

Alberta
POWERLINE

An **ATCO** company

Fort McMurray West 500-kV Transmission Project

Frequently Asked Questions



About This Guide

This guide was designed to address common questions about the Fort McMurray West 500-kV Transmission Project. We want to ensure you have access to the best available information so that you will know what to expect should the transmission line be located on or near your property.

Alberta PowerLine is committed to open and transparent consultation and sharing information with landowners and interested parties.

If you have additional questions, or require more information about any of the topics covered in this guide, please contact us at 1-844-420-7779 or contactus@albertapowerline.com.

About the Project

The Fort McMurray West 500-kV Transmission Project will connect the existing Sunnybrook substation near Wabamun to an expanded Livock substation, and then extend northeast to the planned new Thickwood Hills substation. About 500 kilometres (km) of new transmission line will be built.

The new facilities are needed to support industrial demand and other developments in the Fort McMurray area, as well as help to ensure that Albertans have access to reliable, cost-effective electricity when they need it.

In February 2015, Alberta PowerLine began consultations for the Fort McMurray West 500-kV Transmission Project. The project is expected to be completed and in service by 2019.

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Q: Who is involved in planning new transmission lines in Alberta?

The **Alberta Electric System Operator (AESO)** identifies the need for new transmission lines.

The AESO is an independent, not-for-profit organization responsible for the safe, reliable and economic planning and operation of the provincial transmission grid. The AESO acts in the interest of all Albertans to determine what electrical infrastructure is needed.

The **Transmission Facility Owner (TFO)** identifies the best location for the line.

Alberta PowerLine is a TFO – our job is to study the area, develop route options, consult with stakeholders, and identify the preferred option(s) that will have the least overall impact. The preferred option(s) will be described in a facilities application that we submit to the **Alberta Utilities Commission (AUC)**. Once approved by the AUC, we construct, own and operate the line and associated facilities – providing electric transmission service on behalf of the AESO.

The **AUC** regulates the industry.

Alberta's electrical system is regulated by the AUC, an independent agency of the province that ensures the fair and responsible delivery of utility services. Before Alberta PowerLine can begin construction on a project, the AUC must approve the facilities application, which includes details such as location of transmission facilities and routes. The AUC ultimately approves where the line will go, based on where it will have the least overall impact.

Q: Do I have a say in the process?

Yes. We conduct one-on-one consultations with parties who have land interests on or directly adjacent to the route options. Feedback from stakeholders as well as information from field surveys and other sources is used to identify the route options with the least overall impact. Information gained through consultation routinely leads to improvements on our projects. We have adjusted routes, developed new route options, and rejected other routes because of conversations with those affected. Your feedback will help us determine the best possible routes. Anyone who is interested in the project can share their input by calling our toll-free number or emailing us (1-844-420-7779 or contactus@albertapowerline.com).

If you are affected by the final route(s) proposed in our facilities application to the AUC later this year, information you shared with us during consultation will be summarized in our facilities application to the AUC. The AUC will consider this input in its review of the application.

The AUC hearing process will create further opportunities for affected parties to communicate their concerns directly to the AUC. For more information on the AUC process, please refer to the brochure *Public involvement in a proposed utility development* which is available on the AUC website (www.auc.ab.ca).

Q: How was the need for the project established?

When upgrades to Alberta's electrical system are needed, they are identified by the AESO, an independent organization responsible for the planning and operation of the provincial transmission grid.

The Fort McMurray West 500-kV Transmission Project is needed to support growth in the Fort McMurray area. Demand for power in the Fort McMurray area is expected to almost double in the next 10 years. The amount of power that will need to flow into the area will be double what the existing lines can carry. The new line will also allow power to flow from the Fort McMurray area to the rest of the province.

The AUC normally approves two aspects of a given project: (1) the need for the project as determined by the AESO; and (2) the facilities application filed by the TFO, in this case Alberta PowerLine.

The Fort McMurray West 500-kV Transmission Project has been designated as Critical Transmission Infrastructure (CTI) by the Government of Alberta. That means the need for the project did not require approval by the AUC.

