

Project Information



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EASTERN ALBERTA HVDC TRANSMISSION PROJECT May 2010

Project Overview

This project includes:

- About 500 kilometres of new power transmission line between the Gibbons-Redwater area northeast of Edmonton and the Brooks area southeast of Calgary. The new line will be built and operated as a 500 kilovolt (kV) high voltage direct current (HVDC) line.
- A new converter station and related facilities at each end of the new line, to convert power from alternating current (AC) to direct current (DC) and to connect the new facilities to the Alberta electric transmission system.

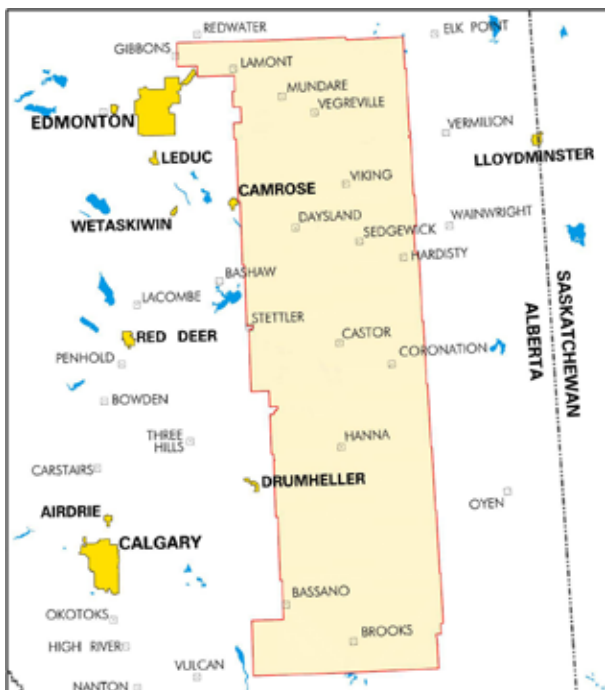
Why are you receiving this project information package?

ATCO Electric is planning to build new power transmission facilities between the Gibbons-Redwater and Brooks areas in eastern Alberta.

We have prepared this information package for landowners, occupants, agencies and interested parties located near the preliminary route and site options for the Eastern Alberta HVDC Transmission Project.

This package will provide you with important project information. We invite any comments, questions or concerns you may have.

Project Study Area



Contact Us

Your comments and concerns are important to us, please contact us at:

HVDC Project
ATCO Electric
10035 - 105 Street
Edmonton, AB T5J 2V6

Telephone toll-free: 1-866-650-2463

Fax: 780-420-3666

Email: HVDC@atcoelectric.com

Website: www.atcoelectric.com

Project Need

The Alberta Electric System Operator (AESO) has identified the need for new critical transmission infrastructure to meet electricity demand and underpin future economic development. The Government of Alberta has confirmed the need for this infrastructure in legislation that was passed in November 2009.

To help meet this need, ATCO Electric has been directed by the AESO to prepare an application to the Alberta Utilities Commission (AUC) for a 500 kV HVDC transmission line between the Edmonton and Calgary areas on the eastern side of the province. A similar project is being planned on the western side of the province by another transmission facility operator.

The AESO has determined that transmission reinforcement between the Edmonton and Calgary areas is needed to:

- avoid reliability issues in southern and central Alberta;
- improve the efficiency of the transmission system;
- avoid transmission congestion that interferes with the efficient operation of the competitive power generation market; and
- restore the capacity of the B.C. intertie to its design level.

Additional information is provided in the AESO's Long-term Transmission System Plan and in other publications available from the AESO at 1-888-539-2376, or at www.poweringalberta.com.

The AESO is a not-for-profit organization with a public interest mandate to ensure that the province's transmission system and wholesale electricity market are planned and operated in a reliable and efficient manner for the benefit of all Albertans.

Proposed Converter Stations

A converter station is needed at each end of the line to convert power from alternating current (AC) to direct current (DC), and from DC to AC.

The northeast converter station is to be located near AltaLink's planned Heartland substation in the Gibbons-Redwater area.

The southeast converter station is to be located near transmission lines in the vicinity of AltaLink's existing West Brooks substation in the Brooks area.

Each of the converter stations will consist of a fenced area of about 500 by 500 metres (1640 by 1640 feet), containing transformers, breakers, converter valves, reactors, filters and related support equipment and structures.

Each site requires enough property to accommodate the converter station, the incoming HVDC line, and the 240 kV or 500 kV AC lines that will connect each station to the existing transmission system.

Study areas for the converter stations are shown on the detailed maps (enclosed). The image below is a photo of a typical 500 kV HVDC converter station.

