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Date: April 6, 2021

Re: 3/21/21 Agenda Item #15 to encourage the Pittsfield, Massachusetts Health Department to investigate the health effects reported in the vicinity of the Verizon 877 South Street Cell tower

Dear Pittsfield City Council Members, Board of Health Director Armstrong and Public Health Nurse Winters:

Thank you for the opportunity to speak at the Pittsfield City Council meeting on 3/21/21 regarding a public health survey for residents in Pittsfield. I am in favor of Agenda Item #15 and encourage the Pittsfield Health Department to investigate the health effects reported by those living in the vicinity of the Verizon 877 South Street Cell tower. You have a legal obligation as a city to protect the health and welfare of your residents. No one else will do this for you. What befalls those on 877 South Street will eventually befall you as well as cell towers area allowed to densify without restrictions, our knowledge or our consent.

I am a practicing Stanford trained surgeon who has studied the health impacts of environmental toxins through our local County Medical Association and the California Medical Association for over 25 years. There have been only a few successes in reducing toxins. We have removed lead from paint and gasoline, removed asbestos in ceilings, we have banned DDT, but in each instance it has taken decades to identify and correct these errors in "progress". Industry has fought back with an assault on science to keep tobacco and chemicals in production. Read "Doubt is Their Product" by David Michaels. Another scientific paper I invite you to read is **The science of spin: Targeted strategies to manufacture doubt with detrimental effects on environmental and public health.** Goldberg and Vandenberg (2021)

Emerging Toxins? Add Cell Towers to the List

Innovation has now given us an enlarging list of emerging toxins, many of which are “forever” chemicals accumulating in our bodies. It is now difficult, if not impossible in many circumstances to mitigate toxic pollution in our water, soil and food. Your wastewater treatment experts can attest to that. https://www.usgs.gov/mission-areas/water-resources/science/emerging-contaminants?qt-science_center_objects=0#qt-science_center_objects

When I learned of a proposal to place a cell tower on my daughter’s school 10 years ago I dove into the research. What I learned is that wireless technology, including infrastructure, is a broad environmental and human biological toxicant. I then co-founded Physicians for Safe Technology, wrote articles and have been active educating my colleagues.

Wireless Technology: The New 21st Century Toxin

21st Century Technology is providing us a new 21st Century toxic health threat in the form of wireless technology. It started small in the 1990’s with few people harmed by cell towers that were spaced far apart, but similar to the chemical industry, the telecommunications industry has pushed ahead without adequate regulation or monitoring of safety for the public. Just as we are now seeing the unintended generational fallout from chemicals, we are also seeing the cumulative health impacts of cell towers and a bevy of wireless devices we have become dependent on. 5G is now being touted as a revolution in technology with faster speeds and seamless connections, while our cheap, secure and reliable landlines are disappearing.

5G: A Manufactured Need

The telecommunications industry has largely manufactured a “need” for expanding wireless technology in cities, while halting projects for safer fiberoptic broadband. Note a 2020 report, [5G: State of Play in Europe, USA and Asia. In Depth Analysis](#), indicates 5G is a manufactured need. *“As 5G is driven by the telecoms supply industry, and its long tail of component manufacturers, a major campaign is under way to convince governments that the economy and jobs will be strongly stimulated by 5G deployment.”*

Industry has influenced laws to prevent health or environmental effects from being considered in the placement of cell towers (See FCC Captured Agency). They knew of the harm in early studies done by Dr. George Carlo in the 1990’s but suppressed the data so they could move forward. A blizzard of robust science has appeared now to show biological and health impacts of wireless technology, but it is still denied, and the basis for “safety” is flawed. An exponential growth in cell towers is now being played out with cities being left on their own to figure out how to regulate these towers locally. Industry places a heavy hand and complex laws on local policy makers who must navigate these complex FCC policies to prevent legal action.

FCC Standards Obsolete

The standards set by the FCC are based only on heating of the tissues. In essence, it is a cooking standard. These standards are obsolete and need to be updated to include the latest science that shows not only the mechanism of oxidation of non-ionizing radiation, but also the adverse

effects on the brain and nervous system (including opening of the blood brain barrier), sperm damage, ovarian damage, abnormal clotting of the blood, cardiac effects and cancer. A lawsuit has been filed against the FCC for failing to update their standards based on new scientific evidence.

Insurance Has an Exclusion for Radiofrequency Radiation as an Emerging Risk

Insurance companies consider wireless radiation to be similar to asbestos in long term health impacts and do not provide coverage from harm for RF health effects. The cities are left with that liability unless they can provide insurance.

