

April 15, 2009

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Mr. Balan Moorthy
Principal
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Re: Wireless Technologies and Associated Health Risks

Dear Mr. Moorthy:

We have given your e-mail letter of April 9, 2009 (copy attached) careful consideration and are replying now in an effort to further educate and promote clear communication on this controversial issue.

In your opening sentence you confirm "...there is a tremendous amount of conflicting information in the Wi-Fi dangers...". We feel it is important to note that the growing international public health concern is founded on a wide range of highly credible science from around the world, which clearly demonstrates the health risks of low level, long term, cumulative exposure to wireless technologies. The scientists reporting these health risks have no commercial interests or ties to the wireless industry and are free to report their findings for the benefit of all mankind. They claim that the current standards are far from adequate to protect the public health, and refer especially to the risk to children and the need to prevent more exposure to electromagnetic radiation.

You mention your own research and refer to Health Canada Safety Code 6 and WHO standards. These standards cover thermal effects only. Independent scientists state that existing public exposure standards for EMF are inadequate to protect public health because they assume that unless heating of the tissue occurs within 30 minutes, no harm can result. A growing body of international research challenges that assumption and experts worldwide are sounding the alarm on the potential long term and serious ill health effects of chronic, widespread low-level biological exposure. In September 2007, Germany's Federal Office for Radiation Protection advised citizens to avoid Wi-Fi wherever possible because of the associated health risks. In the same month, the European Environmental Agency (EEA) called for immediate action to reduce exposure to radiation from Wi-Fi, cellular phones and masts based on an international scientific review, which concluded that safety limits set for these types of radiation are "thousands of times too lenient".

We wish to draw your attention most significantly to the BioInitiative Report 2007. This report is the result of collaboration by twenty-one working scientists, researchers and public health policy professionals (individual names, accreditations and affiliations appended to this letter). The BioInitiative Report provides detailed analysis of the impact on human health (biological not thermal) of exposure to electromagnetic radiation hundreds or even thousands of times below limits currently established by Health Canada, the U.S. Federal Communications Commission (FCC) and International Commission for Non-Ionizing Radiation Protection (ICNIRP) in Europe.

The authors of the BioInitiative Report have considered more than 2,000 scientific studies and reviews; they conclude that the existing public safety limits are inadequate to protect public health and further state that in light of the total weight of evidence, new public safety limits - as well as limits on further deployment of risk-laden, insufficiently-proven technologies - are undeniably warranted. The following recommendation from the BioInitiative Report Overall Summary of Conclusions is particularly direct:

Section 17: Key Scientific Evidence and Public Health Policy Recommendations

“Mobile phone-free and Wi-Fi free public areas should be established in areas where the public congregates and can have a reasonable expectation of safety.....”

“Health agencies and school districts should strongly discourage or prohibit cell towers on or near (within 1000’ of) school properties, should delay any new WLAN installations in school classrooms, pre-schools and day-care facilities; and should either remove or disable existing wireless facilities, or be required to offer classrooms with no RF exposure to those families who choose not to have their children involuntarily exposed.”

Please note further critical points, extracted from the Summary for the Public of the BioInitiative Report:

“B. Defining preventative actions for reduction in RF exposures

Given the scientific evidence at hand (Chapter 17), the rapid deployment of new wireless technologies that chronically expose people to pulsed RF at levels reported to cause bioeffects, which in turn, could reasonably be presumed to lead to serious health impacts, is of public health concern. Section 17 summarizes evidence that has resulted in a public health recommendation that preventative action is warranted to reduce or minimize RF exposures to the public. There is suggestive to strongly suggestive evidence that RF exposures may cause changes in cell membrane function, cell communication, cell metabolism, activation of proto-oncogenes and can trigger the production of stress proteins at exposure levels below current regulatory limits. Resulting effects can include DNA breaks and chromosome aberrations, cell death including death of brain neurons, increased free radical production, activation of the endogenous opioid system, cell stress and premature aging, changes in brain function including memory loss, retarded learning, slower motor function and other performance impairment in children, headaches and

fatigue, sleep disorders, neurodegenerative conditions, reduction in melatonin secretion and cancers (Chapters 5, 6, 7, 8, 9, 10 and 12).”

“...we also recommend that wired alternatives to WI-FI be implemented, particularly in schools and libraries so that children are not subjected to elevated RF levels until more is understood about possible health impacts. This recommendation should be seen as an interim precautionary limit that is intended to guide preventative actions; and more conservative limits may be needed in the future.”

The BioInitiative Report recommendations have been used internationally by all levels of authorities to support precautionary measures, which include either the dismantling of Wi-Fi systems or the adopting of hard wiring policies.

For ease of reference, we are enclosing the BioInitiative Report, Summary for the Public, and strongly recommend that you review the full Report, available at www.bionitiative.org.