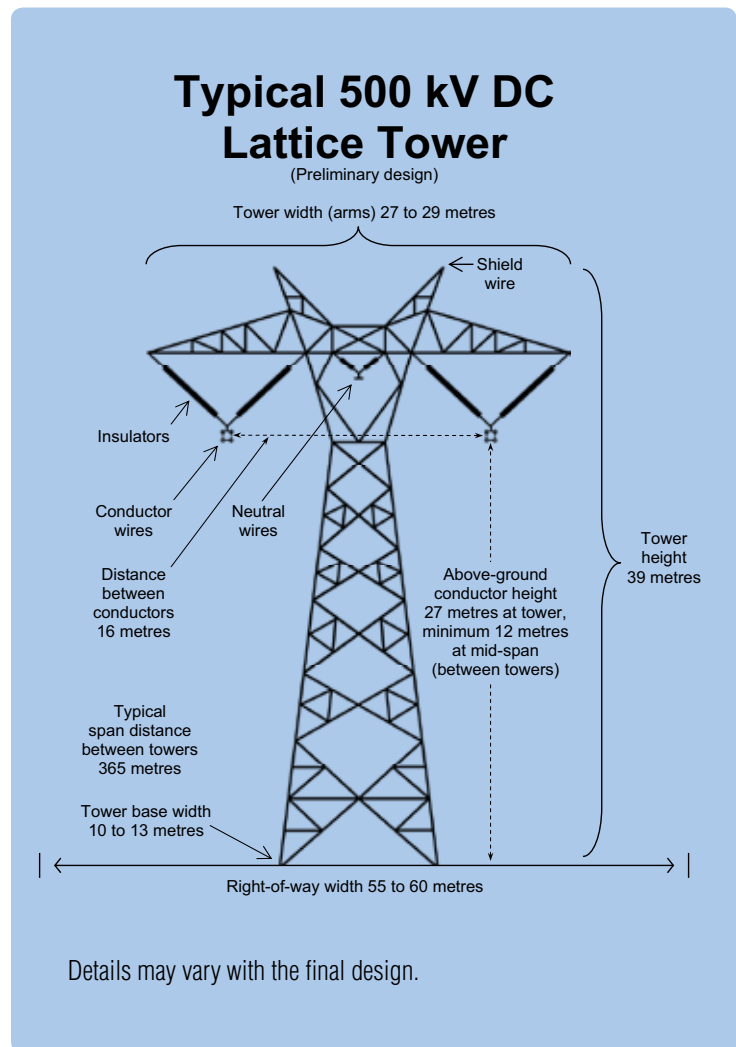


500 kV HVDC Transmission Line

The new ± 500 kV HVDC bipole transmission line will be built between the Gibbons-Redwater area northeast of Edmonton and the Brooks area southeast of Calgary. Depending on the final route, the line will be approximately 500 kilometres in length.

This line will consist of two sets of conductor wires (each set being a “bundle” of four wires), a bundle of two neutral wires, and two overhead shield wires, all strung on steel lattice towers. The typical structure will be approximately 39 metres (128 feet) tall and approximately 27 to 29 metres (89 to 95 feet) wide at the arms. The base of the structure will be approximately 10 to 13 metres (33 to 43 feet) square. The typical distance between structures will be about 365 metres (1200 feet).

Wider and taller structures are required where the line ends or bends and to go over and around obstacles. In all cases minimum clearance will meet or exceed the requirements of provincial safety regulations.