The CTI designation only applies to the first of these two approvals. Alberta PowerLine's facilities application, which will identify the preferred route option(s) for the line, is still subject to AUC approval. This includes participant involvement – Alberta PowerLine must still follow the standard consultation process to identify and file the best route option(s) with the AUC. The AUC will review our facilities application and ultimately decide where the line will go. Before reaching a decision, the AUC may conduct a public hearing, which we expect to see on this project. For further information, please refer to the brochure *Public involvement in a proposed utility development*, available on the AUC website (www.auc.ab.ca).

Q: How was this project awarded to Alberta PowerLine?

In 2010, the AESO was mandated by the Government of Alberta to develop a Competitive Process to award major transmission development projects. The process was approved by the AUC in February 2013 and was used for the first time in 2014 to find a company to design, build, own and operate the Fort McMurray West 500-kV Transmission Project.

Under this competitive process, any company could submit a proposal and potentially be awarded the Fort McMurray West 500-kV Transmission Project by the AESO. Alberta PowerLine was one of five shortlisted companies that submitted a proposal, and was awarded the project in December 2014. The competitive process does not change the fundamental planning process or final decision making process of the AUC.

For more information on the Competitive Process, please refer to the AESO fact sheets available at www.poweringalberta.com/cp/.

Q: Who pays for transmission projects?

The costs of planning and operating the electrical system are recovered through transmission charges paid by all electricity consumers in the province. The amount consumers pay towards building and operating reliable transmission infrastructure is included in their electricity bill and is proportional to the amount of electricity they use. About 18 per cent of costs are recovered from residential consumers, farms pay for about four per cent of costs, and the remaining 78 per cent is paid for by industrial and commercial users.

For more information about costs, please refer to the AESO fact sheet *Who pays for transmission reinforcement*, available at www.poweringalberta.com.

Q: How do you decide where the line will go?

Alberta PowerLine works to find route options that will have the least overall impact on people, the land and the environment. We consider impacts on residences, historical and cultural sites, agriculture, the environment as well as visual impacts. We conduct extensive studies to understand the potential impacts of the routes on wildlife, wetlands and other sensitive environmental features. We also take into account transmission line and electrical requirements such as access for maintenance, electrical interference from other telecommunication equipment, and how we interact with other electrical facilities. Costs and other constraints such as industrial development, roads, highways and other developed areas are also considered.

Q: Are route suggestions from landowners considered?

New route options are often identified during consultations with landowners and other interested parties. When a suggestion is made about a new route or a change to an existing route, we investigate the feasibility of the route option. In some cases, the suggestions made by stakeholders have been adopted.

Q: Why are the route options located close to residences?

Alberta PowerLine aims to maintain as much distance from residences as reasonably possible, while balancing other important route considerations. The density of residences in an area, combined with other factors, can put a considerable constraint on routing. In some situations, not all residences can be avoided.

Q: Why were Guyed V Structures selected?

The AESO's competitive bid process was intended to find innovative ways to reduce costs for transmission facilities in Alberta. Guyed structures have been used throughout various regions in Canada, including Alberta, and provide significant overall cost savings to electricity consumers while meeting or exceeding the technical requirements specified by the AESO.

Q: Can existing corridors be used for the new transmission line?

Existing transmission lines and other corridors are included in the route evaluation process. Some of the route options that we've currently identified do parallel existing corridors.

A number of factors can restrict the use of existing corridors. For example the right-of-way of an existing transmission line may be too narrow to accommodate a new line. Changes in safety codes may restrict construction within an existing right-of-way. Paralleling existing corridors may also be limited for a number of reasons. For example adjacent land development may limit opportunities to parallel existing corridors.

Q: Why can't you bury the transmission line underground?

Burying transmission lines is significantly more expensive than building them above ground. For this reason, underground transmission lines are not considered a routine option and typically would only be used on projects when costs are shared with an independent party, such as a developer. The cost of new transmission lines in Alberta is ultimately borne by electricity consumers in Alberta. When making planning decisions, the impacts to landowners must be balanced with fairness to all electricity consumers.

Q: Will there be disruptions and noise during construction?

