www.ama-assn.org/delivering-care/ethics/principles-disseminating-research-results>.