

Electric system improvements near you

South and West of Edmonton Area Transmission Development

HARRY SMITH 367S SUBSTATION AND TRANSMISSION LINES

DID YOU KNOW?

According to the Canadian Electricity Association, Canada's electricity grid was built for a population of about 20 million, but is today servicing around 35 million people. Provinces across Canada, including Alberta, are working to reinforce their aging electric systems so they can continue to provide customers with reliable power.

You are receiving this newsletter because you are near the Harry Smith 367S Substation and Transmission Lines project in Parkland County and we want your input.

This project is part of the South and West of Edmonton Area **Transmission Development**. The area south and west of Edmonton has grown significantly in recent years and the demand for electricity has increased. Transmission system reinforcements are required to make sure residents continue to have a reliable supply of electricity for years to come.

More information on the South and West of Edmonton Area Transmission Development can be found on page 7 of this newsletter.

We want to provide you with:

- project details
- information about how you can provide your input
- project schedule
- maps of the proposed development

DEFINITION

Transmission

Transmission lines make up Alberta's electric highway, linking the places where power is generated to where power is used. Transmission lines transport large amounts of power over long distances across the province. The transmission system connects diverse sources of power generation including wind, high-efficiency coal, natural gas and more.

CONTACT US

1-877-267-1453

stakeholderrelations@altalink.ca

Visit us online at

www.altalink.ca/regionalprojects

DEFINITION

Kilovolt (kV)

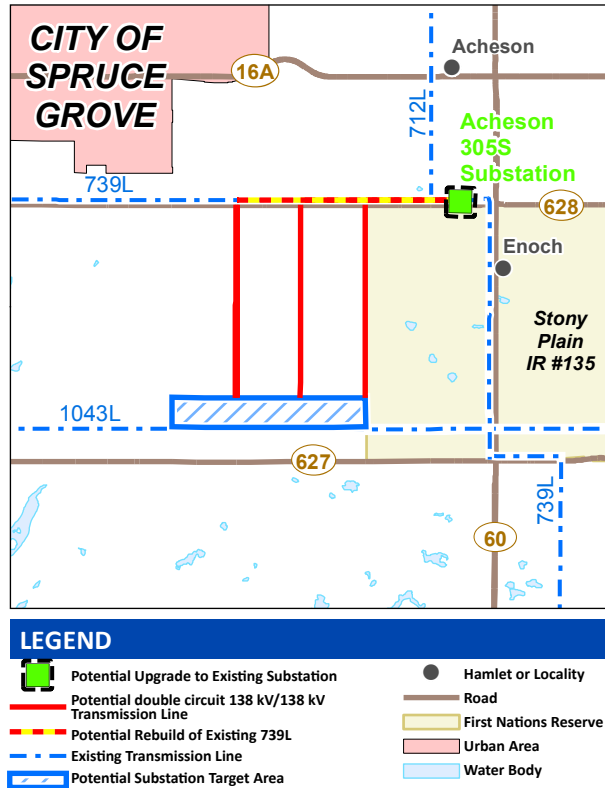
A kilovolt is equal to one thousand volts and is commonly used when describing transmission and distribution lines. AltaLink's transmission lines range from 69 kV (69,000 volts) to 500 kV (500,000 volts). Light bulbs typically range from 120 to 300 volts.

HARRY SMITH

Harry Smith (1949-2011) was a colleague, friend, mentor and inspiration to many people at AltaLink and its predecessor companies, TransAlta Utilities and Calgary Power.

Upon joining Calgary Power in 1970 as a substation crewman, Harry Smith quickly developed expertise in the design, construction and maintenance of substations. Over his 41 year career in the transmission industry, Harry earned a reputation as the corporate expert and memory for all things related to substations and the respect of colleagues from all levels in AltaLink and the wider industry.

Harry's legacy will live on through the many individuals in the transmission industry who learned so much from this dedicated, humble and skilled professional. AltaLink is pleased to recognize Harry Smith with the naming of this substation in his honour. It is a gesture as enduring as the contribution Harry Smith has made to building Alberta's dependable power grid.



