

# **BUILDING BIOLOGY INSTITUTE REPORT**

**IN THE SUPREME COURT OF PENNSYLVANIA  
MIDDLE DISTRICT**

RE: No. 34 MAP 2021, *Povacz, M, et al. v. PUC*  
Associated Case(s):

35 MAP 2021 Consolidated  
36 MAP 2021 Consolidated  
37 MAP 2021 Consolidated  
38 MAP 2021 Consolidated  
39 MAP 2021 Consolidated  
40 MAP 2021 Consolidated  
41 MAP 2021 Consolidated  
42 MAP 2021 Consolidated  
43 MAP 2021 Consolidated  
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45 MAP 2021 Consolidated

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**THE BUILDING BIOLOGIST INSTITUTE REPORT**

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**General Statement**

1. My name is Lawrence James Gust. I am the President of the Board of Directors of the Building Biology Institute (BBI).<sup>1</sup> I have a degree in electrical engineering and an MBA. I have been an environmental consultant for over 20 years and have trained hundreds of environmentally safer buildings consultants via the BBI.

2. The Building Biology Institute (BBI) is a 501(c)(3) non-profit corporation. BBI was founded in the US in 1993 and it follows the Principles of

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<sup>1</sup> <https://buildingbiologyinstitute.org/about/our-mission/>

the Institute für Baubiologie und Ecologie in Germany.<sup>2</sup> Our mission is to help meet the ever-increasing public demand for proven methods that secure homes, schools, and workplaces from toxic indoor air, tap-water pollutants, and hazards posed by electromagnetic fields (“EMF”) and radiofrequency radiation (“RFR”) exposure.

3. BBI offers three professional certifications: (1) Building Biology Environmental Consultant (BBEC); (2) Electromagnetic Radiation Specialist (EMRS); and (3) Building Biology New Build Consultant (BBNC). Each certification requires the participants to complete online courses, participate in a multi-day on-site seminar, undergo a mentored final project and pass various tests. To be listed as a practicing professional on the BBI website,<sup>3</sup> certified BBEC professionals must obtain approved continuing education credits.

4. Our trained RF/EMF mitigation consultants measure the electromagnetic fields and radiation at the site, provide a plan on how to mitigate these emissions and work with other professionals such as electricians and IT professionals to put in place the identified mitigating measures.

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<sup>2</sup> <https://www.ibo.at/en/>

<sup>3</sup> <https://buildingbiologyinstitute.org/find-an-expert/certified-consultants/electromagnetic-radiation-specialists/>.

5. Most of our clients are people who are sick or have family members who have adverse reactions to RFR exposure. As with other environmental toxins, and according to doctors, avoidance is the main and most effective treatment for those who are affected. Our services help them mitigate exposures in their homes, so they are part of the medical regimen prescribed by doctors. Many physicians encourage their patients to contact building biologists to optimize their living environment.<sup>4</sup>

6. We have a unique perspective and specific protocols driven by our extensive science-based knowledge, methods as well as experience working with those who suffer. Every day we see the widespread sickness caused by wireless devices and infrastructure. We personally witness how devastating this sickness is. Most important, we know our methods significantly improve the health and well-being of those who must avoid RFR. Remediation efficacy is well documented and undeniable.

7. Our knowledge and experience will provide the court valuable and important information necessary to reach a just decision in this case.

### **Smart Meters**

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<sup>4</sup><https://www.womenscollegehospital.ca/assets/pdf/environmental/Preliminary%20Clinical%20Guidelines%20%20for%20EHS.pdf#page=18>.

8. We often confront sickness caused or exacerbated by smart meters. Simply removing the meter often leads to immediate and consequential health improvement. Unfortunately, we also routinely witness intolerable suffering by those forced to have smart meters as a condition of service without any means to opt-out.

9. People can turn off their cell phones, they can turn off the Wi-Fi in the router and use hard-wired internet. They cannot turn off the smart meters and therefore are forced to be exposed to the toxin that caused them to be sick 24/7, in their home. It is a torture.

### **Demand increase correlates with exposure growth**

10. There has been a significant increase in requests for our RFR mitigation services over the last 20 years. Wireless services were first commercialized for the mass market in the mid-1980s. Back then and for around 10 years RFR mitigation was a very small part of our work. But that began to change in the early 2000s. Demand for our services has skyrocketed. RFR mitigation is now the most frequently requested service in our portfolio and constitutes about 75% of what we do. BBI consultants have a hard time fulfilling the demand. This directly correlates with and is the clear result of with the exponential growth in public exposure to wireless related pulsed RFR from wireless devices and infrastructure. Pervasive and chronic exposure leads to

endemic sickness. We see it every day in our work, and it is devastating for those who are afflicted.

