

Edmonton to Calgary Transmission Reinforcement

Who is the AESO?

The Alberta Electric System Operator (AESO) is a not-for-profit, independent company that operates in the public interest. The jobs we do on behalf of Albertans are defined by legislation called the Electric Utilities Act. We don't have any commercial interests such as generation, transmission, distribution or retailing assets.

We are responsible for planning and operating the transmission system so that the electric system can be accessed in a fair way by those who generate and use electricity.

We are also responsible for identifying and selecting solutions to meet Alberta's requirements to serve new generating plants or to keep pace with growth in demand on the electric system. The solutions may include transmission reinforcement. Transmission planning at the AESO facilitates investment in generation projects and ensures power can be efficiently delivered to where it's consumed.



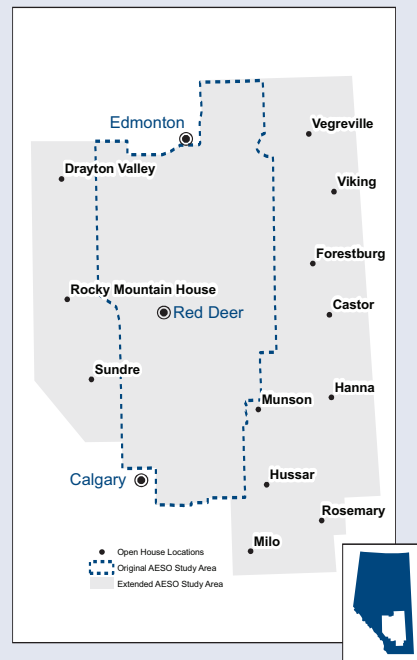
The Backbone of the Power Grid

The transmission network is like a major highway system for electricity. As the backbone of Alberta's grid, lines between Edmonton and Calgary move large quantities of power from where it's generated through the transmission network to where it's needed. Like a highway, there are major routes that connect large centres and handle high volumes of electricity and similar to smaller, secondary roadways, lower voltage transmission lines branch out into every community in Alberta.

Unlike a highway system, the power grid must be managed every second to ensure electricity is there when we need it; to energize our homes and farms, to power our hospitals, schools and businesses. Albertans can depend on reliable power every day because the AESO's system controllers are constantly balancing the supply of electricity with the demand for power across the province.

There's no leeway when it comes to the second by second balance between power supply and demand because electricity can't be effectively stored. The instant a stove is switched on, or a school lights up the power must be there to meet that need.

This map replaces the previous map provided in Edition I.

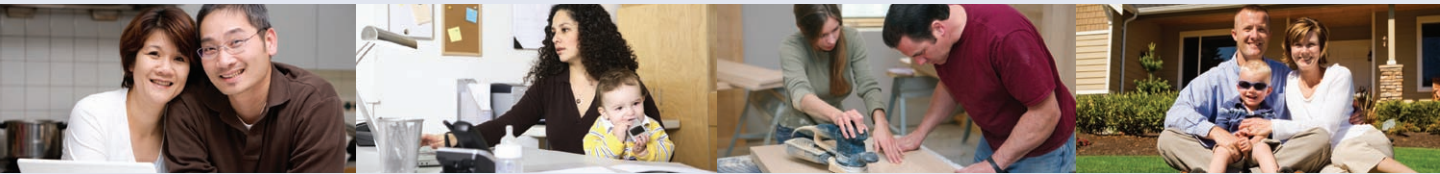


The Alberta Electric System Operator will be hosting meetings with members of the community to provide information and to hear your feedback on the need for reinforcement of the transmission system between the Edmonton and Calgary regions. If you live within the shaded area you would have received a post card inviting you to attend our open houses. More information is inside this information piece.

Planning for the Future

To make sure the power system keeps up with the needs of Albertans' today and in the future, we create specific need applications (Needs Identification Documents) for transmission facilities that are required to keep pace with growth. For the longer-term, we develop 10- and 20-year province-wide transmission plans to provide for a strong power system that is necessary to meet the future needs of Albertans. Our most recent Ten-Year Plan outlines the need for two 500 kV transmission lines within the next few years.

It's the AESO's role to ensure transmission infrastructure is in place ahead of increased demand and planned generation. This not only provides a reliable level of service for Albertans but increases efficiency and facilitates a competitive marketplace among all power suppliers.



Why is the Transmission System Between Edmonton and Calgary so Important to Albertans?

As our population and the economy continue to grow, we put more and more pressure on the existing transmission lines and while we've built some new lines, the system backbone between Edmonton and Calgary hasn't been reinforced for about 20 years.

There are a number of existing and planned large power plants located in northern Alberta. In 2007, the generation facilities in this northern area accounted for three quarters of all the power produced in Alberta. Some of these power plants are 'baseload generators' meaning that Albertans depend on the electricity supplied by these plants to meet the normal everyday demand for power across the province. Some of these power plants are being upgraded and new ones are being planned.

