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COMMENTS BY THE CLIMATE CRISIS COALITION ON XCEL'S PROPOSED HIAWATHA HVTL & SUBSTATIONS

3CTC'S MAIN ENVIRONMENTAL AND HEALTH CONCERNS

The Climate Crisis Coalition of the Twin Cities (3CTC) is opposed to Xcel Energy's Hiawatha Transmission Line Project for its potential contribution to climate change and the health impacts of electromagnetic fields (EMFs) and the widespread use of wooden utility poles soaked in pentachlorophenol pesticide (Penta) upon all Life—human beings, domestic animals and urban wildlife--that will be residing within the immediate vicinity of the power lines and substations. 3CTC strongly urges that the Minnesota Department of Commerce Office of Energy Security take these serious environmental and health effects as outlined below into consideration when drafting the Environmental Impact Statement (EIS).

CLEAN, RENEWABLE, NON-IRRADIATED VS. DIRTY, RADIOACTIVE ENERGY

Xcel proposes to transmit into the Hiawatha neighborhood by archaic and inefficient means what will be more predominantly dirty energy, spewing forth more greenhouse and acid-precipitation gases as well as toxic mercury emissions from what we suspect will be mostly coal-fired power with only a token amount of wind energy wired in from Southwestern Minnesota. Also included in the mix, will likely be power from one or another of the state's nuclear reactors, which are by no means green because of their routine radioactive emissions, ever-growing and increasingly insurmountable radioactive waste problem that will plague future generations *ad infinitum* and the continual threat of catastrophic accident that looms over us from Xcel's steadily aging and deteriorating nuclear power stations. Likewise, the use of nukes is not an appropriate means to stabilize the climate since greenhouse gases are generated in every stage of the nuclear cycle from cradle to… well, there is no grave, now, is there? Most noteworthy are the tons of chlorofluorocarbons (CFCs) emitted by uranium fuel-rod production. CFCs not only warm the atmosphere, they deplete the ozone layer, a condition which is exacerbating climate change in the polar regions. Therefore, the only thing "green" about nukes is the money it takes to build and insure them at taxpayers' expense.

With carbon dioxide emissions having spiked every year this century at the rate of 2 parts per million annually and over 40 percent of them coming from coal-fired power plants, it is astounding that even more filthy fossil fuels will be burned to achieve Xcel's proposed electrical upgrade in the Hiawatha Community. Clearly, there is a need for improvement because the area has been receiving inferior service for decades and has had to cope with numerous power outages. However, the solution is not conducting business as usual, not with Earth's ice masses melting down and the planet racing relentlessly toward irreversible tipping points that will plunge it into complete climate chaos if we do not cease and desist our destructive ways immediately. Time is running out, yet power companies like Xcel insist on following the path of least resistance with the same old scenario when there clearly is no need for it. There is an ecological and healthy alternative to Xcel spending millions on its proposed HVTL and substations. Along with economic stimulus money, the funds could be utilized to install a battery of aeroturbines of either vertical or horizontal design and solar panels on the roofs of neighborhood schools, libraries, hospitals, community centers, housing complexes such as Little Earth and industrial and commercial buildings. This would transform the community from a **consumer** of dirty energy into a **producer** of clean energy that could also be used to power mass transit. In addition, renewable energy systems would provide green jobs for members of the community who could be employed installing and

maintaining them.

A SMART GRID VS. A DUMB GRID

Obviously, it is important to provide power when it is needed and prevent brownouts and blackouts. Because of friction on the wires, the amount of wasted energy is huge on the present electrical grid that delivers alternating current. The loss of power is 26 to 30 percent with an efficiency of only 70%-74%. 3CTC feels it is criminal to waste anything, especially clean energy. That is why an intelligent, efficient transmission system is needed. Many community activists pin their hopes on it as an alternative to Xcel's HVTL/Substation concept. However, despite the big deal made out of the Smart Grid Project that has been launched in Boulder, CO, it is apparent that the utility giant is not that serious about implementing its prototype nationwide. Tom Henley, an Xcel Energy spokesperson in Denver has said that it will be early 2010 before the company knows how much is being saved in energy and money on the project. Only then, can it consider expanding beyond Boulder, meaning that a cost-benefit analysis will be done on the experience to determine whether or not it will be lucrative to implement it throughout the country. The climate and the environment are, of course, secondary considerations. That is why 3CTC is for clean, reliable, renewable wind and solar power working in tandem so that one can back the other up and be delivered where needed by a smart grid. This will enable us to put planetary and human needs before private profits and SAVE MOTHER EARTH from climate catastrophe.

