EHA-MB

Environmental Health Association of Manitoba

July 16, 2025

Via Online submission form

Mayor Gillingham and City of Winnipeg Councilors,

Subject: Going forward, flexibility is needed regarding reporting on the Opt-out Program for the Advanced Metering System (Smart Water Meters)

We ask that the City of Winnipeg Council does not support Recommendation 1 of item 5. Opt-Out Program for the Advanced Metering System: *That the City not implement an Opt-Out Program for the Advanced Metering System in order to maximize the full benefits of the Advanced Metering Infrastructure (AMI) technology.*

Having reviewed the information provided in reports on this proposed capital expenditure, there are numerous confusing and vague comments and assumptions. It appears the Council is being asked to make a decision on a program that has not yet materialized into a clear position that addresses the City's requirements first and defines clear requirements for the Request for Proposals.

Accommodation is required for vulnerable people with medical conditions and medical devices that can be adversely affected by electromagnetic radiation (EMR). These accommodations need to be addressed at the beginning of this process to avoid costly "*adjustments*" to the procurement process and installation costs. Oothers who are concerned about health and other issues should also be considered.

During the discussion on June 27th between Councillors on the Water, Waste and Environment Committee and the Public Service, the Public Service mentioned that they would "*work with individual customers"* to *"try to use different options to address the concerns."* Requirements will determine options, and to minimize future delays, both of these need to be considered and perhaps even be defined in the Request for Proposals.

We therefore ask that staff meet with individuals and/or representatives of vulnerable residents to clearly identify accommodation needs so that these can be incorporated in the Request for Proposal and there be an ongoing reporting to the Water, Waste and Environment Committee.

Smart meters emit radiofrequency radiation. Health concerns are supported by the April 2025 peer-reviewed publication, co-authored by a Health Canada scientist and commissioned by the World Health Organization, finding that there is a "*high certainty"* of evidence linking radiofrequency radiation and cancer in animals. This follows the classification of radiofrequency radiation in 2011 by the

International Agency for Research on Cancer as a Group 2B *possible* human carcinogen. That classification was based mostly on human studies. Since 2011 there are more studies on humans as well as over 50 studies on a range of organisms and tissue types showing DNA damage. DNA damage studies include findings from a multimillion study conducted by the USA's National Toxicology Program. DNA damage can lead to a range of health conditions including neurological conditions and cancer. These and other factors should be taken into consideration in minimizing exposure levels and duration of exposure. Information which includes some of the relevant concerns and scientific evidence provided in some previous delegations are in the appendices (Appendix 1, 2,3 and 4).

The Opt-out program will evolve as the selection and procurement of hardware and software for the AMI evolve. And let's not forget changing costs and availability of products for the AMI project related to tariffs and supply chain issues.

We ask that you amend the recommendation to keep the Opt-out Program and include flexibility in the process for ongoing reporting.

Sincerely,

Margaret Friesen M.Sc.
(Volunteer) Director, Environmental Health Association of Manitoba

About the Environmental Health Association of Manitoba. The Environmental Health Association of Manitoba, Inc. is a not-for-profit, non-governmental, non-partisan organization run entirely by volunteers and funded by donations. Goals of EHA-MB are to promote education and information on environmental sensitivities and environmentally induced illnesses to the public, educational institutions and medical community in Manitoba and to provide information and support to individuals in Manitoba suffering from environmental sensitivities and environmentally induced illnesses. We represent many health conditions that are related to environmental factors; we are often referred to as "the canaries in the mines" i.e. early indicators of conditions that can become harmful to others.

Appendix 1. Script of verbal presentation made to the Water, Waste and Environment Committee on June 27, 2025

June 27, 2025
To: Water, Waste and Environment Committee

Re. **Item No. 6 Opt-Out Program for the Advanced Metering System**

Councillor Eadie, Chambers, Mayes and Rollins,

My name is Margaret Friesen and I am representing members of the Environmental Health Association of Manitoba. We are a not-for-profit, non-governmental, non-partisan organization. Goals of EHA-MB are to promote education and information on environmental sensitivities and environmentally induced illnesses. We are often referred to as "the canaries in the coal mines" i.e. early indicators of conditions that can become harmful to others.
I have a Master of Science degree and more than 30 years' experience in primary research. Some of my research projects for the federal government as a research biologist included using radioisotopes i.e. ionizing radiation.

We are very concerned that the City is considering not implementing the opt-out program it had previously indicated would be available.
It is not clear what the proposed opt-out program actually would look like, and I would bring your attention to page 12 where it says:

> *"Details of an Opt-Out Program will not be known until the water meter and related technology specifications are selected through the procurement process."*

In other words, all of the information is not available upon which you can base an informed decision.
Therefore, recommendation 1 should be turned back to the staff – not approved - until that information is available.

Recommendation 2 also needs to be re-examined and referred back for more study. It should include full disclosure underpinning safety standards.
Health Canada's permissible limits for radiofrequency exposure, such as exposures from smart meters, are set out in Safety Code 6 guidelines. These are guidelines only apply to federal facilities and are also used for compliance purposes for wireless devices such as smart water meters. Other entities may decide to follow Safet Code 6 but can set safer limits. The City of Winnipeg, as the City of Toronto has done, can set safer limits if it wants to.
In providing a "public education campaign" to explain safety standards, the full story will be told. For example, in Appendix 1 of the staff report, is included a Health Canada information sheet on the "Safety of smart meters."