For your convenience, we have noted further essential documentation of this most urgent concern, and request that you review the following:

1. BioInitiative Report 2007, Summary for the Public.
2. University of Albany, August 31, 2007, press release, “Serious Public Health Concerns.....”,
3. Lakehead University, Thunder Bay, Ontario, General: Wi-Fi Policy limiting wireless connectivity based on the “precautionary principle”.
4. “School Pulls Plug On Wi-Fi Technology” news release dated August 28, 2008.
5. Press Release March 12, 2009. “A Rationale for a Biologically-based Public Exposure Standard for Electromagnetic Fields (ELF and RF)”.
6. Electromagnetic Fields: questions and answers about wireless technologies by Andrew Michrowski, Ph.D., including damaging biological effects of microwave radiation below Canada’s regulatory limit.
7. Freiburger Appeal: Currently over 3,000 health professionals (mostly doctors and professors of medicine) appeal for stricter safety limits;
8. Letter to parents and school officials from Dr. Gerd Oberfeld, a government scientist from Salzburg, Austria, who is calling for Wi-Fi to be removed from schools in Austria;
9. Vancouver School Board Resolution February 7, 2005.

10. The international journal “Pathophysiology” article dated January 2009 detailing damaging effects of microwave radiation exposure at low levels;
11. Columbia University, New York, Department of Physiology and Cellular Biophysics paper summary “The Precautionary Principle Must Be Guided by EMF Research” by Associate Professor Martin Blank, PhD, calling for regulatory action to be guided by the results of epidemiology studies and recommending that safety standards based on the best available biological evidence must (1) recognize non-thermal protective responses, and (2) include cumulative exposure across the EM spectrum.
12. British Association of Teachers and Lecturers, Press Release, April 9, 2009 calling for dismantling of Wi-Fi systems in UK schools.
13. Reflex Report showing DNA and chromosomal damage at low levels. Calling for precautionary approach to wireless technologies especially when children exposed.

You state that one of the benefits of installing Wi-Fi in our school is that it will provide “increased technology access for children”. We would like to bring your attention to the British Association of Teachers and Lecturers news release of April 9, 2009. Members of this group said they were concerned by scientific reports linking Wi-Fi with impaired concentration, loss of short-term memory, chromosome damage and increased incidence of cancer. Mr. Kinney, a teacher from Cookstown High School, asks the questions “Have we the right to avoid the moral warnings simply for access to a few more computers?” and “Are our pupils going to thank us in the years to come if they have become sterile or suffer from cancer, brought on by our exacerbated exposure to Wi-Fi?” His conclusion, and that seconded by his union, is that it is safer and wiser to stick to wired computers and other wired devices until further independent investigation can quantify the health risks of the biological effects, which occur at much lower levels of intensity than the thermal effects.

Professor Franz Adelkofer, coordinator of the Reflex Report, considers low levels of electromagnetic radiation “a ticking time bomb”. He states “This is real evidence that hyperfrequency electro magnetic fields can have geno-toxic effects. And this damaged DNA is always the cause of cancer. We’ve found these damaging effects on the genes at levels well below the safety limits, that’s why we think it is urgent to base our safety limits on the biological effects not on the thermic ones, they should be based on biology not on physics.” Numerous independent scientific studies show single and double DNA strand breakages as well as chromosomal aberrations within as little as 8 hours exposure to Wi-Fi to radiofrequency electromagnetic radiation.

In your second paragraph, you compare using “microwave ovens, cell phones and other items which cause more radiation than the wireless internet in schools”. What you fail to note is that each of these uses fall within the realm of personal choice. The user of the microwave or cell phone or other device is in complete control of their exposure – they

can choose to use it or not. If Wi-Fi is installed in our school, the choice of exposure is removed. Whenever we or our children would come to school, the very life cells of our bodies and brains would be subjected to cumulative radiation, bringing with it the residual effects and damages. These are effects and damages known well to the scientific community, but not acknowledged by the industry placing their products into the commercial stream for ever more lucrative rewards. This damage occurs at biological levels, not thermal.

What makes you certain that 100% of the teachers at your school support being radiated on a daily basis, as you state? Given the current credible scientific evidence for cellular damage at a biological level, teachers may wish to question the process, instead of calling for dismantling after installation, as is happening with the teachers in the UK.

On February 23, 2009, the European Parliament Committee on the Environment, Public Health and Food Safety voted 43-1 to adopt a resolution urging the European Commission to recognize the great concern over health risks from electromagnetic fields. The resolution identified existing conditions that have required the commission to notice, and to take action on as a matter of urgency, the exponential growth of new technologies that may place the health of societies at increased risk. Please note the following excerpt from the European Parliament Resolution:

“B. Whereas wireless technology (mobile phones, Wi-Fi/WiMAX, Bluetooth, DECT landline telephones) emits EMFs that may have adverse effects on human health.”