We strive to minimize disruptions and noise during construction. Construction activities along the route will be temporary. Following the AUC's *Rule 012 - Noise Control*, construction work generally occurs between 7:00 a.m. and 10:00 p.m. Alberta PowerLine will work closely with landholders who have concerns about construction traffic to understand the potential impacts of construction and mitigate these, when possible. If construction activities damage roads beyond normal wear and tear, we will repair the road by grading or re-gravelling portions as needed.

Q: What is an access agreement and how does it work?

Access rights are granted by a right-of-way agreement. Alberta PowerLine uses the right-of-way for construction, operation and maintenance of the line. In some cases, agreements for accessing temporary workspace areas may also be required. We inspect the line at regular intervals, either on the ground or from the air. Inspections are typically conducted on an annual basis. Our crews may need access to inspect or repair the line or to control hazardous vegetation.

Q: Who is responsible if my property is damaged?

Alberta PowerLine is responsible for any damages that may occur to a landowner's property as a result of construction, operation and maintenance of the line. We try our best to minimize property damage, but it is possible that it may occur. Prior to construction, we offer a pre-paid damage payment to cover any crop damages that may occur during construction. Landowners have the option of accepting the pre-paid offer or waiting until construction is complete to determine if any damage payments are required. In the event that damages occur during the operation and maintenance of the line, these will also be compensated as appropriate.

Q: How will I be compensated?

If the transmission line or the associated access and workspace required for its construction and operation goes through your land, you will receive compensation. The amount of compensation offered depends on how the transmission line will affect landowners and their property. A number of factors are considered, and not all may apply in each case.

- 1.) Early Resolution & Access Compensation Package
A one-time payment recognizing landowners for their role in reducing project costs, risks and schedule delays by providing Alberta PowerLine with early access and routing consent.
- 2.) Right-of-Way Agreement
The Right-of-Way Agreement allows for the construction and maintenance of the transmission line. It includes a one-time payment for the land value and general disturbances related to construction activities.
- 3.) Pre-paid Damages Agreement
Compensation for crop damage that might occur during the construction of the transmission line and for reduced production the year after construction.
- 4.) Annual Structure Payment
Annual Structure Payments are ongoing annual payments made to landowners for having transmission structures on their land. Payments are based on the type and location of structures located within the right-of-way.

Please see our *Right-of-Way Compensation Program Guide* for further details. You can download a copy at www.albertapowerline.com or contact us and we will mail you a copy.

Q: Will the transmission line impact the value of my property?

Many factors influence property values including market trends, proximity to existing farming operations, soil productivity and access to schools and other amenities. Market forces such as buyers' or sellers' markets and the specific motivations of each party can also impact the selling price.

Research completed by property valuation experts has indicated that transmission lines have either a small or indiscernible impact on residential property values. Where an effect was found, it tended to diminish rapidly with distance from the line and over time. Primary agriculture or industrial land was not typically found to show reduced property value due to the presence of a transmission line.

Alberta PowerLine strives to minimize overall impacts of transmission lines by providing reasonable separation from residences, and by aligning right-of-ways along property boundaries, roads and other linear features when possible. We are committed to working with landowners to make site-specific adjustments to tower locations and alignments in an effort to reduce impacts where feasible.

Q: Can I use the right-of-way?

Generally speaking, a right-of-way does not interfere with the use of the land. A right-of-way does have some land use restrictions (e.g., buildings are not permitted) and you should always be careful and use common sense about safety near transmission lines. Some uses and activities in and adjacent to the right-of-way or transmission line may require coordination with Alberta PowerLine. These could include changes to the elevation or grade.

Q: Will the presence of a transmission line interfere with my plans to develop my property or to sell it to developers?

Concerns about potential future development are taken into account during the planning process. Alberta PowerLine must also consider existing and approved developments and infrastructure during route planning. If structures are located on your property, you will be compensated according to our *Right-of-Way Compensation Program*.

Q: Will my view be affected by the transmission line?

Visual impacts from transmission lines are subjective and can vary dramatically from one person to another. In planning the route options, Alberta PowerLine seeks to maintain as much distance from residences as reasonably possible, while balancing other important route considerations. We are committed to working with those affected to identify opportunities for reducing visual impacts through minor adjustments to structure locations.