One statement is : ***"There are no health risks from exposure to radiofrequency EMF from smart meters."*** This is false and Health Canada knows it. Health Canada knows that in 2011 the World Health Organization's International Agency for Research on Cancer classified radiofrequency radiation as a Group 2b *possible* human carcinogen. This was based mainly on human studies. Clearly, health risks were identified then. A Health Canada scientist was on the working group that came to that determination. IARC states that it does not differentiate among the wireless technologies and specifically included smart meters (range is 30 KHz to 300 GHz).

Health Canada also knows that there is a "**high certainty**" of evidence linking cell phone radiation with cancer in animals. It knows this because the same scientist is a co-author of that that a 2025 systematic review commissioned by the World Health Organization that came to this conclusion. This compelling evidence may move radiofrequency radiation to the Group 1, that is a *known* human carcinogen, along with cigarette smoke and asbestos.

Now the City of Winnipeg also knows, and we ask that there will be full disclosure in its public education program. Of course, the question of liability comes up. Is the City of Winnipeg assuming risk of litigation if and when the smart water meter is implemented? Would the staff investigate this and make that available to you and the residents of Winnipeg in its next report?

There is evidence that radiation such as from smart meters can harm people's health. We trust the City of Winnipeg will take steps to ensure that residents of Winnipeg are fully informed so they can take protective measures such having available to them robust opt-out program.
I also want to add that non-human species such as our pollinators, are also harmed by wireless and extremely low levels- at levels that people with electrosensitivity report adverse effects.
Councillors, please do not support the recommendations and refer this back to the City of Winnipeg staff to prepare a more comprehensive report and recommendations.

Thank you.
Margaret Friesen
Director, Environmental Health Association of Manitoba

REFERENCES CITED:

Mevissen, Meike, Angélique Ducray, Jerrold M. Ward, Annette Kopp-Schneider, James P. McNamee, Andrew W. Wood, Tania M. Rivero, and Kurt Straif. "**Effects of Radiofrequency Electromagnetic Field Exposure on Cancer in Laboratory Animal Studies, a Systematic Review."** *Environment International*, April 25, 2025, 109482. https://doi.org/10.1016/j.envint.2025.109482

International Commission on the Biological Effects of Electromagnetic Fields (ICBE-EMF). **"Scientific Evidence Invalidates Health Assumptions Underlying the FCC and ICNIRP Exposure Limit Determinations for Radiofrequency Radiation: Implications for 5G.**" *Environmental Health: A Global Access Science Source* 21, no. 1 (October 18, 2022): 92. https://doi.org/10.1186/s12940-022-00900-9.

Appendix 2. Presentation made to the City of Winnipeg Executive Policy Committee on July 8, 2025. 19 slides.

Advanced Metering System
Smart Water Meter Program
Support for Recommendation 1. Item 5.

By Margaret Friesen M.Sc.
Environmental Health Association of Manitoba

EHA-MB
Environmental Health Association of Manitoba

Executive Policy Committee, City of Winnipeg
Tuesday, July 8, 2025

1

Margaret (Marg) Friesen



- Masters Science Degree in Entomology/Toxicology
- More than 30 years with the federal government and University of Manitoba
- Original research projects in ecosystem toxicology, DNA methodology,
- Post retirement, as a volunteer, researched wireless radiation (radiofrequency electromagnetic radiation RF-EMR) and impacts on environmental health.
- Director of the Environmental Health Association of Manitoba and an advisor to Canadians for Safe Technology.

EHA-MB

Environmental Health Association of Manitoba

Founded in 2012. Not-for-profit, non-governmental, non-partisan organization run entirely by volunteers and funded by donations.

Goals of EHA-MB:

To promote education and information on environmental sensitivities and environmentally induced illnesses to the public, educational institutions and medical community in Manitoba.

3

This statement by Health Canada is not true.

HEALTH EFFECTS OF EXPOSURE TO SMART METERS

There are **no health risks** from exposure to radiofrequency EMF from smart meters.

No long term studies on adverse health effects have been conducted.

Absence of proof, is not proof of safety.



SAFETY OF
SMART METERS

ABOUT SMART METERS

Smart meters are wireless devices that transmit information using radiofrequency electromagnetic fields (EMF) to let utility companies know how much water, gas or electricity a household or business is using.

HEALTH EFFECTS OF EXPOSURE TO SMART METERS

There are **no health risks** from exposure to radiofrequency EMF from smart meters. These devices must meet standards to ensure they do not exceed radiofrequency EMF exposure limits.

As with any device that emits radiofrequency EMF, you will absorb some of the energy emitted by smart meters if you are nearby. The amount of energy you absorb depends largely on how close your body is to a smart meter.

Your exposure to radiofrequency EMF from smart meters is very low. This is because:

- smart meters emit relatively low power signals
- there is distance between your body and smart meters
- smart meters transmit data in short bursts, not continuously
- when smart meters are not transmitting a signal, they do not emit radiofrequency EMF

Even if you live or work in a townhouse or high-rise building where multiple smart meters are installed together, your total exposure levels will still be far below Canadian exposure limits due to the infrequent nature of transmissions.

You **do not** need to take any precautionary measures to reduce your radiofrequency EMF exposure from smart meters because the exposure levels are far below Canadian safety limits.

The radiofrequency EMF given off by smart meters is a type of non-ionizing radiation. The level of radiofrequency EMF that a smart meter device can emit must comply with the standards established for radiocommunication devices.

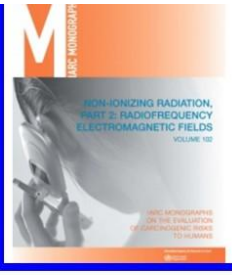
Visit **Canada.ca** and search **Smart Meters** for more info.

