Public Comment on Electromagnetic Fields and Extra-High-Voltage Transmission

Docket: HHS-OASH-2026-0397

I am submitting these comments as a Wisconsin landowner and agricultural operator whose working farm is being considered for a new 765-kV extra-high-voltage transmission corridor.

My principal concern is whether the current federal research base and public-health guidance adequately address continuous residential, occupational, agricultural, and livestock exposure to 60-Hz electric and magnetic fields associated with modern extra-high-voltage transmission infrastructure.

I am not asserting that all such exposures have been proven harmful. I ask HHS to clearly distinguish established effects, epidemiological associations, unresolved questions, and research gaps, and to ensure that power-frequency EMF is included in the Department's renewed assessment.

1. Include 60-Hz power-frequency EMF explicitly

Power lines are a source of extremely-low-frequency (ELF) non-ionizing electric and magnetic fields. NIEHS notes that earlier research on power-line-frequency EMF found a possible association between magnetic-field strength and childhood leukemia, while describing that association as weak and noting that adult studies have not demonstrated links with several adult cancers. These distinctions are important: an association should not be presented as proof of causation, but unresolved evidence should remain a subject of independent research.

2. Study long-duration residential and agricultural exposure

A working farm can create an exposure setting different from occasional public exposure. A farm family may live, work, maintain livestock, operate machinery, and use barns, arenas, pastures, gates, and other facilities within or immediately adjacent to a transmission corridor for decades.

HHS should evaluate typical and maximum field levels, duration and cumulative exposure, distance from conductors, variation with line loading and weather, exposure at homes and agricultural buildings, and occupational exposure among farmers and farm workers. Research should also appropriately consider children, pregnancy, prenatal exposure, and other potentially vulnerable populations.

3. Address induced voltage, contact current, and conductive farm equipment

Agricultural evaluation should not be limited to magnetic-field measurements. Farms contain extensive conductive infrastructure, including tractors, loaders, hay equipment, trailers, fencing, gates, water systems, and metal buildings.

OSHA's electric-power transmission standard expressly recognizes hazardous induced voltages and requires protective measures in covered occupational circumstances. OSHA also recognizes hazardous differences in electrical potential and uses engineering analysis, grounding, bonding, equipotential zones, insulation, and restricted work areas as protective approaches. I cite these provisions to establish that induction and potential differences are real electrical phenomena, not to suggest that OSHA has determined ordinary farming beneath a 765-kV line to be unsafe.

For agricultural properties crossed by extra-high-voltage transmission, federal research should examine maximum induced voltage, available short-circuit current, spark-discharge and contact-current conditions, and any grounding or bonding measures that may be appropriate for tractors, loaders, hay equipment, trailers, fencing, gates, water systems, and metal structures. Guidance should also address who is responsible for identifying, installing, inspecting, and maintaining mitigation required because of transmission infrastructure.

4. Require meaningful real-world exposure information

HHS should encourage methods for property-specific baseline and post-energization measurements where extra-high-voltage lines cross occupied farms or pass near residences. Actual measurements at homes, barns, arenas, livestock areas, and frequently occupied work locations can complement engineering models.

Landowners should receive understandable information explaining predicted and measured electric- and magnetic-field levels, expected operating ranges, measurement methods, and applicable exposure guidance.

5. Include livestock and agricultural environments in research

Livestock may spend long periods in a transmission corridor. Research should therefore consider horses, cattle, and other livestock, including reproductive and pregnancy outcomes, behavior and stress, growth and development, long-duration exposure, and interactions with conductive fencing, gates, water systems, and other farm infrastructure.

These questions should be investigated without presuming either harm or harmlessness. Where evidence is limited or inconsistent, that limitation should be stated clearly and treated as a research gap.

6. Update the power-frequency EMF research base

NIEHS continues to identify power lines as a source of ELF EMF and maintains information on its earlier federal research into power-line-frequency electric and magnetic fields. Given renewed construction and consideration of very-high-voltage transmission infrastructure, HHS should determine whether the existing evidence adequately represents present-day exposure environments and whether updated epidemiological, laboratory, exposure-measurement, agricultural, and animal research is warranted.

7. Recommended federal research priorities

I ask HHS and appropriate federal research agencies to prioritize independent research on: long-term residential exposure near extra-high-voltage transmission; occupational exposure among farmers and farm workers; cumulative exposure over decades; pregnancy and prenatal exposure where scientifically appropriate; real-world field measurements under representative and high line-loading conditions; induced voltage, contact current, and spark discharge involving agricultural equipment and infrastructure; livestock health, reproduction, and behavior; grounding and bonding practices; and practical methods for property-specific pre- and post-construction measurements.

Conclusion

Compliance with an engineering requirement and a comprehensive assessment of decades-long public-health exposure are related but distinct questions. The scientific record should be represented accurately: established electrical phenomena should be acknowledged, epidemiological associations should not be overstated as causation, and genuine uncertainty should be identified rather than treated automatically as proof of either danger or safety.

As extra-high-voltage transmission infrastructure expands, farm families and other affected residents should have access to independent federal science explaining what exposures may occur, what is known, what remains uncertain, and what practical measures can reduce unnecessary exposure.

Thank you for the opportunity to comment.

References

1. U.S. Department of Health and Human Services. Request for Information on Electromagnetic Fields (EMFs), Radiofrequency (RF) Radiation, and Wireless Radiation Exposure. Federal Register, Sept. 21, 2026, Docket HHS-OASH-2026-0397.

2. National Institute of Environmental Health Sciences (NIEHS). Electric & Magnetic Fields. NIEHS describes power lines as sources of extremely-low-frequency non-ionizing EMF and summarizes the federal research record concerning power-line-frequency exposure.

3. Occupational Safety and Health Administration (OSHA). 29 CFR 1910.269, Electric Power Generation, Transmission, and Distribution. The standard addresses hazardous induced voltages and protective grounding in covered electrical work.

4. OSHA. Appendix C to 29 CFR 1910.269, Protection From Hazardous Differences in Electric Potential. The appendix discusses engineering analysis, step and touch potentials, bonding, grounding, equipotential zones, and other protective approaches.