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## Further Testimony in Support of LD 878 - Ed Friedman 3/31/25 via email

### Resolve, to Study the Effects of 5G Technology on Bird, Bee and Insect Populations and the Effects of Long-term Exposure on Children

Senator Lawrence, Representative Sachs & members of the Committee,

During last week's public hearing on this Resolve we heard zoom comments against this Resolve from two members representing industry, the CTIA (formerly Cellular Telecommunications Industry Association) and the Maine Chamber of Commerce. Because this is a study bill calling for the **independent** review of nonionizing radiofrequency radiation as it affects Mainers and the Maine environment, one has to wonder what these industries, and opposing legislators, are frightened of?

As I said in one of the documents I submitted through the portal, all living things are beings of frequency. We are composed largely of spinning protons and electrons-electrically charged sub-atomic particles that literally hold us together and have taken billions of years to evolve their delicate balance. The really odd thing would be if relatively recent man-made RFR whether thermal or non-thermal, did not affect us biologically.

I found it very disturbing that only the wireless industry lobbyist from Washington State was invited back to provide the committee with further information. He had cited the IEEE in his testimony as essentially saying all was good with low level radiofrequency radiation. Below is part of a disclaimer near the beginning of the most current IEEE document on safety standards for electromagnetic field exposure. Does it give you confidence?

IEEE Standards do not guarantee or ensure safety, security, health, or environmental protection, or ensure against interference with or from other devices or networks. Implementers and users of IEEE Standards documents are responsible for determining and complying with all appropriate safety, security, environmental, health, and interference protection practices and all applicable laws and regulations.

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[IEEE Standard for Safety Levels with Respect to Human Exposure to Electric, Magnetic, and Electromagnetic Fields, 0 Hz to 300 GHz. IEEE Std C95.1™-2019 at Page 4](#)

The CTIA lobbyist also cast aspersions on my cite of the work Singh and Lai did showing that microwaves at the 2.45 GHz frequency (same as our smart meters, routers, etc.) could in fact break DNA, saying about eight others had attempted to replicate this work without success. To the extent this means the Singh/Lai work was not valid or validated, the statement is unequivocally false.

[Microwave News](http://microwavenews.com) a very well respected independent publication has been objectively reporting the microwave issue for over 40 years. If you'd like get into the weeds on this RFR/DNA controversy, here is a fascinating article about it:

<https://microwavenews.com/news-center/singh-comet-assay-radiation-research>

Because you are busy, here are the punchlines:

### *Postscript*

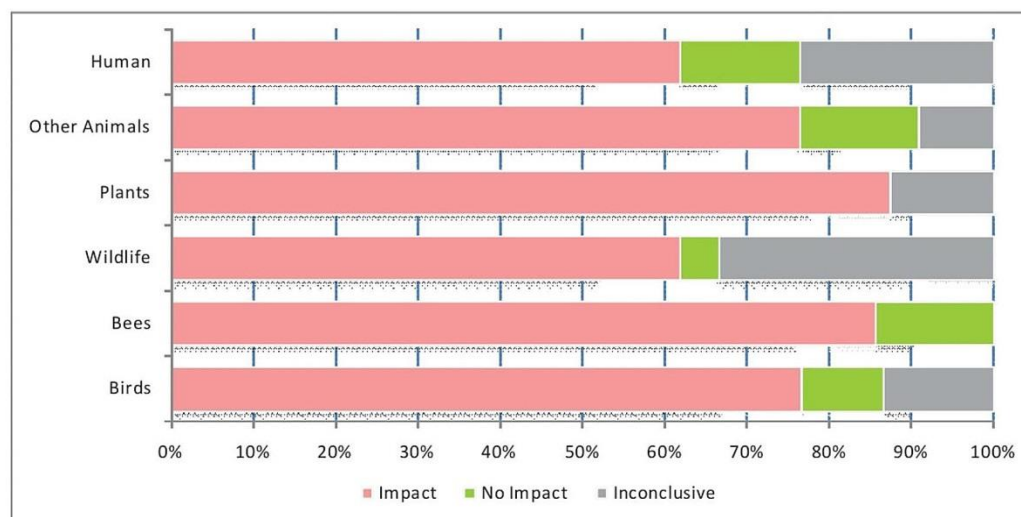
To this day, Lai keeps a current count of papers on studies of microwave-induced DNA breaks using the comet assay. As of this April, he has identified 76 papers, of which 49 (64%) showed DNA breaks and 27 (36%) did not.