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Health Canada Santé Canada

Canada

World Health Organization International Agency for Research on Cancer (IARC)



Non-ionizing Radiation, Part 2: Radiofrequency Electromagnetic Fields
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans Volume 102

IARC

2013

ISBN-13

The Working Group agreed to consider three categories of human exposure to RF radiation: (a) environmental sources such as mobile-phone base stations, broadcast antennae, smart meters, and medical applications; (b) occupational sources such as high-frequency dielectric and induction heaters, and high-power pulsed radars; and (c) the use of personal devices such as mobile phones, cordless phones, Bluetooth devices, and amateur radios.

5

WHO Press Release
Wireless Radiation – Group 2B *possible* carcinogen

International Agency for Research on Cancer
World Health Organization

Based mostly on studies on humans

PRESS RELEASE
N° 208

31 May 2011

IARC CLASSIFIES RADIOFREQUENCY ELECTROMAGNETIC FIELDS AS POSSIBLY CARCINOGENIC TO HUMANS

Lyon, France, May 31, 2011 -- The WHO/International Agency for Research on Cancer (IARC) has classified radiofrequency electromagnetic fields as **possibly carcinogenic to humans (Group 2B)**, based on an increased risk for **glioma**, a malignant type of brain cancer, associated with wireless phone use.

6

Health Canada scientist a co-author on this April, 2025 review publication



Environment International 199 (2025) 109482

Contents lists available at ScienceDirect

Environment International

journal homepage: www.elsevier.com/locate/envint

ELSEVIER

Effects of radiofrequency electromagnetic field exposure on cancer in laboratory animal studies, a systematic review☆

Meike Mevissen [a,*,1], Angélique Ducray [a,1], Jerrold M. Ward [b], Annette Kopp-Schneider [c], James P. McNamee [d], Andrew W. Wood [e], Tania M. Rivero [f], Kurt Straif [g,h]

Found "high certainty" of evidence linking exposure to radiofrequency fields and cancer in animals. 7

Medical Doctors and Scientists Independent of Industry Influence

Calling for a Group 1 *known* human carcinogen.
Same classification as asbestos and cigarette smoke.

IARC has made this a high priority for re-evaluation.

DOI: 10.1016/j.envres.2018.06.043

Report of the Advisory Group to Recommend Priorities for the IARC Monographs during 2020–2024. Pages 148-149. https://monographs.iarc.fr/agents-classified-by-the-iarc/ 8

The biggest telecommunications companies in Canada - Bell, Rogers, TELUS all acknowledge potential risk

Rogers Communications recognizes potential litigation relating to health issues in their annual report – Regulatory Risks

Quoting Rogers 2024 Annual Report:

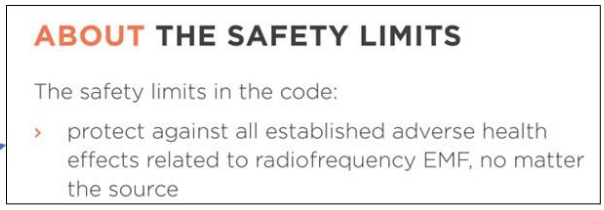
"REGULATORY RISKS. Radio frequency emissions

From time to time, media and other reports have highlighted alleged links between radio frequency emissions from wireless devices (including new 5G technology) and various health concerns, including cancer, and interference with various medical devices, including hearing aids and pacemakers. This may discourage the use of wireless devices or expose us to potential litigation even though there are no definitive reports or studies stating that these health issues are directly attributable to radio frequency emissions. Future regulatory actions may result in more restrictive standards on radio frequency emissions from low-powered devices like wireless devices. We cannot predict the nature or extent of any restrictions."

https://about.rogers.com/wp-content/uploads/Rogers-2024-Annual-Report-1.pdf

9





The only "established" effect for smart meter frequencies is heating of body tissue.

10

Safety Code 6 (2015) – Power Density

Health Canada / Santé Canada — Your health and safety... our priority. / Votre santé et votre sécurité... notre priorité.

Limits of Human Exposure to Radiofrequency Electromagnetic Energy in the Frequency Range from 3 kHz to 300 GHz

https://www.canada.ca/en/health-canada/services/publications/health-risks-safety/limits-human-exposure-radiofrequency-electromagnetic-energy-range-3-300.html

Table 5. Reference Levels for Electric Field Strength, Magnetic Field Strength and Power Density in Uncontrolled Environments

Frequency (MHz)	Electric Field Strength (E_{RL}), (V/m, RMS)	Magnetic Field Strength (H_{RL}), (A/m, RMS)	Power Density (S_{RL}), (W/m^2)	Reference Period (minutes)
10 - 20	27.46	0.0728	2	6
20 - 48	$58.07 / f^{0.25}$	$0.1540 / f^{0.25}$	$8.944 / f^{0.5}$	6
48 - 300	22.06	0.05852	1.291	6
300 - 6000	$3.142 f^{0.3417}$	$0.008335 f^{0.3417}$	$0.02619 f^{0.6834}$	6
6000 -15000	61.4	0.163	10	6
15000 - 150000	61.4	0.163	10	$616000 / f^{1.2}$
150000 - 300000	$0.158 f^{0.5}$	$4.21\times10^{-4} f^{0.5}$	$6.67\times10^{-5} f$	$616000 / f^{1.2}$

Frequency, f, is in MHz.

Red and yellow markings added

minutes

Smart meter emissions

6

6

Based ONLY on "over-heating" of body tissue by no more than 1C within a period of 6 minutes. The assumption is that if it does not over-heat (within 6 minutes), this radiation will not harm.

