



September 2019

# **NEWSLETTER** **TO THE COMMUNITY**

**Provost to Edgerton and  
Nilrem to Vermilion (PENV)  
Transmission Development**

*Provost to Edgerton*



**NEW  
PROJECT  
IN YOUR AREA**

You are receiving this newsletter because you are near the Provost to Edgerton and Nilrem to Vermilion Transmission Development and we want your input.



## IMPORTANT

If you have any questions regarding the need for this project, please contact the AESO directly at [stakeholder.relations@aeso.ca](mailto:stakeholder.relations@aeso.ca) or 1.888.866.2959

# Provost to Edgerton and Nilrem to Vermilion (PENV) Transmission Development

We are starting to develop a new **transmission** project in your area – the Provost to Edgerton and Nilrem to Vermilion (PENV) Transmission Development – and we want your input.

On April 10, 2019, the Alberta Utilities Commission (AUC) approved the Alberta Electric System Operator’s (AESO) **Needs Identification Document** (NID) for the PENV project.

The AESO’s approved transmission development expands and enhances the transmission system in the Provost to Edgerton and Nilrem to Vermilion areas to maintain reliable electricity supply, accommodate load growth and provide reasonable options for future generation access in the area.

AltaLink has been directed by the AESO to identify potential locations for new electricity facilities and prepare a **Facilities Application** for this project. We are in the early stages of our consultation process which includes investigating and gathering feedback on preliminary route and structure options.

To further explain this project, this newsletter includes:

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



## DEFINITIONS

### 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.

### Needs Identification Document

The AESO submits Need Identification Documents (NIDs) to the AUC for review and approval. A NID describes why a transmission project is required. The AUC must approve a NID before construction can begin.

### 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.

# Project details

AltaLink’s portion of the proposed PENV Transmission Development is located in Flagstaff County, the Municipal District (MD) of Wainwright, the MD of Provost, the County of Minburn and the County of Vermilion River. It includes two separate developments:

## Provost to Edgerton:

- Approximately 45-60 kilometres of new 240 kilovolt (kV) transmission line from the Hansman Lake Substation located west of the Town of Provost to the Edgerton Substation located north of the Village of Edgerton
- Modifications at the existing Hansman Lake and Edgerton substations

## Nilrem to Vermilion:

- Approximately 65-85 kilometres of new 240 kV transmission line from the Nilrem Substation located southeast of the Town of Hardisty to north of the Village of Irma where it will connect to a new line being planned by ATCO Electric
- Modifications at the existing Nilrem Substation

This package includes details about the **Provost to Edgerton** development. For information about the Nilrem to Vermilion development visit our website at [www.altalink.ca/projects](http://www.altalink.ca/projects).

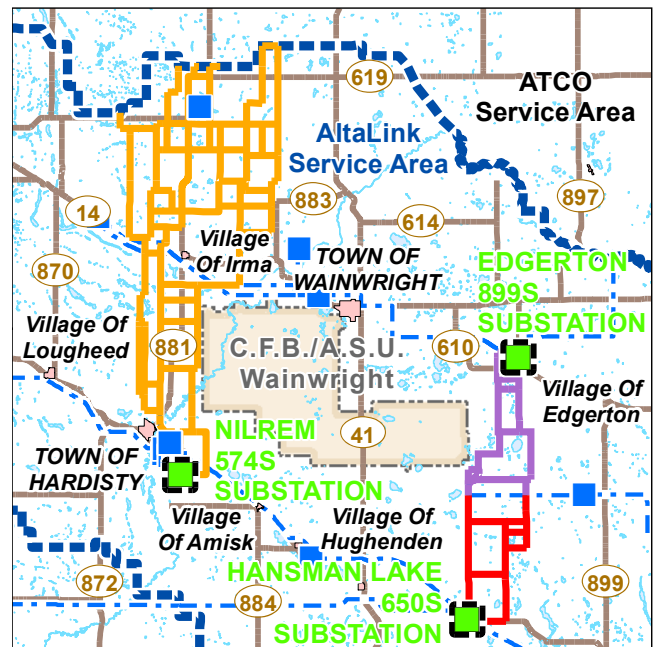
ATCO Electric is also planning a portion of the Nilrem to Vermilion development in its service area. Please see the back of this newsletter for contact information for ATCO Electric if you have questions regarding their project.

