



June 2020

NEWSLETTER TO THE COMMUNITY

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

Nilrem to Vermilion

UPDATE: Transmission line routes and structure types



**PROJECT
UPDATES
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 to provide you with a project update.



IMPORTANT

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

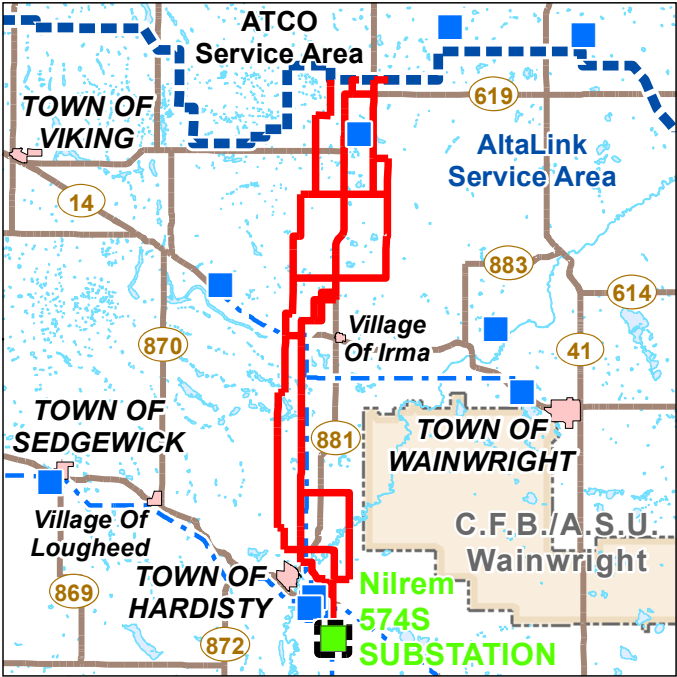
Provost to Edgerton and Nilrem to Vermilion (PENV) Transmission Development

Thank you for your participation in this project, your input is important to us. We began consulting with stakeholders on this proposed project in October 2019. Throughout our consultation process we've received valuable feedback that has helped us in our project planning.

With the input we've received from stakeholders, along with information gathered through ongoing field studies and engineering, we have refined **transmission** line routes and updated the proposed structure types that we will include in the application that we file for this project.

If you are near a route no longer under consideration, you will no longer receive information from us about this project. Please contact us if you have any questions or wish to stay informed. You can also continue to receive updates by subscribing on our website at www.altalink.ca/projects.

Please refer to the maps included with this newsletter to help you identify routes near your property.



LEGEND

	Potential Substation Upgrade		Service Area Boundary
	Existing Substation		Road
	Potential Route Option		Military Base
	Existing Transmission Line		Urban Area
			Water Body

Please note: The lines on the map represent the potential route options that are still under consideration. Please refer to the enclosed maps for a more detailed view of where lines may be located in your area.

Project details

On April 10, 2019, the Alberta Utilities Commission (AUC) approved the Alberta Electric System Operator's (AESO) **Needs Identification Document (NID)** for the Provost to Edgerton and Nilrem to Vermilion (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.

This package includes details about the **Nilrem to Vermilion** development, located in the municipal districts of Wainright and Provost, Flagstaff County and the County of Minburn. You may receive information about the Provost to Edgerton development if it is located near you. You can also learn more about it on our website at www.altalink.ca/projects.

ATCO Electric is also planning a portion of the Nilrem to Vermilion development in its service area. An overview map included in this package shows both AltaLink and ATCO Electric's portions of the Nilrem to Vermilion development. You may receive information from ATCO Electric if their portion of the development is near you. Please see the back of this newsletter for contact information for ATCO Electric if you have questions regarding their project.

If approved, the Nilrem to Vermilion development involves:

- Approximately 70-80 kilometres of new single circuit 240 **kilovolt (kV)** transmission line connecting the Nilrem **Substation**, located southeast of the Town of Hardisty, to a new ATCO Electric line, located north of the Village of Irma.
- Modifications to the Nilrem Substation to accommodate the new transmission line.