11. This increase in demand is also reflected in the number of professionals who are taking the certification course and become a certified “building biologist.” Since we started to operate, 27 years ago, we have certified approximately 308 building biologists. Thirty percent of them, approximately 100, were certified in 2020/2021.

### **Collaborating With Treating Physicians**

12. We collaborate with doctors whose patients suffer from electro-sensitivity. The only effective treatment is avoidance and in many cases the house is the cause or at least an aggravating factor for their patients’ illness. Doctors refer their patients to us, as ensuring that the home environment of those affected is as clean as possible from pulsed RF radiation is critical for any improvement.

### **Human Consequences**

13. The human dimension of electro-sensitivity is tragic. People with the condition call me and other building biologists in ever increasing numbers. In many cases, people who used the technology “normally” and had no medical issues suddenly become ill. They share with me the overwhelming and life-altering changes confronting them when they or their children become sick. They literally beg us to help them return to a normal life.

14. These people endure tremendous physical suffering. Frequent and debilitating headaches. Inability to sleep. Heart arrhythmia. Pain in extremities. Burning skin. Mental confusion, cognitive problems, and memory loss. Non-stop ringing in the ears. Persistent nosebleeds are also common, especially with children. For many the symptoms are disabling and prevent them from functioning. They endure social isolation. They cannot work, go or be anywhere. Their lives are becoming increasingly impossible. In addition, they have to deal with ignorant and cruel denial of their condition because their sickness is an inconvenient problem to those promoting wireless technology.

15. The problem is real and overwhelming. BBI's certified practitioners operate at ground zero. They alleviate the suffering of a rapidly growing number of people across the United States. Building Biologists often care for clients who are severely ill and desperately struggling simply to survive even in their own homes. For these individuals and their families, the implementation of mitigative measures recommended by BBI's certified consultants offer the first and last resort. For these clients and thousands like them, the services of Building Biologists are lifesaving.

16. Many of our clients are unable to work because places of employment are saturated with wireless devices. They are unable to drive to work because roadways are flanked by cell towers irradiating passing vehicles with very high and

ever-growing RF levels. They are unable to live in urban and suburban areas because houses are being irradiated by ever increasing numbers of cell phone antennas, neighbors' wireless devices and – as here – from utility smart meters.

17. However, when remediation reduces pulsed RFR radiation by shielding the residence, symptoms usually abate or reduce, depending on the initial power density and the overall ability of the shield.

### **RF Levels**

18. The levels of pulsed RF radiation we measure (shown in power density) are usually well below the FCC guidelines. However, power density is still significantly millions and trillions of times above natural environmental levels,<sup>5</sup> and sometimes millions and more times higher than the levels that can cause adverse health effects reported in peer-reviewed research.

19. The FCC guidelines are not biologically-based and not evidence-based. The FCC guidelines do not address non-thermal effects or pulsation and they average exposure over 30 minutes (which hides the true biological response to exposure) and test for exposure from only one device. They do not protect from chronic long-term exposure or from exposure to multiple devices, radiation sources, frequencies, and modulations. They do not protect the public health, or at

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<sup>5</sup> [https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196\(18\)30221-3/fulltext](https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(18)30221-3/fulltext).



least not for a significant part of the population. Our clients are the evidence, and the growing sickness is a clear proof this is so.

20. The FCC's averaging does not account for pulsed digital signals occurring in milliseconds. Therefore, they vastly underate the power density (typically measured in milliwatts per square centimeter, or  $\text{mW}/\text{cm}^2$ ) that the human body must deal with on account of unremitting exposure to pulsed, modulated radiofrequency radiation. We see the peaks and pulses hidden by averaging, and witness first-hand what it does to people. BBI practitioners measure the aggregate RF exposure on the human body when in clients' homes.

### **Shielding**

21. Those affected by RF/EMF face a living hell. They cannot be or go anywhere. Their home is their only refuge. Even this refuge is constantly under threat, and many are required to shield their homes. Reducing RF levels enough to be effective is a costly process. Unfortunately, the expense prevents many people from effecting the best remediation plan or any plan at all.

