

October 13, 2026

Comment submitted by Dr Karl Maret regarding Request for Information on EMFs, RF and Wireless Radiation Exposure and its Impact on Health published in the Federal Register Vol 891, No 181 dated September 21, 2026.

I am offering my expert opinion on the current danger of wireless radiation in today's increasingly radio frequency and microwave radiation environment including sources from cell towers and antennas, WiFi and wireless transmitters, wireless devices in the home and office environment, cell phones and other cordless phones, and wireless smart meters. These wireless transmitters typically operate at present between 800 Megahertz (MHz) and 5 Gigahertz GHz), with new devices now coming into use with the latest 5G technologies that are capable of operating between 2.4 and 95 GHz using very short wavelengths called millimeter waves. This comment is in response to the U.S. Department of Health and Human Services' Request for Information on EMFs, RF and Wireless Radiation Exposure and its Impact on Health published in the Federal Register Vol 891, No 181 dated September 21, 2026.

I have given expert testimony regarding the dangers of this type of radio frequency radiation (RFR) based on my background as an electrical engineer, biomedical engineer and medical doctor who has also completed also a post-doctoral fellowship in physiology and served as a Bioscience Officer in the Canadian Armed Forces. Details of my background and contact information can be found at the end of this comment.

Since the 1996 Telecommunications Act that established the U.S. nation-wide cellular communications network, there have been essentially no new health protection standards implemented to protect the general population despite massive research studies showing evidence of harm to the general population. Especially problematic is RFR that comes from transmitters close to the body as well as high powered transmitters from cell towers and antennas, microwave transmitters covering schools, housing projects and apartment complexes where the transmitters are often hidden in ceilings and walls. The Federal Communications Commission (FCC), which is charged with protecting the public, has exposure standards that are principally suitable for short-term exposure and only those that concern heating or thermal effects while ignoring any long-term exposure and non-thermal effects that are now the norm.

The widespread proliferation of this technology now in its 5<sup>th</sup> generation of development (5G), is viewed by hundreds of scientists throughout the world as hazardous to human welfare. The United States has one of the highest exposure guidelines in the developed world which is hundreds of times higher than permitted in other countries including China, Eastern European countries and Russia which have studied the long-term health effects of these RF radiations and chosen to protect their populations appropriately.

We have known of the adverse health effects for at least five decades with thousands of studies demonstrating an increased incidence of brain tumors (gliomas, acoustic neuromas, glioblastomas and pituitary tumors) in addition to thyroid and parotid gland tumors. Breast cancers have been demonstrated in young women exactly at the multiple antenna sites who carried their cell phones inside their bras. The International Agency for Research on Cancer

(IARC), a division of the World Health Organization (WHO), has classified electromagnetic radiation as a Class 2B possible carcinogen in 2011 based on numerous scientific studies.

It has been extensively shown that RFR causes oxidative stress in tissues which leads to increased inflammation, causes reproductive damage in both men and women, leads to altered hormone profiles including melatonin production in the brain leading to sleep disturbances. A large number of studies show single and double-stranded DNA breaks that can lead to the development of cancer from RFR damage. Additionally, RFR causes cellular stress responses, changes in gene expression and apoptosis (programmed cell death) leading to chronic degenerative conditions (including cancer and brain dysfunction).

A long-term study of neurodegenerative diseases and associated deaths in older men and women between 1989 and 2010 (published in 2015) showed a 3-fold increase in men and a greater than 5-fold increase in women during the early years of introduction of cell phones and cordless phones. There is a growing incidence of Parkinson's disease, major depressive disorders, Alzheimer's disease, chronic fatigue syndrome among some of the neurodegenerative disorders. We also know there are demonstrated direct effects of RFR on mitochondrial damage (leading cause of aging), effects on calcium channel signaling leading to cellular dysfunction, cell membrane leakage and cellular stress responses mediated by heat shock proteins.

The most concerning finding is that these adverse health effects take place without any direct tissue heating; specifically, these are non-thermal effects which are not considered in our current health protection guidelines as recommended by professional engineering groups like the IEEE which advise the FCC. As such, our regulatory agencies, that are meant to protect us, are failing at their mandate. The most vulnerable people are the aged and those members of the population that are considered to be electrically hypersensitive, estimated to be between 6 to 35% of the general population, many of whom are not even aware of their health challenges caused by long-term exposure to radio frequency radiation. When Senator Blumenthal in February 2019 asked the telecommunications industry to describe the safety studies done as 5G wireless radiation was being rolled out, they replied that no safety studies had been specifically carried out. To this he replied: "So, we are flying blind here on health and safety."

With this background, I recommend that all stakeholders in the general population be notified before further roll-outs of wireless technology take place in their immediate environment; and further, that the precautionary principle be applied. Only when there is an informed conditional acceptance from all those who are going to be exposed to new technology installations can we let the public be able to take responsibility for their health and welfare and hold the industry responsible for the safety of their technology.

Respectfully submitted,

Dr. Karl Maret,

B.Sc.(EE), M.Eng (Biomedical Engineering), M.D. (Canada)

## Background of the Author of this Comment

Karl Maret, MD was for 25 years the President of the Dove Health Alliance, a nonprofit foundation, focused on the creation and promotion of global research and education networks in Energy Medicine. Trained in both electrical and biomedical engineering before his medical studies in Canada, he also completed a 4-year post-doctoral research fellowship at the University of California San Diego, where he developed all the instrumentation for the successful American Medical Research Expedition to Mt. Everest in 1981. Dr. Maret practices complementary medical modalities including nutrition, functional medicine and energy medicine at the Dove Center for Integral Medicine. Early in his career he performed research on impacts of electromagnetic fields for the Canadian military. He is a former director of the [International Society for the Study of Subtle Energy and Energy Medicine](#) (ISSEEM) and currently serves on the ISSSEEM Wisdom Council. He has presented at many international conferences including annual presentations at the [German Society for Energy and Informational Medicine](#), (DGEIM). He educates physician groups specifically on the biological impacts of communication technologies, such as cell phones, wireless technologies, 'smart meters' and antenna infrastructure. Dr. Maret has made many presentations on the dangers of wireless radiation technologies including to physicians in Phoenix in 2011 at the Healthy Medicine Academy's *Cancer Strategies Conference* entitled "Electromagnetic Fields and Cancer. A copy of this presentation and another PDF on Impacts of Non-thermal EMFs on Health is included with this comment. He can be reached at 831-539-3255 (cell) or by email at [soniclight@ebold.com](mailto:soniclight@ebold.com)