**Please note:** The lines in the map above represent several potential route options for each development. Refer to the enclosed maps for a more detailed view of where the lines may be located in your area.

## BUILDING TO MEET DEMAND

This project involves building 240 kV transmission lines. To meet the existing electricity need in the area, the lines will initially be energized at 138 kV, although they will be built so that the voltage can be increased to 240 kV as electricity demand in the area increases.

Additional system upgrades, such as substation modifications, may be required to upgrade the lines to 240 kV. These upgrades are not included as part of this project. The AESO will determine when this is needed and will direct AltaLink to prepare a separate project application for any work that is required at that time.



## LEGEND

- |  |  |  |                            |
|--|--|--|----------------------------|
|  | Potential Substation Upgrade                                     |  | Existing Transmission Line |
|  | Existing Substation  |  | Service Area Boundary      |
|  | Potential Route Option - Provost to Edgerton Component - Stage 1 |  | Road                       |
|  | Potential Route Option - Provost to Edgerton Component - Stage 2 |  | Military Base              |
|  | Potential Route Option - Nilrem to Vermilion Component           |  | Urban Area                 |
|  |  |  | Water Body                 |

## DEFINITIONS

### 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.

### 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.

# Provost to Edgerton – a staged approach

We are proposing to build approximately 45-60 kilometres of new single **circuit** 240 kV transmission line connecting the Hansman Lake Substation, located west of the Town of Provost, to the Edgerton Substation, located north of the Village of Edgerton.

The construction of this development will be staged to align with generation and need milestones in the area. Stage 1 will automatically be built if this project is approved. The AESO manages the Alberta electric system and will continue to monitor generation developments and the need for electricity in the area and will direct AltaLink when it is time to proceed with the construction of stage 2.

## STAGE 1

*Automatically built if project is approved*

### Transmission line

The first portion of the transmission line, which is shown in red on the maps included in this package, will be built from the Hansman Lake Substation to an existing transmission line (called 749AL). The new line will connect to the existing 749AL using an **airbreak**. To accommodate construction of the new line, modifications to some existing lines in the area may be required. These modifications will be determined after further engineering.

### Substation requirements

The existing Hansman Lake Substation is located in SE-1-40-5-W4, approximately 20 kilometres northwest of the Town of Provost. We need to install up to four new **circuit breakers** and make some modifications to the connection points of the existing transmission lines connected to the substation. No modifications to the existing fence line are required.

## STAGE 2

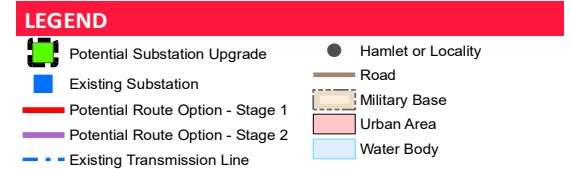
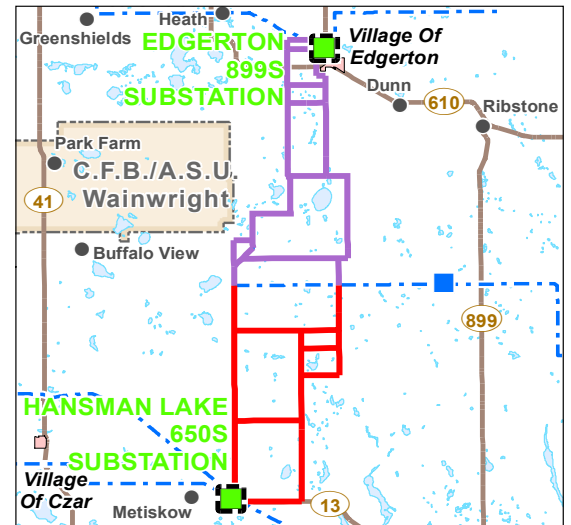
*Built when generation and need milestones are met*

### Transmission line

The second portion of the line, which is shown in purple on the maps included in this package, will be built from the existing 749AL transmission line to the Edgerton Substation. The construction of this portion of the line will be determined when generation and need milestones are met.

