

Vermilion to Red Deer, Edgerton to Provost Transmission Development July 2014



At the Alberta Electric System Operator (AESO), we plan the province's electric transmission system. We study the transmission system to determine what future upgrades and expansions will be needed to continue to serve Alberta's growing power demands.

▶ HOW DOES THE AESO DETERMINE THE NEED FOR TRANSMISSION DEVELOPMENT?

We forecast how much power will be needed, where that demand is and where developers are planning to build new generation. We use this information to develop plans for strengthening the transmission system so that as growth in Alberta continues, power can continue flowing to where it is needed, and people, businesses and industry can continue receiving reliable, competitively priced power.

Transmission development needed in central east Alberta

The central east area continues to grow. Transmission development is needed to support this growth.

The network of high-voltage transmission lines that run throughout the central east area of Alberta needs to be strengthened. The transmission system here is too weak to support expected growth in new power generation and demand for power. Developers are planning new wind farms and other projects which will nearly double the amount of generation in the area, and growth, mainly from the expanding pipeline industry, will cause demand for power to rise steadily over the coming years.

We already see instances where existing generators in central east Alberta must cut back on the amount of power they produce because the transmission lines they are connected to aren't large enough to handle higher power flows. Customers using power in the area also face an increased risk of power outages. Transmission development is needed in order to improve the reliability of the transmission system in central east Alberta.



WHO IS THE ALBERTA ELECTRIC SYSTEM OPERATOR?

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

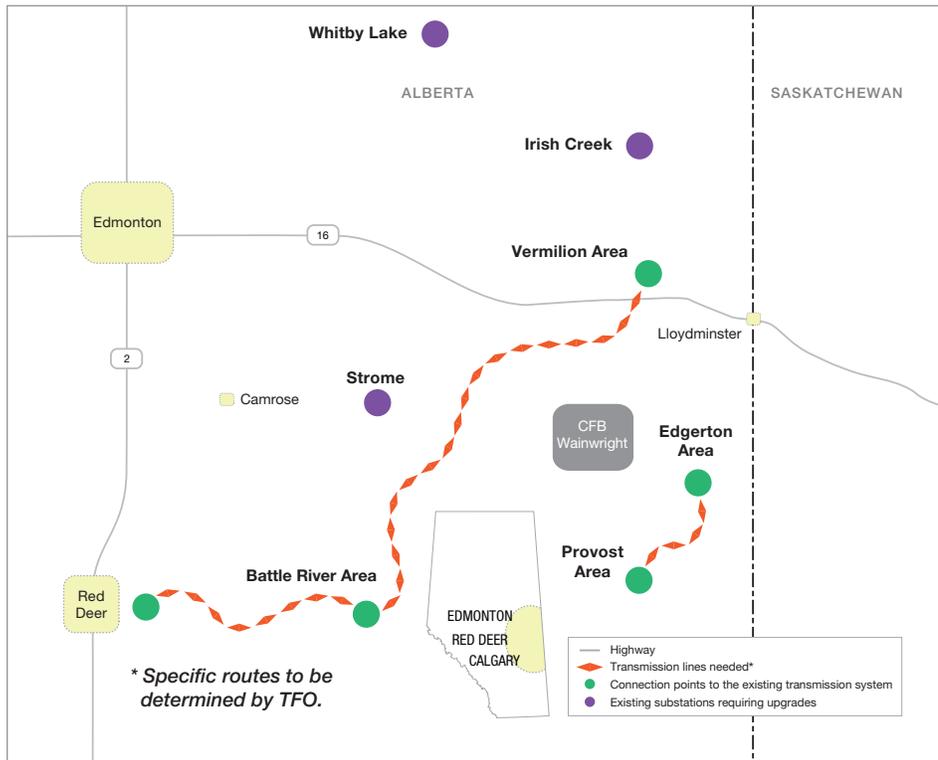
What kind of transmission development is needed?

Our studies show that adding new 240 kV transmission lines and related transmission upgrades is the best option among the alternatives for strengthening the transmission system in the central east area. These new transmission lines will allow power from existing and new generators to flow within the area to where it is needed and will also allow power to flow between the central east area and other parts of the province.

AltaLink Management Ltd. (AltaLink) and ATCO Electric Ltd. (ATCO) build, operate and maintain the transmission system in central east Alberta. If the Alberta Utilities Commission (AUC) approves the need for this transmission development, then

AltaLink and ATCO will propose specific locations for transmission lines and substations. The AESO does not propose routing for new transmission lines or sites for new substations. Siting and routing is the responsibility of AltaLink and ATCO.