Eliminating the seven DNA breaks papers from Roti Roti's lab, the papers showing effects rises to 75% of the total.

Eliminating all the papers published in *Radiation Research*, the spread gets even wider: 77% show effects. (*Radiation Research* ran its [first paper](#) showing microwave-induced DNA breaks in 2015.)

Lai's count does not include the report from the National Toxicology Program ([NTP](#)) which shows that, in its \$25 million experiment, rats exposed to cell phone radiation developed elevated rates of cancer *and* DNA breaks in their brain. Those results, which have been presented at scientific meetings, have yet to be published.

Below are a few important items that directly pertain to radiofrequency radiation (RFR) effects to humans and or the environment. This first graph represents a review of over 900 studies!



**Fig. 2, Proportion of study results in various groups of organisms (n=919). The “Impact” (in red) indicates percentage of studies that reported harmful effect of EMR. (*Report on Possible Impacts of Communication Towers on Wildlife Including Birds and Bees, Ministry of Environment and Forest, Government of India, 2010*)**

In my testimony I mentioned the record is replete with government reports on the biological effects of low level or nonionizing RFR and many of these are from military research laboratories. This excerpt from the Air Force Rome Lab is a typical example. I could supply probably 30-50 reports.

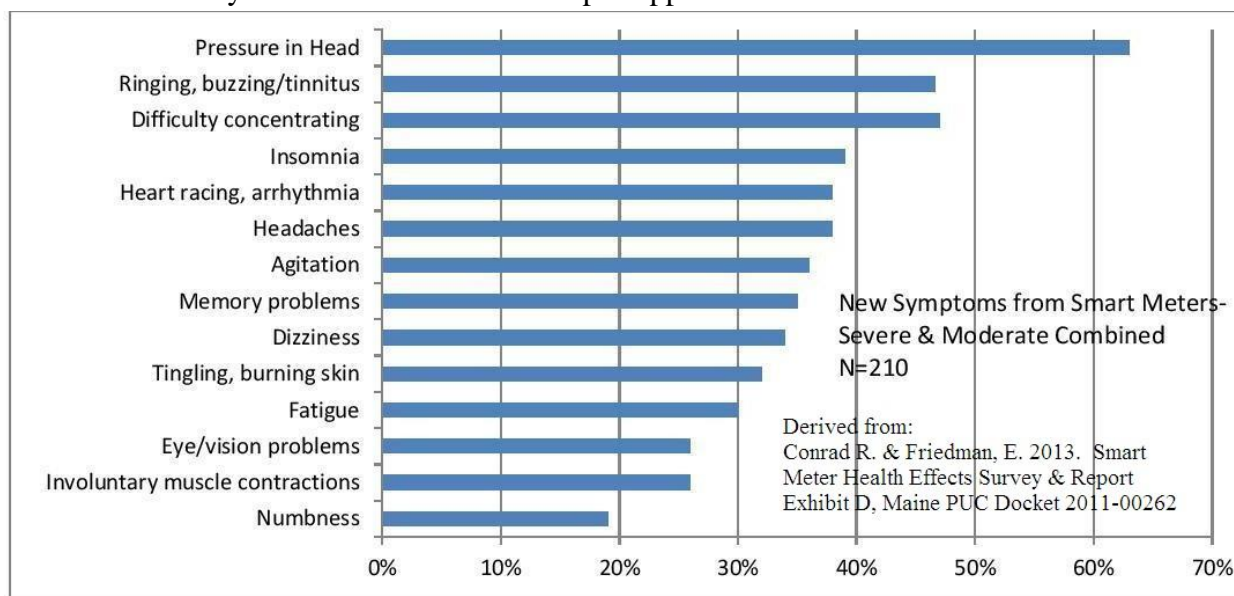
**Exposure to RF/MW radiation is known to have a biological effect on animals and humans. Damage to major organs, disruption of important biological processes, and the potential risk of cancer represent the dangers of RF/MW radiation to living organisms. Pulsed radiation appears to have the greatest impact on biological materials [8].**

