



Potential Transmission Reinforcement in southern Alberta

For more information please contact the AESO at 1.888.866.2959,
www.aeso.ca or stakeholder.relations@aeso.ca

Who is the AESO?

The Alberta Interconnected Electric System (AIES), our province's electricity transmission system or "grid," is planned and operated by the Alberta Electric System Operator (AESO). This network of higher-voltage transmission lines, towers and equipment carries ("transmits") electricity from generators to large industrial customers as well as lower-voltage systems that distribute it to cities, towns and rural areas. Our job is to maintain safe, reliable and economic operations on the provincial transmission grid.

Why is transmission system reinforcement needed for southern Alberta?

Interest in wind development in southern Alberta is increasing. We are now planning the transmission system to interconnect new wind farms; however, since the existing transmission system in the south is at capacity (i.e., the system cannot carry additional electricity), system reinforcement is needed to move new wind generated power to areas that need it.

What's happening right now?

The AESO has received applications for wind power development of over 11,500 mega-watts (MW) in Alberta, with more than 7,500 MW distributed across southern Alberta. Currently, 497 MW of wind generation is installed on the Alberta grid. The AESO, however, anticipates that up to 2,700 MW of additional wind generation may develop in southern Alberta over the next 10 years. The existing transmission system in southern Alberta has very little capacity to connect new generation.

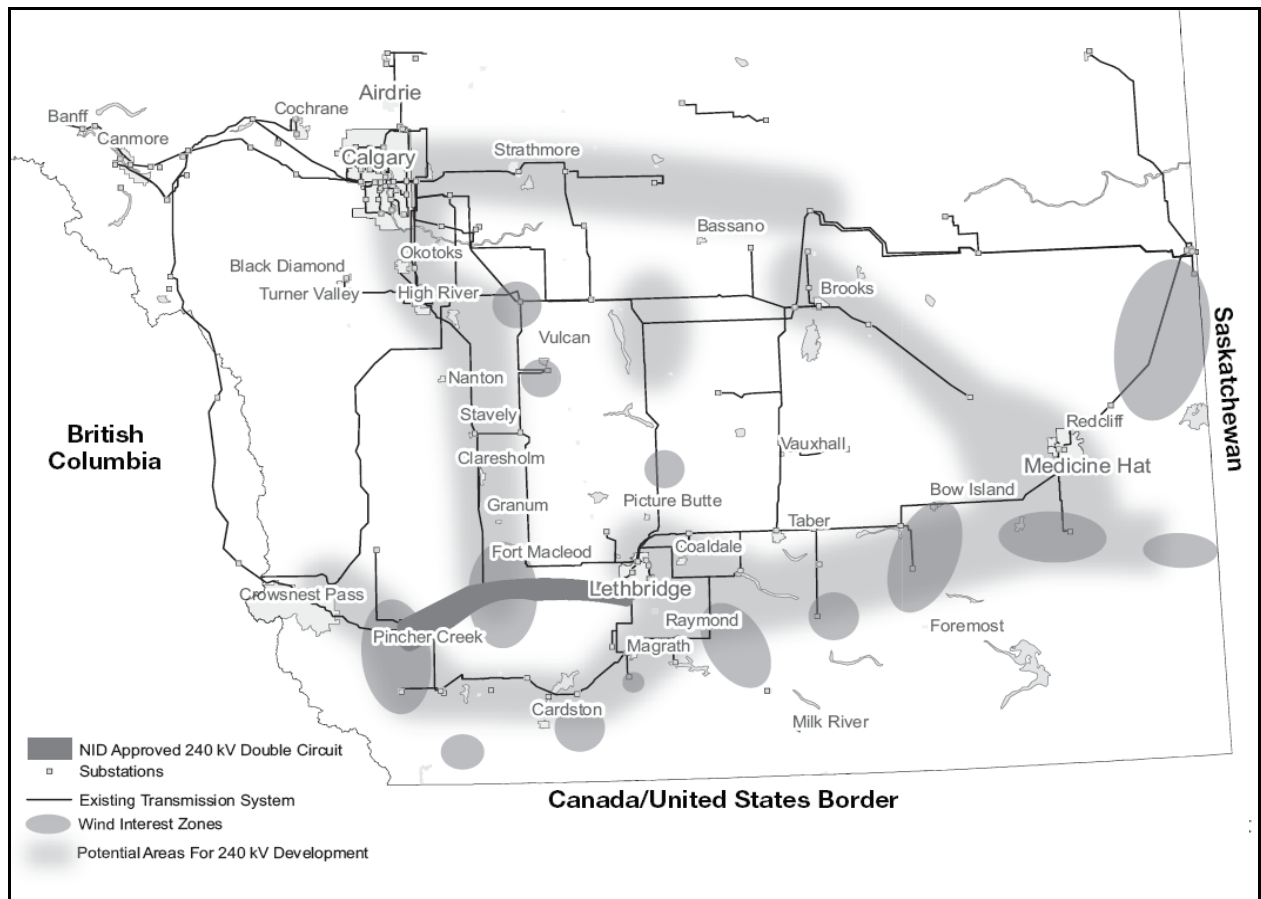
In response to the need for additional transmission capacity, the AESO developed possible transmission reinforcement solutions to integrate the additional wind generation anticipated for southern Alberta. These transmission system alternatives were developed to not only interconnect new generation but also to provide additional, reliable, bulk system capacity from generation sites to areas where power is needed. These potential solutions included two 240,000 volt (240 kV) alternating current (AC) alternatives; one 500 kV AC alternative; and one high-voltage direct current (HVDC) alternative.

A preferred option identified

The AESO conducted technical and economic studies on these alternatives to determine a preferred option or way to address the transmission challenges in southern Alberta. The AESO also gathered feedback from a broad range of stakeholders, including local landowners, as part of its investigation. ***The AESO concluded that a 240 kV Loop system is the best way to integrate new wind generation anticipated for southern Alberta.*** Our studies have identified areas where transmission lines and other related facilities could be added to improve the system. A map on the next page shows the wind interest in southern Alberta and the AESO's preferred option for integrating it into the grid.

A staged approach to developing transmission to integrate wind

This transmission development will be staged to integrate increasing levels of wind generation development, with the first stage proceeding as quickly as possible. The first stage is designed to connect over 1,200 MW of additional wind generation in southern Alberta. Regulatory approval, however, will also be sought for subsequent stages to accommodate higher levels of wind generation; these stages of transmission development would be implemented as additional generation develops.



The map above shows areas where wind power developments have been proposed; these areas are otherwise known as planning zones. The map also shows the AESO's preferred option for addressing the need to integrate these wind developments.

When will the AESO file its application for this reinforcement?

Through technical and economic analysis, combined with feedback gathered from stakeholders, the AESO identified a preferred option for strengthening the system in southern Alberta; the preferred option will form part of our Needs Identification Document (NID) which we will submit to the Alberta Utilities Commission (AUC) at the end of this year. We will also submit individual Abbreviated Needs Identification Documents (ANIDs) to the AUC to connect wind projects that successfully meet AESO interconnection milestones.

Should the AUC approve the AESO's application, we will assign system reinforcements and each new interconnection to Transmission Facility Owner AltaLink, to search for line routes in the area identified above. Before AltaLink can begin constructing these facilities, however, it must develop and submit a Facilities Application to the AUC for approval. Further consultation with stakeholders, particularly on routing of transmission lines, will form a critical component of this application process. The AESO will post a copy of the Needs Identification Document on December 15, 2008, at the following address: <http://www.aeso.ca/transmission/16386.html>.

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(s). 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.