TRANSMISSION DEVELOPMENT NEEDED IN CENTRAL EAST ALBERTA



The map above shows the points on the transmission system that need to be connected by new 240 kV transmission lines. The new lines and related upgrades will strengthen the transmission system in central east Alberta by supporting new generation projects that are planned for the area and by supporting the area's growing demand for power.

> PLEASE NOTE: This map is for illustrative purposes only. The red lines do not represent routes. The red lines show which parts of the transmission system need to be connected. Locations for new transmission lines and substations will be proposed by AltaLink and ATCO after the need for this development has been approved by the AUC.



> In Alberta's electricity industry, transmission lines, substations and other related equipment used to move power are called facilities.

> AESO AND TFO ROLES

The AESO operates the provincial transmission system so that all Albertans can count on safe and reliable electricity to power our homes and businesses each and every day. We carefully plan transmission upgrades and expansions to keep up with Alberta's growing demand for power.

Transmission facility owners (TFOs) are companies that build, operate and maintain the transmission system in our province. While the AESO is responsible for identifying the need for transmission development, TFOs are responsible for finding locations for new transmission lines and substations, and having these locations approved by the AUC. If the need for transmission development in central east Alberta is approved, the AESO will direct AltaLink and ATCO to file facilities applications with the AUC. In preparing their facilities applications, AltaLink and ATCO will be consulting with stakeholders about the locations for the new 240 kV transmission lines and related upgrades.

TFOs IN ALBERTA

There are four major TFOs in Alberta:

ATCO Electric Ltd.

AltaLink Management Ltd.

EPCOR Utilities Inc.

(owned by The City of Edmonton)

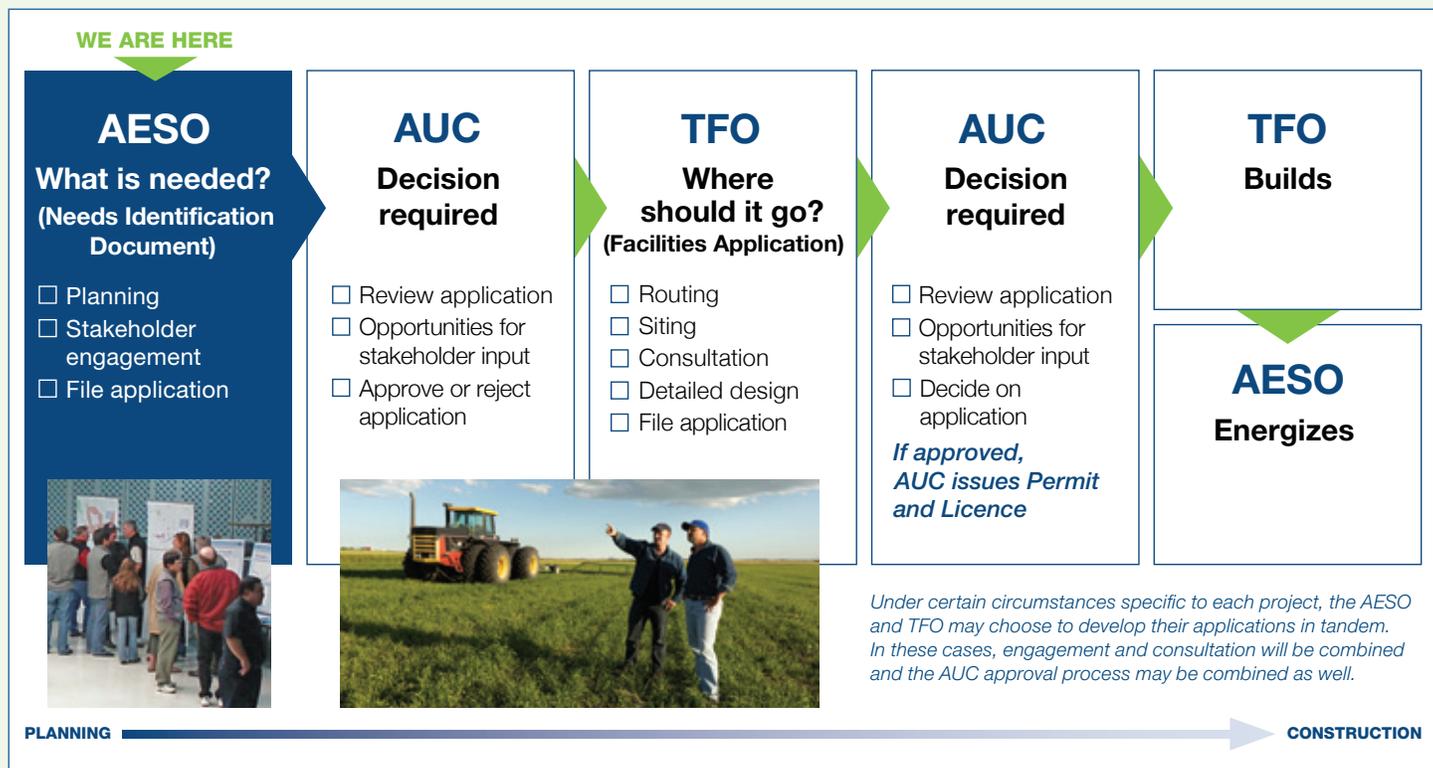
ENMAX Power Corporation

(owned by The City of Calgary)



