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22nd February 2020

Mrs Heidi Soulsby & Mrs Andrea Dudley-Owen
President of Health & Vice President Economic Development
The States of Guernsey
Sir Norman Frossard House
La Charrotterie
St Peter Port
Guernsey
GY1 1FH

Dear Mrs Soulsby and Mrs Dudley-Owen

5G in Guernsey

I have been asked to express my concerns about your intention to rollout 5G in Guernsey.

Mrs Dudley-Owen as the key lead politician driving the telecoms strategy and Mrs Soulsby as President of Health, you both should understand the consequences of 'trusting industry' or other pro-industry bodies like ICNIRP (a small NGO of up to 14 internally-elected commission members) and not recommending the precautionary approach on 5G and existing technology to an innocent public. Speed can more safely be delivered by fibre-optics which I understand is in place for your business community. This completely prevents any harmful emissions of microwave range radiofrequency electromagnetic radiation (RF-EMR). Asbestos, tobacco smoking and many other failures in history to act quickly and pre-emptively, all tell the same story of politicians who failed the public by looking in the wrong direction. I understand several highly qualified scientists and experts have written to you already.

I am now operating as an independent researcher and educator in environmental health and I have expert knowledge in the biological/ health effects of currently permitted "low levels" of RF-EMR widely generated for mobile and wireless communication and surveillance technologies and released into the environment. I am a former academic clinical and basic researcher at leading Australian academic institutions (Westmead and Royal Prince Alfred Hospitals as well as School of Medicine at University of Sydney and UNSW). I also served as a senior manager in the NSW health system coordinating a dynamic research team and a clinical team at Westmead Children's Hospital (Neurogenetics Research Unit and the Institute for Neuroscience & Muscular Research). I have been published in international peer-reviewed scientific journals and presented

at major conferences and leading academic institutions. I am an executive member of the Oceania Radiofrequency Scientific Advisory Association (ORSAA) <https://www.orsaa.org/> and a member of the scientific advisory boards of the Environmental Health Trust USA (<http://ehtrust.org>).

My letter addresses only a fraction of the available evidence showing harm associated with wireless tech due to RF-EMR exposure. I hope that will help inform you before you make such an important decision about 5G. The key question perhaps to consider is how many of your residents are already suffering from the negative health effects of wireless radiation. In addition, what are your public health statistics showing? What policies are already in place to warn the public?

5G are real health risks associated with wireless tech and 5G is particularly concerning

I am one of the Australian signatories to [The International EMF Scientist Appeal](https://emfscientist.org/) which is seeking public health protection from wireless radiation and also now trying to halt 5G. We believe that increasing RF-EMR exposure with wireless 5G will heavily impact on public health. We need to ensure that technology is used safely, to educate authorities and the public about safer use of wireless tech, bring about more protective exposure guidelines for man-made electromagnetic radiation (<https://emfscientist.org/>).

Despite being heavily marketed, these technologies have not been subjected to proper safety testing and the current regulation is entirely and incorrectly based on short-term heating effects. For example, ICNIRP/FCC have based their studies on holding a phone against the head for just 6 minutes and checking heating effects. Several thousand of peer studies have shown the adverse biological/health effects of non-thermal levels of RF radiation (“low-level” exposure) linking to serious diseases including cancer, immune diseases, neurodegenerative, diabetes etc. Especially children, the elderly, the infirmed, pregnant women and their foetuses are more vulnerable. This information should not be taken lightly and I am sure that sensible jurisdictions like Guernsey will adopt a policy of caution and put public health first.

In the recent years, a large volume of scientific evidence has emerged on the biological/health effects of unnatural EMR/EMF, mostly RF-EMR generated for wireless communications. [My recent paper in Lancet Planetary Health](#) describes the magnitude of this electromagnetic pollution of the environment globally and addresses on its impact on the health of all species.

Biological interference and Electromagnetic hypersensitivity (EHS)

EHS refers to a range of mostly neurological symptoms some people experience when they are exposed to unnatural forms of EMF such as microwave RF-EMR from wireless devices/infrastructure and extremely low frequency (ELF) EMF from electrical wiring/appliances and electronic devices. It

is noteworthy that an individual could also be at increased risk of adverse health outcomes such as cancer in the absence of detectable neurological symptoms (EMR/EMF exposure induces a range of neuro/immune/endocrine/metabolic effects), so EHS can also be hidden. Recent important research by medical researchers at [Yale University](#) have indicated that some people, due to their genetic make-up (variants) are more at risk of developing cancer when they used mobile phone use. While not yet investigated, such increased susceptibility is likely to form the basis of EHS. Yet, we consider only overt symptoms people develop in the presence of or following EMR/EMF exposure as EHS.

