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

By Margaret Friesen M.Sc.

Environmental Health Association of Manitoba

Executive Policy Committee, City of Winnipeg

Tuesday, July 8, 2025

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.

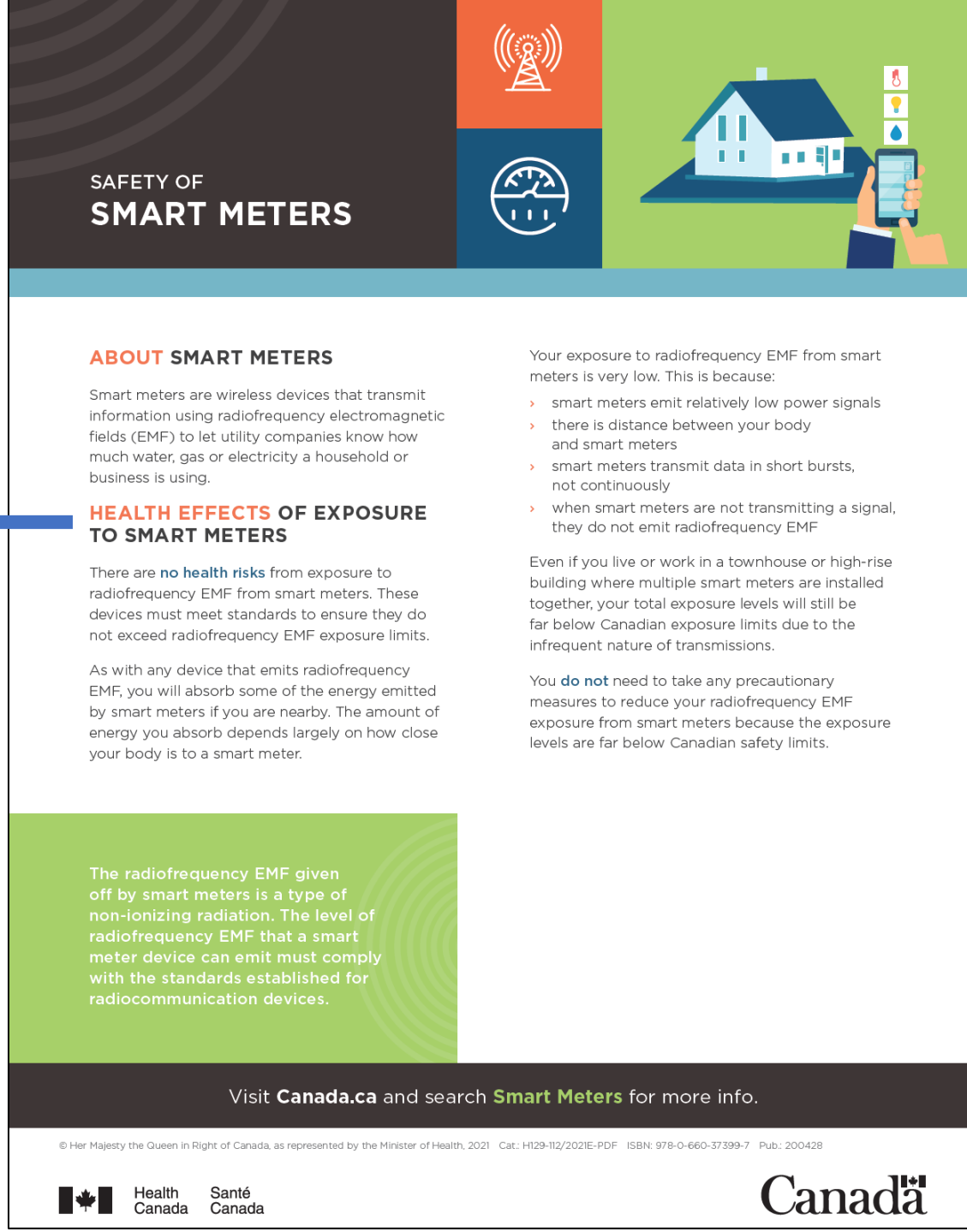
This statement by Health Canada is not true.

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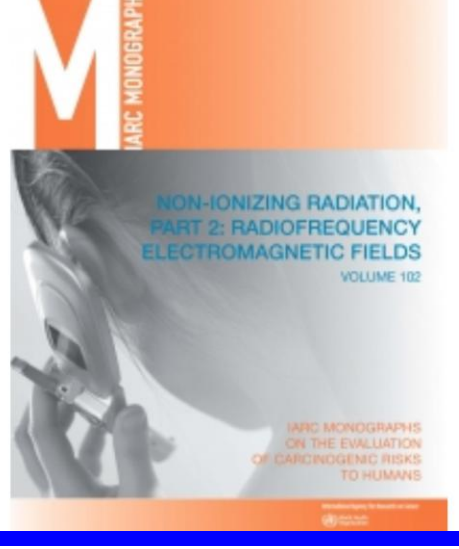
World Health Organization International Agency for Research on Cancer (IARC)



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.

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.

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



Check for updates

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.

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/

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

UNDERSTANDING
SAFETY CODE 6



ABOUT SAFETY CODE 6

Safety Code 6 is a document that sets out recommended safety limits for human exposure to radiofrequency electromagnetic fields (EMF) in the frequency range from 3 kHz to 300 GHz.

This range covers the frequencies used by communications devices and equipment that emit radiofrequency EMF such as:

- Wi-Fi
- cell phones
- smart meters
- cell phone towers
- those using 5G technology

ABOUT THE SAFETY LIMITS

The safety limits in the code:

- protect against all established adverse health effects related to radiofrequency EMF, no matter the source
- incorporate large safety margins to provide a significant level of protection for all Canadians, including those working near RF sources
- provide protection for people of all ages and sizes, from exposure to all forms of radiofrequency EMF on a continuous (24 hours a day/7 days a week) basis

The exposure limits in Safety Code 6 are based on:

- Health Canada research
- an ongoing review of published scientific studies on potential adverse health effects

You are **protected** from the combined exposure of radiofrequency EMF from multiple sources with Safety Code 6 exposure limits in place. Safety Code 6 takes into account the total exposure from all sources of radiofrequency EMF in the range of 3kHz to 300 GHz. This includes those that may be used in 5G technology.

Safety Code 6 is reviewed on a regular basis to confirm that it continues to provide protection against all known potentially adverse health effects.

Visit **Canada.ca** and search **Safety Code 6** for more information.

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Canada

ABOUT THE SAFETY LIMITS

The safety limits in the code:

- protect against all established adverse health effects related to radiofrequency EMF, no matter the source

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

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

Smart meter emissions

minutes

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.

$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.

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?

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.**

Thank you