

Etobicoke Greenway | Health & Safety

Project background

Electricity demand from homes, businesses, and public transit initiatives is growing in the City of Toronto. To help meet this growth, Hydro One initiated a Class Environmental Assessment in 2022 to rebuild and energize a transmission line in an existing corridor to carry 230 kilovolts between Richview and Manby Transformer Stations. Our top priority is to deliver electricity in a safe and socially responsible way. As part of this project, we are also committed to working closely with the community to create a shared vision for how the hydro corridor could be used once the project has been completed. Since June 2022, Hydro One has organized several engagement opportunities to share details about the project, listen to input and answer questions.

Health & safety background

- Hydro One has a dedicated team that regularly monitors global studies around electric and magnetic fields (EMF) and ensures that our infrastructure is built and maintained following best practices and industry standards.
- We look to [Health Canada](#), the [World Health Organization](#) and the [International Commission on Non-Ionizing Radiation Protection](#) (ICNIRP), for guidance on EMF.
- Based on global studies which have and continue to be regularly monitored, Health Canada and the World Health Organization indicate that members of the public do not need to take precautions to protect from fields produced by extremely low frequencies such as transmission lines.
- Hydro One has completed modeling in the Richview to Manby corridor and confirmed that once the line is energized the fields produced will remain within a safe level.

Key facts

- Electricity produces fields which are referred to as EMFs. **EMFs are invisible forces found everywhere electricity is used** including household appliances, power cords, and wires.
- They are strongest when close to their source. As you move away from the source, the **strength of the fields fades rapidly**.
- In North America, all electricity including transmission lines, operate at 60 hertz, which is considered to be extremely low frequency.
- World Health Organization (WHO) states that “despite extensive research, to date there is **no evidence** to conclude that exposure to low level electromagnetic fields is harmful to human health.”
- ICNIRP is an internationally recognized body that sets guidelines for the protection against adverse health effects of EMF.

- ICNIRP’s guidelines indicate that general exposure at low frequency, such as transmission lines, should **not exceed a level of 2000 milligauss (mG)**.

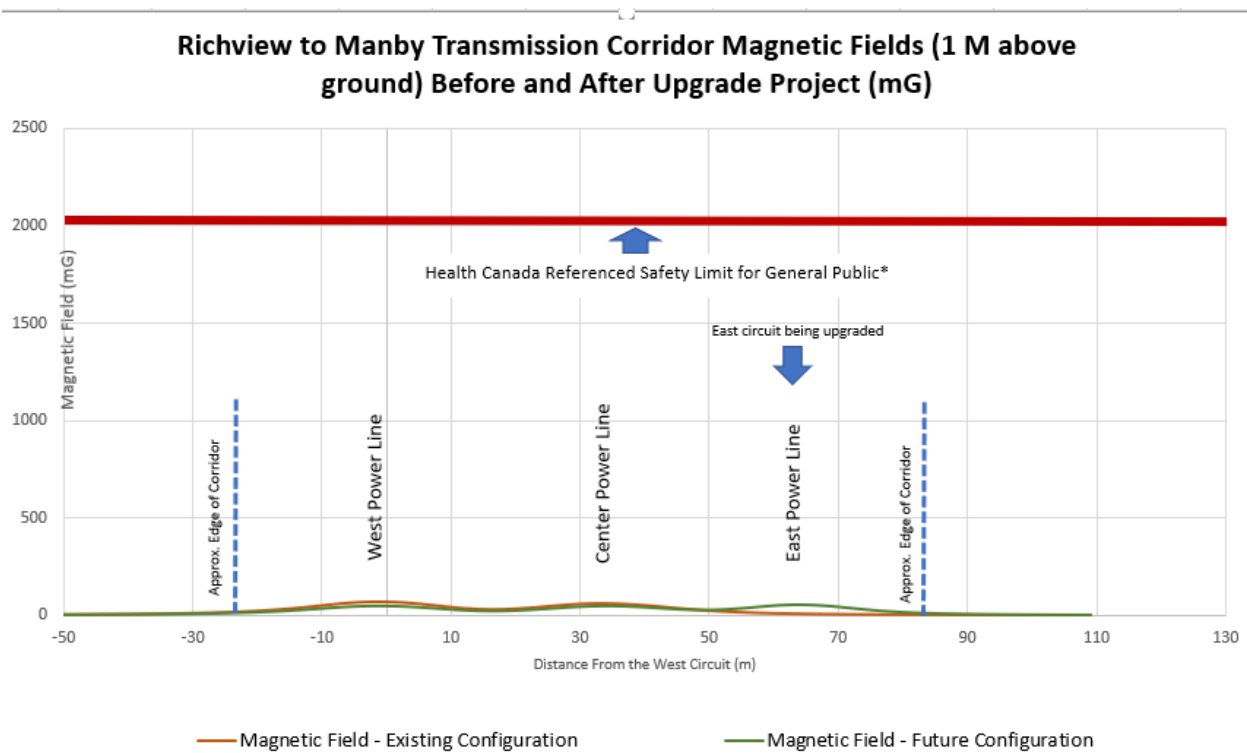
Modeling in the corridor

Below is a chart showing the levels of magnetic fields measured at both current and projected future conditions. These outline the magnetic field measurement under the wires and at the edge along the Richview to Manby corridor. These measurements are compared against the ICNIRP limit of 2000 MG (red horizontal line). The orange curve is the current conditions and green are future conditions. The label for each of the three circuits represents the centre line of each tower.

**Health Canada references using the safe limits prescribed by the International Commission of Non-ionizing Radiation*

If you’re interested in seeing the modeling, please contact Hydro One’s Community Relation’s team.

Common household sources of magnetic fields compared to the Richview to Manby corridor



- Based on modelling, typical exposure at ground level under the wires along **each tower line are expected to be 30-55 mG** and approximately 10 mG or less at the edge of the corridor and continues to drop off quickly as you move away from the lines, please see chart below for more details.
- To help further put this into context, household appliances such as a **vacuum operates at 300 mG**, a microwave at 200 mG and a washing machine at 20 mG.

Appliance	Median mG
Electric Ovens	9 mG at a distance of 6 inches
Coffee Makers	7 mG at a distance of 6 inches
Refrigerators	2 mG at a distance of 6 inches
Vacuum Cleaner	300 mG at a distance of 6 inches
Microwave	200 mG at a distance of 6 inches
Portable Heater	100 mG at a distance 6 inches
Washing Machines	20 mG at a distance 6 inches
Richview to Manby	30-55 mG under the wires along each tower line 10 mG or less at the edge of the corridor

Additional resources

- <https://www.hydroone.com/power-outages-and-safety/corporate-health-and-safety/electric-and-magnetic-fields>
- <https://www.canada.ca/en/health-canada/services/health-risks-safety/radiation/everyday-things-emit-radiation/power-lines-electrical-appliances.html>
- <https://www.who.int/news-room/questions-and-answers/item/radiation-electromagnetic-fields>
- <https://www.icnirp.org/en/frequencies/low-frequency/index.html>

We are committed to understanding and addressing any health concerns individuals may have. In the meantime, if you have any questions, please contact Hydro One's Community Relation's team:

1-877-345-6799

Community.Relations@HydroOne.com

www.HydroOne.com/Etobicoke