THE HEALTH IMPACTS OF EXPOSURE TO ELECTROMAGNETIC FIELDS

There is growing evidence that exposure to electromagnetic fields has serious health impacts upon electrical industry workers and on other people, especially children, as well as livestock, wildlife and vegetation that exist near HVTLs.

EMF EXPOSURE AND LOW-GRADE HEALTH PROBLEMS: In 1972, Soviet research linked EMFs with fatigue, headaches and depression among people exposed.

EMFs AND CANCER: Studies conducted in the 1980s showed a correlation between EMF strength and proximity to residences and the risk of childhood leukemia. Epidemiological studies indicate a slight increase in childhood leukemia rates among youngsters living near power lines and an increase in chronic leukemia among adults who work in electricity-intensive industries. Washington state mortality data of 438,000 workers between 1950-79 showed elevated leukemia deaths in 10 of 11 occupations that involve extremely low frequency EMFs (ELF-EMFs). High rates of fatal brain cancers have been found among workers in the industry as well. ELF-EMFs may be too weak to kill cells or cause mutations and thus initiate cancer. However, they can play a role during the promotion stage of a cancer, which involves epigenetic mechanisms that affect gene expression rather than gene structure and induce cancer in cells that have already mutated. Thus, it has been demonstrated that EMFs help synergistically to promote tumors that have been initiated by carcinogenic chemicals in the environment. In addition, it is known that EMFs suppress the body's production of melatonin. Exposure to even low-frequency EMFs of 50 to 60 Hz reduces the pineal gland's output of the hormone, which regulates cell growth and can block tumor formation. Suppressed melatonin levels are linked to many cancers, including breast cancer among women. That is why female electrical workers run a two-fold risk of getting this type of reproductive cancer. Therefore, ELF-EMFs affect very powerful hormonal mechanisms in the central nervous system and brain which in turn connect to cancer and cancer-related problems. Exposure to them affects the control and regulation of growth in both healthy and abnormal cells. They can affect the immune system by reducing the ability of circulating white blood cells to kill tumor cells as has been exhibited in cell-culture work and partially corroborated in animal studies.

FETAL DEVELOPMENT: Exposure to ELF-EMFs when an expectant mother uses an electric

blanket, can affect fetal development with there being evidence for not only birth abnormalities but also miscarriages. Many farmers living near high-voltage power lines claim exposure to EMFs causes miscarriages, stillbirths and deformities in their livestock.

NEURODEGENERATIVE DISEASES; Exposure to EMFs can damage DNA in humans and lab animals. From studies done at the University of Washington, researchers have posited that ELF-EMFs increase free-radical activity in cells, thereby causing DNA damage and disturbing other cellular processes and functions. Free-radical damage can lead to cellular necrosis and apoptosis (cellular suicide) among the glial cells, myelin and neurons of the brain. Because the neurons of the brain cannot divide and replace themselves, the harm done by free-radicals due to EMF exposure can lead to neurodegenerative diseases such as Alzheimer's, Parkinson's and Lou Gehrig's, conditions which are becoming epidemic in our aging population. There can be a complicated interaction between intensity, determined by the distance at which an exposed individual is located in relation to the source and duration of exposure in the biological effects of EMFs, which occur in a two-stage molecular process that causes first, the release of iron into the cytoplasm and nucleus then the subsequent generation of hydroxyl radicals that damage DNA, lipids and proteins. The lipid damage in the cellular membrane leads to calcium leakage from the cell that triggers the second step: an increase in the synthesis of the nitric oxide free radical that can cause more iron-mediated free radicals to be generated as the process feeds back on itself. When the anti-oxidation processes fail, the cell dies and degeneration of the brain and nervous system occur.

A work group convened by the National Institute of Environmental Health Sciences reached a consensus, regarding the strength of the scientific evidence of biological health effects due to exposure to 60-Hertz electric and magnetic fields stating that EMFs such as those surrounding electric power lines should be regarded as possible human carcinogens. The group met June 16-24, 1998 in Brooklyn Park, MN as part of a series of symposia devoted to studying the published literature in the field of EMF research. The consensus was based on a two-thirds majority and focused on hazard-identification as opposed to risk assessment.

LONG-TERM AND CUMULATIVE EMF EXPOSURES: The exposure to the electromagnetic fields emanating from high-voltage transmission line such as the 115 kilovolt HVTL proposed by Xcel combined with daily exposure to electromagnetic radiation from microwave ovens, cell phones and towers, computers and other electronics along with the EMFs from electrical appliances will put at risk individuals living near or traveling by the power line on a regular basis of becoming dangerously overexposed to EMFs. Enough already! especially when there is no need for such an ill-conceived plan.

