Office of Administrative Hearings
The Honorable Judge Beverly Jones Heydinger
600 North Robert Street
P.O. Box 64620
St. Paul, MN. 55164-0620

RE: CapX 2020 High Voltage Transmission Lines
Dear Judge Heydinger,

You cannot see it, taste it or smell it, but electromagnetic fields (EMFs) are one of the most pervasive environmental exposures in industrialized countries today.[1] In general, the larger the power line, the stronger its electromagnetic field. Based on new studies, there is growing evidence among scientists and the public about health risks associated with these technologies.

Human beings are bioelectrical systems. Our hearts and brains are regulated by internal bioelectrical signals. Environmental exposures to artificial EMFs can interact with fundamental biological processes in the human body.

Exposure to electromagnetic fields (EMF) has been linked to a variety of adverse health outcomes. The health endpoints that have been reported to be associated with EMF exposure include childhood leukemia, adult brain tumors, childhood brain tumors, genotoxic effects (DNA damage and micronucleation), neurological effects and neurodegenerative disease, immune system disregulation, allergic and inflammatory responses, breast cancer in men and women, miscarriage, Alzheimer's disease and some cardiovascular effects.

Like second-hand smoke, EMF is a complex mixture, where different frequencies, intensities, durations of exposure(s), modulation, waveform and other factors are known to produce variable effects. Many years of scientific study has produced substantial evidence that EMF exposure is both carcinogenic and neurotoxic.

Not everything is known yet about this subject; but what is clear is that the existing ICNIRP and FCC limits for public and occupational exposure to EMF exposure are insufficiently protective of public health. The clear consensus of the BioInitiative Working Group members[2] is that the existing public safety limits are inadequate for EMF exposure.

There may be no lower limit at which exposures do not affect us. Until we know if there is a lower limit below which bioeffects and adverse health impacts do not occur, it is unwise from a public health perspective to continue "business-as-usual", building high voltage power lines that increase EMF exposures, particularly involuntary exposures.

No one would recommend that drugs used in medical treatments and prevention of disease be randomly given to the public, especially to children. Yet, random and involuntary exposures to EMF occur all the time in daily life. It is time that planning for new power lines and for new homes, schools and other habitable spaces around them is done with the precautionary principle in mind. (The precautionary principle is a moral and political principle, which states that if an action or policy might cause severe or irreversible harm to the public, in the absence of a scientific consensus that harm would not ensue, the

[1] Information for this letter was taken from the: BioInitiative Report: A Rationale for a Biologically-based Public Exposure Standard for Electromagnetic Fields (ELF and RF) Release Date: August 31, 2007

[2] Fourteen scientists, public health and public policy experts who have documented the scientific evidence on electromagnetic fields.

burden of proof falls on those who would advocate taking the action.)

For EMF, the question is, does the existing strength of evidence justify *precautionary* actions now? Or will exposure reduction be delayed until the evidence is so clear that many people have suffered adverse health consequences before any action is taken, so that EMF replicates the fate of asbestos and smoking?

The standard for taking action should be precautionary; action should not be deferred while waiting for final proof or causal evidence to be established that EMF is harmful to health and well-being.

"*The Precautionary Principle provides justification for public policy actions in situations of scientific complexity, uncertainty and ignorance, where there may be a need to act in order to avoid, or reduce, potentially serious or irreversible threats to health or the environment, using an appropriate level of scientific evidence, and taking into account the likely pros and cons of action and inaction*. *Precaution, whether or not described as a formal principle, has served mankind well in the past and the history of public health instructs us to keep the spirit of precaution alive and well"*. (Graham 2002).

The American Public Health Association (APHA) affirmed endorsement of the precautionary principle as a cornerstone of public health for the protection of children's health. In a 2000 policy statement, the APHA encouraged governments, the private sector and health professionals to promote and use the precautionary principle to protect the health of developing children (APHA, 2001).

The WHO Declaration from the Fourth Ministerial Conference on Environment and Health (WHO, 2004a) refers explicitly to the precautionary principle with the recommendation: *"that it should be applied where the possibility of serious or irreversible damage to health or the environment has been identified and where scientific evaluation, based on available data, proves inconclusive for assessing the existence of risk and its level but is deemed to be sufficient to warrant passing from inactivity to policy alternatives"* (WHO, 2004b).

It is imperative that Minnesota minimize the potential risks of EMF exposure associated with high voltage transmission lines. When electric systems can be built with fewer miles of power lines or lower voltage power lines, the utilities should not be authorized to build long miles of high voltage power lines. They are imposing risks on the people who live and work near those lines and will be involuntarily exposed to electromagnetic fields.

CapX high power transmission lines should not be built in our communities, where we live, work and farm. Please choose alternatives to CapX that rely on conservation, more efficient use of lower voltage power lines, smart transmission development, more community based renewable energy and more energy produced closer to where it is used.

I respectfully request that you deny the certificate of need Application for the CapX 2020 power lines.

Name and Address

Member of Citizens Energy Task Force