### Substation requirements

The existing Edgerton Substation is located in NE-2-44-4-W4 and SE-11-44-4-W4, approximately one kilometer north of the Village of Edgerton. To accommodate the connection of line built as part of Stage 2, we need to add one new 138 kV circuit breaker. We also need to acquire new land to expand the substation fence line approximately 15-20 metres to the west.



A typical airbreak



A typical 138 kV circuit breaker



Existing Hansman Lake Substation



Existing Edgerton Substation

# Route selection


AltaLink takes several factors into consideration in an effort to find a route with low overall environmental, social and economic effects. In addition to stakeholder input we also consider agricultural, residential, environmental, visual and other potential impacts as well as cost.


AltaLink has identified multiple potential route options for the project which take these impacts into consideration. Please let us know what other factors are important to you so we can consider these factors when refining route options.

# Transmission structures

There are two potential structure types that we are proposing for this project that we would like to get your feedback on. We will incorporate stakeholder feedback with additional information gathered through engineering, environmental surveys and a cost analysis to help us identify a preferred structure type.

**Please note:** All dimensions are approximate and subject to change with detailed engineering. For example, most of the structures do not require guy wires; however, a structure at an angle, turn or dead-end may need a guy wire.

SINGLE CIRCUIT MONOPOLE	
	Structure height 25-35 m
Right-of-way width	When on private property: 20-22 m When in road allowance: 11-12 m from the edge of the road allowance
Distance between structures	120-200 m
Can be placed in road allowance*	Yes
Can be placed on private property	Yes

SINGLE CIRCUIT H-FRAME	
	Structure height 25-35 m
Right-of-way width	When on private property: 34 m When straddling the road allowance edge: 17-20 m
Distance between structures	180-275 m
Can be placed in road allowance*	Yes, partially
Can be placed on private property	Yes

*\*Structures that can be placed in road allowance may be completely within road allowance or straddling the road allowance boundary, depending on the specific location and circumstances. Structures in road allowance may also require some right-of-way on private land for maintenance purposes.*

## DEFINITIONS

### Circuit

A circuit is three wires. Transmission line structures can be single or double circuit, and this affects how much electricity the structure carries. Single circuit transmission lines have three wires strung along the structures. A double circuit transmission line has six wires and carries double the amount of electricity.

### Airbreak

An airbreak is a piece of equipment that isolates portions of transmission line so that future maintenance can be performed without the need for outages.

### Circuit breaker

Circuit breakers are electrical switches inside a substation that protect substation equipment. Circuit breakers help ensure the safety and reliability of the electric system.

### Right-of-way

The right-of-way is a strip of land required for the construction and safe operation of a transmission line. A right-of-way refers to the physical space a transmission line encompasses including areas on either side of the line. The majority of the right-of-way can still be used by the landowner. Buildings cannot be placed on the right-of-way, but can be built up to the edge of the right-of-way.



## How to provide your input

---

**Stakeholder input is critical to identifying a low overall impact route for this project. You can provide your input in any of the following ways.**

### ATTEND OUR PUBLIC EVENTS

We want to hear your thoughts and concerns to help us understand what is important to you as we move forward with the project. Please join us at one of our public events in the project area.

Members of our consultation, environment, electrical effects, engineering and siting teams, as well as project managers, will be available to discuss the project during the sessions. The AESO will also be available to answer questions about the need for this transmission development.

### PARTICIPATE IN A ONE-ON-ONE CONSULTATION

We will contact all occupants, residents and landowners who are on or directly adjacent to the proposed transmission line route options 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.

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 back page of this newsletter.

### EVENT INFORMATION

**Wednesday, October 23, 2019 5 - 8 PM**

Edgerton Agricultural Hall  
4915 50th Street, Edgerton, AB

**Thursday, October 24, 2019 5 - 8 PM**

Albert Community Hall  
Range Road 91, south of Township Road 480

### PRIVACY COMMITMENT

AltaLink is committed to protecting your privacy. Your personal information is collected and will be protected under AltaLink's Privacy Policy and Alberta's Personal Information Protection Act. As part of the regulatory process for new transmission projects, AltaLink may provide your personal information to the Alberta Utilities Commission (AUC).

