

Name: _____

Address: _____

City/Prov: _____

Email: _____

Date: _____

To: _____

Address: _____

City/Prov/Postal: _____

Dear _____,

I am writing to you about my concerns on wireless radiation and the 5G roll-out currently underway in Calgary. As a leader committed to representing the health and safety of Calgarians, I appreciate you taking the time to carefully read this letter.

The research on the long-term health effects of radiofrequency (“RF”) electromagnetic field (“EMF”) radiation, which is emitted by cell phone towers, cell phones, wireless computers, tablets, and Wi-Fi routers, has shown that:

- There are many harmful effects of RF radiation including: cancer^[1]^[2], DNA damage^[2], sperm/testicular damage^[3], lowered fertility^[4], neurological effects^[4], oxidative stress^[4], sleep changes^[5], memory and cognitive problems^[5]^[6], as well as harm to plants^[7], wildlife^[8], insects^[8], and microbes^[9];
- Each of these effects are caused by exposure from emitting devices like cell phone towers, cell phones, Wi-Fi routers, tablets, and other wireless devices;
- Effects are often cumulative and may be irreversible^[4]; and
- RF radiation impacts young people more than adults^[10] because their bodies are smaller and they are still growing and developing.

In Canada, there is only one code regulating human exposure to RF radiation and it does not protect us. Health Canada’s Safety Code 6 is still based on the assumption that thermal effects (heating) are the only established adverse effects of RF radiation. Meanwhile, hundreds of scientific studies^[11] point to harmful biological effects (non-thermal) at well below the regulatory limits. In 2011, the World Health Organization classified RF EMFs as possibly carcinogenic to humans (Group 2B)^[12] and today’s research shows this classification does not go far enough.

5G is the next generation of mobile technologies; it will consist of low, mid (similar to 4G), and high frequency ranges. 5G is designed to provide greater capacity for wireless networks, to deliver extremely fast data speeds and much lower latencies than previous generations. Implementing 5G requires new infrastructure to be erected, consisting of thousands of “small cell” antennas and adding new antennas

to existing cell towers. Many of these additions are labelled as 4G installations, though they will be used as part of the 5G network. Any lamp post or power pole is a candidate to host a small cell antenna. The full 5G roll out will make it so that every home, every school, and every workplace is close to a transmitting cell structure, which will cause a significant increase to the amount of wireless radiation that we are being exposed to.

The use of 5G would also introduce a new set of frequencies called millimeter waves. A study found that these millimeter wave frequencies may cause sweat ducts to act as antennae, which can cause point heating and pain^[13]. The U.S. Army uses millimeter waves in crowd dispersal technologies, where “the beam produces an intolerable heating sensation, compelling the targeted individual to instinctively move”^[14]. Very little is known about the health impact of constant exposure to millimeter waves (even at lower doses), 24 hours a day, seven days a week.

Of further concern is that there has been no safety testing on long term exposures to radiation from 5G technologies. We know that no such studies are being planned in the USA^[15], and we are not aware of any planned for Canada.

Our exposure to RF EMFs is steadily increasing, as stated in the Lancet: “Unprecedented human exposure to radiofrequency electromagnetic radiation from conception until death has been occurring in the past two decades.”^[16] If implemented, 5G will increase our exposure to RF EMFs even more and will make matters much worse, though the long-term health impacts may not be felt for years or even decades.

The telecom industry and regulators have denied the scientifically proven long term adverse biological effects from RF radiation. Many of us in the world agree that a change is needed. We need to look beyond the information put out by mainstream media, which is owned and controlled by many of these telecommunication conglomerates. Listen to the 252 EMF scientists that have signed the International EMF Scientist Appeal, calling for more protective guidelines on EMF exposure, encouraging precautionary measures, and educating the public about health risks, particularly risks to children and to fetal development^[17].

The Advisors to the Appeal sent a letter to the U.N. Human Rights Advisory Committee, stating:

“It is our opinion that adverse health consequences of chronic and involuntary exposure of people to non-ionizing electromagnetic field sources are being ignored by national and international health organizations despite our repeated inquiries as well as inquiries made by many other concerned scientists, medical doctors and advocates.”^[17]

Scientists are not the only ones recognizing harm from RF radiation. Numerous precautionary measures are being taken across the world to limit exposure and to raise public awareness, including:

- The City of Toronto adopted a Prudent Avoidance Policy approach in 2007 that keeps RF levels in areas where people normally spend time at least 100 times lower than Health Canada’s Safety Code 6 limits^[18].
- In 2015, France banned wi-fi from nursery schools and restricted its use in teaching children up to the age of 11. Cyprus and Israel have also banned wi-fi in pre-schools and kindergartens^[19]. Municipalities in Germany, Austria, Belgium, Spain, and Italy have removed wi-fi from their schools, opting for hardwired connections^[20].