11

$0

No health studies have been conducted in Canada on health effects of smart meters

$ Billions

Income by the Government of Canada for the licensing of radiofrequencies such as for smart meters

OURWINNIPEG POLICY ALIGNMENT

This report aligns with OurWinnipeg 2045 policies as follows:

Goal: Leadership and Good Governance

Objective 1: Establish and implement priority actions through evidence-informed decision-making processes.

Policy 1.6 Results-Based Budgeting: Invest City resources in prioritized, proactive, long term community-beneficial outcomes.

For proactive, long term community-beneficial outcomes, we need to protect the most vulnerable. A fulsome Opt-out program would contribute to this goal.

13

WINNIPEG POVERTY REDUCTION STRATEGY ALIGNMENT

One of the guiding principles of the Poverty Reduction Strategy is to promote and maintain the welfare of all residents. By transitioning to the Advanced Metering System, the City will receive accurate and timely reads reducing estimated and high bills due to incorrect information, will allow for timelier leak detection notification preventing unexpected large bills related, and will help facilitate the transition to monthly billing to assist in household budgeting.

This statement is incomplete.
Lack of a fulsome Opt-out program
will imit the housing options
for people at and below the poverty line.

Safety Code 6 and the Precautionary Principle (Better Safe than Sorry)

- **Health Canada's Safety Code 6 is not protective of people with severe electrosensitivity**
- **Exposure may have unintended serious health consequences**

Liability?

Is risk of litigation assumed by Committee Members and City Council by denying people an Opt-out option to this smart water meter project?

16

Please vote “Yes” to Recommendation 1.

- **With a direction to the Public Service to present detailed plans for a fulsome Opt-out Program**
- **Available to the public for comment before the Request for Proposal to potential vendors is made so we can ensure having the safest options according to peoples’needs.**

17

Thank you

18

Appendix 3.

EHA-MB
Environmental Health Association of Manitoba

February 2, 2024

To: Chair - Brian Mayes Email: BMayes@winnipeg.ca
Phone: 204-986-5088
Fax: 204-986-3725

Shawn Dobson: **Email:** sdobson@winnipeg.ca
Phone: 204-986-5848

Cindy Gilroy: CGilroy@winnipeg.ca
Phone: 204-986-5951
Fax: 204-986-3725

Vivian Santos: email: vsantos@winnipeg.ca
Phone: 204-986-8401
Fax: 204-986-3725

Ex-officio: Mayor Scott Gillingham email: mayor@winnipeg.ca
Phone: Phone: 204-986-5665

From: Margaret Friesen M.Sc.
Environmental Health Association of Manitoba

Via: City of Winnipeg online submissions form

Subject: 1. Smart Water Meter Opt-out and 2. AMR (Automated Meter Reading) better choice than AMI (Advanced Meter Infrastructure): comments, questions and recommendations

This submission is with regard to the Public Service Report**, Opt-out Program for the Advanced Water Metering Solution** https://clkapps.winnipeg.ca/DMIS/ViewDoc.asp?DocId=24433&SectionId=&InitUrl=

1. Opt-out program

1.1 Availability to opt-out

We are pleased and relieved to see that an opt-out program will be available for those wishing to not participate in the proposed smart water meter program. Thank you.

Quote from the report, page 3. *"Based on the current practice in other Canadian cities, the following is a general outline of an opt out program for Winnipeg:*
• Customers who have concerns about privacy, health, or other reasons could opt out of having an advanced meter installed on their property."

EHAMB Recommendation: Full support that *"Customers who have concerns about privacy, health, or other reasons could opt out of having an advanced meter installed on their property."*

1.2 Cost of opting out of the smart meter program

1.2.1. Billing for opting out of the smart water meter program

Quote from the report, page 4:

•*" Customers not participating in the AMI system would pay a manual meter reading fee. The fee would recover costs associated with continuing manual meter readings, and will be added to the Water and Sewer bill. The fee amount will be established when the project is substantially complete to accurately determine cost."*

Note: this has implications for "Winnipeg Reduction Strategy Alignment". The costs provided for 8 Canadian municipalities listed in the report range from $100 to $600 per year.
Opting out will be prohibitive to those having difficulty making ends meet.

Those wishing to opt out due to medical considerations are also often facing economical challenges. EHAMB is aware of individuals in two large cities in Ontario that have opt-outs at no cost. We would be glad to put you in touch with them if confidentiality of their identities would be respected.

Recommendation: To reduce undue financial hardship on low income households, the billings (costs to the customer) should be on a sliding scale based on family income.

EHAMB Recommendation: Renters who are low-income should also be able to opt-out so there is no undue cost to the landlord.

EHAMB Recommendation: There be no cost for those opting out with medical letters.

EHAMB Question: Will this matter come before the WWE and/or will there be an opportunity for public input?

1.2.2. Medical letter for exemptions

Quote from page 4: " *For medical exemptions, customers would be required to submit a medical letter signed by a physician registered with The College of Physicians and Surgeons of Manitoba".*

EHAMB Recommendation: Writing of medical exemptions letters should be extended to the rest of Canada i.e. to any MD accredited in any Canadian Province or Territory. This would be helpful to those from out-of-province.

1.3 Outreach to customers about the smart water meter program and opportunity to opt-out

Quote from page 2: "*The Public Service will conduct educational outreach to inform customers about the project schedule, the benefits of the project, and to address any misconceptions or concerns."*

EHAMB Recommendation:
Inclusion of progression of the Water Meter Renewals Project on the Public Engagement webpage.