In a 2019 [report](#), **New Emerging Risk Insights**, by Swiss RE Insurance Company, the second largest reinsurance company in the world, **5G is listed as an emerging concern** in the high risk category within 3 years. Included in the high risk trends are artificial intelligence and the existential threats of climate change. *“The top five emerging risks in our SONAR 2019 report are digital technology’s clash with legacy hardware, potential threats from the spread of 5G mobile networks, increasingly limited fiscal and monetary flexibility by central banks, genetic testing’s implications on life insurers, and the impact of climate change on the life and health sector.”* <https://www.swissre.com/institute/research/sonar/sonar2019.html>

The Mirage of Safety of Wireless Devices

Unfortunately, we are told wireless radiation and cell towers are safe within current safety guidelines, or that we do not really know if there is harm or that the research is inconclusive or that it is not ionizing (like x-rays) so it cannot hurt us. This is the same dismissive and doubt creating language used by the tobacco industry and a host of other chemical companies to protect their toxic products, thus profits. The research shows that we do know beyond a doubt, that wireless radiation is harmful to all living systems below the current safety standards. The most obvious evidence is that more and more children and adults are reporting symptoms of electrosensitivity (EHS) in the presence of wireless radiation when they live in a home near a cell tower, or in schools where wireless devices and cell towers are increasing.

Electromagnetic Illness

Another more accurate term for electrosensitivity is electromagnetic illness, with non-specific symptoms of fatigue, headache, irritability, nausea, memory loss, insomnia, heart palpitations and neuropsychiatric symptoms such as depression. Military personnel who worked on radar, firefighters who had cell antenna placed near their fire stations and computer scientists have experienced this as well.

A recent report by the National Academy of Sciences concluded that the “sonic attacks” on diplomats in Cuba and China were most likely due to pulsed radiofrequency from directed energy weapons. They had symptoms similar to those who live near cell towers. Dr. Beatrice Golomb wrote the most extensive report to date on this subject linking these mystery “directed energy attacks” to pulsed microwaves similar to the wireless devices we use daily. In the case of these high powered beams there was documented injury to brain networks found by the University of Pittsburgh physicians who studied the diplomats. **The strength of the health effects are related to the peak power not the average power.**

This is what those who live near the cell towers are experiencing, adverse health effects due to the close intense beams of microwave radiation. Not everyone responds in the same way. Every individual has variable biology, past toxic exposures, genetics and nutrition which accounts for variable reactions. Bevington (2019) reviewed health surveys on electrosensitivity and found that about 0.65% of the general population are restricted in their work access due to disabling symptoms of electrosensitivity (EHS-EMF/IEA), about 5% of the general population have moderate symptoms and up to 30% have mild symptoms.

Physicians in Germany ask for Health Investigation of Cell Towers in 2005

An open letter from Dr. Cornelia Waldmann-Selsam was sent to the German State Chancellor, Edmund Stoiber, on behalf of 114 physicians (Bamberger Appeal) asking for an investigation into the newly reported adverse health symptoms of 356 residents who lived near cell towers in Oberfranken, Germany. Dr. Waldmann-Selsam noted, *“Many humans get sick from emissions far below the recommended limit values, which consider only thermal effects, and we have a sickness picture with characteristic symptom combinations, which are new to us physicians,”* *The list of symptoms were, ” Sleep disturbances, tiredness, concentration impairment, forgetfulness, problem with finding words, depressive tendencies, tinnitus, sudden loss of hearing, hearing loss, giddiness, nose bleeds, visual disturbances, frequent infections, sinusitis, joint and limb pains, nerve and soft tissue pains, feeling of numbness, heart rhythm disturbances, increased blood pressure , hormonal disturbances, night-time sweat, nausea.”* Resident noted *almost immediate improvement when moving away.”*

Dr. Waldmann-Selsam goes on to say, *“physicians were able to prove, by re-testing the patients, the normalization of blood pressure, heart rhythm, hormone disturbances, visual disturbances, neurological symptoms, blood picture,”*. She called this an emergency medical situation and requested an official health investigation. http://www.next-up.org/pdf/Letter_to_Edmund_Stoiber.pdf

The EUROPAEM EMF Guideline 2016 for the prevention, diagnosis and treatment of EMF-related health problems and illnesses is a comprehensive guide written by many scientists and physicians in Europe who are part of the European Academy for Environmental Medicine (EUROPAEM) – EMF working group who have recognized and treated those with electrosensitivity for many years. This is a thorough, well researched and well-referenced scientific paper that is based on the 2012 Austrian Medical Association [Guidelines for the Diagnosis and Treatment of EMF Illness](#). A questionnaire from their group is included in the attachments.

Cell Tower Effects on Cognition and Learning

The majority of studies, which have been done internationally, have shown an increase in neurologic symptoms in a percentage of residents living near cell towers. Symptoms vary with the distance from the cell tower. Symptoms include insomnia, headache, heart palpitations,

dizziness, poor concentration, and fatigue. A study in Japan (Shinjo 2014) showed a decrease in symptoms when the cell tower was removed. There is also a well done study showing blood abnormalities in those living nearest to cell towers (Zothansama 2017). DNA and lipid abnormalities were seen along with reduction in internal antioxidants which provide protection from pollutants.