- The City of Berkeley, California passed a “right to know” law, requiring cell phone retailers to post or hand out a warning to consumers at the point of sale. This law was heavily challenged, but after many appeals, the Ninth Circuit Federal Appeals Court upheld Berkeley’s law in July 2019^[21].
- In 2019, a Regional Administrative Court ordered the Italian government to create a national information campaign on the health risks associated with the use of mobile phones^[22].
- A detailed summary of precautionary measures being taken worldwide can be found at the Environmental Health Trust website^[23].

In various cities and regions across North America and the world, the roll-out of 5G is being paused, while others are questioning the effects and commissioning studies to determine the environmental and health impacts:

- Brussels halts 5G due to concerns about health effects^[24].
- Geneva adopts a motion for a moratorium on 5G, calling on independent scientific studies to determine the harmful effects of 5G^[25].
- Germans petition Parliament to stop 5G auction on health grounds, with 54,643 signatures^[26].
- Swiss cantons halt the use of new 5G masts (small cells) due to health concerns^[27]. Swiss municipality of Kriens stops approvals for 5G antennas^[28].
- The General Court of New Hampshire passed a bill establishing a commission to study the environmental and health effects of evolving 5G technology^[29].
- The New York State Legislator introduces Bill 8637 to study the environmental and health effects of 5G technology^[30].
- In the United Kingdom, the following City Councils have passed motions to halt 5G until safety data is provided: Brighton, Hove, Devonshire, Shepton Mallet, Somerset, Frome, Totnes, Wells, Glastonbury, and Trafford.
- Local groups across Canada voice concerns over 5G and small cell installations in Vancouver, Montreal, Winnipeg^[31], and Calgary.
- 14,404 Canadians have signed an appeal to the Government of Canada to Suspend the 5G Rollout and to Choose Safe and Reliable Fibre Connections^[32].

Wireless infrastructure serves an important function in our society as it supports communication and mobile access to internet. However, I believe we can use this technology in a responsible manner. At stationary locations, wired connections can be used to access the internet. We can limit our time on cell phone calls, and we can increase our distance (and reduce the amount of radiation we absorb), by not ever sleeping with our cell phone next to us and not putting it against our body (in pockets or bras). We can take extra precautions to limit children’s exposure. With awareness, we can have a safer, balanced, and more reasonable approach to current wireless technology.

The harm from wireless technology is being proven through more and more studies and statistics, but the industry and regulations (following WHO’s inadequate standards based on heating effects) have not caught up. Updates to Safety Code 6 to include non-thermal, biological effects are long overdue. Since the current wireless technologies have harmful effects, shouldn’t we pause and investigate further before we proceed with installing antennas for 5G all over our cities that add to the already dense network of EMF waves in our surroundings?

I ask you to represent me and other concerned Calgarians in calling for a moratorium on the roll-out of 5G in Calgary, including an immediate suspension on the installation of all new 4G and 5G antennas, until potential hazards for human health and the environment have been fully investigated by scientists independent from the industry.

Recognizing that telecommunications are regulated federally, we can take the following actions and precautionary measures right away in Calgary:

- Support a moratorium on the roll-out of 5G in Calgary, including an immediate pause on all additional antenna installations (including 4G and 5G small cells, new towers, and additions to existing towers), until the long-term safety of the technology is proven.
- Stop accepting applications for the installation of antennas on city property, such as streetlights, power poles and city owned-buildings.
- Launch an awareness campaign so Calgarians can take steps to protect themselves and their families from the current levels of wireless radiation.
- Pass bylaws to protect children and sensitive populations such as pregnant women, the infirm, and those who are electrosensitive, such as:
 - Mandate a minimum distance (or set limits on exposure levels) between cell towers or small cell installations and daycares, schools, hospitals, and other locations with sensitive populations.
 - Ban wi-fi from daycares and kindergartens and reduce its use in schools, as advised by the Canadian Teachers' Federation^[33].

5G infrastructure is being installed in Calgary in the form of small cell installations and new 4G and 5G antennas added to existing cell towers. Now is the time to speak up and take action, before our exposure to RF radiation permanently increases from these new antennas, and further investment is made by the telecommunications industry.