2. AMR (Automated Meter Reading) better choice than AMI (Advanced Meter Infrastructure):

On November 23, 2023, Council concurred in the recommendation of the WWE and adopted the following which does not specify the type of water meters to be replaced.

Quote page 2:
"COUNCIL DECISION:
On November 23, 2023, Council concurred in the recommendation of the Standing Policy Committee on Water, Waste and Environment and adopted the following:
1. That the capital project, Water Meter Renewals, with an AACE Class 3 capital cost estimate of $135,000,000, be approved and advanced to 2024.
2. That, subject to approval of Recommendation 1, any financial implications of the funding source, Water Meter Renewal Reserve, be referred to the 2024 - 2027 Budget process.
3. That the Public Service seek out all opportunities for external funding available to assist with the capital project, in accordance with Council priority setting.
4. That the Winnipeg Public Service be directed to report back to the Standing Policy Committee on Water, Waste and Environment in 90 days with details on a proposed opt-out program.
5. That the Proper Officers of the City be authorized to do all things necessary to implement the intent of the foregoing."

The information provided on the type of water meter to be used is incomplete. The Public Service has relied on a report it contracted from a company called Diameter Services and neither the public, nor it seems, the Councillors, have had access. Many questions remain about which meter is the better choice, including a lack of a cost analysis of keeping the currently used type of meters.

EHAMB Recommendation: The tendering for these water meters should be deferred until a full cost/benefit analysis is conducted, including replacement with analog (non-radiofrequency radiation meters

This is a multi-million dollar project, yet the document used to "guide" the City's staff is not available to the public and perhaps not even to Councillors.

EMAMB Recommendation: No decision should be made on, including delaying of tendering of a contract for water meters, until the Diameter Services report is released and can be examined and commented on by the public.

Note: The AMR meters have been piloted in River Heights and more than 7,000 have been installed in Transcona. AMI meters have not been tested in the Winnipeg climate. We know from the diameter Services repo from the City of Cornwall in Ontario that it recommends that batteries be placed outdoors.

EHAMB question: What does the Diameter Services report to the City of Winnipeg recommend regarding lithium batteries?

EHAMB question: Have various municipalities with AMR and AMI been contacted to see if expectations have been met?

EHAMB question: What safeguards will be implemented to ensure the privacy of customers in terms of data collected by smart water meters?

EHAMB question: What safeguards will be put in place for cybersecurity/hacking? Will the City of Winnipeg have its own servers, or will data collected be "in the cloud"?

A smart water meter reading system may reduce employee kilometers travelled (Key directive 1.5) but to see what the full reduction in associated Green House Gas emissions are, a full account must take into consideration of what emissions are created (cradle to grave) of IT services and wireless emissions.

EHAMB question: Will the "carbon footprint" of wireless technologies associated with the Water Meter Renewal project be factored into the Climate Action decision making (see page 8 of the report)?

Previous comments regarding the Water Meter Renewals Project are in Appendix 1.

Please contact me if there are question or to clarify anything in this letter.

Respectfully,

Margaret Friesen M.Sc.

Email: ehamanitoba@gmail.com

About the Environmental Health Association of Manitoba. The Environmental Health Association of Manitoba, Inc. is a not-for-profit, non-governmental, non-partisan organization run entirely by volunteers and funded by donations. Goals of EHA-MB are to promote education and information on environmental sensitivities and environmentally induced illnesses to the public, educational institutions and medical community in Manitoba and to provide information and support to individuals in Manitoba suffering from environmental sensitivities and environmentally induced illnesses. Although we are a small group, we represent many health conditions that are related to environmental factors; we are often referred to as "the canaries in the mines" i.e. early indicators of conditions that can become harmful to others.

Appendix 1. previous submissions re. City of Winnipeg Water Meter Renewals program

Appendix 4.

EHA-MB
Environmental Health Association of Manitoba

November 22, 2023

To: Mayor Gillingham and City of Winnipeg Councillors
From: Margaret Friesen M.Sc.

Subject: Please defer vote on the approval for the Water Meter Renewals until there is broad public consultation to address many unanswered questions re the Water Meter Renewal (with smart water meters) as proposed in the Public Service Report "*Advanced Water Metering Solution Business Case"* and pass #4 regarding an opt-out program.

The Environmental Health Association of Manitoba, Inc. is a not-for-profit, non-governmental, non-partisan organization run entirely by volunteers and funded by donations. Goals of EHA-MB are to promote education and information on environmental sensitivities and environmentally induced illnesses to the public, educational institutions and medical community in Manitoba and to provide information and support to individuals in Manitoba suffering from environmental sensitivities and environmentally induced illnesses. Although we are a small group, we represent many health conditions that are related to environmental factors; we are often referred to as "the canaries in the mines" i.e. early indicators of conditions that can become harmful to others.

EHA-MB's position is that concrete steps to begin the implementation renewal program for "smart" water meters, specifically the Advanced Metering Infrastructure (AMI) should be deferred. Before this project goes forward:

1. Public consultation is needed. There are too many unanswered questions about this $135 million project and the public has not been adequately consulted with the opportunity to provide input. It is the residents who will be exposed 24/7 year after year to the emissions from this wireless technology and should be able to make an informed decision as to whether to accept these "smart" water meters into our homes.

It is important to note that the Diameter Services report mentioned in the Public Service report has not been made available to the public (nor it seems to City Councillors) for examination and opportunity to ask questions and get adequate answers. Emails have been sent by many Winnipeg residents to you about the Diameter Services report and only the Public Service report has been provided, not the Diameter Services report. Why not? Is there something to hide in the Diameter Services report?