Moreover, a recent study conducted over a 2 year period looked at effects of cell towers near two schools by Meo et al (2018) and clearly demonstrated cognitive dysfunction in students closest to the higher power cell tower.

500 Meter Buffer from Cell Tower Recommended

Cell tower health studies that show impacts from cell towers with symptoms within about 1500 feet of the cell towers. That is why Pearce et al (2019) **recommended a “500 Meter buffer around schools, hospitals and homes “Limiting liability with positioning to minimize negative health effects of cellular phone towers.””**

Cancer and Cell Towers

3 Studies investigated the rates of cancer and cell towers looking at the distance from cell towers and the incidence of cancer. They found the rate of cancer incidence increased significantly in those living within about 350 -400 meters to the cell tower.

Eger (2004) showed an increase in the development of new cancer cases within a 10 year period if residents lived within 400 meters of a cell tower. Their results revealed that within 5 years of operation of a transmitting station the relative risk of cancer development tripled in residents near the cell towers compared to residents outside the area.

Wildlife Effects

The Inter-Ministerial Committee (IMC) of expert scientists reviewed the literature of the effects of RF-EMF radiations on wildlife, humans and the biosphere. In their 2010 MOEF Report they found that out of the 919 research papers collected on birds, bees, plants, other animals, and humans, 593 showed impacts, 180 showed no impacts, and 196 were inconclusive studies

Percentage of studies that reported harmful effect of EMR in various groups in MOEF Report

Human Effects– 62% showed effects, 13% no effect and 25% inconclusive

Plant Effects– 87% showed effects and 13% were inconclusive

Wildlife Effects- 62% showed effects, 4% no effect and 36% inconclusive

Bee Effects—85% showed effects and 15% no effect

Bird Effects- 77% showed effects, 10% no effect and 13% inconclusive

Nature and human biology are much more complex than technology.

Public Health Surveys

Many successful published and informal health surveys have been done to identify and link radiofrequency radiation to health effects. You should do this as well considering you have a defined population and one cell tower in Pittsfield, Massachusetts.

- 1) A Maine Health Survey of Smart Meters was performed by Richard Conrad, PhD, a John Hopkins biochemist. which provided an abundance of testimony and research. He performed a [health symptom survey of residents in Maine](#) after the installation of smart meters in 2012. This was in response to reports of neurologic symptoms in residents after smart meters were attached to their homes. A constellation of “severe” symptoms of electrosensitivity that developed in residents included fatigue, insomnia, difficulty concentrating, headaches, agitation, ringing in the ears, pressure in the head, tingling burning skin, heart racing, arrhythmia, memory problems.

Dr. Conrad’s survey was not a prevalence survey. He solicited responses only from persons who already felt that they had experienced health effects/symptoms from exposure to smart meters. Two of the key questions he wanted answers to were:

- 1) do smart meters initiate electrical sensitivities in previously normal persons, and
- 2) do smart meters worsen the electrical sensitivities in persons who were already electrically sensitive?

He concluded, *“The survey results provide very strong evidence that smart meters are causing painful and debilitating new symptoms in many previously normal healthy people, and causing them to become electrically sensitive to a whole range of electronic devices including Wi-Fi, cell phones and computers. Because of exposure to smart meters, people are becoming electrically sensitive at an unprecedented rate. Many of these people had previously lived with Wi-Fi in their homes on 24/7, worked in offices with Wi-Fi and many computers all day long, and had used a cell phone, all without symptoms. This includes professionals from all walks of life: doctors, dentists, nurses, teachers, realtors, salesmen, and many who absolutely needed their computers for their work and had loved their electronic devices: computer programmers, electronic engineers, accountants and graphic artists.”*

- 2) **Wireless Utility Meter Safety Impacts Survey.** Sept 13, 2011. Ed haltman, PhD. <http://emfsafetynetwork.org/wp-content/uploads/2011/09/Wireless-Utility-Meter-Safety-Impacts-Survey-Results-Final.pdf>
- 3) **Dr. Waldmann-Selsam-Oberfranken,** Germany- <http://www.vws.org/documents/cell-project-documents/BambergAppeal.pdf>

- 4) **Cell Tower Transmitter Health Studies** – 28 Summaries – Testimony -
<https://ecfsapi.fcc.gov/file/107222548308131/Cell%20Tower%20Transmitter%20Studies-28%20Summary%20Findings.pdf>

