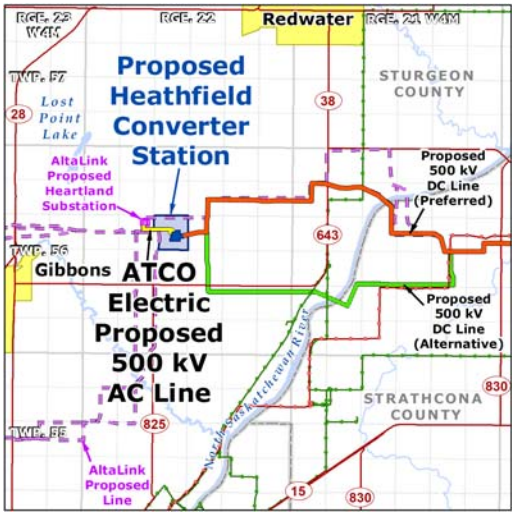
March 2, 2011

Eastern Alberta DC Transmission Line: Heathfield Converter Station and AC Transmission Line



Project Overview

ATCO Electric is planning to build a 500 kilovolt (kV), DC transmission line between the Gibbons-Redwater area northeast of Edmonton and the West Brooks area southeast of Calgary. The project includes a converter station at each end to convert power from AC to DC, and AC transmission lines to connect the project to the rest of the transmission system.

The facilities at the north end of the project include:

- The **Heathfield converter station** (previously called the **Northeast converter station)**.
- A **500 kV AC double circuit transmission line** from the Heathfield converter station to the Heartland substation.

Why are you receiving this project information package?

As part of the ATCO Electric's Eastern Alberta DC Transmission Line project, a converter station is required in the Gibbons-Redwater area to convert power from alternating current (AC) to direct current (DC), and a short 500 kV AC transmission line is required to connect the converter station to the electrical grid at AltaLink's proposed Heartland substation.

We have prepared this information package for landowners, occupants, agencies and interested parties located near the proposed converter station and AC transmission line. We invite any comments, questions or concerns you may have.

Your comments and concerns are important to us. Please contact us:

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Fax: 780-420-3666
Email: HVDC@atcoelectric.com
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Regulatory Process

ATCO Electric has been directed by the Alberta Electric System Operator to prepare an application to the Alberta Utilities Commission (AUC) for a 500 kV DC transmission line between the Edmonton and Calgary areas on the eastern side of the province. The proposed Heathfield converter station and AC transmission line described here will be included in the application.

For more information on how you can participate in the application process please refer to the enclosed AUC brochure *Public Involvement in Needs or Facilities Applications*.

A separate approval process is required by Industry Canada for the telecommunications tower which will be located within the converter station site. General information relating to antenna systems is provided on Industry Canada's Spectrum Management and Telecommunications website at: http://strategis.ic.gc.ca/antennae.

Typical 500 kV DC Converter Station

Heathfield Converter Station 2029S

The proposed Heathfield (previously "Northeast") converter station is needed to convert power from AC to DC, and is to be located near AltaLink's proposed Heartland substation east of Gibbons.

The proposed converter station site is located at Section 21, Township 56, Range 22-W4M, across the road from the Heartland substation property (see photo detail map PD2-01N$_{R1}$), in the Heartland industrial zone within Sturgeon County.

The converter station site requires sufficient area to accommodate the 500 kV DC terminal and 500 kV AC substation equipment, the incoming Eastern Alberta 500 kV DC line 13L50, and the 500 kV AC line (12L70/12L85) that will connect the converter station to the proposed Heartland substation.

The converter station will consist of a fenced area of about 500 by 500 metres containing transformers, breakers, a converter valve hall, reactors, filters, a telecommunications tower, an emergency/back-up generator, control buildings, and related support equipment and structures.

The converter will have an initial capacity of 1000 megawatts (MW) but the station will be designed to accommodate additional capacity in the future with minimal expansion of the initial fenced area.