2. Have in place an appropriate opt-out program. EHA-MB supports recommendation #4 that the Public Service reports with details on a proposed opt-out program. EMA-MB asks that we be contacted for input. We are in touch with individuals across Canada who have opted-out of smart water meters and look forward to sharing that with the Public Service as part of its report. Please advise on how the Council can facilitate that.

One of the concerning points in Cornwall's Diameter Service report is there is no discussion of opt-outs nor that there are health concerns.

What is said is: *"Customers who refuse access are usually significant water consumers who are generally concerned about the impact of metered billing."*

The report then states*: "Recommendation 13: Implement a triple flat rate for non-compliant customers. making metering more palatable. Generally, this method incentivizes customers to allow access and a meter to be installed."*
Some may call this incentivization while others may call it extortion.
Definition of "extortion"– Merriam Webster dictionary:
https://www.merriam-webster.com/dictionary/extortion

This was a recommendation to the city and I trust that the city will not follow this recommendation, nor the spirit of this recommendation.

3. <u>All assumptions</u> in (Cornwall's) Diameter Services report should be considered. Note- cost overruns have been encountered in Cornwall as recently as June 2023.

We know from Diameter Services report from the City of Cornwall (Ontario) website[1] that there are assumptions made for estimates. All of these assumptions have not been provided in the Public Service report.

4. Information on costs and cost-overruns in cities where smart meter programs have been in place for some years should be provided, e.g., Toronto, ON and Red Deer, AB. Have realities met projections?

For example see: Update on water meters leads to another Cornwall council debate
https://www.standard-freeholder.com/news/local-news/update-on-water-meters-leads-to-another-cornwall-council-debate

5. The Diameter Services report that corresponds o the 31 page "Financial" report for Cornwall should be disclosed. This should be released to the Councillors and the public as part of the public consultation process**.**

6. Inclusion on the Smart Water Renewal project on the City of Winnipeg Public Engagement website. Please advise on what the public can do to make this happen.

7. Inclusion of a member of EHA-MB on the Steering Committee (mentioned in the Public Service report and transparency in the selection of members. There are no details in the Public Service report on how this committee will be appointed/constituted. Please advise.

Other important points such as health concerns and liability issues are in the EHA-MB submission made on October 27th to the Water, Waste and Environment Committee and have been included in an appendix at the end of this letter.

I would be glad to provide more information. Please advise on the points raised in this submission.
Sincerely,
Margaret Friesen B.Sc.(Honours), M. Sc.
Director, EHA-MB, Email: ehamanitoba@gmail.com

[1] https://www.cornwall.ca/en/resources/Findings-and-Recommendations-Report-Universal-Water-Meters-06-20-2023.pdf

Additional information

- Chronic condition leaves Winnipeg woman homeless November 1, 2016
https://winnipeg.ctvnews.ca/chronic-condition-leaves-winnipeg-woman-homeless-1.3141764

- Canadian Environmental Health Clinic: wireless radiation patients. The Environmental Health Clinic in Toronto is seeing two to three patients a week with adverse symptoms related to wireless radiation exposure. Doctors in this clinic are educating other doctors to recognize symptoms related to wireless radiation exposure.

See: http://www.newswire.ca/en/story/994377/toronto-hospital-is-first-to-recognize-symptoms-from-wireless-radiation
and Ontario Environmental Health Clinic (Women's College Hospital) – Environmental News
http://www.womenshealthmatters.ca/health-resources/environmental-health/environmental-news/

- **"Physicians of the American Academy of Environmental Medicine recognize that patients are being adversely impacted by electromagnetic frequency (EMF) and radiofrequency (RF) fields and are becoming more electromagnetically sensitive."**
http://aaemonline.org/AAEMEMFmedicalconditions.pdf

- **"Adverse health effects from wireless radio frequency fields, such as learning disabilities, altered immune responses, and headaches, clearly exist and are well documented in scientific literature"**
http://aaemonline.org/wifischool.html

- Canadian Human Rights Commission. Policy on Environmental Sensitivities.
http://www.chrc-ccdp.ca/legislation_policies/policy_environ_politique-eng.aspx [accessed June 1, 2012]

Individuals with environmental sensitivities experience a variety of adverse reactions to environmental agents at concentrations well below those that might affect the "average person". This medical condition is a disability and those living with environmental sensitivities are entitled to the protection of the *Canadian Human Rights Act*, which prohibits discrimination on the basis of disability. The Canadian Human Rights Commission will receive any inquiry and process any complaint from any person who believes that he or she has been discriminated against because of an environmental sensitivity. Like others with a disability, those with environmental sensitivities are required by law to be accommodated.

The CHRC encourages employers and service providers to proactively address issues of accommodation by ensuring that their workplaces and facilities are accessible for persons with a wide range of disabilities.

Successful accommodation for persons with environmental sensitivities requires innovative strategies to minimize or eliminate exposure to triggers in the environment. These may include: developing and enforcing fragrance free and chemical avoidance policies, undertaking educational programs to increase voluntary compliance with such policies, minimizing chemical use and purchasing less toxic products, and notifying employees and clients in advance of construction, re-modeling and cleaning activities. Such measures can prevent injuries and illnesses, and reduce costs and health and safety risks.

For further information on environmental sensitivities, click on the following Commission publications:

The Medical Perspective on Environmental Sensitivities
https://www.chrc-ccdp.gc.ca/en/resources/publications/the-medical-perspective-environmental-sensitivities

Accommodation for Environmental Sensitivities: Legal Perspective
https://www.chrc-ccdp.gc.ca/sites/default/files/legal_sensitivity_en_1.pdf

Policy approved by the Commission on June 15, 2007. Renewed 2014.