Q: Will tree removal be restricted to the right-of-way?

Alberta PowerLine strives to limit tree removal by refining alignment of the transmission line, where feasible. In considering tree removal requirements, we must also balance other social, environmental, and economic impacts. Tree removal on the right-of-way is sometimes unavoidable in order to ensure safe operation and maintenance of the transmission line in accordance with safety requirements and codes. We will work with landowners to minimize the impact of tree removal.

Q: Will I hear the transmission line?

Audible noise from the transmission line is generally not an issue during fair weather. In rainy weather there can be some audible noise, but even under heavy rainfall (2.5 centimetres per hour), noise generated from the line will be lower than the normal sound level for a library. Certain equipment in substations (for example transformers or fans) can be heard up to a few hundred metres from the site. All components of the project are required to meet the AUC's *Rule 012 - Noise Control*.

Q: Will the transmission line interfere with my cell phone, radio, TV and wireless internet service?

Transmission lines have been known to cause some interference with AM radio and analog TV reception. This type of interference is usually limited to receivers that are located directly beneath the line and diminishes very quickly with distance from the line. Communication devices such as satellite television, FM radio, cellular phones and wireless internet service operate at much higher frequencies and rarely experience interference from transmission lines.

Alberta PowerLine designs its transmission lines to meet all Canadian and Alberta electrical codes with respect to communications interference. If any reception problems occur as a result of our facilities, we will work with Industry Canada to resolve the problem.

Q: Will I be liable if someone on my land is injured by the transmission line or if I accidentally damage a structure?

Alberta PowerLine's right-of-way agreement protects the landholder in the unlikely event of third party damages or injury caused by the line. It also states that landholders are not liable if they accidentally damage a structure but are liable if they do so intentionally or as a result of gross negligence.

Q: How will the transmission line affect well heads?

The location and associated infrastructure of well heads is taken into account during the planning process in order to allow the safe operation and maintenance of both facilities. On well sites where there may be issues with soil contamination, it is important to ensure that drilling rigs and other equipment have immediate access and clearance to work. Alberta PowerLine is expected to maintain adequate clearance from all well heads and hazard areas to ensure safe access, as outlined in the *Code for Electrical Installations at Oil and Gas Facilities*. Contact us for more information.

Q: Will the transmission line interfere with the operation of my farm or my equipment?

Transmission structures are located along quarter lines or section lines where possible. If there are homes or other routing constraints in the area, we may have to place the structures away from the property boundary, across cultivated land. In these cases, some maneuvering around structures may be necessary. Landowners are compensated for this inconvenience and operating cost through annual compensation payments for the structures located on their property.

You should be able to operate your machinery under the line without any concern. The proposed transmission line has been designed to accommodate farming equipment up to 5.3 m, as specified by provincial safety regulations. Most farm equipment meets this height restriction, but if you have doubts about your equipment or loads, please contact us. Bright coloured plastic guy guards will be installed on the guy wires upon request to make them more visible.

The line should not have a significant impact on livestock operations. However, if you are concerned about grazing livestock near the structure guy wires, we will install cattle guards around the base of each wire or work with you to identify other reasonable mitigation options.

Depending on the time of year that construction takes place, there may be temporary interference with some farming activity during construction. We will try to coordinate our construction activities with farming operations to minimize any inconvenience to farmers. After construction, farmers can continue to farm the right-of-way as they did before.

Q: Will the transmission line interfere with my GPS?

Navigational GPS operates at high frequencies and receives signals from numerous satellites simultaneously. Systems used for farm navigation typically do not experience any interference from transmission lines. In the unlikely event the new transmission line is causing GPS problems, we will work with those affected to resolve the interference.

Q: How will Alberta PowerLine control weeds along the transmission line?

If transmission line structures are located on cultivated land, there will be land immediately under and adjacent to the structure that cannot be farmed. Weeds may become established in these areas if adequate vegetation cover is not established to restrict weed growth. As part of reclamation activities following construction, Alberta PowerLine will use a native grass seed mixture or other suitable species as determined in consultation with municipalities and/or landowners. Following completion of reclamation activities, the increased inconvenience to control weeds in the immediate proximity of transmission structures will be a part of annual compensation payments.