Site Selection

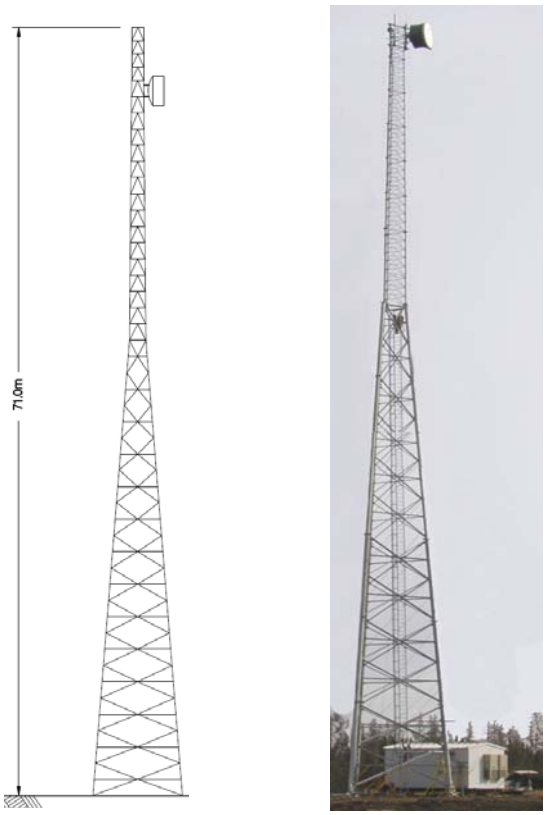
The site was selected to meet a number of criteria:

- As close as possible to the Heartland substation to minimize the length of AC connections.
- Sufficient area for converter station development.
- Suitable site conditions (level, well-drained).
- Adequate setback from residences and adjacent development.
- Avoidance of environmentally sensitive areas.

Telecommunications Tower Details

A telecommunications tower is needed at the Heathfield converter station to communicate with ATCO Electric's radio and data communication regional network and with AltaLink's network at the proposed Heartland substation. The tower, located within the fenced area of the converter station, will be a self-supported structure about 71 metres tall and about 7 metres wide at the base. The tower will support two microwave antenna dishes and related communications equipment. Examples of towers with one dish are shown to the right.

The new tower will have lighting to meet Transport Canada aeronautical safety requirements and will be operated in compliance with Health Canada's *Safety Code 6* for the protection of the general public and local radio signals. Design and construction will meet applicable standards and will follow good engineering practices including structural integrity.



Typical Telecommunications Tower

Back-up Generator

The converter station will include a back-up diesel generator to supply emergency power for lighting, heating and communications in the event of a regional power blackout. As unlikely as such an event may be, certain components in the converter system cannot be allowed to freeze, and lighting and communications are critical to restoring operation. Except during such an emergency, the generator would operate for about 30 minutes once a month to confirm that it will operate when needed.

The generator planned for this site would have capacity of about 1250 kilowatts, and would include associated cabling, controls, and fuel storage tanks with appropriate spill containment features.

Typical Back-up Generator

500 kV AC Transmission Line 12L70/12L85

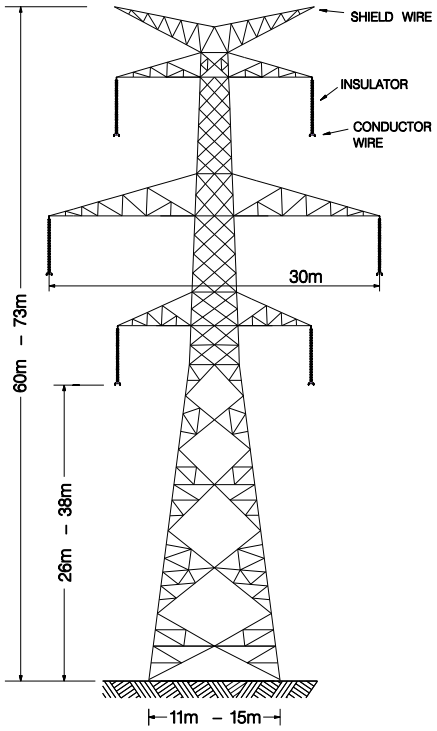
The Heathfield converter station will be connected to the electric system by a short 500 kV AC double circuit transmission line between the converter station and AltaLink's proposed Heartland substation as shown on photo detail map PD2–01N$_{R1}$.

This line will be approximately 1600 metres in length and constructed using steel lattice towers as shown below. Depending on final survey and design, there would be approximately two or three of each of the two structure types shown.

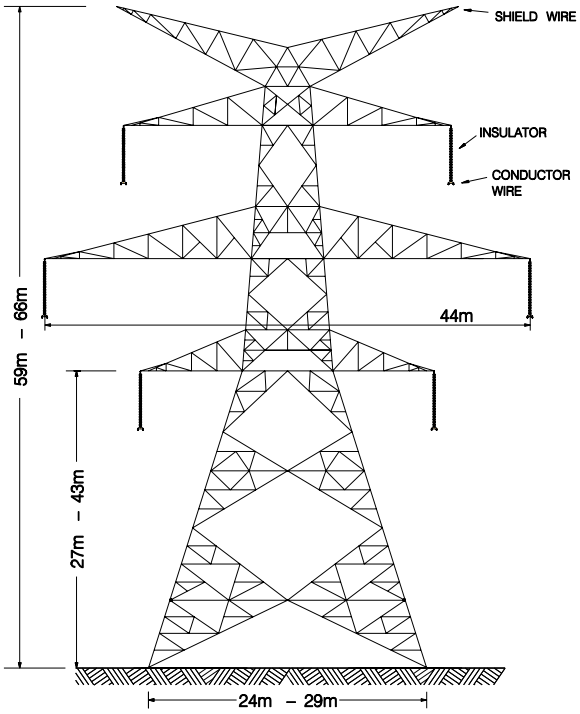
The structures will carry two 500 kV AC circuits. Each circuit will be comprised of three bundles of three 1590 MCM Falcon conductor wires, with the capacity to carry 3464 MVA (megavolt-amperes) on each circuit. The line will have two overhead shield wires for lightning protection. One of the shield wires will incorporate fibre optic cable to facilitate communications between substations.