For more information about how AltaLink protects your personal information, visit our website at [www.altalink.ca/privacy](http://www.altalink.ca/privacy) or contact us directly via email at [privacy@altalink.ca](mailto:privacy@altalink.ca) or phone at **1-877-267-6760**.

## Next steps

After our consultation and planning process is complete we will file a Facilities Application with the Alberta Utilities Commission (AUC) and it will be reviewed through a process in which stakeholders can participate.

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 a proposed utility development*.

### ANTICIPATED PROJECT SCHEDULE

#### Notify and consult with stakeholders

September 2019 to May 2020

#### File application with Alberta Utilities Commission (AUC)

June 2020

#### Start construction if project is approved

Stage 1: July 2021

Stage 2: based on generation and need milestones

#### Complete construction

Stage 1: June 2022

Stage 2: based on generation and need milestones

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

## Projects in the area

AltaLink has several projects in the area to make sure your lights come on at the flick of the switch.

PROJECT NAME	DESCRIPTION	STATUS
KXL Keystone Eyre 558S Substation Interconnection	This project involves building a new substation southeast of Houcher Lake and Highway 41, adjacent to TransCanada's Keystone XL Pipeline.	Project approved
Fortis Provost Reliability Upgrade	This project involves building a new transmission line and adding new equipment to substations in the Provost and Wainwright areas.	Project approved
545S Provost Substation Upgrade	One line This proposed project involves equipment upgrades at the existing 545S Provost Substation, located west of the town of Provost.	Project approved

## 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 Health Canada and the World Health Organization 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:

**visit:** [www.altalink.ca/emf](http://www.altalink.ca/emf)

**email:** [emfdialogue@altalink.ca](mailto:emfdialogue@altalink.ca)

**phone:** 1-866-451-7817 (toll-free)

### ONGOING SURVEY WORK

#### ENVIRONMENTAL SURVEYS

From now through spring and summer 2020, AltaLink will be conducting seasonal environmental surveys along the potential routes for the proposed PENV development. The surveys are conducted by helicopter or on the ground. Ground based surveys on private land will only occur after landowner permission is received. When conducting all surveys we work to minimize disruption to residences, area users, livestock and wildlife.

#### GEOTECHNICAL SURVEYS

AltaLink will be conducting geotechnical drilling to perform soil investigation at various locations within the project area as required. Where these activities require access to private property, an AltaLink representative will be in contact with you to request that access.

## CONTACT US

*To learn more about the proposed Provost to Edgerton and Nilrem to Vermilion Transmission Development, please contact:*

### ALTALINK

**1-877-267-1453 (toll-free)**  
**stakeholderrelations@altalink.ca**

AltaLink's transmission system efficiently delivers electricity to 85 per cent 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**.

---

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

### ALBERTA UTILITIES COMMISSION (AUC)

**780-427-4903 (toll-free 310-0000 before the number)**  
**utilitiesconcerns@auc.ab.ca**

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.

---

*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)**  
**stakeholder.relations@aeso.ca**  
**www.aeso.ca/grid/projects/penv**

The AESO is an independent, not-for-profit organization acting in the public interest of all Albertans. They plan Alberta's transmission system, which is made up of the transmission lines, substations and other related equipment that allow electricity to flow from where it is generated to where it is used.

---

*For more information about ATCO Electric's portion of the project, please contact:*

### ATCO ELECTRIC

**1.855.420.5775 (toll-free)**  
**consultation@atcoelectric.com**



## INCLUDED IN THIS INFORMATION PACKAGE:

- Project maps
- AUC brochure:  
*Public involvement in a proposed utility development*

## SUBSCRIBE TO THIS PROJECT

1. Visit **altalink.ca/projects**
2. Search for the project title
3. Click **Subscribe to Updates**

## LET'S TALK TRANSMISSION

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