

Olle Johansson PhD to Pittsfield Board of Health on Cell Tower Cease and Desist

Sent: Wednesday, April 6, 2022, 10:01:38 AM EDT

Subject: Letter of support for the Pittsfield MA Board Of Health to be the very first in the US to issue Verizon a Cease and Desist Order to turn off a cell tower in the neighborhood on the grounds of wireless biological harms

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Letter of support for the Pittsfield MA Board Of Health to be the very first in the US to issue Verizon a Cease and Desist Order to turn off a cell tower in the neighborhood on the grounds of wireless biological harms. When the tower was activated, 1/3 of the neighborhood became suddenly ill with symptoms such as nausea, vomiting, headaches, dizziness, insomnia, tinnitus, palpitations, irritability, memory and concentration issues, skin rash, hormonal imbalance, and more, some of which are consistent with the demonstrated biological effects from wireless radiation, and most of which are completely in line with classical radiation damages from other radiation frequencies, such as radioactivity, X-ray exposure, UV-light damages, and radar beam effects.

There is a growing concern that microwave exposure, used for wireless telecommunication, will be harmful to life on the planet, and that it will destroy the environment through unsustainable energy consumption, radiation emissions, harmful mining and pollution, which all will endanger biodiversity and natural habitats, it will threaten our privacy which, in turn, will increase the risk of cybercrime, data leak, theft, resale, and misuse of artificial intelligence. In short, it is becoming more and more evident that we must take action to protect life, environment, and our data via strict recommendations, effective self-protection requirements and consecutive measures for humans and wildlife, and firm regulation of electromagnetic field (EMF) radiation sources and their exposures of the general public and

of the wildlife. Along those lines, a Cease and Desist Order is a first vital and crucial step, however, it must be ensured that the operator does not only remove the antenna tower but also the microwave exposures as such.

My name is Olle Johansson, and I am a neuroscientist, retired from the world-famous Karolinska Institute and the equally famous Royal Institute of Technology, Stockholm, Sweden, both with their close associations to the Nobel Prizes in Physiology or Medicine, Chemistry and Physics, and I am hereby submitting testimony in support for the Cease and Desist Order because I understand that you at present are concerned about the fast deployment of wireless systems, especially the 5G version of cell phone communication, without adequate sharing of information with the public, as well as about the cumulative harm which is mounting from today's rapidly increasing levels of radiofrequency radiation.

For many years I have been studying the health and biological effects of wireless gadgets, such as cell phones, DECT phones, WiFi, wireless baby alarms, smart meters, laptops, and similar. During this work, I have been contacted by many residents around the world, in connection with different legal bills, appeals and public calls, and in connection with proposed base station installations, wireless systems near and in schools, smart meters in homes and in workplaces, 1G, 2G, 3G, 4G, 5G, and much more.

Wireless communication is now being implemented in our daily life in a very fast way. At the same time, it is becoming more and more obvious that exposure to electromagnetic fields may result in highly unwanted health effects. This has been demonstrated in a very large number of studies and includes cellular DNA damage (which may lead to the initiation of cancer as well as mutations that carry down generations), disruptions and alterations of cellular functions like increases in intracellular stimulatory pathways and calcium handling, disruption of tissue structures like the blood-brain barrier (which may allow toxins to enter the brain), impact on the vessel and immune functions, and loss of fertility. It should be noted that we are not the only species in jeopardy, practically all animals, plants, and bacteria may be at stake. For the latter, Taheri et al (2017) have demonstrated that the exposure to 900 MHz GSM mobile phone radiation and 2.4 GHz radiofrequency radiation emitted from common Wi-Fi routers made *Listeria monocytogenes* and *Escherichia coli* resistant to different antibiotics. To say this finding is "scary" is a classical English understatement.

Because the effects are reproducibly observed and links to pathology can not be excluded, the Precautionary Principle should be in force in the implementation of this new technology within the society. Therefore, policymakers immediately should strictly control exposure by defining biologically-based maximal exposure guidelines also taking into account long-term, non-thermal effects, and including especially vulnerable groups, such as the elderly, the ill, the genetically and/or immunologically challenged, children and fetuses, and persons with the functional impairment electrohypersensitivity (which in Sweden is a fully recognized functional impairment, and therefore receives an annual governmental disability subsidy).