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 including wind, high-efficiency coal, natural gas and more.

Needs Identification Document (NID)

The AESO submits Needs Identification Documents (NID) to the AUC for review. 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.

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.

Substations

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.



Updated transmission line routes

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

After our first round of consultation, we have refined the proposed routes, which includes adding some proposed variants to the existing routes and removing some route segments from consideration.

We would like to get your further input on these refined routes to help us determine what we file in our application for this project.

ROUTES THAT HAVE BEEN REMOVED FROM FURTHER CONSIDERATION

A description of the routes that have been removed is included below. The designation points listed for each can be seen on the DP1 and DB1 maps included in this package.

A5-C5-C10-C15: When compared to other route segments near the Nilrem Substation, this route is longer in length, requires more tree clearing and has higher potential environmental impacts.

A55-A65-A70-A75 and B20-A65: During consultation, stakeholders expressed support for route options in road allowance in order to reduce agricultural impacts. As a result, these route segments have been removed from consideration because there are route segments available in this area that are located in road allowance.

C20-C25-C30-C40, B30-C30, B35-C35 and B40-C40: These segments were removed from further consideration based on higher potential agricultural and environmental impacts, proximity to the Delusion Lakes area, additional line length and stakeholder feedback.

A95-A100-A115-A120-A125 and A115-B110: These routes have been removed from further consideration based on higher potential environmental impacts, higher potential agricultural impacts and stakeholder feedback.

B100-B110-B115-B120: When compared to a similar route segment (B100-B105-B120), this route was determined to have higher agricultural impacts and less stakeholder support.

B120-C65-D75: A number of route options connect the central routes, allowing for different route combinations. When

compared to other connecting route options (B105-C60-D60 and B85-C50-D35), this route option was determined to have higher potential agricultural impacts and less stakeholder support.

C55-C57-B95: This route has been removed from further consideration based on higher potential agricultural impacts, additional line length and additional corner structures.

B80-B70: This route has been removed from further consideration based on higher potential agricultural impacts and stakeholder feedback.

ROUTES EAST AND NORTH OF C40: A number of route segments were identified in the east portion of the study area. These routes generally follow east from point designation C40, turn north at point designation D10 and continue north to connect to ATCO Electric's system.

AltaLink assessed these route options, including various combinations, and determined that route segments connecting to the east connection point with ATCO Electric would result in higher overall impacts. These routes generally have higher potential agricultural impacts, higher potential environmental impacts (including additional tree clearing required, additional crossings of Buffalo Creek and more native prairie crossed), are less accessible for construction, operation and maintenance of the transmission line and are longer in overall line length, resulting in higher costs. Stakeholder feedback was also taken into consideration and as a result, these route segments have been removed from further consideration.

ROUTES THAT HAVE BEEN ADDED FOR FURTHER EVALUATION

AltaLink has added three new route segments for additional consultation and evaluation. These options were identified based on stakeholder feedback and further assessment.

B15-B16-B18-A40 was added as an additional option for crossing the Battle River.

B90-B97-B98 and B60-C43-C47-C48 were added as potential options to reduce agricultural impacts by moving the proposed transmission line into road allowance.

ROUTE ADJUSTMENTS

Between **A25-A35-A40**, the route segment has been adjusted slightly due to the presence of a channel and to avoid impacts to the Town of Hardisty's lagoons.