Some reputable medical organizations including the [European Academy for Environmental Medicine](#) and its [American](#) counterpart have published on EHS.

This complex syndrome is often progressive. Interestingly, a former [Director General of the WHO](#) has admitted to suffer from EHS. An Australian government scientist won [compensation](#) for aggravation of EHS at work at CSIRO.

It is very important to note that despite the efforts by several psychologists funded by the wireless industry to label EHS as a nocebo effect, **the scientific evidence strongly indicates a physiological/biochemical aetiology to EHS**. There are serious limitations to the so-called 'provocation studies' done on EHS patients. Most have focused on subjective symptoms reported by patients, mainly discomfort upon exposure to an EM field and their ability to detect (perceive) the presence of an active EMF. Such provocation tests rely entirely on neurological symptoms to switch ON and OFF immediately, which is unrealistic and unreliable considering their complex and erratic nature. **The scientific literature by now has several thousand peer-reviewed studies demonstrating biological/health effects induced by low-intensity RF-EMR exposure**, most of which is found in the largest categorised database of RF studies established by volunteer Australian scientists at [ORSAA](#) (www.orsaa.org).

EMR can induce cytotoxic effects similar to ionizing radiation. I would like to highlight a few examples of scientific studies demonstrating biological/health effects in humans upon exposure:

1. Dr. Bruce Hocking, former long-serving Chief Medical Officer of Telstra and an occupational and environmental medical expert conducted neurological assessments of EHS complainants and reported neurological effects induced by EMR in blind provocation studies not subject to the individual's perception. Dr. Hocking presented at a [2004 WHO workshop](#) and [published](#) in the peer-reviewed literature (there are additional publications by Dr. Hocking on this topic).
2. American neuroscientists at Louisiana State University tested a physician who had self-diagnosed as EHS in a double-blind study and found clear [physiological abnormalities](#) in the brain clearly induced by the EMF exposure, despite the subject's inability to always correctly detect if the field was ON or OFF.
3. Researchers at the National Institutes of Health (NIH) USA found significant changes in [brain glucose metabolism](#) even in healthy adults (non EHS) when they were exposed to just 50 minutes of mobile phone radiation.

4. Studies from the immunology department of a Japanese hospital proved immune disturbance by short term (30min - 1 hr) RF-EMR exposure from mobile phones. Published in '[Allergy](#)' (official journal of the European Academy of Allergology and Clinical Immunology) was clinical data on how mobile phone radiation could worsen the immune response of patients with atopic dermatitis increasing allergy-specific IgE antibodies in white blood cells. In [another peer-reviewed study](#), it was demonstrated how skin wheals (allergic response) were enhanced by RF-EMR exposure in sensitized individuals while unsensitized individuals did not have such effects.
5. Government hospital physicians and researchers from Salzburg Austria found in a double-blind provocation study that exposure to RF-EMR (from a mobile phone base station) could induce biochemical [stress markers](#) in saliva within minutes. Some individuals showed hypersensitivity to the exposure.
6. Research at Karolinska Institute in Sweden have [published](#) evidence for immune-mediated changes in skin in those who claimed to experience skin symptoms associated with exposure to digital display screens. There were profound changes in [mast cells](#) for example upon exposure.
7. Several studies have clearly demonstrated the effects on brain physiology demonstrated by EEG abnormalities upon exposure to RF-EMR including this [Swiss study](#) and a [British study](#).
8. In another study, American neuroscientists demonstrated physiological effects on the [trigeminal nerve](#) exposed to low-intensity RF-EMR in a group of healthy adults. Studies are needed to examine if increasing prevalence of trigeminal neuralgia is associated with mobile phone use.
9. Researchers at the National Centre of Public Health Protection in Bulgaria found an [increased risk of cardiovascular disease](#) (elevated blood pressure, abdominal obesity and cholesterol) in people occupationally exposed to high levels of RF-EMR. I have highlighted the cardiovascular risk in a paper (Bandara and Weller, European J Preventive Cardiology, 2017 – attached).
10. Academic researchers in Jordan experimentally demonstrated how biochemical markers of [oxidative stress](#) could be induced within 15 minutes of exposure to mobile phone radiation in healthy young men. Similar findings were made by Indian academic researchers studying [mobile phone users](#).