The structure designs are the same as those to be used for AltaLink/EPCOR's Heartland 500 kV AC transmission line.

500 kV AC Double Circuit
Tangent Tower
(straight alignments)



Typical 500 kV AC Double Circuit
Deadend Tower
(corners and termination points)



Typical Span Between Towers: 365 metres

Minimum above-ground conductor height: approx. 22 metres at tower 12 metres between towers (higher where required per safety codes).

Details may vary with final designs.

Routing and Right-of-Way

The routing of the transmission line will be as direct as possible across ATCO Electric's converter station property and AltaLink's substation property. For over half its length, the line would parallel AltaLink/EPCOR's preferred route for the proposed Heartland 500 kV AC transmission line. Where the two lines run in parallel, structure locations would match those planned for the AltaLink/EPCOR line as closely as possible to minimize the visual impact when viewed from the north or south.

The standard minimum right-of-way is 70 metres wide (35 metres each side of centre line). Where the line parallels the AltaLink/EPCOR transmission line, additional right-of-way would be required for safe separation between the lines, as shown on the drawing to the right.

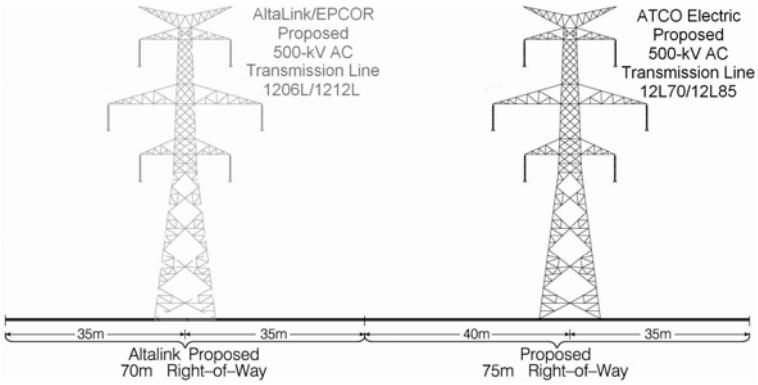
Connection of ATCO Electric's proposed 500 kV AC line at Heartland substation will require minor alterations to AltaLink's proposed substation layout, and a minor adjustment of the alignment of the AltaLink/EPCOR 500 kV AC line as it enters the Heartland substation. Details of these alterations will be provided separately by AltaLink.

Environmental Considerations

Construction, reclamation and subsequent activities will all be carried out in accordance with Alberta Environment's *Environmental Protection Guidelines for Electric Transmission Facilities*.

We will ensure that the converter station and transmission line are designed to meet the noise limits set by the AUC.

Proposed Right-of-Way and Alignment Adjacent to AltaLink/EPCOR Proposed Line



Additional Information

Selected Information Sheets (*Transmission Lines On Or Near Your Property*) will provide more information about typical transmission construction, environmental considerations, electrical effects and AC electric and magnetic fields (EMF).

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.

In addition, if your property is on or immediately adjacent to the converter station site or transmission line, one of our representatives will contact you to arrange a personal meeting to discuss your concerns.

Following a review of the feedback received ATCO Electric expects to file a Facility Application to the AUC in the spring of 2011 to obtain approval for the construction and operation of these transmission facilities.

Proposed Timeline*

February 2011

Consultation with landowners and agencies within 800 metres of the converter station site or transmission line.

Spring 2011

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

Early 2012

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

Mid to Late 2014

Facilities completed and operating.

*Timing may be adjusted to reflect final plans.

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.

Included in this package:

- Project Information
- Information Sheets: *Transmission Lines On Or Near Your Property*, Sheets 5, 7, 8 and 9
- Photo Detail Map PD2-01N$_{R1}$
- AUC Brochure: *Public Involvement in Needs or Facilities Applications*
- Reply Form and Envelope