**Nonthermal responses can be less noticeable and are often more difficult to explain than thermal effects. These responses are related to the disturbances in the tissue not caused by heating. Electromagnetic fields can interact with the bioelectrical functions of the irradiated human tissue [8]. Research conducted in the Soviet Union and Eastern Europe suggests that the human body may be more sensitive to the nonthermal effects of RF/MW radiation [3].**

**There are many reported biological effects to humans and animals that are exposed to RF/MW radiation. A review of the important findings is given in the following:**

Radiofrequency/Microwave Radiation Biological Effects & Safety Standards: A Review, United States Air Force, Rome Laboratory 1994

This graph shows typical symptoms from RFR exposure and comes from expert testimony submitted and accepted in the original Maine smart meter proceeding back in 2011. Perhaps the most important find in the survey was that of all the 210 respondents who began suffering symptoms, or if already EMR sensitive, whose symptoms increased to moderate or severe, 42% did not know their analog meters had been swapped out before becoming aware of their new or worsened symptoms (which occurred in anywhere from minutes to hours or days). This is not to say the other 58% suffered from placebo or other psychological effects but only that for these people we could not separate out that variable since they knew when the meter swaps happened.



On the issue of recognizing nonionizing radiation injuries-- in 2015 ICD billing codes changed from 9 series to 10 series. Here is the current diagnosis code for injury from chronic exposure to unspecified nonionizing radiation: [2025 ICD-10-CM Diagnosis Code L57.9](#).

According to a 2014 *Journal of Interdisciplinary Histopathology* paper, "...there's an urgent need to reconsider exposure to RF non-ionizing radiation and the risk of development of adverse health effects." The American Cancer Society says, "Concerns have been raised about the safety of smart meters, mainly because they give off the same kinds of radiofrequency (RF) waves as cell phones and Wi-Fi devices." Both Wi-Fi and cell phone use are now being avoided by health-conscious consumers.

On August 29, 2013, the American Academy of Pediatrics wrote to the FCC about increased ambient and specific RFR exposures. A couple of paragraphs are below:

**Reflect current use patterns.** The FCC has not assessed the standard for cell phone radiation since 1996. Approximately 44 million people had mobile phones when the standard was set; today, there are more than 300 million mobile phones in use in the United States. While the prevalence of wireless phones and other devices has skyrocketed, the behaviors around cell phone uses have changed as well. The number of mobile phone calls per day, the length of each call, and the amount of time people use mobile phones has increased, while cell phone and wireless technology has undergone substantial changes. Many children, adolescents and young adults, now use cell phones as their only phone line and they begin using wireless phones at much younger ages. Pregnant women may carry their phones for many hours per day in a pocket that keeps the phone close to their uterus. Children born today will experience a longer period of exposure to radio-frequency fields from cellular phone use than will adults, because they start using cellular phones at earlier ages and will have longer lifetime exposures. FCC regulations should reflect how people are using their phones today.

**Provide meaningful consumer disclosure.** The FCC has noted that it does not provide consumers with sufficient information about the RF exposure profile of individual phones to allow consumers to make informed purchasing decisions. The current metric of RF

Lastly I include Table 2 from Frederica Lamech's survey on smart meter effects. She does a great job of listing some of the ways RFR (in this case through smart meters) has affected people's lives. This can be heartbreaking; whether forcing Maine residents of 30 years with acute electrical sensitivities to sell their house and leave the state, being forced to live in a vehicle or tent in the woods to get away from RFR exposure, being too tired to work a normal day, or even at all, having your marriage break up because your spouse doesn't believe your affliction is real or being forced as a cancer patient to pay CMP a meter opt-out surcharge for the same safe electricity your neighbor without a disability gets with no extra charge, I've seen all of these multiple times since 2011.

LD 878 is a non-partisan Resolve designed to provide objective information to all Mainers on this relatively new toxin that is more prevalent than any other in the world, and continuing to increase. There is simply no good excuse for not supporting LD 878 both in the House and in the Senate.

Thank you.