Why we cannot rely on ICNIRP

International Commission on Non-Ionizing Radiation Protection (ICNIRP) guidelines (1998) form the basis of exposure regulation in many countries like the UK and Guernsey. As demonstrated by thousands of studies, some referred to above, non-thermal biological interference occurs at levels well below ICNIRP limits. Therefore ICNIRP guidelines are ineffective in public health protection. Further, ICNIRP is an NGO of 14 self-appointed individuals, many with strong links to the industries that produce EMR, therefore with conflicts of interest. There has been considerable personnel overlap between ICNIRP and the WHO EMF Project (an arm separate to the IARC that has classified RF-EMR as a possible

carcinogen). For example, founding Head of both, Dr. Michael Repacholi, has worked as a paid consultant for the mobile & wireless industry for many years and has been criticized for his conflicts of interest.

ICNIRP and WHO's EMF project. Further affirming the limitations of the ICNIRP guidelines, a former ICNIRP Chairman Dr. Paulo Vecchia stated at a Radiation Research Trust conference in 2008: **"The ICNIRP guidelines are neither a mandatory prescription for safety, the "last word" on the issue nor are they defensive walls for Industry or others."**

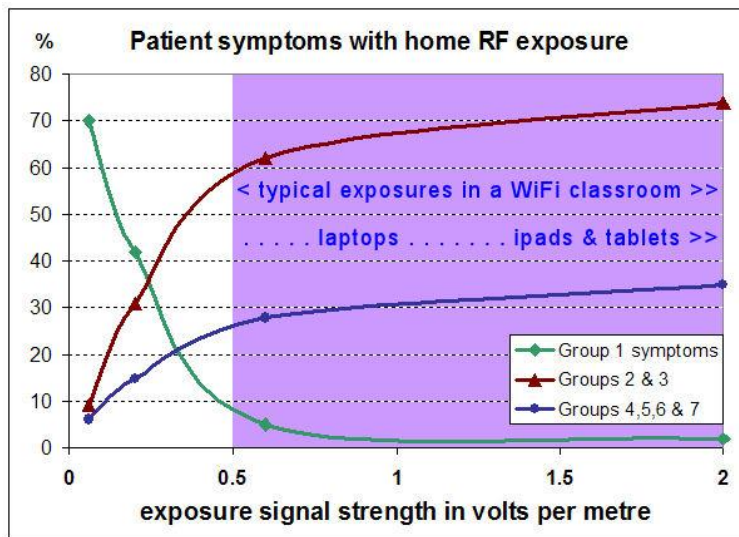
I urge Guernsey to follow the lead of the independent scientific community without conflicts of interest and the countries who disregard ICNIRP with more stringent guidelines.

While exposure guidelines/standards vary between countries, even the most stringent guidelines cannot prevent biological effects. These largely different exposure standards are proof for disparity in the perception of EMR safety in different countries and lack of international consensus. In any case ICNIRP levels only relate to heat exposure which is not the relevant issue.

The scientific evidence against ICNIRP guidelines is best collated in the [Bioinitiative Report 2012 \(www.bioinitiative.org\)](http://www.bioinitiative.org), a comprehensive examination of the peer-reviewed literature, conducted by an independent and international expert panel of scientists and clinicians with direct experience in this field of research.

The BioInitiative group comprised 10 MDs, 21 PhDs, and three with MsC, MA or MPH. Headed by Harvard-trained physician Prof David Carpenter MD (former Director of Wadsworth Center of the New York State Dept. of Public Health and Dean of the School of Public Health at the University at Albany, NY), the panel also included three former presidents of the Bioelectromagnetics Society (BEMS), the leading professional organization in this area of research. One of the authors is the current Chair of the Russian National Committee on Non-Ionizing Radiation; another is Senior Advisor to the European Environmental Agency. The authors concluded that the current public exposure standards (including ICNIRP) are not adequate to protect public health. They have recently posted a letter specifically addressing WiFi in schools (<http://www.bioinitiative.org/ceo-wireless-letter/>).