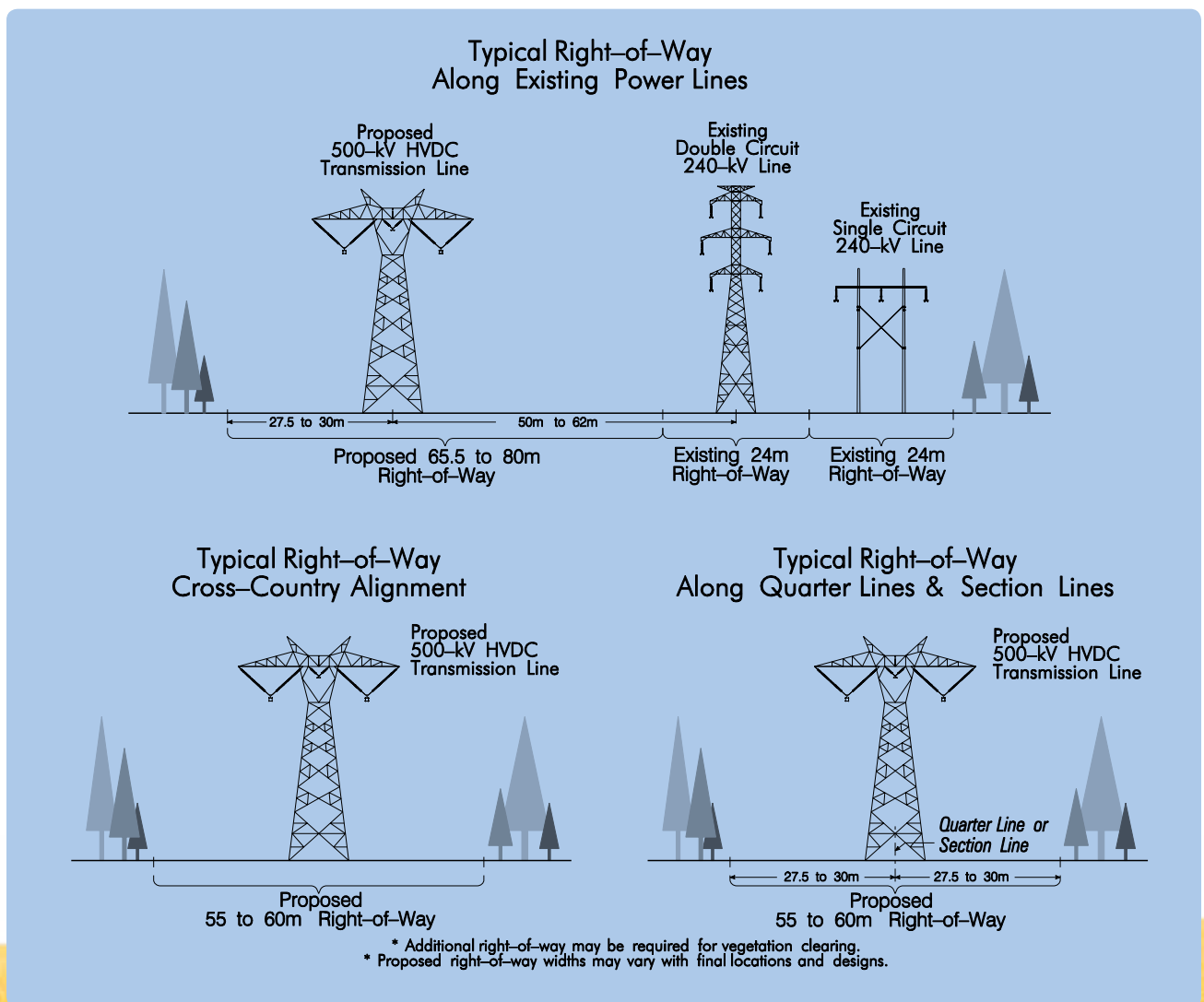


Typical Right-of-Way

The area where transmission lines are located must be kept clear of trees and other obstacles. This area is called a “right-of-way”. The right-of-way must have a minimum width to ensure safe separation from other development and to allow access for construction and maintenance. Typical right-of-way widths and structure placements are shown on the diagrams below.

Details may change with the final design and actual locations.

Additional right-of-way may be required for locations that require larger structures, removal of taller trees, or where practical access to or along the right-of way is outside the standard width.



Route and Site Selection

We have identified several preliminary route options for the 500 kV HVDC transmission line and have identified study areas for the converter stations and associated facilities.

Preliminary route options and study areas are shown on the enclosed overview map, and on a set of more detailed base and photo maps.

In selecting the preliminary route and site options, we have tried to:

- minimize impacts on residences as much as possible;
- follow property boundaries wherever possible to minimize impacts to agriculture and other land uses;
- follow other power transmission lines and corridors where feasible;
- minimize impacts on other developments such as urban/built-up areas, highways, oil and gas operations and communication facilities; and
- minimize impacts to environmentally sensitive areas such as waterbodies, wet or steep areas, wildlife habitat, designated historical sites, parks and other protected areas.

Other options for transmission line routes and/or converter station sites may be considered if identified through our consultation process.

The preferred route and sites will be identified after we have considered consultation feedback and concerns.

Consultation

We are committed to responsible development, and to conducting an open and transparent consultation process. The first step in this process is to provide you this project information package and invite your feedback. We have scheduled open houses in areas near the preliminary routes and converter sites and encourage you to attend to learn more about the project and give us your input. (See the enclosed open house schedule).

In addition, if your property is on or immediately adjacent to any of the preliminary routes, one of our representatives will contact you to arrange a personal meeting to discuss your concerns.

We carefully consider the concerns identified, and the potential impacts to landowners, communities and the environment before selecting a preferred route or site.

Facility Application Process

Once the preferred transmission line route and converter station sites have been identified, ATCO Electric will submit a facility application to the Alberta Utilities Commission (AUC) to obtain approval for the construction and operation of the proposed transmission facilities.

For more information about how you can participate in the process, please refer to the enclosed AUC brochure entitled, “Public Involvement in Needs or Facilities Applications.”

The enclosed information sheets, “HVDC Transmission Lines On Or Near Your Property”, provide more information about the route planning, consultation and regulatory process along with answers to many of the commonly asked questions.

