SUBMISSION – ANNE THOMPSON

ITEM 1 - REPORT OF THE STANDING POLICY COMMITTEE ON WATER, WASTE AND ENVIRONMENT DATED OCTOBER 30, 2023 - ADVANCED WATER METERING SOLUTION BUSINESS CASE

Sent: Monday, November 20, 2023 9:48:52 AM

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Delegation information
Committee: Standing Policy Committee on Water, Waste and Environment
Committee - council: N/A
Committee - other: N/A
Agenda item (number and title): Item No. 2 Advanced Water Metering Solution Business Case

Service inquiry: Submit Comments in writing
Participation preference: N/A
Comments in writing: Hello City of Winnipeg Water and Waste Committee Members,

The Hidden Dangers of Radiofrequency Technology in Winnipeg

Winnipeg is planning to install new water meters that use wireless technology to transmit data. These water meters use radiofrequency (RF) electromagnetic fields (EMF) to communicate. While the city claims that these water meters are safe, efficient, and accurate, some citizens are concerned about the potential health and environmental impacts of this project. I assert that the new water meters pose serious risks to the well-being of Winnipeggers and that more research and consultation are needed before making such a decision.

The new water meters are part of a $135 million project that aims to replace the existing meters that are manually read by city staff. The new meters will use RF technology to send data wirelessly to a network of collectors and gateways that will relay the information to the city's billing system. The city says that this will improve the accuracy and efficiency of the water metering system and reduce the

costs of manual reading. However, the city has not provided enough information on the safety and efficiency of the new technology, nor has it consulted the public adequately on this matter.

One of the main concerns about the new water meters is the health effects of RF exposure. RF is a type of EMF that can penetrate the human body and cause biological effects. According to Health Canada, RF exposure can cause heating of the tissues and organs, which can lead to thermal stress, burns, or damage. RF exposure can also cause non-thermal effects, such as changes in the activity of cells, genes, or enzymes, which can lead to adverse health outcomes, such as cancer, reproductive problems, or neurological disorders. Health Canada sets guidelines for the safe exposure levels of RF, based on the scientific evidence available. However, these guidelines are not legally binding and do not account for the long-term and cumulative effects of RF exposure, especially from multiple sources and devices.

The new water meters will increase the RF exposure of Winnipeggers, as they will be installed in or near their homes and workplaces, and will operate 24 hours a day, seven days a week. The city has not disclosed the exact frequency, power, or duration of the RF signals that the new water meters will use, nor has it conducted any independent testing or monitoring of the RF emissions from the new water meters. The city has also not provided any evidence that the new water meters comply with the Health Canada guidelines or that they are safe for humans and other living organisms. Moreover, the city has not considered the possible interactions or synergies of the RF signals from the new water meters with other sources of RF, such as cell phones, Wi-Fi, smart meters, or 5G networks, which are becoming more prevalent and powerful in our society.

Another concern about the new water meters is the environmental impact of RF exposure. RF can affect not only humans, but also animals, plants, and microorganisms, which are essential for the functioning and balance of the ecosystems. RF can alter the behaviour, physiology, and morphology of living organisms, as well as their interactions and relationships with each other. RF can also affect the soil microbiome, which is one of the most important and complex components of all terrestrial ecosystems, as it harbors millions of microbes, including bacteria, fungi, archaea, viruses, and protozoa. The soil microbiome plays a crucial role in the capture and storage of carbon, which is vital for mitigating climate change and maintaining the health of the planet. RF can disrupt

the soil microbiome and affect its diversity, composition, and function, which can have negative consequences for the carbon cycle and the environment.

The new water meters will increase the RF exposure of the environment, as they will be installed in or near the soil, water, and vegetation, and will emit RF signals constantly. The city has not assessed the potential environmental effects of the RF emissions from the new water meters, nor has it consulted the environmental experts or stakeholders on this issue. The city has also not taken into account the possible cumulative and long-term effects of the RF exposure on the environment, especially in combination with other environmental stressors, such as climate change, pollution, or land use change. Furthermore, the city has not evaluated the possible alternatives or solutions to the RF technology, such as wired or optical fiber connections, which could reduce the RF exposure and the environmental impact.

In light of these concerns, I urge the city to delay the vote on the installation of the new water meters until further studies and consultations are conducted. I also ask the city to make the Diameter Services report public and to provide more information on the safety and efficiency of the new technology. This is a matter of public interest and public health, and it deserves the city's careful attention and consideration. As a concerned citizen of Winnipeg, I oppose the installation of the new water meters that use RF technology, and I call for a moratorium on this project until the safety and the necessity of this technology are proven beyond doubt.

