

Docket No. 13-0657 REH
Responses to ComEd's 3rd Set of Data Requests to Ellen Roberts Vogel

ComEd→Vogel 3.07 Please describe any environmental factors that Vogel contends will or could be implicated if the Project is constructed using (a) the Approved Route, (b) the FPDKC Adjustment, and (c) the ComEd Conditional Rehearing Alternative.

Response:

a). In my opinion the Approved Route would be least disruptive to any environmental factors.

b). In my opinion, the FPDKC Adjustment would be disruptive to the Forest Preserve, a treasured, historical landmark, adjoining properties, as well as the town of Plato Center. With regard to the Kane County Forest Preserve, GPG transmission corridor would cause irreparable damage to the wetlands, woodlands, and wildlife and is in direct conflict with the KCFP Mission Statement:

To acquire, hold and maintain lands within Kane County that contribute to the preservation of natural and historic resources, habitats, flora, and fauna; and to restore, restock, protect and preserve such lands for the education, recreation, and pleasure of all its citizens.

In addition, this route would directly affect wetlands and woodlands on my fathers' property.

c). In my opinion, the ComEd Conditional Rehearing Alternative would be disruptive to the Forest Preserve, a treasured, historical landmark, adjoining properties, as well as the town of Plato Center. With regard to the Kane County Forest Preserve, GPG transmission corridor would cause irreparable damage to the wetlands, woodlands, and wildlife and is in direct conflict with the KCFP Mission Statement (see (b) above). In addition, this route would directly affect wetlands and woodlands on my fathers' property. Also, routing the transmission lines adjacent to the west side the Town of Plato Center would be disruptive to that portion of Plato Center.

Docket No. 13-0657 REH
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ComEd→Vogel 3.08 Do you have any personal knowledge regarding the borders or use of any other properties, parcels, easements, or rights of way (not owned or controlled by Vogel or any trust in which Vogel has an interest) along and within 1000 feet on either side of the railroad tracks located on the area of the (a) the Approved Route, (b) the FPDKC Adjustment, and (c) the ComEd Conditional Rehearing Alternative? If your answer is anything but an unqualified "No," please describe such knowledge in detail and produce all documents, records, reports, maps, communications or correspondence upon which that knowledge is based.

Response:

The Approved Route utilizes land that is predominantly farm ground. My knowledge as to the FPDKC Adjustment, and the ComEd Conditional Rehearing Alternative is described in my responses to previous requests above.

Docket No. 13-0657 REH
Responses to ComEd's 4th Set of Data Requests to Ellen Roberts Vogel

ComEd→Vogel 4.04 Please refer to the Direct Testimony on Rehearing of Ms. Vogel at page 4, lines 62-69. Please provide all documents or data supporting Ms. Vogel's testimony that the presence of the GPG Project will "greatly reduce the future value of the land for potential residential use."

Response:

Although I am not an expert on the subject, I have read various research materials that support the view that high voltage transmission lines can reduce the value of property located in proximity to the lines; and that one reason is concern stemming from perceptions of health hazards. This view is supported by the following statement from Reese (The puzzle of the power line. *The Appraisal Journal*, October, 1967, p. 560) referenced in the book "*Towers, Turbines and Transmission Lines: Impacts on Property Value*" by Sandy Bond, Sally Sims and Peter Dent, page 111, published by Wiley-Blackwell - 2013. Reese states, "*If I were offered the choice between two houses, identical in detail and location, but one having no power line near and the other having such a line would this single difference have any monetary significance for me? My answer is yes.*" This book is available from Amazon, among other places.

Docket No. 13-0657 REH
Responses to ComEd's 4th Set of Data Requests to Ellen Roberts Vogel

ComEd→Vogel 4.05 Please refer to the Direct Testimony on Rehearing of Ms. Vogel at page 4, lines 62-69. Does Ms. Vogel's testimony alleging "health and safety issues as well as aesthetic issues" refer to anything other than the alleged health, safety, and aesthetic issues addressed by evidence in this Docket submitted prior to rehearing? If the answer is anything other than an unqualified "no," please identify each such additional health, safety, or aesthetic issue and produce all documents and data supporting such an allegation on which Ms. Vogel relies.

