

Power line plan pushes fear meter to 9 or 10

Magnetic fields may reach unsafe levels: neighbours

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Yolanda Bishop and her baby Ziah in the backyard of their home in Ellerslie Heights, where AltaLink is proposing to install more electricity transmission power lines and towers.

LARRY WONG, THE JOURNAL

Bicycles, baby strollers and basketball hoops clutter the driveways and front porches on the street where Yolanda Bishop lives.

Just beyond the back fences lies a long, narrow, grassy field, the potential route for a double-circuit 500-kilovolt transmission line.

Cradling her eight-day-old son, Ziah, in her arms, Bishop rates her concerns about the line on a scale of one to 10.

"I'd say a nine or even a 10," she says. "I don't want them here, especially with the baby."

Bishop has heard there may be health concerns associated with the transmission lines, intended to run power from existing transmission facilities either west of the city or in south Edmonton to the industrial heartland northeast of Fort Saskatchewan.

The concerns centre on the magnetic fields emitted by the lines.

Both the World Health Organization and the U.S. National Institute of Environmental Health Sciences have said exposure to electromagnetic fields cannot be considered entirely safe, because of weak scientific evidence that exposure may pose a leukemia hazard, specifically to children.

Scientific studies have shown some concern about magnetic fields that are three to four milliGauss or higher in strength.

Equipped with a measuring device called a magnetic field meter, a *Journal* reporter

Transmission lines are not the only sources of magnetic fields. There are actually some very powerful sources in most homes.

One reason why small devices can emit strong magnetic fields is because they contain loops of wire, which magnifies the fields. The fields tend to drop off quickly, though, usually within 30 centimetres. And often the strongest fields are generated only when a device is operating.

Journal environment reporter Hanneke Brooymans found some surprising sources in her own home.

Here are sample readings:

- ▶ Dishwasher (when it's working): 7.8 milliGauss.
- ▶ Refrigerator: 4.9 milliGauss.
- ▶ Microwave: off — device aimed at digital display, 29 milliGauss.
- ▶ Microwave: operating, 250 milliGauss.
- ▶ Microwave: operating, one metre away, 3.2 milliGauss.
- ▶ Digital alarm clock: 30 milliGauss.
- ▶ Digital alarm clock: 30 cm away from clock, 0.4 milliGauss.
- ▶ Blow-dryer: operating, 80 milliGauss.

walked behind the homes of Bishop and her neighbours, who live on 1A Ave SW and 60th Street.

The fence is 60 metres from the existing 240-kV power lines, as measured by a laser rangefinder. The instrument found the magnetic field from the existing lines was 2.7 milliGauss.

Those lines will remain in place, even if the 500-kV line is built beside them.

The magnetic fields of the existing lines and the proposed new one would be cumulative, at least to some extent, according to AltaLink,

although they say they haven't done the calculations to figure out what the final magnetic field might be.

The computer model AltaLink used for the double-circuit 500-kV line predicts a magnetic field reading of 3.1 milliGauss at 100 metres.

Field measurements taken by *The Journal* of a single-circuit 500-kV line next to a single-circuit 240 kV line showed a much higher reading.

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