As the futurist and author Gene Roddenberry once wrote in his famous Star Trek series, "The past is prologue". In one of the episodes, he depicted a planetary species that died after discovering that their technology killed all the microbes in their soil, which led to a mass extinction event. This fictional scenario could become a reality if we do not pay attention to the hidden dangers of RF technology and its effects on our health and environment. We cannot afford to gamble with our lives and our planet, and we cannot rely on the city's assurances without evidence and transparency. We need to act now and demand more research and consultation on this issue, before it is too late. The future of Winnipeg and the world depends on it.

I hope you and yours are safe and well.

I am writing as a concerned citizen of Winnipeg opposed to the installation of the new water meters that use radiofrequency (RF) technology. I believe that this project poses serious risks to the health and environment of our city and that more research and consultation are needed before making such a decision.

I request a delay in the vote to approve a purchase that will bring new water meters in or on places where we live.
(1) The Diameter Services report has not been made available to the public nor to the committee members, which violates the principle of transparency and accountability;
(2) The new water meters use wireless technology, which has not been proven to be safe for humans and other living organisms, especially with long-term exposure (Simkó & Mattsson, 2019).
(3) The new water meters will increase the RF radiation in our living spaces, which could have negative effects on soil microbiome and the carbon cycle, as well as on our immune system.
(4) The new water meters will cost $135 Million, which is a huge expenditure that should be justified by a thorough cost-benefit analysis and public consultation

I strongly recommend Council allow more time not only for public consultation, also for the Government of Canada to complete long-term health studies on the safety to Canadians of all ages to daily 24-hour exposure to the radiofrequency wavelengths used by this instrument, and bring in guidance for regulations on the installation, maintenance and use of wireless technology that ensure safety to the general public.

The Consumer & Clinical Radiation Protection Bureau (CCRPB) of the Government of Canada refers inquiries to the EMF Portal on the web where a publication asserts that knowledge gaps exist insofar as to the possible negative consequences to microbes secondary to in vivo exposure to the radiofrequency wavelengths used in new technologies for telecommunication transmissions. According to Sanford and Gallo (2013), the skin microbiota plays a crucial role in the immune system and the ecology of the skin. The tear film is composed of many substances that contribute to its integrity, but how they interact is still an area of active research (Willcox et al., 2017).

The Intergovernmental Panel on Climate Change Report on Climate Change and Land (2021) highlights the importance of the role of soil microbiome - one of the most important and complex components of all terrestrial ecosystems as it harbors millions of microbes including bacteria, fungi, archaea, viruses, and protozoa - in the capture and storage of carbon.

More research is needed to clarify whether or not the RF waves from new communication technology instrumentation is absolutely safe, with no negative effects after long-term daily 24-hour exposure.

I assert that all installations involving what may be new 5G technology should be restricted to testing only until results from scientific research on the safety to living species is widely known, widely reviewed, and widely accepted.

I hold the same position as has publicly stated by Rome Councillor Massimiliano Quaresima, "I am in favor of technological progress but not on the experimentation of 5G technology in the absence of scientific data on the repercussions for health."

The mandated installation of this technology in our living spaces will expose people to more RF waves overall.

In light of these concerns, I urge you to delay the vote on the installation of the new water meters until further studies and consultations are conducted. I also ask you to make the Diameter Services report public and to provide more information on the safety and efficiency of the new technology. This is a matter of public interest and public health, and it deserves your careful attention and consideration.

Please feel free to contact me if you have any questions. Thank you very much for your time and consideration of my thoughts.