It is only a matter of time before the general public becomes aware of their absorption of unwanted radiation as an objectionable byproduct of the wireless communication craze. Recent research has demonstrated that even short term exposure to low levels of electromagnetic radiation is sufficient to modify brainwave patterns, affect short-term memory, and modify an individual's ability to perform physical tasks such as driving an automobile. These effects are well and good for those who are willing to accept the risk of modified brain functions and cancer, but they are not well and good for the innocent victims of this insidious radiation – radiation that an innocent non-participant cannot even be aware is being deposited into his or her body. It is perhaps not common knowledge that science clearly shows adult leukemia is associated with EMF exposure, and it is the exposure during childhood years that increases the risk of this adult disease. Further, the BioInitiative Report states a reasonable assumption based on studies of human breast cancer cells is that all cancers might be worsened by exposure to EMF.

To quote Professor Olle Johansson, PhD, Department of Neuroscience, Stockholm, Sweden, “The exposure affects our whole body....is our body equipped to face this sort of radiation? Has evolution provided us with a shell that can protect us from this radiation? And obviously the answer is no, we don't have that kind of protection, so we are left to pray and to hope that it isn't dangerous, but it's an empty hope”.

Upon careful review of emerging science, we are of the opinion that our children's current and future health would be put at serious risk if exposed long term to Wi-Fi.

Therefore, if our children are exposed to electromagnetic radiation from Wi-Fi system within the school, it is contrary to our wishes. To have no way of protecting one's self from a hazard that penetrates to the depths of the human cell and brain violates the most fundamental principles of our social system. We consider this a human rights issue.

Finally, you state that parents "will not be in control of the decision" regarding rollout of this new Wi-Fi technology. As educated and concerned parents, we will continue to exercise our rights to promote safe environments and limit potential environmental hazards to which our children are exposed. Not so long ago, it was commonplace for children to be regularly exposed to second hand tobacco smoke without thought. Now tobacco smoke has been linked to life-threatening and debilitating diseases and the public is alive to the risks no matter the decades of misinformation supplied by tobacco industry lobbyists. Now we are facing a risk that is tasteless, odorless and invisible, and potentially a greater health risk than tobacco smoke. Will we look back at this point in history and wonder why we were defending the rights of a multi-billion dollar wireless industry, instead of the rights of the child? Are we facing another 35 years of a corrupt industry ensuring safety before the truth is finally revealed through the pain and suffering of the people, as with the tobacco industry?

And what about the issue of insurance policies for schools excluding any liability insurance for long term health implications associated with this new technology. Is it not significant that insurers will not insure for long-term effects of this technology?

The Vancouver School Board passed a Resolution dated February 7, 2005 that stopped any further installations of cellular antenna on school grounds or within 1000 feet thereof. This resolution also states that "part of the core purpose of VSB is to provide a safe learning environment for our students." The VSB chose to restrict cell masts because they couldn't guarantee a satisfactory level of student safety when exposed to radiating energy. Based on all science available, it would appear that there can be no guarantee of students safety made by the school or the school board to the children or their parents if wireless technology is introduced. We certainly do not consider daily and long term exposure to Wi-Fi radiation within a school setting a "safe learning environment for our students", the harmful biological effects of which may take 10 to 20 years to manifest. The weight of evidence shows that a positive assertion of safety with respect to chronic exposure to low intensity levels of EMR, either from RF or ELF, cannot be made, and further, the public needs to be informed of the potential for increased risk.

What is to happen to families searching for Wi-Fi free (safe) learning environments? In Sweden, electrohypersensitivity is now officially recognized as a fully functional impairment, and the government provides ELF-RF shielding and radiation paint for those who wish to limit exposure as well as providing for communities that are free of cell masts and other wireless intrusions. Perhaps we need to discuss having shielded Wi-Fi free classrooms within schools, or choose to keep certain schools hard wired only, so that families can continue to protect their children as their conscience dictates.

We call upon you and all school professionals charged with the duty to keep schools safe to safeguard the present and future health of our children by implementing the Precautionary Principle and ordering hard-wired connections in our schools. We believe this is an essential and urgent first step in protecting our youth. We suggest opting for a cautionary approach to this problem, a problem that could go down in history as the biggest long-term health risk for our children's generation. In light of the more than 2,000 scientific studies informing us of these health risks, why not follow the lead of Lakehead University where complete connectivity is provided by a comprehensive fibre-optic network? Please give careful review to Lakehead's Wi-Fi Policy attached.

We know you will agree that the young people sitting in our schools today are our future, and their well being depends on our willingness to recognize fully, and to mitigate, the risks of the technology that is now intertwined with every aspect of their daily lives. We strongly believe that parents and educators need to join together in understanding that it cannot be "business as usual" if we are to protect children from possible health risks of the wireless industry.

Yours sincerely,

Una St.Clair-Moniz & Ernest Moniz
Parents of two children at Langley Fine Arts School

Cc Langley School District 35
- Cheryle Beaumont, Superintendent
- Charlie Etchell, Assistant Superintendent
- Grant Lenarduzzi, Assistant Superintendent
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APPENDIX: List of BioInitiative Participants

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*opinions expressed are not necessarily those of his employer,
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