Given that risks already exist with wireless technologies, we should take the precautionary measure to pause the build out of additional 5G infrastructure in Calgary until we are confident it will not harm the people, animals, and plants that live in our beautiful city. I encourage you to do more research on the effects of RF radiation and 5G.

I appreciate your attention and look forward to hearing about the actions being taken on this matter.

Thank you,

References:

1. Falcioni, L., et al. "Report of final results regarding brain and heart tumors in Sprague-Dawley rats exposed from prenatal life until natural death to mobile phone radiofrequency field representative of a 1.8 GHz GSM base station environmental emission", *Elsevier*, 2018,
www.sciencedirect.com/science/article/abs/pii/S0013935118300367
2. "Cell Phone Radio Frequency Radiation." *National Institute of Environmental Health Sciences*, U.S. Department of Health and Human Services, 2018,
ntp.niehs.nih.gov/results/areas/cellphones/index.html
3. Kesari, K.K., Agarwal, A. & Henkel, R. "Radiations and male fertility". *Reprod Biol Endocrinol* 16, 118, 2018,
doi.org/10.1186/s12958-018-0431-1
4. Pall, Martin L. "5G: Great risk for EU, U.S. and International Health! Compelling Evidence for Eight Distinct Types of Great Harm Caused by Electromagnetic Field (EMF) Exposures and the Mechanism that Causes Them." *Radiation Research*, 2018,
www.radiationresearch.org/research/dr-martin-palls-latest-compilation-of-emf-medical-research-literature/
5. "Scientific Research On Wireless Health Effects." *Environmental Health Trust*, 2020,
ehtrust.org/science/research-on-wireless-health-effects/
6. Schoeni A, Roser K, Rösli M. "Memory performance, wireless communication and exposure to radiofrequency electromagnetic fields: A prospective cohort study in adolescents." *Environment International*, vol. 85, 2015, pp. 343-51,
<https://pubmed.ncbi.nlm.nih.gov/26474271/>
7. Waldmann-Selsam, Cornelia, et al. "Radiofrequency radiation injures trees around mobile phone base stations", *Science of The Total Environment*, Volume 572, 2016,
www.ncbi.nlm.nih.gov/pubmed/27552133
8. Cucurachi, C., et al. "A review of the ecological effects of radiofrequency electromagnetic fields (RF-EMF)." *Environment International*, vol. 51, 2013, pp. 116–40,
www.sciencedirect.com/science/article/pii/S0160412012002334
9. Taheri, M., et al. "Evaluation of the Effect of Radiofrequency Radiation Emitted From Wi-Fi Router and Mobile Phone Simulator on the Antibacterial Susceptibility of Pathogenic Bacteria *Listeria monocytogenes* and *Escherichia coli*." *Dose-Response: a Publication of International Hormesis Society*, SAGE Publications, 23 Jan. 2017,
www.ncbi.nlm.nih.gov/pubmed/28203122
10. Morgan, Kesari, and Davis "Why children absorb more microwave radiation than adults: The consequences." *Journal of Microscopy and Ultrastructure*, Volume 2, Issue 4, 2014, Pages 197-204,
<https://www.sciencedirect.com/science/article/pii/S2213879X14000583>
11. "Scientific Studies." *Americans for Responsible Technology*, 2020,
<https://www.americansforresponsibletech.org/scientific-studies>
12. International Agency for Research on Cancer "IARC classifies radiofrequency electromagnetic fields as possibly carcinogenic to humans", *IRAC*, World Health Organization, Press Release 208, 31 May 2011,
www.iarc.fr/wp-content/uploads/2018/07/pr208_E.pdf
13. Usichenko, T., et al. "Low-intensity electromagnetic millimeter waves for pain therapy." *Evidence-based complementary and alternative medicine: eCAM* vol. 3,2, 2006,
www.ncbi.nlm.nih.gov/pmc/articles/PMC1475937/
14. "Active Denial Technology." *Non-Lethal Weapons Program*, U.S. Department of Defense, 11 May 2016,
inlwp.defense.gov/Press-Room/Fact-Sheets/Article-View-Fact-sheets/Article/577989/active-denial-technology/
15. "At Senate Commerce Hearing, Blumenthal Raises Concerns on 5G Wireless Technology's Potential Health Risks." *US Senator Richard Blumenthal*, 7 Feb. 2019,
www.blumenthal.senate.gov/newsroom/press/release/at-senate-commerce-hearing-blumenthal-raises-concerns-on-5g-wireless-technologys-potential-health-risks