Response:

I again qualify my response by stating that I do claim to be an expert on the subject, and I understand that the evidence as to health and safety impacts has been inconclusive. Besides general reading on the subject, I have reviewed the following resources and quote selected statements as noted:

From Epidemiology, 2003 Jul;14(4):413-9:

"Several studies have identified occupational exposure to extremely low-frequency electromagnetic fields (EMF) as a potential risk factor for neurodegenerative disease."
<http://www.ncbi.nlm.nih.gov/pubmed/12843764>

From Epidemiology, 2002 Jan;13(1):9-20

There is "strong prospective evidence that prenatal maximum magnetic field exposure above a certain level (possibly around 16 mG) may be associated with miscarriage risk."
<http://journals.lww.com/epidem/toc/2002/01000#-652735445>

From the Internal Medicine Journal, 2007

In a study of 850 lymphoma, leukemia and related conditions, researchers from the University of Tasmania and Britain's Bristol University found that living for a prolonged period near high-voltage power lines increased the risk for these conditions later in life.
<http://onlinelibrary.wiley.com/doi/10.1111/jim.2007.261.issue-1/issuetoc>

From EMF Services LLC, at www.emfservices.com/emf-health.htm

Health effects studies over the past several years have shown a consistent correlation between exposure to elevated EMF levels (power frequency magnetic fields) and the development of adverse health effects. The source of these fields may be a power line, electrical equipment, or mis-wired electrical circuits within a building, but the fields are the same regardless of their source. Unfortunately, there are no national standards to prevent the introduction of such problems into new construction. Most of the effort in

Docket No. 13-0657 REH
Responses to ComEd's 4th Set of Data Requests to Ellen Roberts Vogel

creating a low EMF environment involves the elimination of magnetic and electric fields from the wiring system, although in some cases radio frequency (RF) fields may be an issue as well. In light of the research summarized below, many people today are choosing to take a cautious and pro-active approach in regard to electromagnetic fields, and to limit their exposure where possible. This action often begins at home, in the creation of a low-EMF environment.

I also reviewed the following resources with the noted excerpts:



1979 Wertheimer and Leeper

The first scientific study to attract serious interest in the issue came in 1979. Epidemiologist Nancy Wertheimer, along with physicist Ed Leeper, were looking for possible causes for a number of childhood leukemia cases in the Denver metropolitan area. Their research found that children with leukemia were more than twice as likely to have lived in homes near high current power lines, where the electromagnetic fields were stronger.¹ Research on the issue has proceeded since that time, with many hundreds of studies having been completed over the past two decades, and others currently underway. These studies have often produced mixed results, but there has been a consistent pattern of elevated risk for some types of exposure, and for some conditions.



1999 National Institute of Environmental Health Sciences

The most substantial and coordinated effort to investigate the issue was the Research and Public Information Dissemination Program (RAPID). Mandated by Congress as a part of the Energy Policy Act of 1992, it was planned as a five year effort to determine if exposure to low level, low frequency electromagnetic fields is detrimental to health, and if so, to provide an assessment of risk. All prior work in the field was reviewed, and new research was funded. The final report from this research program was released in 1999 by the National Institute of Environmental Health Sciences.² Although it states that “the probability that EMF exposure is truly a health hazard is currently small,” it also acknowledges that exposure “cannot be recognized as completely safe.” In regard to childhood leukemia, and in regard to chronic lymphocytic leukemia in occupationally exposed adults, the NIEHS acknowledged a “fairly consistent pattern of a small, increased risk with increasing exposure...” Stated in simple terms, the risk appears to be small, but there is a risk nonetheless. NIEHS Director Kenneth Olden, Ph.D., quoted in the press release, states that “efforts to encourage reductions in exposure should continue. For example, industry should continue efforts to alter large transmission lines to reduce their fields and *localities should enforce electrical codes to avoid wiring errors that can produce higher fields.*”

Docket No. 13-0657 REH
Responses to ComEd's 4th Set of Data Requests to Ellen Roberts Vogel