Even though new plants might also be built in other areas of the province, this northern power supply will continue to be important to meet Alberta's hourly power needs. It's necessary to be able to move this electricity from where it's produced to other areas of Alberta to help meet growing power needs and facilitate a competitive marketplace – this is what transmission lines do.



Is There a Need to Reinforce the System Between Edmonton and Calgary?

Our analysis indicates a need to reinforce the transmission system between the Edmonton and Calgary regions.

System reinforcement is needed for:

- The reliability of the grid – to keep the lights on
- The efficiency of the electric system; and
- To facilitate Alberta's competitive electricity market

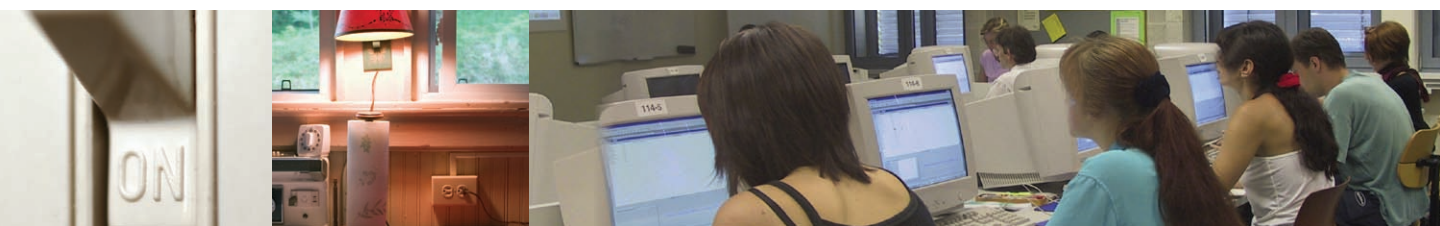
In our Ten Year Plan we outline the need for two new high voltage transmission lines between the Edmonton and Calgary areas within the next few years.



Reliability

Part of our job is to develop annual long-term forecasts of Alberta's demand for electricity. Our most recent analysis shows the demand for electricity in central and southern Alberta will continue to grow by approximately 125 megawatts (MW) every year, or the equivalent of adding a city the size of Red Deer (population of about 86,000) to the grid each year.

The current system is operating close to its limits more frequently. Studies show that without the reinforcement of the transmission system between Edmonton and Calgary the system will be operating below reliability standards, placing Albertans at increased risk of potential power outages.





Efficiency

Operating close to system limits also causes transmission wires to heat-up more than normal. Heat produced by electrical current on power lines is wasted energy.

Adding a 500 kilovolt (kV) transmission line will increase transmission capacity, reducing how often the system must operate at its limit, thereby reducing line losses.

Improving system efficiency saves money and is good for the environment as it reduces wasted energy

Wholesale Electricity Markets

The AESO's responsibilities include operating Alberta's wholesale electricity market and planning the transmission system. The operation and planning of the system must ensure the development of individual projects is not constrained.

The market is competitive. To enable competition, all generators must have access (through transmission lines) to provide supply to meet demand for electricity in all areas of the province. Transmission infrastructure encourages investment. Limiting access to the market reduces competition which typically raises prices.

To make sure the transmission system keeps pace with expected new generation, we develop potential scenarios for where and when new power projects could be built in Alberta. In our most recent study, we identified that about 5,000 MW of new generation could be required by 2017. These scenarios include the potential for significant new wind power and new natural gas power projects in the southern part of the province.



