

8 August 2019

Mrs. Heidi Soulsby & Mrs. Andrea Dudley-Owen  
President of Health & Social Care & Vice President, Committee for Economic Development,  
The States of Guernsey  
Sir Charles Frossard House  
La Charroterie  
St. Peter Port, Guernsey  
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Cc: Nicola Brink, Director of Health, Deputies of Guernsey, CICRA, David Green, Colin Vaudin

Dear Mrs. Soulsby and Mrs. Dudley-Owen,

Concerned residents of Guernsey have requested that I write you a letter explaining why 5G is a poor choice for your beautiful island – for many reasons. As an internal medicine physician active in the field of clinical electromagnetics and an editorial board member of the journal *Electromagnetic Biology and Medicine*, I am very familiar with the science on health effects of wireless radiation. Your residents' concerns about the health and environmental threats posed by 5G deployment are entirely justified and evidence based. As President of Health & Social Care and Vice-President of the Committee for Economic Development, it is essential that you understand basic issues that are not covered by the mainstream media. Without an understanding of these concepts, it is not possible for you to make informed policy decisions regarding the existing risks of wireless radiation and antenna densification in Guernsey.

### **There is no debate or controversy with regards to the health effects of microwave radiation**

Wireless radiation is a multi-site carcinogen and a broad-spectrum pathogen. The harm caused by exposure to microwaves (cell phones, cell towers, Wi-Fi etc.) is very clear and well documented in decades of peer reviewed science. Ample evidence now exists to reclassify microwave radiation as a class I carcinogen (IARC), including the [National Toxicology Program Cell Phone Study](#) (the gold standard of exposure studies) which demonstrated clear evidence of cancer, DNA damage and cardiomyopathy.

### **Decision-makers should learn from history**

You are undoubtedly aware of the tragic and vast human and financial cost of asbestos, tobacco, approved drugs and more recently Roundup, all having been repeatedly declared safe by governments and industry. Wireless radiation will likely surpass these in both financial and human cost because exposure is ubiquitous and health effects are protean.

### **There are no health protective guidelines for emissions of microwave radiation**

Compliance with FCC guidelines in USA and ICNIRP in Europe is repeatedly cited by industry and government as an assurance of safety, yet these guidelines are: 1) Outdated, 2) Scientifically irrelevant to

health as they only consider effects from tissue heating, disregarding the tens of thousands of studies that demonstrate otherwise, and 3) Not applicable to current population exposures with many of us using our devices from 6-12 hours each day while we are exposed via masts and WIFI in a harmful and chronic way. (24/7, 365 days/year). You may be surprised to learn that their current guidelines apply only to short term exposures lasting 30 minutes or less. Therefore, these guidelines are not even applicable to current exposures, yet they are falsely invoked as a rubber stamp of safety approval.

### **Cell Phones, Wi-Fi, tablets and other wireless devices were rolled out with zero premarket safety testing**

Wireless devices, including those we now require children to use in school, were never tested for safety. Entire books were published, as early as the 1970's outlining clear biological effects of microwaves on multiple organ systems (including cardiovascular, endocrine, reproductive and nervous systems).<sup>1</sup> Research demonstrated that low intensity microwave radiation interferes with essential functions of human cells, in many different tissues.

### **Because the science proves microwave radiation is harmful – human research can no longer be done**

Human subjects research to test microwave exposure in human populations is no longer ethical or possible. In order to conduct research on human subjects, one must apply for approval by an IRB (Institutional Review Board). The process involves reviewing existing science to see if there is a priori reason to believe the exposure is harmful. With wireless radiation, the evidence is so overwhelming that 1) No such proposals could be legally approved, and 2) If any such exposure studies were approved, they would be highly unethical.

### **If it is unethical to expose humans to wireless radiation in a lab, it is unethical to roll out 5G**

The frequencies in use with current 3G/4G networks have already been proven to cause harm – not only to humans, but also to birds and other animals, insects including bees and other pollinating insects, plants and microbes. The technology planned for the later stages of 5G is referred to as millimeter wave (MMW) - higher energy, higher frequency microwave radiation. Because these millimeter waves do not travel as far as current, lower frequency networks, this is the justification for placing “small cells” closer to homes and in our public rights of way. Because the current 3G/4G frequencies are planned for use in small cells, the net effect of a 5G deployment is to bring microwave emitting cell antennae, of existing frequencies, closer to homes. The very radiation that has already been proven to be an environmental toxin.

### **The science clearly demonstrates that millimeter waves are biologically active**

MMW technology has already been shown to be biologically active.<sup>2</sup> Studies demonstrate 1) Harm to the eyes (cataracts and corneal damage), 2) Immune system effects, 3) Antibiotic resistance, and 4)

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<sup>1</sup> Barański, S., & Czerski, P. (1976). *Biological effects of microwaves*. Dowden, Hutchinson & Ross.

<sup>2</sup> Russell, C. L. (2018). 5 G wireless telecommunications expansion: Public health and environmental implications. *Environmental research*, 165, 484-495.