So, in essence, science is providing ever more convincing evidence that the radiation emitted by our wireless telecommunications systems can affect biological systems including humans and wildlife. These biological effects are acting even at very low exposure levels.

It is clearly not enough just to ensure exposure levels are below the World Health Organization (WHO) recommended levels. The WHO recommendations are designed to protect cells from excessive temperature increase successive to a maximal 30 minutes exposure to radiofrequency/microwave radiations. The bases for these recommendations were established in the late 1990s and have not been revised since then, even though:

- wireless technologies have developed very rapidly over the past 20 years,
- exposure pattern has completely changed (ubiquitous, repeated, prolonged exposure, exposure of children, fetuses, etc.)
- considerable scientific progress has been made in the identification of biological and health effects.

To date, we can no longer deny that thousands and thousands of studies indicate very real effects. The unbridled development of wireless systems is, in the more or less short term, conflicting with the health and protection of ecosystems. Observations and return on experience indicate that damages are already in action.

I would like to remind you that, in 2011, the World Health Organization classified the radiofrequency and microwave emissions of wireless technologies as possible carcinogens. However, cancer is only one of the long-term consequences of prolonged exposure. Radiofrequency radiation affects our cells long before cancer develops. Our body reacts with oxidative stress and inflammatory processes. When the exposure is repeated or prolonged, these mechanisms are maintained and may cause sleep disorders, disturbances in cognitive and reproductive functions, damage to cells and DNA. In the long run, the body's defense systems are being exhausted and diseases are threatening:

- repeated infections,
- infertility,
- developmental disorders (e. g. embryonic),
- neurological and neuropsychiatric disorders,
- cardiovascular diseases,
- neurodegenerative diseases including Alzheimer's disease,
- cancers.

Every generation of wireless technology also swells the ranks of electrohypersensitive people who physically suffer from being exposed to electromagnetic radiations, whether or not they are aware of their electrohypersensitivity. Nocebo or psychological explanations are clearly not sufficient to explain the phenomenon.

Of course, this may mean that to stay “connected but protected” may prove impossible without the re-introduction of wired, shielded communication solutions, like fiber optics.

Did you know?

- ... at least 350 million people around the world are electrohypersensitive (EHS)?
- ... many EHS people are homeless and have to live in their car?
- ... two famous EHS-sufferers were/are Nikola Tesla and Gro Harlem Brundtland, former head of WHO?
- ... in its international classification of diseases, WHO lists as “external causes of morbidity and mortality ([V01–Y98](#))” exposure to other non-ionizing radiation ([W90](#)), and exposure to radiofrequency ([W90.0XXA](#), [W90.0XXD](#), [W90.0XXS](#))
- ... the only remedy available to someone suffering from EHS is to move home or buy shielding materials costing thousands of pounds?
- ... this discrimination violates the [UN Convention on the Rights of Persons with Disabilities](#)?
- ... Sweden recognises EHS as a “functional impairment”?
- ... in Sweden EHS people have their own organization, The Swedish Association for the Electrohypersensitive, which receives an annual governmental subsidy?
- ... all people with the functional impairment electrohypersensitivity are entitled to have an equal life in society based on equality? One of the most important principles to achieve this is accessibility.

This means that wherever you live, under the [UN Convention on the Rights of Persons with Disabilities](#), you are entitled to the same protection as Swedish EHS people. (For further reading, see “[Electrohypersensitivity: a functional impairment due to an inaccessible environment](#)”, Rev Environ Health 2015; 30: 311–321.)

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Deploying 5G, 6G, and the future 7G, in addition to existing technologies, for sure, will increase the exposure of the world's population as well as of wildlife. But beyond the additional layer of electromagnetic pollution it will constitute, there is a strong suspicion that 5G, because of its technological specificities (frequencies, modulations, pulsations, narrowly focused and directional beams, densification of the antenna networks), will present even more serious health and environmental risks than existing technologies.