Appendix – Previous submission

Date: October 27, 2023

To: Chair - Brian Mayes Email: BMayes@winnipeg.ca
Phone: 204-986-5088
Fax: 204-986-3725

Ross Eadie: **Email:** readie@winnipeg.ca
Phone: 204-986-5188
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Cindy Gilroy: CGilroy@winnipeg.ca
Phone: 204-986-5951
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Vivian Santos: email: vsantos@winnipeg.ca
Phone: 204-986-8401
Fax: 204-986-3725

From: Margaret Friesen M.Sc.
Environmental Health Association of Manitoba

Subject: Please defer vote on Water Meter Renewals. Please provide documentation, in writing, of possession of liability insurance that **does not exclude** health claims due to radiofrequency (RF) radiation exposure to emissions from the smart water meters as proposed in the Public Service Report "Advanced Water Metering Solution Business Case."

Our members are deeply concerned about the potential for harm and long-term injury from the proposed installation of smart water meters as proposed in the public service report "Advanced Water Metering Solution Business Case."

I am aware of many individuals across Canada and internationally whose health has been adversely affected after being exposed to smart meters. These concerns are widely recognized, by Rogers communications (Appendix 1) and in the scientific medical literature (Appendix 2). Please note that the frequencies emitted by these smart meters are likely in the same range as for cell towers. This is another area that needs to be clarified before this proposal goes forward.

We are glad to see that there is an "opt-out" being proposed and would like assurances that there will be no cost or very low-cost for this option.

Canadian physicians have diagnosed individuals with electromagnetic sensitivity (EHS—this entails detailed history taking, blood tests etc. Objective tests are being researched, particularly on topics such as brain and heart abnormalities associated with exposure to these non-ionizing electromagnetic fields (EMFs). Information on this can be found at the Environmental Health Trust website.
https://ehtrust.org/
In particular, see the section on smart meters: https://ehtrust.org/?s=smart+meters

Non-ionizing radiofrequency electromagnetic fields have been classified as a Group 2B *possible* human carcinogen by the World Health Organization's International Agency for Research on Cancer, and more recent research supports a *known* classification (Group 1). Thus, along with EHS are there are concerns about cancer and other health conditions.

This raises the issue of possible liability. As a concerned resident of Winnipeg and taxpayer, please provide documentation, in writing, possession of liability insurance that **does not exclude** health claims due to radiofrequency (RF) radiation exposure emitted from emissions from the smart water meters as proposed in the Public Service Report "Advanced Water Metering Solution Business Case."

Please defer your vote on Monday until the question of liability has been resolved and confirmed, and the City is certain it will not be liable for injuries from exposure to electromagnetic radiation emissions from any smart water meters the City installs.

A response would be appreciated.

Sincerely,

Margaret Friesen M.Sc.

Director, Environmental Health Association of Manitoba

Email: ehamanitoba@gmail.com

APPENDIX 1

Rogers Communications Inc. Rogers 2022 Annual Report
Posted to SEDAR; Rogers Communications Inc. Mar 9 2023 18:25:25 ET Annual report – English PDF 8492K
Quote Heading Page 66
"REGULATORY RISKS"
Quote from Page 67
*"**Radio frequency emissions***
From time to time, media and other reports have highlighted alleged links between radio frequency emissions from wireless devices (including new 5G technology) and various health concerns, including cancer, and interference with various medical devices, including hearing aids and pacemakers. This may discourage the use of wireless devices or expose us to potential litigation even though there are no definitive reports or studies stating that these health issues are directly attributable to radio frequency

emissions. Future regulatory actions may result in more restrictive standards on radio frequency emissions from low-powered devices like wireless devices. We cannot predict the nature or extent of any restrictions.

Rogers Communications Inc. Management's Discussion and Analysis 2022 ANNUAL REPORT ROGERS COMMUNICATIONS INC.
Posted to SEDAR; Rogers Communications Inc. Mar 9 2023 18:19:11 ET MD&A - English PDF 965K

Quote Heading from Page 66
"REGULATORY RISKS"
Quote from Page 67
"Radio frequency emissions
From time to time, media and other reports have highlighted alleged links between radio frequency emissions from wireless devices (including new 5G technology) and various health concerns, including cancer, and interference with various medical devices, including hearing aids and pacemakers. This may discourage the use of wireless devices or expose us to potential litigation even though there are no definitive reports or studies stating that these health issues are directly attributable to radio frequency emissions. Future regulatory actions may result in more restrictive standards on radio frequency emissions from low-powered devices like wireless devices. We cannot predict the nature or extent of any restrictions.

APPENDIX 2

Studies documenting evidence of injury can be found on the Environmental Health Trust website under the heading:
Peer Reviewed Published Research on Cell Tower Radiation, Base Station Radiation and Health Effects
https://ehtrust.org/cell-towers-and-cell-antennae/compilation-of-research-studies-on-cell-tower-radiation-and-health/

Three studies reporting adverse effects on humans from exposure to 5G antenna emissions:

1. Hardell, L., & Nilsson, M. (2023a). **Case Report: A 52-Year Healthy Woman Developed Severe Microwave Syndrome Shortly After Installation of A 5g Base Station Close to Her Apartment**. Annals of Clinical and Medical Case Reports, 10(16), 1–10.