In 2005, an independent group of German medical doctors (Bamberg Doctor's Report signed by 175 doctors-English translation at: <http://www.tetrawatch.net/links/links.php?id=stoiberlet>) investigated a possible association between the symptoms of 356 patients and their home RF-EMR exposure levels. They found the following relationship between patient groups (based on symptoms) and RF-EMR levels.

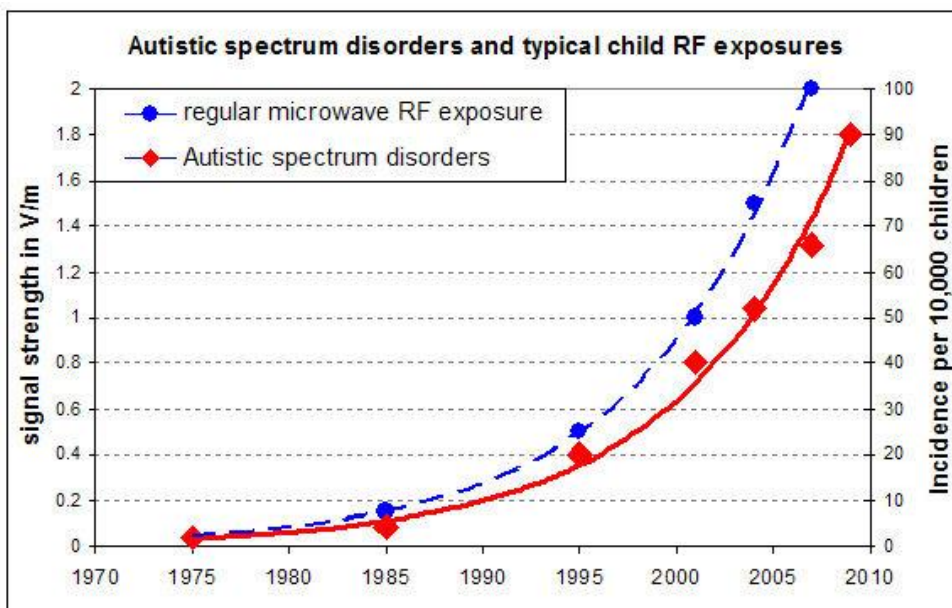


- Group 1 had no symptoms of ill health (visited doctors for contraceptives or general check up, etc).
- Groups 2 & 3 reported headaches, restlessness, dazed state, irritability, poor concentration, learning difficulties, memory problems, fatigue, depressive mood and sleep disturbances.
- Groups 4,5,6 & 7 reported a wide variety of other physical symptoms.

This indicated that most patients with common EHS symptoms lived in homes with high RF-EMR (commonly found and well below safety limits) whilst the healthiest individuals mostly lived in low EMR homes. PowerWatch UK derived the above graph from German doctor's data:

<http://www.powerwatch.org.uk/news/20130214-norwich-wifi.asp>.

The same credible site presents a graph showing the correlation between incidences of Autism Spectrum Disorders (ASD) in the UK and children's regular RF-EMR exposure from various wireless devices. Dr Herbert MD, a paediatric neurologist and brain researcher (ex Harvard University), presents EMR as a plausible contributing factor for ASD (*Herbert M and Sage C. Pathophysiology. 2013;20(3):191-209*).



Dr. Annie Sasco MD has been with the WHO for 22 years, and has served as Chief of Epidemiology for Cancer Prevention and Acting Chief of the Cancer Control Programme of the WHO. This is what she says about mobile and wireless devices: *“As a physician and epidemiologist with decades of experience working with the World Health Organization, I am deeply concerned with what the data are showing. We have to take precautions with these devices now – especially to protect our children”*.

I hope that this letter assists in helping you to understand the real and serious risk of wireless radiation and that you will adopt the much needed ALARA principle (As Low as Reasonably Achievable) in public exposure regulation in Guernsey. Stopping 5G deployment is prudent action substantiated by a large body of scientific evidence.

I have herewith included my recent submission to the Australian Parliament on 5G risks, my bio and the list of my publications on this topic. I am happy to provide further information if needed.

Yours sincerely,

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Cc Deputies of Guernsey, David Green, Director of Health, Head of Planning