Project details

The Harry Smith Substation and Transmission Line project will be located to the west of Edmonton and south of Spruce Grove. The project includes the following components:

- a new 240 kV/138 kV substation to be called Harry Smith 367S Substation
- upgrade and expansion of the existing Acheson 305S Substation
- construction of 138 kilovolt (kV) transmission lines to connect the Harry Smith 367S Substation to the existing Acheson 305S and Stony Plain 434S Substations
- construction of two new 240 kV transmission line connections between the existing 1043L transmission line and the Harry Smith 367S Substation

In its present state, the electric system in the area south and west of Edmonton does not have the capacity to meet the anticipated growth in the area. These upgrades to the electric system will help support industrial power demands and ensure residences continue to have a reliable supply of electricity.

New Harry Smith Substation

The proposed Harry Smith Substation will connect to high-voltage transmission lines and help bring electricity directly to homes, businesses and industrial facilities.

The **substation** will be located on a site approximately 400 x 400 metres (1315 x 1315 feet) with a fenced area that is approximately 160 x 110 metres (525 x 360 feet). AltaLink is proposing a substation site of this size to accommodate the ultimate configuration of the substation and future transmission lines.

After a review of the project area, we have identified the substation target area because it provides low overall impact substation site options within the study area. The substation target area also provides opportunities to reduce new transmission line lengths by having short connections within the target area to both the existing 240 kV transmission line (1043L) and to the potential 138 kV transmission line routes to the 739L line and the Acheson 305S Substation. The substation is proposed to be located within the target area that we have identified. The input that we will gather through consultation will help us to confirm potential substation locations and transmission line routes within the substation target area.

If through consultation other locations are identified for the substation, AltaLink will investigate those suggestions. Your input is an important part of our decision making process and will help us to confirm potential substation locations and transmission line routes within this area.

Please see the maps included in this package to view the Substation Target Area.

New transmission lines

AltaLink is proposing to build two new 138 kV transmission lines. The first new line will connect the Harry Smith 367S Substation to the existing Stony Plain 434S Substation. This connection will be made using a new double circuit 138kV/138kV transmission line between the Harry Smith 367S Substation and the existing 739L line, and modifying a portion of the existing 739L single circuit 138kV transmission line from the connection point to Acheson 305S Substation.

The second new 138kV transmission line will connect the Harry Smith 367S Substation to the existing Acheson 305S Substation.

DEFINITION

Substation

Substations are the connection points between power lines of varying voltages and contain equipment that controls and protects the flow of power. Substations include transformers that step down and step up the voltage so power can be transmitted through transmission lines or distributed to your community through distribution lines.



The proposed Harry Smith Substation will look similar to the one pictured here



Above: 138 kV double circuit transmission structure



Above: 240 kV single circuit transmission structure

DEFINITION

Circuit

A circuit is a group of wires that electricity flows through. The wires are strung along power line structures. Transmission line structures can be described as single or double circuit. In a single circuit transmission line, three single or bundled wires are strung along the transmission structures. A double circuit transmission line has six single or bundled wires strung along the structures.

AltaLink is also proposing two new 240 kV transmission lines to connect the Harry Smith 367S Substation to the existing 1043L transmission line.

We have included a map in this package that indicates where the two potential (double circuit) 138 kV transmission line routes may connect from the boundary of the Substation Target Area to the existing 739L line and Acheson 305S Substation. We will propose routing within the Substation Target Area for the new 138 kV and 240 kV lines after receiving input from stakeholders and potential substation sites have been confirmed.

Your input will help us to select low overall impact route options to connect the Harry Smith 367S Substation to both the existing Stony Plain 434S and to the Acheson 305S Substations.

Transmission structures

The transmission line structures for the new 138 kV lines will look similar to the ones pictured to the left. The final design for these structure types will be determined after further engineering.

The new 138 kV structures will be double **circuit** steel monopoles. They will be approximately 20-35 metres (65-115 feet) tall and where they are located off road allowance they require a right-of-way of approximately 20 metres (65 feet).