THE HAZARDS OF PENTACHLOROPHENOL-LADEN UTILITY POLES

If Xcel decides to go cheap and place its proposed HVTL above ground, to transmit the additional electricity into the neighborhoods, it will very likely be using more wooden utility poles preserved with pentachlorophenol pesticide. There are already half a million of them in the eight-state region, and the utility plans to use more to replace rotted ones. People in the Seward Neighborhood have complained that the poles in their alleyways have a foul chemical odor. That isn't the half of it. If something can be smelled, that means it is off-gassing and entering the lungs and being absorbed by the system. Penta is a known toxin harmful to human beings and animals.

PENTA IS AN UBIQUITOUS AND PERSISTENT TOXIN: Nearly all non-wood uses of penta were banned in 1984 by the EPA because of its known fetotoxicity and oncogenicity to human health. Due to pressure from the American Wood Preservers Institute, the EPA did not ban the substance as a wood preservative, and it is still widely used for treating wooden utility poles and railroad ties. It is also allowed as an anti-fungal agent in oil-well flood waters and pulp and paper-mill solutions. As a result, it is now ubiquitous and found in the urine samples of children. It is present in the

ditchwater along railroad right of ways. Penta has been found to be leaching from storage yards where penta-preserved Douglas fir poles are stacked in vast piles by the thousands in British Columbia. When it rains, we can be sure that the pesticide is being washed off utility poles everywhere in the Metro Area and into our soil as well as surface and groundwaters, contaminating wells and drinking water and imperiling aquatic life. Penta residues can be found as deep as 168 inches in the ground and the soil around the poles contains 100 milligrams per kilogram of soil or 100 parts per million. Environment California found three penta-treated poles next to wells, causing drinking water to be contaminated. These poisonous structures are located near yards, gardens, homes, schools, parks and playgrounds.

THE HEALTH IMPACTS OF PENTA EXPOSURE: Penta-treated wood is the largest source of dioxins. It and its accompanying contaminants are persistent organic pollutants (POPs). It contains several carcinogens including tri- and tetrachlorophenol and hexachlorobenzene, dioxins and polychlorinated dibenzofurans. Ranked among some of the most noxious chemicals ever created, penta and its sister chemicals are endocrine disrupting compounds (EDCs) that mimic estrogen and cause mal-formed reproductive organs in wildlife and humans, hence, the name gender benders. EDCs make people with such abnormalities prone to reproductive cancers later in life. Elevated levels of endocrine disruptors are found in the blood of women who have experienced spontaneous abortions, infertility and menstrual disorders. They also cause immune system dysfunction. Evidence of endocrine disruption is rarely as strong as it is for penta. Xcel and the chemical industry naturally deny its serious health impacts and have been lying to people, claiming that “the dose is the poison” if exposure is low and therefore harmless. With EDCs such as penta it is not the **amount** one has in one’s system, it is the **timing** of the exposure since they affect fetal and early childhood development as well as visit their deadly mutagenic effects upon the victim later in life. The synergistic interactions of the many compounds that now, unfortunately, make up our chemical body burden also have a detrimental effect.

A PETROLEUM DERIVATIVE: Penta is also a chlorinated hydrocarbon derived from petroleum. The deadly toxicity of oil-derived pesticides is just one more reason to leave the oil in the ground where Mother Nature put it. We need to end our addiction to oil in more ways than one.

AN ISSUE OF ENVIRONMENTAL RACISM AND JUSTICE

The Hiawatha area where Xcel proposes to put its HVTL/Substation project is near the Arsenic Triangle where yards and gardens have been contaminated by arsenic used to produce pesticides at a now long-gone industrial plant. The Phillips Neighborhood is populated by communities of the oppressed nationalities who are now paying dearly for past corporate environmental sins with the erosion of their health. Exposure to EMFs and penta-laden utility poles will only exacerbate the physical problems they already face. Some community activists feel that the solution is to place the transmission lines underground—out of sight, out of mind. 3CTC does not think that residents should have to settle for an underground power line and old, inferior technologies for transmitting electricity when ecological, healthy alternatives are available. The many peoples who make up this community—Indigenous, Latino, African-American, East African—deserve a just transition to a green, sustainable economy, not further victimization by a dirty polluting one. The best way to see environmental justice served in this case is to install wind and solar power and provide green jobs paid at union scale with full health and retirement benefits to the residents so that they may improve their circumstances and live in a healthier environment.

Respectfully Submitted By,
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