To minimize or restrict the potential spread of crop disease and noxious weeds we will apply an appropriate level of cleaning for equipment that has been used in fields where Clubroot and/or noxious weeds infestation is a concern or where crops may be impacted by other soil-borne diseases. The level of cleaning required is determined during consultations with the landowner and local agricultural fieldmen or municipality.

Q: Has Alberta PowerLine considered the environment?

Alberta PowerLine is committed to responsible development and environmental stewardship. Environmental assessments are an essential part of our planning process. We consult environmental specialists to ensure that wildlife, soils, vegetation, wetlands, and historical resources are considered. Environmental risks are identified early and managed through careful planning and execution.

Clearing, construction, reclamation and subsequent activities are all carried out in accordance with Alberta Environment and Parks's *Environmental Protection Guidelines for Transmission Lines*. Activities must also follow the terms and conditions of the right-of-way agreements and easements, provincial and federal laws, regulations and good utility practices.

The facilities application that Alberta PowerLine submits to the AUC includes an environmental protection plan. The plan outlines measures to reduce the environmental impacts of the project, along with general reclamation and long-term right-of-way management practices.

Q: Will the transmission line interfere with my pacemaker?

Alberta PowerLine does not anticipate that the line will cause disturbances to pacemakers. If you have concerns about your pacemaker, please contact the manufacturer to discuss operation of the device in the vicinity of transmission lines.

Q: What are the health effects on livestock and animals of electric and magnetic fields (EMF)?

Exposure to EMF from transmission lines is not a known cause of any adverse health effects for livestock. Expert analysis of research conducted to date does not suggest that magnetic or electric fields result in adverse effects on the health, behaviour, or productivity of animals, including livestock such as cattle, sheep, pigs and a variety of other species including small mammals, deer, elk, birds and bees.

Q: Are there health effects associated with Electric and Magnetic Fields (EMF)

EMF associated with transmission lines are similar to the low level electric and magnetic fields that we are exposed to in our daily lives. EMF is generated from common items like hair dryers, computer monitors, toasters and transmission lines. The fields generated by these common items are classified as extremely low frequency (ELF) because they generate frequencies below 300 hertz (Hz). Transmission lines typically operate using ELF alternating current (AC) fields that generate frequencies of 60 Hz. This is comparable to household appliances and the wiring in our walls.

Researchers have been studying exposure to EMF since the 1970s. Reputable health organizations, such as Health Canada and the World Health Organization, have undertaken thorough reviews of these studies and have determined that the weight of scientific evidence does not support a cause and effect relationship between negative health effects and exposure to extremely low frequency EMF.

EMF are at their highest levels directly under the transmission line and decrease dramatically in strength with distance from the source. Electrical fields are also blocked by objects such as trees and buildings. Alberta PowerLine builds and operates transmission lines within accepted engineering and safety standards. We are committed to monitoring current research on EMF and sharing information on matters of concern.

Q: Will the transmission line affect honey bee populations in the area?

Research to date indicates that EMF associated with AC power lines have minimal to no detected effects on hives located outside of the right-of-way. Studies have shown that very high magnetic fields could potentially interfere with the internal navigation system used by bees. This type of impact would require magnetic field levels far greater than those associated with 144-kV, 240-kV and 500-kV AC transmission lines. Bees that live in artificial hives located directly under AC lines appear to receive small but frequent electric shocks from currents induced by the line. In these situations, Alberta PowerLine will shield hives with a grounded wire plate or move them outside of the right-of-way to eliminate these effects when necessary.

Q: Will the transmission line interfere with flight operations at airports and airstrips?

Concerns raised during preliminary consultations regarding proximity of the line to airports and airstrips are taken into account during the route planning process. We try to avoid impacts to existing airstrips by maintaining distance from takeoff and approach paths wherever possible. We must also follow the regulations of Transport Canada whenever electrical facilities above a certain height are within proximity to an aerodrome.