The transmission line structures for the new 240 kV lines will look similar to the ones pictured to the left. The final design for these structure types will be determined after further engineering.

The 240 kV structures will be single circuit steel pole H-Frames. They will be approximately 15-25 metres (50-80 feet) tall and have a right-of-way of approximately 30 metres (115 feet) for each line.

A telecommunications tower may also be required at the Stony Plain 434S Substation. If the tower is necessary, you will be contacted with specific details for the tower project.

Recent Projects in the area

In 2010, AltaLink proposed the alternate route for the Heartland Transmission Project through this area. That project proposed a double circuit 500 kV transmission line with steel lattice towers 50-60 metres (165-195 feet) tall. The preferred route for the Heartland Transmission Project which runs from Ellerslie Substation east through the Edmonton Transmission/Utility Corridor (TUC) to the Heartland Industrial Area was approved by the Alberta Utilities Commission (AUC) in 2011 and is currently under construction.

AltaLink is also planning to build a new substation to be called Spruce Grove 595S in the Acheson/Spruce Grove area. The project involves building 300 metres (985 feet) of new 138 kV transmission line, building a telecommunications tower within the proposed substation and the replacing the existing telecommunications tower in the Acheson 305S Substation.

How to provide your input

Stakeholder input is critical to identifying the lowest overall impact route or substation location or solution for this project. You can provide your input in any of the following ways.

ATTEND OUR OPEN HOUSE

Please join us at our open house. We will be available to share information, gather your input and respond to any questions or concerns you might have.

Date: Tuesday, September 24, 2013
Time: 3:30 - 7:30 p.m.
Location: Sand Hills Community League,
52032 Range Road 270, Spruce Grove, AB

PARTICIPATE IN A ONE-ON-ONE CONSULTATION

We will contact all occupants, residents and landowners who are on or directly adjacent to the potential substation and transmission line connection target areas to gather input through one-on-one consultations.

During the one-on-one process we will document the information you provide and respond to any questions or concerns you may have about the project.



Above: Comparison of structures between the Heartland project and the Harry Smith (HS) project. (top to bottom) 500 kV lattice structure (Heartland); 240 kV H-Frame (HS); 138 kV steel monopoles (HS)

DEFINITION

Alberta Utilities Commission

The Alberta Utilities Commission (AUC) ensures the fair and responsible delivery of Alberta's utility services. AltaLink submits applications for new transmission projects to the AUC and the AUC reviews them in a public process.

DEFINITION

Facilities Application

AltaLink submits Facilities Applications to the AUC for review. A Facilities Application describes how AltaLink proposes to meet the requirements for a transmission project. It includes routing details, results of the participant involvement program and technical details. Facilities Applications must be approved by the AUC before construction can begin.

DEFINITION

Alberta Electric System Operator

The Alberta Electric System Operator (AESO) is an independent, not-for-profit organization responsible for the safe, reliable and economic planning and operation of the provincial transmission grid. For more information about why this project is needed, please refer to the AESO's Need Overview included with this package, or visit www.aeso.ca. If you have any questions or concerns about the need for this project you may contact the AESO directly or you can make your concerns known to an AltaLink representative who will communicate them to the AESO on your behalf.

AltaLink is committed to sharing information about its projects and working with the public to gather and respond to stakeholder input and concerns. A summary of stakeholder comments will be incorporated into the application we submit to the [Alberta Utilities Commission \(AUC\)](#).

CONTACT US DIRECTLY

You can contact us by telephone, email, mail or through our website. Our contact information is on the front and back pages of this newsletter.

Next steps

After our consultation process is complete, we will file a [Facilities Application](#) with the AUC and it will be reviewed through a process in which stakeholders can participate.

The [Alberta Electric System Operator \(AESO\)](#) determined this project was needed and filed a Needs Identification Document (NID) with the AUC in December 2012. Please visit the AESO's website at www.aeso.ca to view the Needs Identification Document (NID).

To learn more about the AUC process and how you can become involved, please refer to the brochure included in this package titled *Public Involvement in Needs or Facilities Applications*.