Other potential transmission developments in the vicinity of the Eastern Alberta HVDC Transmission Project

PROJECT	OWNER	STATUS (MAY 2010)
Gibbons-Redwater Area		
Heartland Transmission Project (500 kV AC double circuit)	Heartland Transmission (AltaLink/EPCOR)	Need approved as part of critical transmission infrastructure, route consultation underway.
Heartland Substation and 240 kV Transmission Line	AltaLink	Need approved as part of critical transmission infrastructure, route consultation underway.
Northwest Upgrading Facility 240 kV (Fort Saskatchewan Area)	AltaLink	AESO Application for Need being reviewed by AUC.
Heartland to Fort McMurray (500 kV AC)	To be determined	Need approved as part of critical transmission infrastructure, not yet assigned by AESO.
Eastern and Central Alberta		
Hanna Region Transmission Development: Anderson to Oakland (240 kV) Oakland to Lanfine (240 kV) Oakland to Coyote Lake (240 kV)	ATCO Electric	Need approved by AUC, route consultation underway.
Central East Alberta Transmission Development: Alliance/Battle River (144 kV)	ATCO Electric	AESO Application for Need being reviewed by AUC.
Halkirk to Tinchebray 240 kV (Greengate Power - wind project)	ATCO Electric	AESO Application for Need being reviewed by AUC.
Brooks Area		
West Brooks Area to East Medicine Hat (240 kV)	AltaLink	Need approved by AUC, route consultation underway.
West Brooks Area to Ware Junction (240 kV)	AltaLink	Need approved by AUC.
Brooks Transmission Line (138 kV)	AltaLink	Need approved by AUC, facility application being reviewed by AUC.
To find out more about how these projects fit into AESO's transmission plan for the province, contact AESO at 1-888-866-2959 or at stakeholder.relations@aeso.ca		

Other potential HVDC transmission developments

PROJECT	OWNER	STATUS (MAY 2010)
Western Alberta Transmission Project (500 kV HVDC)	AltaLink	Need approved as part of critical transmission infrastructure, route consultation underway.
To find out more about how this project fits into AESO's transmission plan for the province, contact AESO at 1-888-866-2959 or at stakeholder.relations@aeso.ca		

ATCO Electric

Albertans have counted on us for the safe, reliable and cost-effective delivery of electricity to their homes, farms and businesses for more than 80 years.

Headquartered in Edmonton, ATCO Electric has 38 service offices serving almost two-thirds of the province in northern and east-central Alberta.

We help keep the lights on across the province by building, operating and maintaining more than 69,000 kilometres of transmission and distribution power lines. We also operate 12,000 kilometres of distribution power lines on behalf of Rural Electrification Associations.

We are committed to responsible development and environmental practices. We conduct an open and transparent consultation process, carefully considering the impacts to landowners, communities and the environment.

ATCO Group

ATCO Electric is part of the ATCO Group of Companies. The Alberta-based ATCO Group delivers service excellence and innovative business solutions in Alberta and worldwide with leading companies engaged in Utilities (electricity and natural gas transmission and distribution), Energy (power generation, natural gas gathering, processing, storage and liquids extraction), Structures & Logistics (manufacturing, logistics and noise abatement) and Technologies (business systems solutions).

ATCO companies have offices and employees in over 100 Alberta communities that provide critical services to almost every community in the Province of Alberta.

ATCO and its 7,500 people are committed to the communities where we have the privilege to serve. From community investment and education programs to an unwavering commitment to safety and the environment, ATCO helps build strong Alberta communities.

To learn more about the ATCO Group of Companies, please visit www.ATCO.com.

Proposed Timeline

May to August 2010

Consultation with landowners and agencies along all route options.

August 2010

Selection of preferred site and route options.

September to November 2010

Additional consultation with all landowners and agencies along preferred route(s).

December 2010

Submission of the facility application to the Alberta Utilities Commission (AUC).

January 2012

Start construction, provided AUC approval is granted and right-of-way has been obtained.

December 2013

Facilities completed and operating.

Timing may be adjusted to reflect final plans.

November 2010

Included in this package*:

- Cover Letter (November 9, 2010)
- Project Information brochure (May 2010, modified with this sticker)
- HVDC Transmission Lines On Or Near Your Property (Information Sheets, May 2010)
- Facts About Direct Current Transmission Lines (May 2010)
- Revised Maps (one overview map & three photo/base maps, Nov. 2010)
- ATCO Electric Works For You brochure
- Alberta Utilities Commission brochure - Public Involvement in Needs or Facilities Applications
- Reply Form and postage paid envelope
- Project Update (September 2010)

* Outdated or superceded items from the original May 2010 information package (cover letter, open house notice, and original maps) are excluded from this package.



Contact Us

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ATCO Electric
10035-105 Street
Edmonton, AB T5J 2V6

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