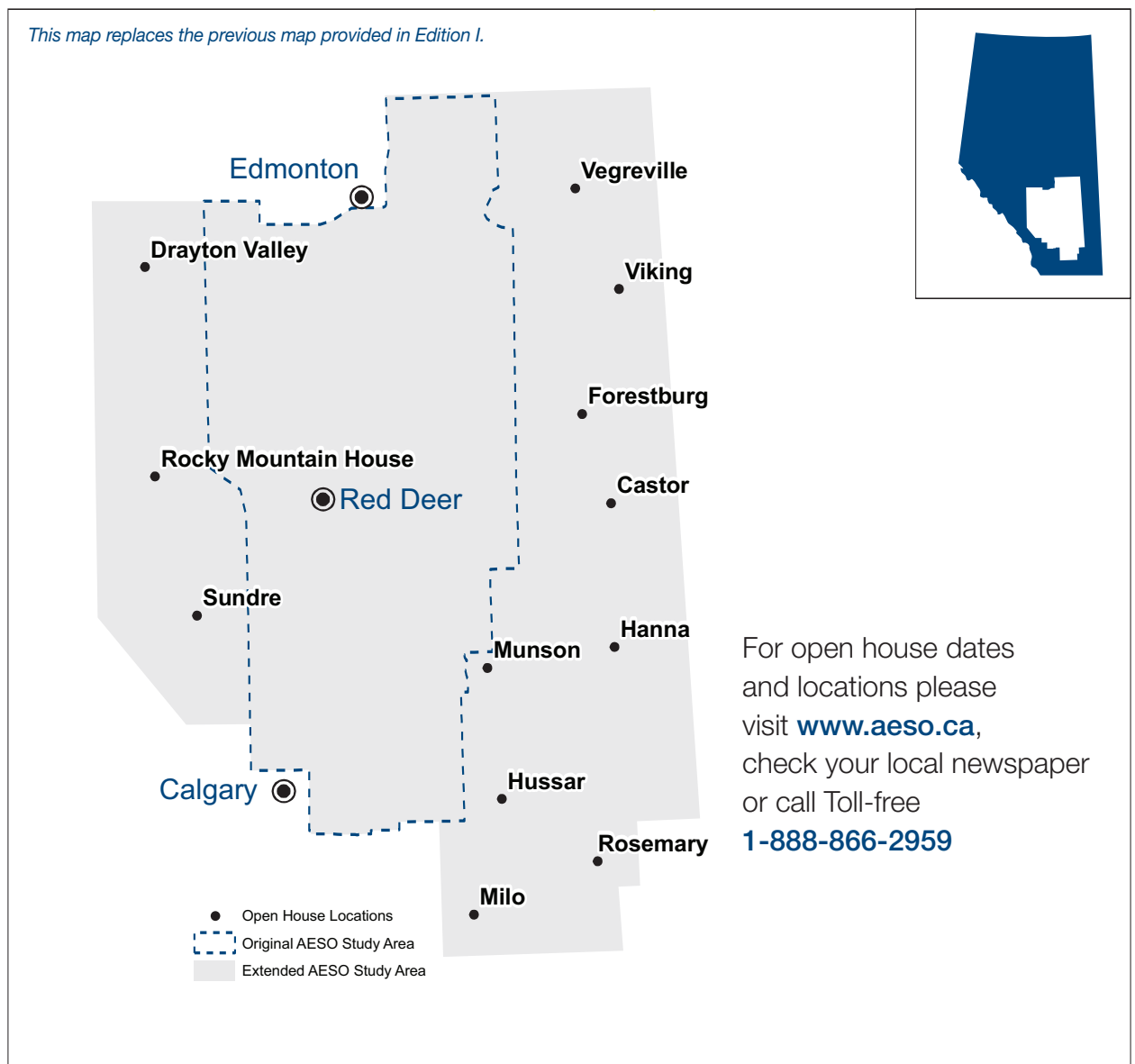
You're Invited We're listening

The Alberta Electric System Operator (AESO) and the owners and operators of electrical transmission systems are meeting with members of the community to provide information and to hear your feedback on the need for reinforcement of the transmission system between the Edmonton and Calgary regions. Construction of a new transmission line between the regions is being considered within the grey study area of the map. A second reinforcement appears to be needed in the next five to eight years. After receiving community input, AESO will make decisions on need and preferred routing and file a Needs Identification Document with the Alberta Utilities Commission.

Information will be available on options being considered for reinforcement.

To provide community members information and answers about their operations, and participation in this study, two transmission facility owners, AltaLink and ATCO Electric, will be in attendance.

Please join us at any of the information sessions listed below between **4:00 PM and 8:00 PM**. At each open house various representatives will be available to show you the alternatives and to listen to your opinions and advice.



A postcard inviting community members has been mailed and the above information will be appearing in print advertising.

Facility Structure and Location Considerations

We are committed to consulting with Albertans to find the best solutions to meet the need to reinforce the transmission system between Edmonton and Calgary. After receiving community input, AESO will make decisions on need and preferred routing and file a Needs Identification Document with the Alberta Utilities Commission.

Structure types

Options can be distinguished by types of transmission tower structure and where they may be located.

We are focusing on high voltage AC (Alternating Current) and DC (Direct Current) options with overhead structures to meet the reinforcement needed. Lower voltage options and underground options are also being studied.

Location

A broad study area is currently being considered with options being reviewed both west and east of the Queen Elizabeth Highway (Highway 2).



Your Feedback

We appreciate the need and location of transmission facilities is a sensitive issue and we support full and open public consultation. We work hard to minimize the impacts while understanding that every Albertan is expecting electricity to be there when they turn on a light switch.

There are four convenient ways for you to contact the AESO:

Email:
stakeholder.relations@aeso.ca

Call Toll-free:
1-888-866-2959

Write:
Alberta Electric
System Operator (AESO)
2500, 330 – 5th Ave SW
Calgary, AB T2P 0L4

Attend:
Any of our open houses

Web:
www.aeso.ca



The AESO is committed to protecting your personal privacy in accordance with Alberta's Personal Information Protection Act. Any personal information collected by the AESO with regard to this project may be used to provide you with further information about the project, may be disclosed to the Alberta Utilities Commission (and as a result, may become public), and may also be disclosed to the eligible Transmission Facility Owner. If you have any questions about how the AESO will use and disclose your personal information collected with regard to this project, please contact us at 888.866.2959 or at stakeholder.relations@aeso.ca.