Why is this project needed?

The Harry Smith Substation and Transmission Lines project is part of the South and West of Edmonton Area Transmission Development to reinforce the 138 kilovolt (kV) transmission system south and west of Edmonton.

The AESO has identified the need to reinforce the transmission system in the Leduc, Parkland and Strathcona Counties, as well as the Greater Edmonton area.

The South and West of Edmonton Area Transmission Development will allow the transmission system to meet the increased electricity demand in the area. This development will help support industrial power demands and ensure residences continue to have a reliable supply of power.

Other South and West of Edmonton Area Transmission Development projects in the area

AltaLink is working on several projects in the area, as part of the South and West of Edmonton Area Transmission Development, to make sure your lights come on at the flick of the switch.

Project name	Description	Status
Saunders Lake 289S Substation and Transmission Lines	This project involves building a new substation and new 138/240 kV transmission lines east of Leduc and south of Edmonton near Nisku	Consultation began in June 2013
Cooking Lake 138 kV Transmission Line	This project involves building a new 138 kV transmission line from the south of Edmonton to east of Beaumont.	Consultation began in July 2013

More information on these projects will be available on our website at www.altalink.ca/regionalprojects



Anticipated project schedule

Notify and consult with stakeholders	Summer 2013-Summer 2014
File application with Alberta Utilities Commission (AUC)	Fall 2014
Start construction if project is approved	Fall 2015
Complete construction	Fall-Winter 2016

Although we attempt to follow the anticipated project schedule it is subject to change. We will continue to provide you with updated schedule information as the project progresses.

Electric and Magnetic Fields (EMF)

AltaLink recognizes that people have concerns about exposure to Electric and Magnetic Fields (EMF) and we take those concerns very seriously. Everyone in our society is exposed to EMF from many sources, including:

- power lines and other electrical facilities
- electrical appliances in your home
- building wiring

National and international organizations such as the World Health Organization and Health Canada have been conducting and reviewing research about EMF for more than 40 years. Based on this research, these organizations have not recommended the general public take steps to limit their everyday exposure to EMF from high voltage transmission lines. If you have any questions about EMF please contact us.

Website: www.altalink.ca/emf
 Email: emfdialogue@altalink.ca
 Toll-free phone number: 1-866-451-7817

ROUTES AND SUBSTATION SITES SELECTION

When identifying route and substation site options, AltaLink takes several factors into consideration in an effort to find routes or sites with the lowest overall impact. Some of the factors we take into consideration include:

- agricultural
- residential
- environmental
- electrical
- cost
- visual
- special considerations

Please let us know what other factors are important to you so we can consider them when refining route options.



INCLUDED IN THIS
INFORMATION
PACKAGE:

- Project map
- AESO Need Overview
- AUC brochure: *Public Involvement in Needs or Facilities Applications*

AltaLink

AltaLink's transmission system efficiently delivers electricity to 85% of Albertans. Dedicated to meeting the growing need for electricity, AltaLink connects Albertans to renewable, reliable and low-cost power. With a commitment to community and environment, AltaLink is ensuring the transmission system will support Albertans' quality of life for years to come. Learn more at www.altalink.ca

ALTALINK

2611 - 3rd Avenue SE
Calgary, Alberta T2A 7W7

Let's talk transmission

[www.facebook.com/
altalinktransmission](http://www.facebook.com/altalinktransmission) 

www.twitter.com/altalink 

More information

To learn more about the proposed project, please contact:

ALTALINK

AltaLink at 1-877-267-1453 (toll free)
Email: stakeholderrelations@altalink.ca

To learn more about Alberta's electric system and the need for the project, please contact:

ALBERTA ELECTRIC SYSTEM OPERATOR (AESO)

1-888-866-2959 (toll-free)
Email: stakeholder.relations@aeso.ca
Website: www.aeso.ca

To learn more about the application and review process, please contact:

ALBERTA UTILITIES COMMISSION (AUC)

780-427-4903
(You can call toll-free by dialing 310-0000 before the number).
Email: consumer-relations@auc.ab.ca

