House Consumer Affairs Committee
Rm. 205, Ryan Office Building
State Capitol
Harrisburg, PA 17120-3028 OPPOSITION TO "5G EXPANSION"

Dear Chairman Marshall and Members of the House Consumer Affairs Committee - Representatives Bullock, Burns, Davis, DeLissio, Emrick, Farry, Flynn, Kauffman, Mackenzie, Malagari, Matzie, Mehaffie, Metzgar, Miller, Mullins, Nelson, Parker, Pickett, Quinn, Sankey, Schweyer, Snyder, Stephens, and Warner,

My name is Susan Jennings. I reside in Mount Pleasant, Westmoreland County, PA. I attest and affirm that the following statements are true, accurate and within my knowledge. Please enter this letter and enclosure into the official record/transcript.

The House Consumer Affairs Committee must not allow any more 4G-5G+ microwave antennas to be constructed or operated within residential, rural, or even commercial areas of Pennsylvania for the reasons stated below.

- An overwhelming volume of scientific evidence demonstrates that this very unnatural microwave radiation is harmful - not only to humans, but to all life forms.

- ~25,000 studies attest to adverse health effects. Per the FCC guideline-setting Committee Chair, John Osepchuk PhD, by 1990, there were *already* "over 20,000 studies".

- In just four publications listed below, **4,282** such scientific studies are identified:

    1. Bioinitiative Report 2007-2017: **1,800+ studies**
       https://bioinitiative.org

    2. US Naval Medical Research Institute Studies as of 1972: **2,311 studies**
       https://www.emfresearch.com/us-nmri-studies/

    3. Proceedings of the Second Tri-Service Conference on Biological Effects of Microwave Energy, 8, 9, 10 July, 1958: **28 studies**

       https://archive.org/stream/DTIC_AD0131477/DTIC_AD0131477_djvu.txt

    4. A NASA study entitled: Electromagnetic Field Interactions With The Human Body: Observed Effects and Theories: **143 studies.**

       https://www.emfresearch.com/wp-content/uploads/2016/02/NASA-EMF-Report.pdf

- Peer-reviewed, journal-published studies are the gold standard in scientific research, the highest and weightiest form of scientific knowledge and Supreme Court-admissible evidence; and their number speaks to the overall establishment of a body of science.

- Given the widespread public-heath and safety consequences of proposed "5G expansion" the proper evidentiary standard is a preponderance of evidence, i.e., a 51% more-likely-than-not preponderance[1]. This standard is by far achieved. See enclosure (1). This has been the legal standard for studies of adult cancer and neurodegenerative diseases.

The overwhelming scientific evidence of harm cannot lawfully be ignored. By your oath of office, and the PA State Constitution, you are responsible for constituents' health and safety. You must allow no more wireless facilities in Pennsylvania, and only allow fiber-optics to the premises (FTTP).

I have expressed no matter of mere "concern" but solely matters of substance - of fact and law. I accept your oath of office.

Please write me to let me know what the Committee will do to protect my health and that of my family from hazardous 4G-5G+, highly xenobiotic microwave radiation from 5G+ infrastructures.

Signed this 9th day of May 2021,

Susan Jennings

Susan Jennings
200 Brook Hollow Road
Mount Pleasant, PA 15666

Copies to:

Sen. Kim Ward
Rep. Vacancy
Media and others

[1] Bioinitiative Report, SECTION 27, p. 7-9 and Figure 1 Standards of Evidence (By Professions)

APPENDIX 20-B

STANDARDS OF EVIDENCE FOR DECISIONMAKING DIFFERS AMONG PROFESSIONS

There is a large difference between what constitutes causal evidence for purposes of achieving scientific consensus, what constitutes sufficient evidence for purposes of interim public health policy, and what constitutes "a more likely than not" case. A central confusion in this debate is whether prudent policy and public health decisions necessarily require conclusive scientific evidence first. This is not the case. The state of the science needs to be presented in an understandable and scientifically accurate manner, but prudent public health actions do not and should not require 100% proof of harm. In fact, precautionary and preventative actions are specifically justified at a point in time before scientific proof is established. If the growing weight of evidence is positive (although all studies need not report positive effects) then it may be essential to take preventative actions and implement policies that are protective of public health, safety and welfare rather than wait for absolute certainty. The following discussion is presented to highlight some of the main differences in professional approach and traditional ways of viewing and interpreting scientific evidence. In reality, the basis for taking action (preventative or precautionary action) is a continuum – there are no hard and fast rules. The bar for Public Health Policy may be higher or lower than shown in Figure 2; based on many factors, including how widespread the risk, how dread the disease, the cost of inaction (doing nothing until there is proof, but many may be harmed), etc.

A. Scientific Standard of Evidence

There are several levels of proof for adverse effects of environmental exposures. The most rigorous is a scientific standard, where virtual proof of causation is typically required by scientists to arrive at consensus about an effect. This approach works best in physics and chemistry. In biological systems this is rarely possible.

In this case, the 'scientific standard' refers to the overall evidence that the science community typically requires before rendering opinions on the strength of evidence, and what evidence they believe is necessary to establish a causal link (proof).