16. Bandara, P., Carpenter, D. "Planetary electromagnetic pollution: it is time to assess its impact." *The Lancet*, vol. 2, Issue 12, Pages e512-e514, 1 Dec 2018, [www.thelancet.com/journals/lanplh/article/PIIS2542-5196\(18\)30221-3/fulltext](http://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(18)30221-3/fulltext)
17. "International EMF Scientist Appeal" *EMF Scientist.org*, 2019, emfscientist.org/index.php/emf-scientist-appeal
18. "Minutes of the Board of Health. Prudent Avoidance Policy on Siting Telecommunication Towers and Antennas" *City of Toronto*, 4 Dec 2007, pp 6-8, www.toronto.ca/legdocs/mmis/2007/hl/reports/2007-12-04-hl10-cr.pdf
19. "Ministry of Education policy on the introduction of WI-FI in Schools" *TNUDA*, 1 Jan 2016, <https://www.tnuda.org.il/en/policy-and-legislation/wireless-communication-network-%E2%80%93-wi-fi/legislation-and-policy-use-wi-fi>
20. Lean, Geoffrey. "Could Wifi Be Giving Our Children Cancer?" *Daily Mail Online*, Associated Newspapers, 21 June 2018, www.dailymail.co.uk/news/article-5872001/Could-wifi-giving-children-cancer.html.
21. "Historic Berkeley Cell Phone Warning Ordinance Wins in US Federal Appeals Court." *Physicians for Safe Technology*, 2019, mdsafetech.org/2019/07/05/berkeley-cell-phone-warning-ordinance-upheld-by-us-federal-appeals-court/
22. "Italy: a Landmark Judgment Requires the State to Inform the Population of the Health Risks Due to Mobile Phones." *Phonegate Alert*, 14 May 2019, www.phonegatealert.org/en/italy-a-landmark-judgment-condemns-the-state-to-inform-the-population-of-the-health-risks-due-to-mobile-phones
23. "Database of Worldwide Policies on Cell Phones, Wireless and Health." *Environmental Health Trust*, 2020, ehtrust.org/policy/international-policy-actions-on-wireless/
24. Chini, Maïthé. "Radiation concerns halt Brussels 5G development, for now." *The Brussels Times*, 1 April 2019, www.brusselstimes.com/brussels/55052/radiation-concerns-halt-brussels-5g-for-now/
25. "Genève adopte une motion pour un moratoire sur la 5G." *Le Temps*, 11 April 2019, www.letemps.ch/suisse/geneve-adopte-une-motion-un-moratoire-5g
26. "Germans petition Parliament to stop 5G auction on health grounds." *Telecompaper*, 8 April 2019, www.telecompaper.com/news/germans-petition-parliament-to-stop-5g-auction-on-health-grounds--1287962
27. McCaskill, Steve. "Swiss cantons 'halt' use of new 5G masts due to health concerns." *TechRadar*, 13 Feb. 2020, www.techradar.com/news/swiss-cantons-halt-use-of-new-5g-masts-due-to-health-concerns
28. "Swiss municipality of Kriens stops approvals for 5G antennas." *Telecompaper*, 12 Feb. 2020, www.telecompaper.com/news/swiss-municipality-of-kriens-stops-approvals-for-5g-antennas--1326367
29. "General Court of New Hampshire – Bill Status System." *General Court of New Hampshire*, 2019, gencourt.state.nh.us/bill_status/bill_status.aspx?lsr=0261&sy=2019&txtsessionyear=2019&txtbilln%20umber=hb522&sortoption=&q=1
30. "New York Assembly Bill 8637." *LegiScan*, New York General Assembly, 2019, legiscan.com/NY/bill/A08637/2019
31. Dawkins, Glen. "Local group sounds alarm over 5G cell towers." *Winnipeg Sun*, 25 Jan. 2020, winnipeg.sun.com/news/local-news/local-group-sounds-alarm-over-5g-cell-towers
32. "Urgent Appeal to the Government of Canada to Suspend the 5G Rollout and Choose Safe and Reliable Fibre Connections." *Canadians For Safe Technology*, 2020, <http://c4st.org/5Gappeal/>
33. "The Use of Wi-Fi in Schools - Briefing Document." *Canadian Teachers' Federation*, 2014, ehtrust.org/wp-content/uploads/THE-USE-OF-WI-FI-IN-SCHOOLS-Briefing-by-Canadian-Teachers%E2%80%93Federation-2.pdf