Ever your humble servant, I remain,
Anne

References:
Simkó, M., & Mattsson, M.-O. (2019). 5G wireless communication and health effects-A pragmatic review based on available studies regarding 6 to 100 GHz. International Journal of Environmental Research and Public Health, 16(18), 3406. 7
https://can01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.canada.ca%2Fen%2Fhealth-canada%2Fservices%2Fhealth-risks-safety%2Fradiation%2Feveryday-things-emit-radiation%2Fcell-phones-towers.html&data=05%7C01%7CJRidge%40winnipeg.ca%7C1099fc371ef54b8c77c808dbe9e0bea9%7C405abd592f4e4fabb403dc6c591db30c%7C0%7C0%7C638360923697430884%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=jQsgu%2FRvqtrUD4KykbTUYt4TwN4miziFbvpvKroWKqc%3D&reserved=0 : à EMF Portal : à https://can01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.emf-portal.org%2Fen%2Farticle%2Fsearch%2Fresults%3Fkeywords%3Dradiofrequency%2Belectromagnetic%2Bfields%252C%2BMMW%252C%2Bin%2Bvivo%252C%2Bin%2Bvitro%26logicalOperator%3D0%26authors%3D%26authorMatchingMode%3D0%26journals%3D%26journalMatchingMode%3D0%26years%3D%26topics%255B%255D%3D0%26topics%255B%255D%3D1%26topics%255B%255D%3D2%26topics%255B%255D%3D3%26topics%255B%255D%3D4%26topics%255B%255D%3D5%26topics%255B%255D%3D6%26topics%255B%255D%3D7%26topics%255B%255D%3D8%26topics%255B%255D%3D9%26frequencyRanges%255B%255D%3D0%26frequencyRanges%255B%255D%3D1%26frequencyRanges%255B%255D%3D2%26frequencyRanges%255B%255D%3D3%26frequencyRanges%255B%255D%3D4%26frequencyRanges%255B%255D%3D5%26timeSpan%3D0&data=05%7C01%7CJRidge%40winnipeg.ca%7C1099fc371ef54b8c77c808dbe9e0bea9%7C405abd592f4e4fabb403dc6c591db30c%7C0%7C0%7C638360923697430884%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=vcoHhRgLhPtzQA9zzBpDtNEROEqCU8YyoY%2BWTKX%2FzJY%3D&reserved=0 : à https://can01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.emf-portal.org%2Fen%2Farticle%2F39580&data=05%7C01%7CJRidge%40winnipeg.ca%7C1099fc371ef54b8c77c808dbe9e0bea9%7C405abd592f4e4fabb403dc6c591db30c%7C0%7C0%7C638360923697430884%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=9FmuMWdvLcMvwcNt16tEbRU6IEwpWARn0sIOEqonCVQ%3D&reserved=0 :
https://can01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.ncbi.nlm.nih.gov%2Fpmc%2Farticles%2FPMC6765906%2F&data=05%7C01%7CJRidge%40winnipeg.ca%7C1099fc371ef54b8c77c808dbe9e0bea9%7C405abd592f4e4fabb403dc6c591db30c%7C0%7C0%7C638360923697430884%7CUnkn

own%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=G8jdk7Uza2KXGvSeWx8IfiUhxKLZB9MC7GR27f%2B2XA4%3D&reserved=0
"The available studies do not provide adequate and sufficient information for a meaningful safety assessment, or for the question about non-thermal effects. There is a need for research regarding local heat developments on small surfaces, e.g., skin or the eye, and on any environmental impact. Our quality analysis shows that for future studies to be useful for safety assessment, design and implementation need to be significantly improved."

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The members of the Tear Film Subcommittee reviewed the role of the tear film in dry eye disease (DED). The Subcommittee reviewed biophysical and biochemical aspects of tears and how these change in DED. Clinically, DED is characterized by loss of tear volume, more rapid breakup of the tear film and increased evaporation of tears from the ocular surface. The tear film is composed of many substances including lipids, proteins, mucins and electrolytes. All of these contribute to the integrity of the tear film but exactly how they interact is still an area of active research. Tear film osmolarity increases in DED. Changes to other components such as proteins and mucins can be used as biomarkers for DED. The Subcommittee recommended areas for future research to advance our understanding of the tear film and how this changes with DED. The final report was written after review by all Subcommittee members and the entire TFOS DEWS II membership."

Sanford, J. A., & Gallo, R. L. (2013). Functions of the skin microbiota in health and disease. Seminars in immunology, 25(5), 370-377; found here:
https://can01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.ncbi.nlm.nih.gov%2Fpmc%2Farticles%2FPMC4219649%2F&data=05%7C01%7CJRidge%40winnipeg.ca%7C1099fc371ef54b8c77c808dbe9e0bea9%7C405abd592f4e4fabb403dc6c591db30c%7C0%7C0%7C638360923697586925%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=SVA4%2BcquZ7ZC7vpTMpPEsri3a56vk5Ahjno63oLeHxg%3D&reserved=0
"The skin, the human body's largest organ, is home to a diverse and complex variety of innate and adaptive immune functions. Despite this potent immune system present at the cutaneous barrier, the skin encourages colonization by microorganisms. Characterization these microbial communities has enhanced our knowledge of the ecology of organisms present in normal skin; furthermore, studies have begun to bring to light the intimate relationships shared between host and resident microbes. In particular, it is apparent that just as host immunological factors and behaviors shape the composition of these communities, microbes present on the skin greatly impact the functions of human immunity. Thus, today the skin immune system should be considered a collective mixture of elements from the host and microbes acting in a mutualistic relationship. In this article we will review recent findings of the interactions of skin microbial communities with host immunity, and discuss the role that dysbiosis of these communities plays in diseases of the skin."

and

"The challenge for the skin's immune system is that it is charged with resisting infections, but must do so under normal conditions in the absence of cell recruitment and inflammation."

