

Response to Instruction #1

I am an attorney who has practiced in the field of environmental law for more than 20 years. I am sharing comments on my own behalf from the perspective of an individual consumer and parent, not on behalf of any client. Many of my personal concerns are the same concerns I have heard from individuals who sought legal help to oppose RF antenna sites near their home, including small cells (I have not been engaged by any individual or group to work on RF-related legal issues). My experience with environmental regulations - how to keep the public and our environment safe by guiding decision making in accordance with laws and our Constitution - informs my policy recommendations about EMF regulation. I have also worked with a grassroots community organization called Concord Safe Technology to educate citizens about the risks associated with wireless technology and advocate for safe solutions.

Response to Question #2, Public Experiences and Reported Potential Adverse Health Effects, My perspective:

As stated in response to Q#1, my perspective represents that of an individual consumer and parent, and member of a community of people who share similar adverse health effects.

Response to Question #3a-g, Public Experiences and Reported Potential Adverse Health Effects, Experiences regarding potential adverse health effects associated with exposure to RF/EMFs, including type of technology or RF/EMF source; nature, duration, etc. of exposure; potential effects and timing; medical treatment; steps to reduce exposure, etc.; and other relevant information:

A radio wave-emitting automatic electric meter ("smart meter") and dirty electricity from electrical wiring on my single family home have caused permanent ear ringing for everyone in my family. My symptoms began in 2014 with loud ear-ringing occurring when I was in the bedrooms. The

noise became quieter further away from the bedrooms and further from the electric meter, which is attached to the house on the outside wall of the bedrooms. For several days I slept in different parts of the house where the ringing was quieter or less persistent. Eventually, the ringing became constant. It became difficult to tolerate loud, constant noises, such as bathroom fans. At the same time, my toddler began waking in the night with severe eczema, disturbing the family and causing stress for the child.

I later learned that these health effects coincided with my local electric utility's implementation of smart grid infrastructure ("a major investment in technology that supports the distribution of electricity to the customer. Advanced meters, load control, and customer engagement applications have been deployed. Each of these application (*sic*) relies on telecommunications to function.") The electric meter is located fewer than five feet from where my child slept and approximately ten feet from where I slept; beds were closer than 2 feet to electrical wiring. My suspicion is that dirty electricity, created when the smart grid was implemented, began emanating from the RF-emitting automatic electric meters and the wiring in our home.

At some point prior to my symptoms in 2014 (exact timing unknown), an analog electric meter on my house had been replaced with an RF-emitting "advanced" meter that periodically transmits a signal to be read by a truck on the road, which is 50 feet from the meter. I was never informed that an RF meter was attached to my home, and my consent was never sought or granted. Several years after the onset of symptoms, I discovered scientific evidence of EMF exposures causing tinnitus and skin rashes. See, e.g., International Commission on the Biological Effects of Electromagnetic Fields (ICBE-EMF). *Scientific evidence invalidates health assumptions underlying the FCC and ICNIRP exposure limit determinations for radiofrequency radiation: implications for 5G*. *Environ Health* **21**, 92, notes 152 and 153 (2022), available at <https://doi.org/10.1186/s12940-022-00900-9>.

I sought medical advice from an otolaryngologist and was diagnosed with tinnitus in December 2014. Since then, I have also sought treatment and used acupuncture with little relief.

A family member brought an EMF meter to the house around 2013-2014 and noticed high levels in the bedrooms, which are above the basement electric panel and Wi-Fi router. I did not mitigate these levels until 2019, when I learned that the local electric company was planning to install even greater-emitting meters; at that time, I also met others who were suffering ill effects from EMF exposures. Around 2019 I also started turning off our Wi-Fi at night. In 2021, I hired a Building Biologist to survey my home. She confirmed that radiation levels in the bedroom were high and made additional recommendations for reducing exposure to EMFs, such as powering off constantly emitting streaming devices (Apple TV and Roku). I had already purchased and installed shielding materials and a Faraday cage for the electric meter.

After my community group successfully petitioned the local utility, which reluctantly granted opt-out rights, I now pay \$240 per year in manual meter-read fees. These steps have reduced my exposure and somewhat improved symptoms. All of my family members still suffer from mild, permanent ear ringing that is noticeable in any quiet location, even the wilderness.