22. Shielding is expensive because the shielding materials are metal based, as metal blocks radiation. For example, shielding a parent's queen size bed with an RF protection tent ranges from \$1,250 to \$1,700 depending on the shielding capability of the material. Shielding a child's single bed will cost between \$1,000 to \$1,400. Instead, it is possible to shield the bedroom itself by

painting the walls with RF protection paint and putting RF protection film on the windows instead of tenting the bed. The cost for an average 12' x 12' bedroom is \$2,450. A family with two children would have to spend about \$7,350.

23. Building Biologists focus on shielding sleeping areas because this is where people are most vulnerable to RF radiation. But this alone does not adequately protect people who are home all day.

24. Whole-house RF Radiation reduction requires painting the outside of the house and the inside ceiling on the top floor with an RF protection paint. The cost for 2,000 square feet is approximately \$14,000. This cost is for two coats of paint. But with growing RF levels, three coats are often needed, so the cost is higher.

25. Metal reflects RF back into a shielded area. Therefore, whenever these materials are applied, a careful analysis is required to ensure the materials do not actually increase exposure. Shielding requires experts to do the job and this increases total cost.

26. People sick from environmental exposure should not be forced to be exposed in their home to the toxin that makes them severely sick. The considerable cost of creating a livable environment is unfairly shifted to the injured, who have no ability to recover from those who caused the injury.

## **Shielding & Smart Meters**

27. Shielding materials attenuate the radiation, they do not entirely block it. Reducing exposure enough to have a salutary effect is becoming increasingly difficult because of the densification of wireless infrastructure including 5G, and because home devices are becoming more powerful.

28. Smart Meters are without a doubt one of the most significant problem sources. In 2013 I filed a letter with the FCC in response to the agency's 2013 inquiry whether it should review its 1996 guidelines. I wrote to the FCC that the most significant frequent initial sensitizing event we have seen over the last two years has been the installation of smart meters. Now, 8 years later, this is still true. Smart meters are the most significant sickness agent we must confront. 5G antennas near homes is yet another major sickness agent, but they, at least, do not typically also cause conduction through the homes' over the cage of wiring that encircles the entire living space— in the walls, ceiling and floor.

29. Smart meters' antennas send intense RF pulses every few seconds and these emissions affect the entire house. Proximity of the RF radiation-emitting source directly impacts our ability to attenuate the radiation, as radiation drops with distance. Smart meters' location on or in close proximity to the house is why they are the worst offenders for those who suffer from pulsed RFR.

30. The radiation from meters installed further away from the house still creates RF inside the house. The RF frequencies from the antenna and from the switch mode power supply are conducted through the house electric wiring. This pulsed RF radiation enters the living spaces through the floors, walls, and ceilings and via the power cords on all plugged-in electrical devices.

31. While one can take measures to reduce the radiation from smart meters' antennas, shielding from the RF emissions that go into the house electric wiring system from the RF antenna and from the switch mode power supply (SMPS) is complex, expensive, and not very effective.

32. There are filters that help reduce the RF "noise" created by the meter's switch mode power supply that conducts through the electric wiring. However, some are very expensive. Others emit high magnetic fields that are also problematic for those who are sick. Filters provide only partial solution as many reduce higher frequencies while creating new, lower frequencies that are below the typical measurement range of the meter.

33. Shielding is used to block radiation coming from the outside. Shielding materials should be installed only when no pulsed RF-based wireless devices are in the house.<sup>6</sup> Otherwise, the shielding would be counterproductive and

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<sup>6</sup> Part of our remediation includes eliminating all other emission sources inside the house, including things like SMPS used in laptop computers or other electronic devices or wireless "Internet of Things" devices. Our clients can control such

even increase exposure because the inside-home emissions become “trapped” within the house because of the shielding. For that reason, shielding the house from outside sources can aggravate the problem caused by smart and digital meters.

34. A smart or digital meter on a house with resident adults and children who adversely react to RF/EMF harms them both directly and indirectly. They directly suffer from the meter effects, and they cannot shield emissions from the outside like from cell towers, or neighbors’ smart meters and Wi-Fi networks.

### **Conclusion**

35. People are being told that wireless technology is safe. That smart meters are safe. They trust the government and the equipment manufacturers to have their best interests and safety at heart. Nothing is further from the truth as the recent case of the Children’s Health Defense against the FCC exposed. We see the devastating sickness daily in our work. We hope this court will protect those who need it the most.

36. The only reasonable accommodation for those who suffer from pulsed RF radiation is an analog meter. They are the only meters that do not emit RFs and do not aggravate the situation of those whose life is already a torturous nightmare. Analog meters are inexpensive, last much, much longer than digital meters - they

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things. But they cannot control what the smart or digital meter does nor can they turn it off.