2001 International Agency for Research on Cancer (IARC)

A panel of scientists convened by the International Agency for Research on Cancer (IARC) has produced a review of health effects from static and extremely low frequency (ELF) electric and magnetic fields.³ The press release announcing the report states: "Special attention has focussed on leukaemia and on brain tumours, which early reports had suggested might be increased. IARC has now concluded that ELF magnetic fields are possibly carcinogenic to humans, based on consistent statistical associations of high level residential magnetic fields with a doubling of risk of childhood leukaemia." The report found no consistent evidence that childhood exposures were associated with brain tumors, or that adult exposures were associated with cancer of any type.

2002 California Department of Health Services

In October 2002, the California Department of Health Services released a report on the risks of EMF exposure.⁴ This evaluation is based upon the results of published research studies, the NIEHS Working Group Report, and studies conducted by the California EMF Program. As stated in the report's Executive Summary: "To one degree or another, all three of the DHS scientists are inclined to believe that EMFs can cause some degree of increased risk of childhood leukemia, adult brain cancer, Lou Gehrig's Disease, and miscarriage. They strongly believe that EMFs do not increase the risk of birth defects, or low birth weight. They strongly believe that EMFs are not universal carcinogens, since there are a number of cancer types that are not associated with EMF exposure." The conclusions of the California scientists relied more upon studies of human populations and less upon animal and cell studies than most earlier evaluations. While the incidence of most of the conditions identified above is quite low, with or without EMF exposure, the incidence of miscarriage is already quite high, about 10 in 100 pregnancies. This report speculates that, based on a limited number of studies, "the theoretical added risk for an EMF-exposed pregnant woman might be an additional 10 per 100 pregnancies..."

The types of high EMF exposures implicated in the California report are produced by "...*unusual configurations of wiring in walls, grounded plumbing, nearby power lines, and exposure from some jobs in electrical occupations.*"

Pooled Analysis of Multiple Studies (Meta-analyses)

One of the limitations of many of the epidemiologic studies conducted throughout the 1980s and 1990s was a small sample size, especially a small number of subjects who had the illnesses being investigated. Because of this, full statistical significance was not always achieved, or was achieved for only part of the data set. One approach that can be used to overcome this limitation is a technique called meta-analysis. It is sometimes

Docket No. 13-0657 REH
Responses to ComEd's 4th Set of Data Requests to Ellen Roberts Vogel

possible to combine the data from multiple small studies to create a larger sample size, and thus draw statistically significant conclusions that were not possible with the individual studies alone. Two such pooled analyses that were published in 2000 found a consistent tendency toward an elevated risk for childhood leukemia, with results that were statistically significant.^{5,6}

References:

1. Wertheimer, N. and Leeper, E. Electrical wiring configurations and childhood cancer. *Am J Epidemiology*. 1979;109(3):273-284
2. NIEHS Report on Health Effects from Exposure to Power-Line Frequency Electric and Magnetic Fields. National Institute of Environmental Health Sciences of the U.S. National Institutes of Health. 1999. NIH Publication No. 99-4493.
3. Static and Extremely Low Frequency (ELF) Electric and Magnetic Fields. International Agency for Research on Cancer (IARC). 2001.
4. An Evaluation of the Possible Risks From Electric and Magnetic Fields (EMFs) From Power Lines, Internal Wiring, Electrical Occupations, and Appliances. California Department of Health Services. 2002.
5. Greenland S, Sheppard AR, Kaune WT, Poole C, Kelsh MA. A pooled analysis of magnetic fields, wire codes, and childhood leukemia. *Epidemiology* 2000;11:624-634.

Ahlbohm A, Day N, Feychting M, Roman E, Skinner J, Dockerty J, Linet M, McBrice M, Michaelis J, Olsen JH, Tynes T, Verkasallo PK. A pooled analysis of magnetic fields and childhood leukemia. *British J Cancer* 2000; 83:692-698.

As for aesthetic issues, I have seen many high voltage electric transmission lines and towers, both in person and pictures of them, including the depictions introduced in this docket. My opinion is that they are not pleasing to look at.