Activation of pathways connected with addiction (endogenous opioids). Again, existing networks are already linked with a very long and expensive list of adverse health outcomes. Given the current weight of the evidence, I hope that as caring residents of Guernsey yourselves, you will agree it is unacceptable to increase your population's exposure to additional frequencies of a clearly established carcinogen and pathogen.

### **The biologic effects of microwave radiation demonstrate overlap with many of our costliest epidemics**

Clearly established mechanisms of disease associated with microwave radiation include but are not limited to: oxidative stress, mitochondrial damage, DNA damage, cell membrane leakage, blood brain barrier leakage, damage to sperm/reproductive harm, cardiomyopathy (heart damage). These very mechanisms have been implicated in most of the costliest epidemics sweeping the developed world, such as cancer, diabetes, infertility, mental illness (suicide/depression/bipolar), behavioral issues in children and insomnia.<sup>3</sup> Because Guernsey has its own national health care system, it is important to consider the economic repercussions of 5G with regards to healthcare expenditures: specifically for cardiovascular disease (stroke and heart attack), mental illness, infertility, diabetes, thyroid conditions, dementias and cancer. All these conditions (and more) would be expected to increase as a result of planned 5G deployment.

### **5G impacts on residents with disabilities must be considered before small cells are deployed**

In the USA, the Americans with Disabilities Act (ADA) prohibits discrimination against qualified individuals with disabilities. Individuals with disabilities include those who have impairments that substantially limit a major life activity, have a record (or history) of a substantially limiting impairment, or are regarded as having a disability. (42 U.S.C. §12102(2); 29 C.F.R. §1630.2(g)). Guernsey residents will also suffer from conditions that easily qualify in a similar way (as a disability under the ADA) such as: cancer, cardiomyopathy, dementia/cognitive impairment, and various psychiatric conditions including depression and anxiety. Clear science exists to demonstrate that electromagnetic field exposure exacerbates each these conditions and many others including microwave syndrome. Antenna placement must not interfere with the rights of disabled individuals to function in society and access essential services. The homes of disabled individuals must be protected as well. For example, for cancer patients or survivors or those with cardiomyopathy/heart conditions - it is clearly unacceptable (based on National Toxicology Program data) to mandate they be exposed to 5G if a small cell is planned to be located near their home.

### **5G is not a foregone conclusion – Optical fiber-based internet access to homes/offices is faster and safer with none of the health risks**

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<sup>3</sup> Pall, M. L. (2016). Microwave frequency electromagnetic fields (EMFs) produce widespread neuropsychiatric effects including depression. *Journal of Chemical Neuroanatomy*, 75, 43-51.

Many European nations have already said no to 5G based on obvious health concerns. Countries like the Netherlands (members of the House of Representatives have called for studies of the health effects before any deployment), while European cities/provinces that have refused to deploy 5G include Rome and Florence in Italy, Geneva and Canton of Vaud in Switzerland and Brussels, Belgium – where many governing bodies of the EU are headquartered. Health is only one of their reasons - 5G simply does not make sense for many reasons – as optical fiber is by far a smarter choice. The advantages of optical fiber include: 1) Energy efficiency 2) Safety - 5G networks placed on utility poles are in danger of collapse in storms/extreme wind conditions, 3) Fiber is superior for disaster preparedness/periods of prolonged power outages, 4) Optical fiber is faster and more secure, 5) Optical fiber will not harm the wildlife, birds, plant life/trees of Guernsey, or harm local agriculture via destruction of pollinating insects, 6) Lastly, optical fiber to premises would ensure that the unique historic character of Guernsey is preserved.

I therefore urge you as responsible decision makers in Guernsey, who are responsible for protecting your beautiful island and its 63,000 inhabitants, to halt the rollout of 5G indefinitely and demonstrate that health must come first.

Guernsey has an amazing heritage but a delicate environmental and population infrastructure. I suggest you first introduce strict health protective legislation to ensure the safest use possible of current 3G/4G technologies, as well as Wi-Fi. By educating yourselves and the public of the health dangers of wireless, you have an opportunity to improve the health of your citizens (both physical and mental). You will also avoid the associated economic consequences of increased healthcare spending, expected from 5G. Secondly, to not allow the rollout of 5g antennas which will hugely increase the already harmful pulsed microwave radiation to those working or living near masts. Extensive scientific studies have already shown increases in leukemia, tumors and cancer clusters of residents living nears masts and also an increase in diabetes and other health disorders. Even bees, insects and plant life are adversely affected by wireless radiation. In sum, 5G deployment means mandatory irradiation 24/7 of your entire island and all its inhabitants, including pregnant women and children, with no informed consent or possibility to opt out of this toxic exposure.

I thank you in advance for taking your residents' evidence-based concerns about 5G seriously. If you have any questions or would like to discuss the health risks of wireless radiation, please do not hesitate to contact me.

Sincerely,



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