

July 16, 2026

Re: Scientific Evidence Supporting More Protective Setback Requirements for High-Voltage Transmission Lines and Substations Near Homes and Schools.

Dear Members of the Culpeper County Board of Supervisors:

I am a public health physician and Director of the Institute for Health and the Environment at the University at Albany, SUNY, a World Health Organization Collaborating Centre. I have researched non-ionizing electromagnetic fields (EMFs) for over four decades. In the 1980s, I served as Executive Secretary of the New York Powerlines Project, a \$5 million study of 60 Hz magnetic fields that included research reporting an increased risk of childhood leukemia associated with elevated residential magnetic fields from power lines. I later served as New York State's spokesperson on EMF issues, Director of the Wadsworth Laboratory at the New York State Department of Health, Dean of the School of Public Health at the University at Albany, and have testified before the President's Cancer Panel and the U.S. Congress on EMF and health.

Exposure to elevated power-frequency magnetic fields is associated with an increased risk of cancer, particularly childhood leukemia, as well as leukemia, brain cancer, and breast cancer in adults. The association between residential magnetic field exposure and childhood leukemia has been replicated in numerous studies conducted in multiple countries. There is also strong evidence linking long-term exposure to an increased risk of Alzheimer's disease. These are serious, often fatal diseases.

Reliance on the exposure limits of the Institute of Electrical and Electronics Engineers (IEEE) or International Commission on Non-Ionizing Radiation Protection (ICNIRP) does not protect the public, especially children, from the health impacts of long-term exposure. There is definitive evidence in the peer-reviewed scientific literature that power-frequency EMF can produce biological effects at field strengths well below these limits. Importantly, the IEEE and ICNIRP guidelines are outdated and inadequate, as they were only designed to address short-term exposure effects and not the chronic, continuous exposures experienced by people living near high-voltage power lines for many hours each day over many years.

It is the responsibility of every government to protect its citizens from avoidable risks. In total, the scientific evidence, especially leukemia, brain and breast cancer, and Alzheimer's disease, associated with EMF exposure is sufficiently strong to warrant policy action. I urge governments to do everything in their power to mitigate the serious health risks from high-voltage transmission lines and substations by adopting protective setbacks for homes and schools and implementing evidence-based measures to minimize EMF exposures, such as undergrounding and low-EMF engineering design.

High-voltage transmission lines and electric substations should be located as far away from homes, schools, and childcare facilities as possible. I am attaching a publication that presents the scientific evidence behind these recommendations.

Yours sincerely,



David O. Carpenter, MD
Director, Institute for Health and the Environment
University at Albany