Updated structure types

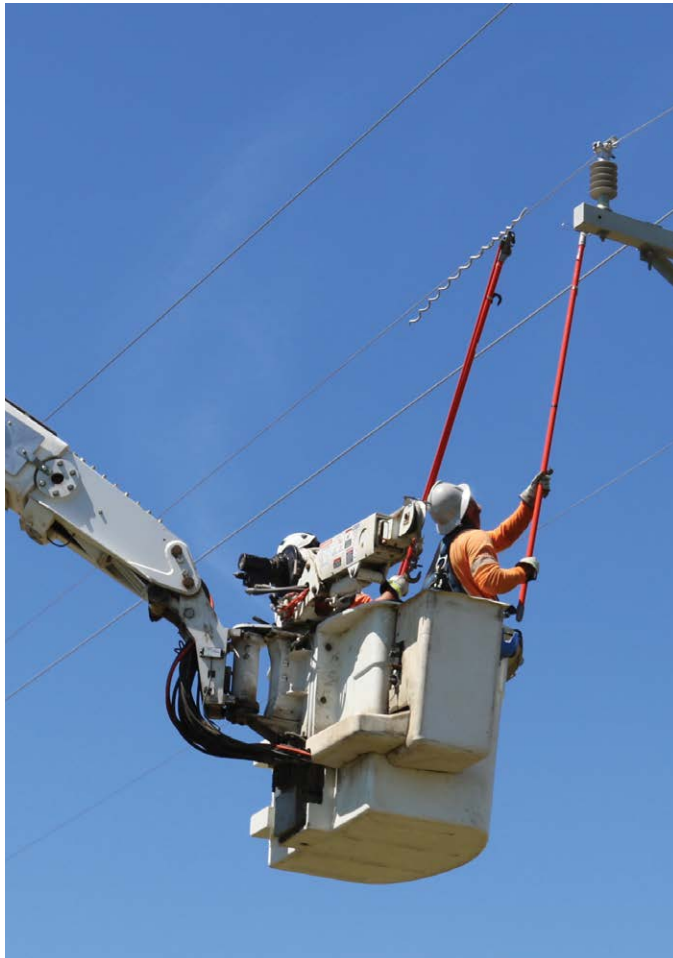
We consulted on two potential structures types for this project. Based on the information gathered, we have selected monopole structures for the majority of the proposed transmission line for the following reasons:

- Allows for the opportunity to locate the line within road allowance, where possible
- Greater stakeholder preference than the H-frame structures
- Comparable in cost to the H-frame structures

In select locations, we may use an H-frame or other two pole structure if required from a technical perspective, for example when crossing rivers or other transmission lines, or at corner locations.

Please note: All dimensions are approximate and subject to change with detailed engineering.

**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.*



SINGLE CIRCUIT MONOPOLE



Structure height	25-35 m
Right-of-way width	When on private property: 23 m When in road allowance: 11-12 m from the edge of the road allowance
Distance between structures	Approximately 200-270 m
Can be placed in road allowance*	Yes
Can be placed on private property	Yes

DEFINITIONS

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.

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.

Right-of-way, access trails and construction workspace

On the enclosed maps we have included right-of-way, access trails and construction workspace along the proposed routes.

RIGHT-OF-WAY FOR GUYED STRUCTURES

In some locations, guy wires will be required for corner and angle structures. In these instances, an area of approximately 15X50 metres will be needed to accommodate guy boxes. An illustration of the right-of-way requirements for guyed corner and angle structures is included below.

ACCESS TRAILS

Access trails are required in areas where access may be limited for a number of reasons, including steep terrain, wetlands or lack of access directly to the right-of-way. Typically, an access trail is approximately eight metres wide, but this width may vary depending on the terrain.

CONSTRUCTION WORKSPACE

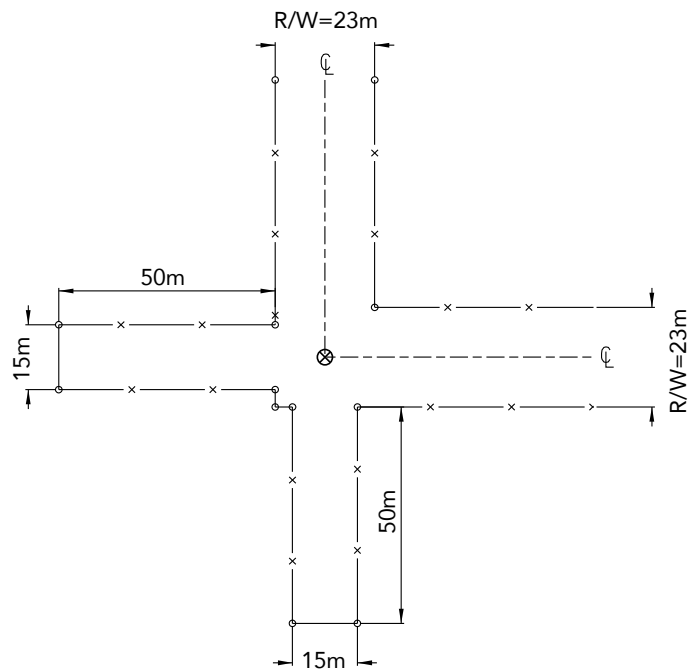
Workspace, in addition to the transmission line right-of-way, is required for the safe construction of the transmission line. The requirements for this workspace vary depending on the location:

- Where the transmission line is proposed on property, AltaLink may require 10 metres of construction workspace on either side of the right-of-way.
- Where the transmission line is proposed in road allowance, AltaLink may require an additional 10 metres of construction workspace beyond the right-of-way, on the property side.
- AltaLink may also need 45x120 m of construction workspace for stringing activities at corner structures.

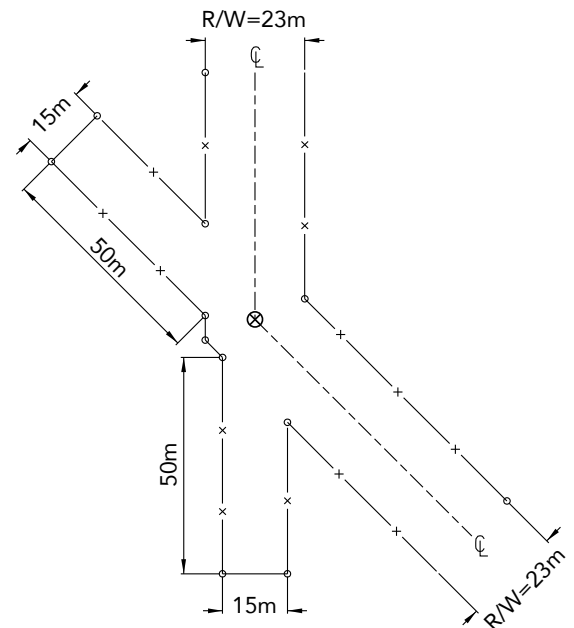
The construction workspace, including potential stringing areas, is shown on the strip mosaic maps.

AltaLink will consult with all affected landowners regarding potential construction workspace and access trails. Not all of the construction workspace shown on the strip mosaic maps will be required, and some of it may be subject to change.

SINGLE CIRCUIT DEAD-END STRUCTURE



SINGLE CIRCUIT ANGLE STRUCTURE



- — x — - RIGHT-OF-WAY (R/W)
- - - - - TRANSMISSION LINE CENTRE LINE (CL)

Substation requirements

The following substation modifications are required to accommodate the new transmission line.

The existing Nilrem Substation is located in NE-9-42-9-W4, approximately seven kilometres southeast of the Town of Hardisty. We need to add up to two new **circuit breakers**. No modifications to the existing fence line are required.