Figure 1 shows Standards of Evidence that are routinely employed by various interest groups in the EMF debate (Sage, 1997). It can be used to focus on various accepted standards for evidence that are legitimately used by scientific and professional groups to determine when an action is appropriate. The varying levels of certainty about an outcome will dictate different decision-making among different groups that may all be appropriate given their professional charge. Even though the evidence required to make a scientific determination about causality has a far higher standard than a legal determination on the 'weight of the evidence' or 'preponderance of evidence' (a legal standard), neither negates the correctness of the other in its proper jurisdiction. Scientists typically want all possible evidence (animal, cell and epidemiological studies, with replications) showing a high degree of consistency. This can generally be described as a 95% to

99% degree of certainty before drawing conclusions (it does not refer to the 95% confidence interval in epidemiology, except as a part of the overall proof).

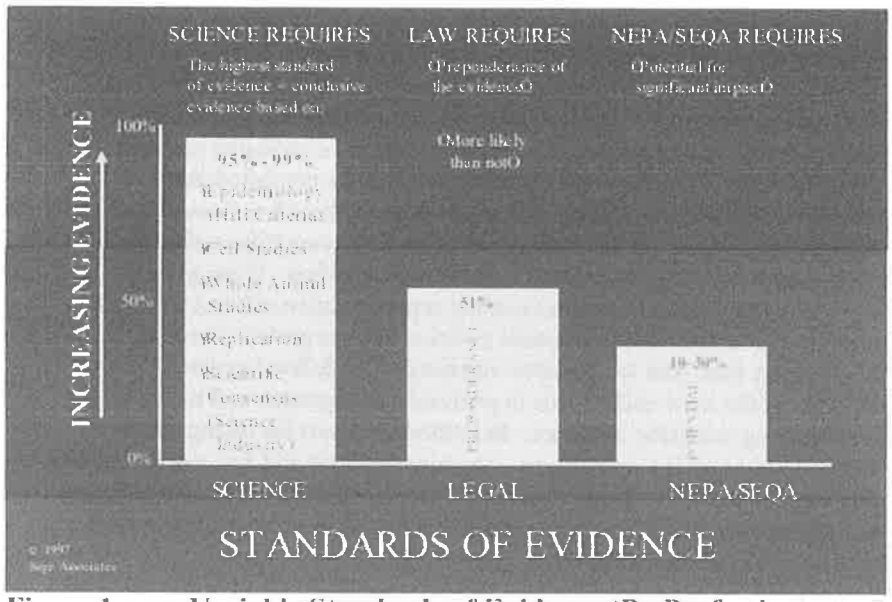

Figure 1 Variable Standards of Evidence (By Profession)

B. Legal Standard of Evidence

The second level of proof is the standard applied in legal proceedings, which is 'more likely than not' or 'preponderance of the evidence' (Figure 1). This is to say if there is a 50%+ likelihood of harm, this is taken as evidence for a relationship (Sage, 1997). At least this level of evidence is reached for the studies of adult cancer and neurodegenerative diseases and 50/60 Hz magnetic field exposures. As with childhood leukemia, while we have documented associations, this does not necessarily indicate causation. Failure to meet either the scientific or the legal standard of proof does not mean that there is no relationship between exposure and disease. In the case of EMF exposure, where everyone is exposed, the societal implications may be huge if there is a real risk whose magnitude has simply just not yet been clarified. Public policies are needed to address this issue of decision-making in the face of this scientific uncertainty.

C. Environmental Protection Standard of Evidence

National and state environmental quality acts (The National Environmental Policy Act) and various state environmental quality acts (SEQA) require that assessments use a standard of "potential for a significant impact on the environment which is a relatively low level of certainty (10% to 30%). The potential for a significant impact requires that mitigation strategies be developed, i.e. require precautionary or preventative actions when only the potential for risk is present (Figure 1).

For example, the potential for risk to humans from building on an active earthquake fault will require a finding of potentially significant impact, and will require mitigative action; even when there is no certainty (no causal evidence) that the fault will rupture and cause damage within the design lifetime of the building. Proof of harm is not a pre-condition for taking action, and the level of certainty is low in comparison to a scientific or legal standard of certainty. Nonetheless, each standard has validity, and will have a different level of evidence required to take action. What decision-makers need to address is what standard of evidence is appropriate now to guide them with respect to EMF exposures that are clearly of environmental and public health concern.

D. Public Health Standard of Evidence

The prudent approach from a public health point of view is to take preventive actions as if causation had been proven, while at the same time to continue to search for mechanisms of action. In the case of childhood leukemia and ELF exposure there is a consistent and statistically significant association in most studies, while for many of the other diseases the results are less consistent although strong associations are found in some studies (Figure 2). This bar graph should be considered illustrative only, since the level of certainty may be higher or lower (above or below 50%) depending on the circumstances of the potential risk, and costs of those risks to society.

Whether magnetic fields actually cause childhood leukemia and the other cancers and neurological diseases documented in this Report; or whether it is some other component in the electromagnetic environment that is responsible for the association is a subject of debate within the scientific community, but from a public health point of view it doesn't matter. The fact that there are unknowns does not negate or override the ultimate public health responsibility, which is to protect the population from exposures which cause disease. Those who make public health decisions, as well as policymakers who rely on them and who approve construction of new schools and homes near power lines, those who provide insurance or financing of new construction, those who must choose siting routes for new electrical facilities all face making decisions with some uncertainty about the potential health risks from EMF exposure. Important social issues must often be decided on the basis of incomplete or uncertain scientific information.

Enclosure (1)