Response to Question # 5.n-o, Exposure Standards and Risk Assessment, consideration of standards or regulations for evaluating health effects; improving regulation of exposure; need for more research:

Environmental Health Trust (“a 501(c)(3) nonprofit organization focused on environmental health research, policy advice and support, and public education on emerging environmental health hazards and their impact on the health of humans and all living things”) reports “Research has not yet

identified a “safe level” of Wireless Radiation. The Food and Drug Administration (FDA) and EPA did not do pre-market safety testing nor did they perform research to determine a safe level of Wireless Radiation. Research shows that Wireless radiation at very low levels (thousands of times below presently legal federal safety limits) can result in neurological and reproductive damage.” See <https://ehtrust.org/policy/resources-for-policy-makers/#>, (FAQ: What is a safe level of Wireless Radiation?). The New Hampshire Legislature’s 5G Commission studied safe cell tower setbacks and settled on 500 meters, or 1,640 feet, based on a worldwide review of scientific studies. See their November 1, 2020, final report <https://gc.nh.gov/statstudcomm/committees/1474/reports/5G%20final%20report.pdf> (page 99-105 of the report).

In my view, a regulatory framework that emphasizes disclosure of RF radiation, regular monitoring, and allows people to opt out of emissions from IOT devices, utility meters and other personal devices would be a positive step.

In addition, to improve the assessment, disclosure, and regulation of wireless radiation exposure, the FCC should remove the categorical exclusions from monitoring that are part of current FCC guidance. See *A Local Government Official’s Guide to Transmitting Antenna RF Emission Safety: Rules, Procedures, and Practical Guidance*, June 2, 2000, which “is intended to complement, but not to replace, the FCC’s OET Bulletin 65, “Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields,” August 1997. Bulletin 65 can be obtained from the FCC’s Office of Engineering and Technology (phone: 202-418-2464 or e-mail: rfsafety@fcc.gov). Bulletin 65 can also be accessed and downloaded from the FCC’s “RF Safety” website: <http://www.fcc.gov/oet/rfsafety>.” More information, not less, is needed to ensure public safety.

Absolutely, yes, more information and additional research is needed to develop, test, and evaluate the effectiveness of procedures and techniques for minimizing exposure to electronic product radiation. Almost every paper I read on this topic says more research is needed. Standardized testing or monitoring protocols would help.

One research gap is electric vehicles, which emit “astonishingly high” magnetic fields. See the September 11, 2025, news article <https://microwavenews.com/news-center/wakeup-call-ev-industry> (“Gernot Schmid, the study team leader at the Seibersdorf Labs in Austria, described the peak fields as “astonishingly high.” Manufacturers could reduce them, he said, if magnetic fields were “taken into account at an early stage of vehicle design.”...Schmid made extensive comments about his findings, including those quoted in this article, in a special feature, in the 2024 annual report (at https://www.emf.ethz.ch/fileadmin/redaktion/public/downloads/3_angebot/wissensvermittlung/jahresberichte/2024_Jahresbericht_FSM.pdf) of the Research Foundation for Electricity and Mobile Communication (<https://www.emf.ethz.ch/en/>), based in Zurich. It’s in German and English.”)

Response to Questions #6 and #12, scientific evidence about potential adverse health effects caused by current exposure limits or below current federal exposure limits:

The exposure limits are too low because people living closest to the sources have been harmed. The microwave illness of residents of Pittsfield, Mass., caused by a Verizon cell tower, is documented in the Pittsfield Board of Health investigation. See <https://wireamerica.org/ma/pittsfield/board-of-health-order/>.

Any FCC-regulated device (e.g., antenna, cell phone) is a source of potential adverse health effects. Environmental Health Trust reports

“Research has not yet identified a “safe level” of Wireless Radiation. The Food and Drug Administration (FDA) and EPA did not do pre-market safety testing nor did they perform research to determine a safe level of Wireless Radiation. Research shows that Wireless radiation at very low levels (thousands of times below presently legal federal safety limits) can result in neurological and reproductive damage.”

For a comprehensive list of studies, see various links available at <https://bioinitiative.org/research-summaries/>.

In 2020, Environmental Health Trust asked the U.S. Circuit Court of Appeals for the D.C. Circuit to review the FCC’s failure to update RF safety regulations, seeking to force a closer look at evidence of harm. Over 11,000 pages of harm from wireless technology were submitted to the FCC. Since then, even more studies have shown human health effects from non-ionizing radiation. (Visit <https://www.fcc.gov/ecfs/search/docket-detail/19-226> and click on Search for Filings.)