DEFINITIONS

Circuit breakers

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



Existing Nilrem Substation



A typical 138 kV circuit breaker



Ongoing survey activity

ENVIRONMENTAL SURVEYS

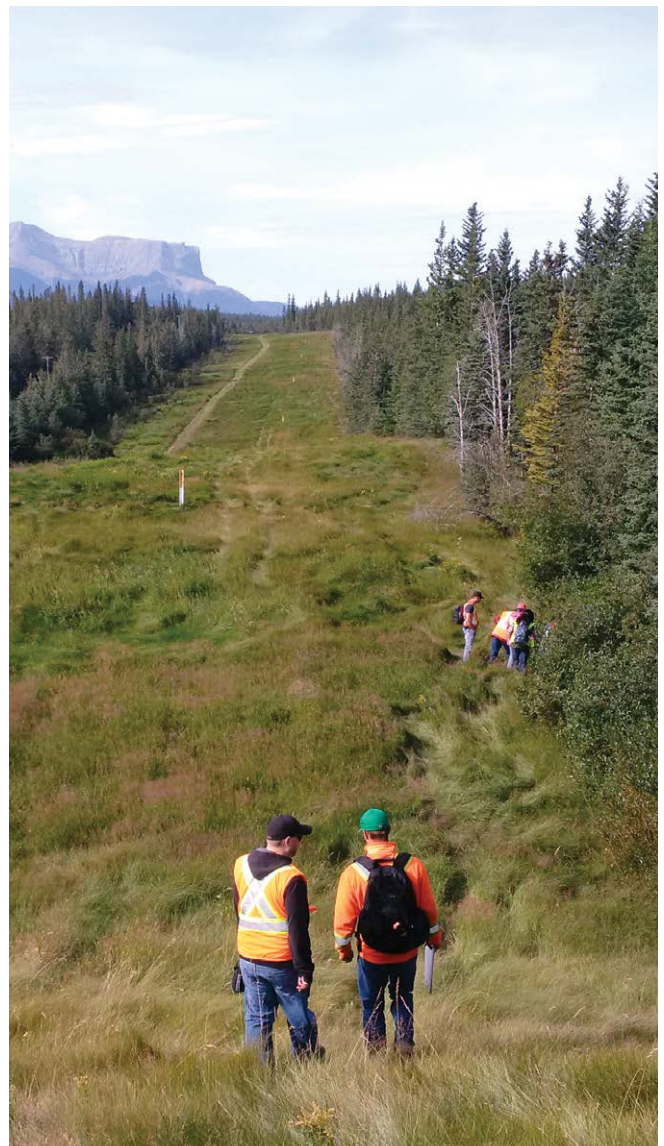
AltaLink will be conducting seasonal environmental surveys along the potential routes for the proposed Nilrem to Vermilion development. The surveys are conducted by helicopter or on the ground. Ground based surveys on private land will only occur after landowner permission is received. Survey vehicles will be clearly marked and surveyors will wear a high visibility vest. 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.

WETLAND DISTURBANCE

AltaLink will meet all requirements under the *Water Act* for disturbance to wetlands. Where required an in-lieu compensation payment will be paid in accordance with the Alberta Wetland Policy. Any person who is directly affected by a *Water Act* application may submit a statement of concern to Alberta Environment and Parks during the application process.





How to provide your input



AltaLink is closely monitoring the spread of COVID-19. Our priority is maintaining the health and safety of our employees, contractors, and the general public, while ensuring that we are able to continue to operate our system and keep the lights on for Albertans.

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.

PUBLIC EVENTS

Based on recommendations from local and national health authorities, AltaLink has made the decision to not hold public stakeholder events for the project at this time.

While we aren't hosting public events at this time, if you'd like to provide input, you can do so through our online feedback portal, found here:

www.altalink.ca/projects/project-feedback.cfm

PARTICIPATE IN A ONE-ON-ONE CONSULTATION

At this time we are limiting in-person meetings and will be conducting the majority of meetings via telephone or electronic methods, however as the situation regarding COVID-19 changes we will re-assess this approach.

We will update you as the situation evolves. Our focus is ensuring the lights stay on, and that you have the electricity you need.

CONTACT US DIRECTLY

You can contact us by telephone, email, mail or through our website. Our contact information is on the last page of this newsletter.

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** or contact us directly via email at **privacy@altalink.ca** or phone at **1-877-267-6760**.

Next steps

After our consultation 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

October 2019 to August 2020

File application with Alberta Utilities Commission (AUC)

September 2020

Start construction if project is approved

September 2021

Complete construction

Winter 2022

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.



Electric and Magnetic Fields (EMF)

AltaLink recognizes that people may have concerns about exposure to EMF and we take those concerns seriously.

Everyone in our society is exposed to power frequency 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 (WHO) have been conducting and reviewing research on exposure to EMF for more than 40 years. Based on this research, these agencies have not recommended that the general public needs to take steps to limit their everyday exposure to EMF from high voltage transmission lines, including individuals that are located on the edge of a power line right-of-way.

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

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

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

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