Engineers and the telecom industry readily argue that there is nothing to worry about because the high-frequency radiation of 5G will be absorbed mainly at the periphery of the body. This is based on the presumed skin characteristic that the higher the frequency of radiation, the shallower the depth of radiation penetration. In other words, most of the electromagnetic absorption (and heating) would occur over the first few millimeters of the body's surface.

Concluding that there is no risk is forgetting that surface effects can be significant on external cells and tissues (skin, eyes for example), as well as on all blood cells which will pass the outer portion of the skin every five minutes. There are reasons to suspect that the deployment of 5G may be accompanied by an increase in the number of melanomas and other skin cancers and eye disorders. Finally, from practical tests, no such shielding effect has been demonstrated pointing to that the bodily penetration is, after all, total.

But not only surface effects are of concern. There is also a strong suspicion that 5G radiation can have impacts far beyond the peripheral layers of the body. Living materials are not just homogeneous and inert conductive materials. It is a major mistake to omit the complexity of biological systems capable of responding to external electromagnetic stimuli otherwise than just through heating. Electromagnetic disturbances and chemical mediators (e.g. inflammatory mediators) can be spread throughout the body and induce biological (non-thermal) effects deep into the body. Such disturbances will also have an ideal avenue of spread via the peripheral nerves, the latter being found as superficial as 20-40 µm from the outer surface. And, furthermore, look at the enormous number of small animals, plants, fungi, and bacteria who easily fall into the realm of a "few millimeters' penetration", or do not ants count...?

In addition, do not forget that all living beings are electrosensitive! And given the extraordinary electromagnetic sensitivity of living systems, it is not a surprise that they can be affected even at lower exposure levels, especially if the exposure is ubiquitous and prolonged. And the exposure levels, as you know, are not "low" - compared to the natural background of such frequencies the man-made ones come at colossal, astronomical, biblical levels; just the current 3G systems are allowed at a maximal exposure level of 1,000,000,000,000,000,000 times the natural background! *And this is before the additions of 4G and 5G, and other similar sources!*

All around the world dramatic reductions in pollinating insect populations are noted, for instance in Germany where more than 75% of them are just gone, and recently the media have reported a more than 90% reduction of the bumblebee populations in the USA. I am particularly concerned about this because I already have a number of papers in my files dealing with this angle; I have even recently written a short commentary based on them: Johansson O, "To bee, or not to bee, that is the five "G" question", Newsvoice.se 28/5, 2019, <https://newsvoice.se/2019/05/5g-question-olle-johansson/>. I also know that other areas around the world have reported similar huge bee colony collapses, and my strong efforts now are to seek ways to conserve, protect and enhance our pollinators, wherever they reside, and thus conserve, protect and enhance ourselves. If we do not engage, then we certainly may head towards a moment in history where future generations - if any - will ask us *"Why didn't you react and act?"*

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Today's schools are filled with a wide range of wireless devices, all emitting radiofrequency radiation. In the USA manufacturers claim their devices meet the Federal Communication Commission (FCC) safety guidelines, but the FCC has recently been ordered by the United States Court of Appeals for the District of Columbia Circuit to explain and re-evaluate those 25 year old exposure safety guidelines, this time taking into account new studies showing exposure can be harmful, especially for children.

Children's growing exposure to radiofrequency radiation in schools, and the lack of remediation steps that any school can take to reduce that exposure, and the mounting legal implications for school administrators who knowingly expose students under their care to this proven hazard, are becoming overwhelming, not only in the USA, but around the world.

Existing wireless technologies are increasingly charged because of the major risks they pose to health and the environment. As a result, I support your concerned citizens and the Cease and Desist Order in their demand for taking all necessary measures to halt the deployment of 5G - and other wireless exposures - and reduce the overall exposure levels, including WiFi in schools.

I suggest you all act before it is too late.

Respectfully, Stockholm, April 6, 2022

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