New Hampshire 5G Commission Finds Radiofrequency Radiation Problematic

The first Commission formed in the United States to study the environmental and health effects of 5G technology released their [comprehensive final report](#) November 1, 2020. The Commission to Study the Environmental and Health Effects of Evolving 5G Technology was mandated by HB 522 passed by the state legislature in New Hampshire. Their final report included 15 recommendations addressing the need for public education about wireless hazards, RF health studies, RF measurements, cell antenna setbacks, [fiberoptic](#) rather than wireless deployment, commercial warning signs and wildlife protection. After hearing extensive testimony in a series of 13 meetings over the course of a year and reviewing an abundance of research, the Commission highlighted the lack of a single definition for 5G, insufficient evidence of safety for 5th generation technology, a concern that safety standards for wireless technologies have not been updated with the latest science and that 5G is largely a marketing concept. They also expressed concern that the FCC has a long history of being accountable to industry over the desires of communities and individuals.

The State of New York has now introduced a bill, NY A06448 as well to study the environmental and health effects of evolving 5G technology.

Although this seems a daunting task please think carefully before you decide to ignore the requests of your brave residents who ask to be heard, believed and relieved of symptoms or worry about long term health effects that have been documented for so long by so many. A health survey as well as an independent consultant who can measure the radiofrequency radiation from the tower in front of the homes would be useful. Perhaps you could work with your state representatives to legislate a commission to examine 5G as well.

I thank you for reading this letter and using the power of your positions for the benefit of the Pittsfield citizens you serve, as well as for the common good of humanity and nature which we depend upon. Your children and members of your beautiful historic Berkshire community will thank you for your efforts.

Sincerely,

Cindy Russell, MD
Physicians for Safe Technology

“Our vision is a world where technology serves our needs without undermining our physical, psychosocial or environmental health.”

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Prevalence Studies of Electrosensitivity

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Patient Questionnaire Electrosensitivity

Name: _____ Date: _____ Age: _____

Address _____

a) List of Symptoms: How often have you experienced the following health problems in the last 30 days? Please mark the appropriate box in every line.

Symptoms	Never	Rarely	Sometimes	Often	Very Often	Since when? Month/Yr
Anxiety						/
Tightness Chest						/
Depression						/
Difficulty Concentration						/
Restlessness						/
Hyperactivity						/
Irritability						/
Exhaustion						/
Fatigue						/
Difficulty finding words						/
Forgetfulness						/
Headaches						/
Dizziness						/
Sleep Problems						/
Noise Sensitivity						/
Pressure in ears						/
Ear ringing						/
Burning eyes						/
Nervous bladder						/
Heart palpitations						/
Blood pressure						/
Muscle tension						/
Joint pain						/
Skin rashes						/
Other (write)						/
Other (write)						/

b) Variation of health problems depending on time and location

Which health problems do you perceive to be the most severe?	
Since when have you been experiencing these health problems?	
At what times of the day or week or month do the health problems appear?	
Is there a place where the health problems increase?	
Is there a place where the health problems increase or are particularly severe? (e.g. at home, work)	
Is there a place where the health problems recede or disappear altogether? (at work, home, vacation, friends house, parks)	
Do you have an explanation for these health problems?	
Are you experiencing stress, e.g. due to changes in your personal life?	
Please list any environmental assessments made, measurements made or any measures taken up to now.	
Please list any environmental medicine diagnosis and treatments given up to now.	

c) Assessment of EMF exposure at home and work

- 1) Do you use a cell phone at home or at work? _____
How long have you been using it? _____
How much do you use it to make calls per day? (hours/minutes) _____
Have you noticed any relation to your health problems? _____
- 2) Do you have a cordless phone (DECT base station) at home or at work? _____

How long have you had it? Months/years. _____
How much do you use it to make calls per day? _____
Have you noticed any relation to your health problems? _____
- 3) Do you use wireless internet access? (Wi Fi, WLAN, WiMax, UMTS) at home or at work? _____
How long have you been using it? Months/years. _____
How much do you use it per day? Hours/minutes _____
Have you noticed any relation to your health problems? _____
- 4) Do you use energy efficient light bulbs in your immediate vicinity? (desk lamp, dining table lamp, reading lamp, bedside lamp) at home or at work? _____

If yes, how long have you been using it? Months/years. _____
How much do you use it per day? Hours/minutes _____
Have you noticed any relation to your health problems? _____
- 5) Is there a cell tower near your home or your workplace? (specify) _____

If yes, how long has it been there? Months/years. _____
At what distance is it from your home? _____
Have you noticed any relation to your health problems? _____
- 6) Are there any power lines, transformer stations or railway lines near your home or your workplace? _____
workplace? _____
If yes, for how long are you exposed to them per day? _____
Have you noticed any relation to your health problems? _____
- 7) Do you use Bluetooth in your car? _____
If yes, how long have you been using it? Months/years. _____
Have you noticed any relation to your health problems? _____