ABSTRACT: In this case report we present a woman aged 52 years who developed health problems consistent with the microwave syndrome after installation of a 5G base station facing her apartment at 60 meters' distance. These symptoms consisted of e.g., headache, dizziness, concentration difficulties, fatigue, arrhythmia, skin burning and nose bleeding corresponding to the microwave syndrome. High radiofrequency (RF) radiation levels were measured in her apartment especially in the part closest to the base station. In her living room at the window 17 500 to 758 000 µW/m2 peak levels were obtained during 10 measurements, each over 1 minute. At the place of her sofa in her living room peak levels from 36 800to 222 000 µW/m2 were measured. It is noteworthy that very high radiation was found at the balcony facing the base station. All ten measurements at that place yielded within 10-15 seconds peak levels >2 500 000 µW/m2, which is the highest measurable level with the meter used in this study. At the playground about 40 meters from the base station peak levels of 1 120 000 µW/m2 and 479000 µW/m2 were measured, respectively. After temporally leaving the apartment for another dwelling with much lower RF radiation,96 to 2 810 µW/m2 peak levels, almost all symptoms disappeared within a short time. After moving back to her own apartment the symptoms reappeared. This study is in line with the results of our two previous case studies showing that installation of 5G caused an extreme increase in exposure and rapid development of the microwave syndrome. These case studies indicate that implementation of 5G cannot be done without the risk of harmful effects on human health.

https://acmcasereport.com/pdf/ACMCR-v10-1926.pdf

2. Hardell, L., & Nilsson, M. (2023b). Case Report: **The Microwave Syndrome after Installation of 5G Emphasizes the Need for Protection from Radiofrequency Radiation**. Ann Case Rep, an Open Access Journal ISSN: 2574-77541 Volume 8; Issue 1, 8(1).

ABSTRACT: In this case, report two previously healthy persons, a man aged 63 years and a woman aged 62 years, developed symptoms of the microwave syndrome after installation of a 5G base station for wireless communication on the roof above their apartment. A base station for previous telecommunication generation technology (3G/4G) was present at the same spot since several years. Very high radiofrequency (RF) radiation with maximum (highest measured peak value) levels of 354 000,1 690 000, and >2 500 000 μW/m 2 were measured at three occasions in the bedroom located only 5 meters below the new 5Gbase station, compared to maximum (peak) 9 000 μW/m2 prior to the 5G deployment. The rapidly emerging symptoms after the 5G deployment were typical for the microwave syndrome with e.g., neurological symptoms, tinnitus, fatigue, insomnia, emotional distress, skin disorders, and blood pressure variability. The symptoms were more pronounced in the woman. Due to the severity of symptoms, the couple left their dwelling and moved to a small office room with maximum (peak) RF radiation3 500 μW/m2. Within a couple of days, most of their symptoms alleviated or disappeared completely. This medical history can be regarded as a classic provocation test. The RF radiation levels in the apartment were well below the limit proposed to be "safe" below which no health effects would occur, recommended by the International Commission on Non-Ionizing Radiation(ICNIRP). These now presented symptoms of the microwave syndrome were caused by non-thermal effects from RF radiation and highlight that the ICNIRP guidelines used in most countries including Sweden do not protect human health. Guidelines based on all biological negative effects from RF radiation are urgently needed, as well as monitoring human health, not the least due to rapidly increasing levels of exposure.
https://www.gavinpublishers.com/assets/articles_pdf/Case-Report-The-Microwave-Syndrome-after--Installation-of-5G-Emphasizes-the-Need-for--Protection-from-Radiofrequency-Radiation.pdf

3. Nilsson M. & Hardell L. (2023). **Development of the Microwave Syndrome in Two Men Shortly after Installation of 5G on the Roof above their Office.** Annals of Clinical Case Reports, 8, 1–6.

ABSTRACT: The 5th generation, 5G, for wireless communication is rolled out without previous studies on potential effects on human health and the environment. In this case study we describe two men, case 1 and case 2, working in three office rooms close to base stations. After the deployment of 5G, both men developed symptoms typical for the microwave syndrome, e.g., headache, tinnitus, dizziness, balance disorder, concentration and attention deficiency, and fatigue. Radiofrequency Radiation (RFR) after the 5G deployment was measured in the three offices. In office one maximum (peak) RFR during one minute varied from 463 to 1,180,000 μW/m2, in office two from 6,230 to 501,000 and in office three from 13,700 to 613,000 μW/m2. The symptoms disappeared in both men within a couple of weeks (case 1) or immediately (case 2) after leaving the office for other offices with much lower maximum peak RFR emissions, maximum for case 1 =16 and for case 2 =2,920 μW/m2. This case report may be regarded as a provocation study on health from 5G RFR. The clinical picture in both men was clearly related to the exposure, although the exposures were well below the guidelines recommended by ICNIRP that are claimed to protect against all health effects. We conclude that the guidelines for RFR exposure based only on tissue heating by ICNIRP are inadequate to protect human health and that 5G appears to provoke symptoms of microwave syndrome in previously healthy people.
https://www.anncaserep.com/open-access/development-of-the-microwave-syndrome-in-two-men-shortly-after-9589.pdf?__cf_chl_tk=7SmWvXmZKdxPnIHIehvQMJYD1X3Plj.CWW6VbDuMVe4-1676610128-0-gaNycGzNCdA

Other evidence of injury can be found on the website of Environmental Health Trust:

Peer Reviewed Published Research on Cell Tower Radiation, Base Station Radiation and Health Effects
https://ehtrust.org/cell-towers-and-cell-antennae/compilation-of-research-studies-on-cell-tower-radiation-and-health/