Transmission development in Alberta

In Alberta, several steps must be completed in order to build new transmission lines and substations.



TRANSMISSION DEVELOPMENT APPROVALS: A TWO PART PROCESS

1 PART ONE: APPROVAL OF NEED

The AESO studies the transmission system to identify needed upgrades or expansions, and applies to the AUC for approval of our plans. The AUC is the regulator for transmission development in Alberta. The AESO's application to the AUC is called a Needs Identification Document, or NID. The NID outlines our specific plans to upgrade or expand the transmission system. Stakeholders have opportunities to become involved during the development of a NID application and during the AUC's review of it.

2 PART TWO: APPROVAL TO BUILD

TFOs build what is in the AESO's plans. They consult with stakeholders to find locations for new transmission lines and substations and then file facilities applications with the AUC for approval. Stakeholders also have opportunities to become involved during the development of a facilities application and during the AUC's review of it.



> SUBSTATIONS
connect power lines and house equipment that controls voltage and protects the flow of power.

A NEEDS IDENTIFICATION DOCUMENT is a formal application that the AESO files with the AUC when transmission development is needed. It explains what transmission development is needed and why it is needed.

A FACILITIES APPLICATION is a formal application that TFOs file with the AUC. TFOs use this document to propose specific locations for new transmission lines, substations and related equipment.

Other related activities in the central east area

> AESO – ACTIVITIES IN THE CENTRAL EAST AREA

Central East Transmission Development – Amendment

Earlier this year we shared information with stakeholders about our plans to cancel some of the transmission developments that were approved in our Central East Transmission Development (CETD). We plan to apply to the AUC to have these developments cancelled later this year. The CETD newsletter we sent to stakeholders can be viewed at www.aeso.ca/CETD

MORE INFORMATION about the transmission development needed in the central east area can be found in our *2013 Long-term Transmission Plan*.

To review this document, please visit www.aeso.ca/transmission/22021.html (see section 7.3.4: “Central Planning Region Overview” pages 113-115).

> TFO – ACTIVITIES IN THE CENTRAL EAST AREA

AltaLink – Red Deer Area Transmission Development

The AUC is currently reviewing AltaLink’s Red Deer Area Transmission Development, a facilities application to improve the transmission system in the Red Deer area.

AltaLink and ATCO – HVDC Transmission Lines

Construction of the Eastern Alberta Transmission Line (ATCO) and the Western Alberta Transmission Line (AltaLink) is currently underway.

For more information about either of these projects, please visit www.atcoelectric.com or www.altalink.ca



> Next Steps

Over the coming months we will respond to any questions or comments you may have about the need for transmission development in central east Alberta. Before the proposed transmission developments can be built, the AUC must approve the AESO’s NID application. Following this, AltaLink and ATCO must apply to the AUC for approval to build the new transmission facilities.

We plan to apply to the AUC in Fall 2014. When we submit our NID application to the AUC, we will also post it on our website at www.aeso.ca/VREP

> We want to hear from you

We appreciate your views, both on the need for transmission system development and our proposed transmission plans. Your comments are encouraged. If you have any questions or comments regarding our proposed transmission system reinforcement in the central east area, or our application regarding this need, please contact:

Matt Gray

AESO Stakeholder Relations

Email: stakeholder.relations@aeso.ca

Phone: 1-888-866-2959

Address: 2500, 330 – 5th Avenue SW, Calgary, Alberta T2P 0L4

Electricity is the lifeblood of the economy. It is needed to power homes, farms, businesses and industry in central east Alberta. To learn more about the electricity industry, please visit www.poweringalberta.com

If you have any questions or concerns, please contact us at 1-888-866-2959 or at stakeholder.relations@aeso.ca. The AESO is committed to protecting your privacy. Your feedback, comments and/or contact information collected by the AESO will be used to respond to your inquiries and/or to provide you with further information about the project. The AESO will not use your personal information for any other purposes and will not disclose your information without consent or a legal obligation.

If you choose to communicate by email, please note, email is not a secure form of communication. Security of your communication while in transit cannot be guaranteed.