"...researchers are now poised to translate these findings into a deeper understanding of the complex relationships existing between commensals and their host. While several interesting discoveries have already been achieved, a number of important questions still remain to be answered. In particular, mechanistic details of the contributions of microbes to cutaneous immunity and the role of these commensal organisms in the initiation and progression of skin disease should be further pursued, as a deeper understanding of these processes will provide valuable information for the development of novel therapeutic strategies."

- Food and Agriculture Organization of the United Nations. 2021. Keep soil alive, protect soil biodiversity - Global Symposium on Soil Biodiversity 19-22 April 2021. Proceedings. Rome. https://can01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fdoi.org%2F10.4060%2Fcb7374en&data=05%7C01%7CJRidge%40winnipeg.ca%7C1099fc371ef54b8c77c808dbe9e0bea9%7C405abd592f4e4fabb403dc6c591db30c%7C0%7C0%7C638360923697586925%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=axEz8zI9RxFnDIF%2FAUrmE8bX0sw4C4cxCGiWzc6O6c0%3D&reserved=0

- Islam, W., Noman, A., Naveed, H. et al.; Role of environmental factors in shaping the soil microbiome; Environ Sci Pollut Res 27, 41225-41247 (2020). https://can01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fdoi.org%2F10.1007%2Fs11356-020-10471-2&data=05%7C01%7CJRidge%40winnipeg.ca%7C1099fc371ef54b8c77c808dbe9e0bea9%7C405abd592f4e4fabb403dc6c591db30c%7C0%7C0%7C638360923697586925%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=Z09k8%2F5TbhDSovlNPA1QUnCKTzHxMafjODz%2BpZs%2BzOw%3D&reserved=0

- Food and Agriculture Organization of the United Nations, 2019; Microbiome: The Missing Link? https://can01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.fao.org%2F3%2Fca6767en%2FCA6767EN.pdf&data=05%7C01%7CJRidge%40winnipeg.ca%7C1099fc371ef54b8c77c808dbe9e0bea9%7C405abd592f4e4fabb403dc6c591db30c%7C0%7C0%7C638360923697586925%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=R%2B8LmqCrLHalxZTF%2FFWv6lY71w35P3hXbtjV%2B5adSCs%3D&reserved=0

- Canadian Environmental Protection Act, 1999, S.C. 1999, c. 33; Assented to 1999-09-14; https://can01.safelinks.protection.outlook.com/?url=https%3A%2F%2Flaws-lois.justice.gc.ca%2Feng%2Facts%2Fc-15.31%2FFullText.html&data=05%7C01%7CJRidge%40winnipeg.ca%7C1099fc371ef54b8c77c808dbe9e0bea9%7C405abd592f4e4fabb403dc6c591db30c%7C0%7C0%7C638360923697586925%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=PlB22JK%2BMKrwLw0%2BTpqJAzXpunGGMrYhd9Le%2F%2Boshq0%3D&reserved=0

- 5G Wireless Communication and Health Effects-A Pragmatic Review Based on Available Studies Regarding 6 to 100 GHz by Myrtill Simkó and Mats-Olof Mattsson, https://can01.safelinks.protection.outlook.com/?url=https%3A%2F%2Flink.springer.com%2Farticle%2F10.1007%2Fs11356-020-10471-2&data=05%7C01%7CJRidge%40winnipeg.ca%7C1099fc371ef54b8c77c808dbe9e0bea9%7C405abd592f4e4fabb403dc6c591db30c%7C0%7C0%7C638360923697586925%7CUnknown%7CTWFpbGZsb3d8eyJWI

joiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=P09NY9hI3gVbxtssTLOSfc7Mro9wQPK6HpQ23rqWrqw%3D&reserved=0

- Correspondence dated 2020-AU-15, from Consumer & Clinical Radiation Protection Bureau (CCRPB), Healthy Environments and Consumer Safety Branch, Health Canada, Government of Canada, available upon request

- Gene Roddenberry, futurist and author; Star Trek: The Next Generation (season 5, episode 25), The Inner Light.
https://can01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.imdb.com%2Ftitle%2Ftt0708803%2F&data=05%7C01%7CJRidge%40winnipeg.ca%7C1099fc371ef54b8c77c808dbe9e0bea9%7C405abd592f4e4fabb403dc6c591db30c%7C0%7C0%7C638360923697586925%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=pBU1ytJtXZCBXFdSdi88AYkfWul1aSw4ICImckxSB5w%3D&reserved=0
Speaks about a planetary species that died after discovering that their technology killed all the microbes in their soil.
File:
Public engagement preference: Yes