

**EXHIBIT NUMBER:** NIV-008  
**File Name:** BIPOLE III

**Date:** Oct 26 2012

**Received by:** [Signature]  
(Commission Secretary)

# CEC HEARINGS: BIPOLE III

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SE 24, 7, 5E

October 25, 2012

## Sections SE 24, 7, 5E, & NE 13, 7, 5E

- A pretty community: rich in history. Was the location of one of the first German settled villages in Manitoba in 1874: Bergthal
- 11 home owners on the 2 sections in close proximity to the preferred route of this line
- 5 agricultural businesses:
  - 2 Grain & Hogs
  - 1 Grain & Dairy
  - 1 Poultry Producer
  - 1 Market Lambs
- An excellent example of rural home owners and farmers co-existing and depending on one another in a small area
- 5 people are speaking today about the same section of line and the impact it will have on our lives

# Raising Market Lambs

- Run 80 ewes, that will generate about 145 meat lambs each year
- Own 50 acres of pasture land that are adjacent to the proposed route of the line
- Grass-fed for 8 months of the year. Grain and hay feed during winter months. (Grown locally!)
- Small industry, now but of growing importance to the Manitoba food chain
- Stronger desire by the public to source and eat locally grown, organic and free-raised raised meat







## Existing Threats:

- Sections are already transected by a large 230KV AC Line and in only 2 miles from a hydro substation on highway 206
  - Concerns about long-term exposure for both people and livestock already from present line
  - Neighbours already have to farm around a line, so less inclined to consider crops that have to be cut, turned and baled, as opposed to simply combined
- Loss of valuable agricultural land to municipal projects:
  - 2 towns: Steinbach and Mitchell have built new lagoons in the last 18 months both within 2 miles of the sections consuming large areas of what was valuable agricultural land.
  - Translates to more residential sprawl as towns grow
  - Both results in less agricultural farm land so less local hay and grain production

## Bipole III: Brings More Challenges

- 2 lines for farmers to navigate around, making it next to impossible to cut and bale hay. Prime agricultural land removed from production
- Impacts to business profitability from perception of growing lamb near a large line
- Inconclusive studies on the impact of EMF's on hormones in sheep. Small sample sizes, conflicting results, and no consideration for impact on subsequent generations.(Abstract – Appendix 1)
- Unobstructed view means impacted property values for those that wish to sell. No financial compensation for individuals who don't own land with towers but do feel a financial impact from the line.
- Many home owners with young children will reside very close to now 2 high voltage lines: What will this mean? Unknown future impact to human health and mental well-being.

# Recommendations

- Encourage CEC and Hydro to consider alternate routing for this section of the route:
  - Several alternate, less populated sections that could be selected in the area resulting in less friction from land owners and neighbours
  - Would only add the cost of one additional corner as these 2 sections begin at a corner in the line
  - Would distance the line from the dairy cattle and sheep, mitigating any unknown impacts on free range livestock in the area
  - Would spread responsibility for provincial infrastructure with others
  - Protects health, and mental well-being of those already living in the shadow of a power-line



## Appendix #1: Impact To Sheep

Long-term effects of 60-Hz electric vs. magnetic fields on IL-1 and IL-2 activity in sheep.

[Hefeneider SH](#), [McCoy SL](#), [Hausman FA](#), [Christensen HL](#), [Takahashi D](#), [Perrin N](#), [Bracken TD](#), [Shin KY](#), [Hall AS](#)

### Abstract

This study was designed to assess the effect of exposure to long-term extremely low-frequency electric and magnetic fields (ELF-EMF) from a 500 kV transmission line on IL-1 and IL-2 activity in sheep. The primary hypothesis was that the reduction in IL-1 activity observed in our two previous short-term studies (10 months) was due to EMF exposure from this transmission line. To repeat and expand these studies and to characterize the components of EMF responsible for the previously observed reduction in IL-1 activity, the current experiment examined not only the effect of exposure to electric and magnetic fields, but also the magnetic field component alone. In the current study, IL-2 was examined to characterize the effects of EMF exposure on an indicator of T cell responses. 45 Suffolk ewe lambs were randomized into three groups of 15 animals each. One group of animals was placed in the EMF pen, located directly beneath the transmission line. A second group was placed in the shielded MF (magnetic field only) pen, also directly beneath the transmission line. The third group of animals was placed in the control pen located several hundred meters away from the transmission line. During the 27 month exposure period, blood samples were taken from all animals monthly. When the data were analyzed collectively over time, no significant differences between the groups were found for IL-1 or IL-2 activity. In previous studies ewe lambs of 8–10 weeks of age were used as the study animals and significant differences in IL-1 activity were observed after exposure of these animals to EMF at mean magnetic fields of 3.5–3.8  $\mu\text{T}$  (35–38 mG) and mean electric fields of 5.2–5.8 kV/m. At the start of the current study EMF levels were reduced as compared to previous studies. **One interpretation of the current data is that magnetic field strength and age of the animals may be important variables in determining whether EMF exposure will affect IL-1 activity.** Bioelectromagnetics 22:170–177, 2001. © 2001 Wiley-Liss, Inc.



## Appendix #2: Examples Of Recent Articles That Indicate An Impact To Human Health From Already Present Line & Future Lines

- “An association exists between childhood leukemia and distance of home at birth from high voltage power lines and the risk extends up to 600 m, a greater distance than would have been expected from previous studies. This risk could be causing about 1% of childhood leukemia in England and Wales (Draper et al. 2005)”
- “A study of breast cancer in Swedish women living within 300 m of high voltage transmission lines was conducted by Forssen et al (2000) Women below at 50 years at diagnosis had 1.5 times the expected risk. Women below age 50 years who had estrogen receptor-positive breast cancer had 3.2 times the expected risk.
- “The U.K. Stakeholder Advisory group on Extremely Low Frequency EMF’s (2007), cited links between EMF’s and the following adverse effects: childhood and adult leukemia, adult brain tumors, Alzheimer’s disease, Lou Gehrig’s disease, breast cancer, other childhood cancers, depression, electrical sensitivity symptoms, certain types of heart disease, miscarriage, and suicide.”
- Many more examples of scientific articles citing links between power lines and health: <http://retasite.wordpress.com/>