Response to Question # 9, Measuring Human Exposure and Public Health Surveillance, disclosure of technical and exposure-related information:

All RF and EMF exposure-related information should be disclosed to all members of the public! One option for providing this information is signage or placards on buildings or on utility poles. While QR codes are a popular option for sharing information, web sites or phone numbers should also be provided for people whose cell phones do not have Internet access or for remote locations where cellular data may be spotty.

This 2009 article explains how efforts to halt cancer research on power line EMF exposure may harm workers in this field:
<https://microwavenews.com/news-center/real-junk-science-emfs-stop->

[electric-field-cancer-research-say-industry-scientists](#) (“Epidemiologic studies on electric field effects on workers have produced some of the most provocative findings in the entire EMF cancer literature. This work has been ignored for years and now Kheifets and Swanson want to bury it for good.”)

Response to Question #10, Suggestions for data sources or surveillance systems:

While this might be more of a public awareness effort than a surveillance system, primary care physicians and pediatricians should have standard questions that they ask pregnant women and young children about their RF and EMF exposure. These questions could find out whether and how people carry devices next to their bodies; doctors could advise turning phones and routers off at night to minimize exposure. Doctors could also report symptoms to EMFs just as they report adverse vaccine reactions to a government database.

Response to Question #11a, exposure assessment or risk evaluation for sensitive populations, including children.

On July 12, 2012, the American Academy of Pediatrics (AAP) sent a letter to the FCC Chairman in favor of the RF Review stating, “ concerns have been raised that long-term RF exposure at this level affects the brain and other tissues and may be connected to types of brain cancer, including glioma and meningioma.” The AAP noted that the World Health Organization said “mobile-phone emissions are ‘possibly carcinogenic to humans... Children, however, are not little adults and are disproportionately impacted by all environmental exposures, including cell phone radiation.... In fact, according to IARC [International Agency for Research on Cancer], when used by children, the average RF energy deposition is two times higher in the brain and 10 times higher in the bone marrow of the skull, compared with mobile phone use by adults.”

Response to Question #14, Existing Evidence regarding potential adverse environmental effects associated with RF radiation:

See *A review of the ecological effects of radiofrequency electromagnetic fields (RF-EMF)* by S. Cucurachi et al, Environment International, January 2013, published by Elsevier and available at <https://www.sciencedirect.com/science/article/pii/S0160412012002334>.

Response to Question #17.a. Federal Research Priorities for HHS Food and Drug Administration (FDA):

FDA must work on disclosure of RF radiation for medical devices like Inspire or other implants. Many people assume that these devices are safe, but emission levels are been regulated with old data and the “assumption” built into the Telecommunications Act that the FCC is studying them. In reality, the Federal government is not taking the risks seriously and is taking industry’s word that things are safe. The FDA must take public health protection seriously and advise FCC about public health exposures.

Response to Question #18, Any additional information or recommendations for federal health agencies when evaluating potential adverse health effects associated with RF/EMF radiation exposure:

Please consider the list of literature on genetic effects at <https://bioinitiative.org/wp-content/uploads/2022/06/Genetic-Effects-of-Non-Ionizing-EMF-Abstracts-2022.pdf>.

In addition, I am concerned about the general lack of public information and safety about EMFs, and the constant push by industry and the Federal Communications Commission to ease permitting for cellular antennas and equipment and railroad individual rights. I have also experienced first hand how local governments pressure utility ratepayers to accept RF-emitting

smart meters and give up their customer data; permission is not sought and those who wish to opt out have to fight and pay for their rights. These actions violate constitutional due process rights, and deprive individuals of life (for those who suffer electro hypersensitivity syndrome, radiation can stress the heart and cause life-threatening symptoms), liberty (freedom to avoid RF radiation and to not share personal details about when their minute-by-minute electric or water consumption) and also property (RF emissions projected into homes are trespass). American citizens should also have the right to informed consent about radiation of their bodies and the bodies of their children, especially school children who are given devices that emit WiFi. One simple way to reduce exposure would be to instruct children to put all school-issued devices in Airplane mode (e.g., when carrying the device in a backpack) unless there is a need to access the Internet.