



## **Need for 240 kV transmission reinforcement in Lake Wabamun and Edmonton regions**

For more information please contact the AESO at 1.888.866.2959, [www.aeso.ca](http://www.aeso.ca) or [stakeholder.relations@aeso.ca](mailto:stakeholder.relations@aeso.ca)

### **Why is transmission system reinforcement needed for the Lake Wabamun and Edmonton regions?**

Through technical study the Alberta Electric System Operator (AESO) has identified the need for system reinforcement in the Edmonton area to relieve constraints on the existing transmission system driven by the need to maintain reliable service to the City of Edmonton and surrounding area and to serve increasing electrical demand.

Numerous factors are causing constraints on the existing transmission system in Edmonton; these factors include:

1. Planned retirement of the existing Wabamun 4 generating unit near Lake Wabamun will alter the power flow patterns in the Lake Wabamun – Edmonton area;
2. Existing transmission lines in the area are of advanced age and many structures are in poor condition and are reaching their end of life; and
3. Increases in electricity demand in northeast Alberta due to oilsands and associated commercial and residential development.

### **Who is the AESO?**

The AESO plans and operates Alberta's interconnected electric system. Specifically, we plan the higher-voltage transmission lines, towers and equipment which transmit electricity from generators to lower-voltage systems that distribute it to cities, towns, rural areas and large industrial customers. Our job is to maintain safe, reliable and economic operations on the provincial transmission grid.

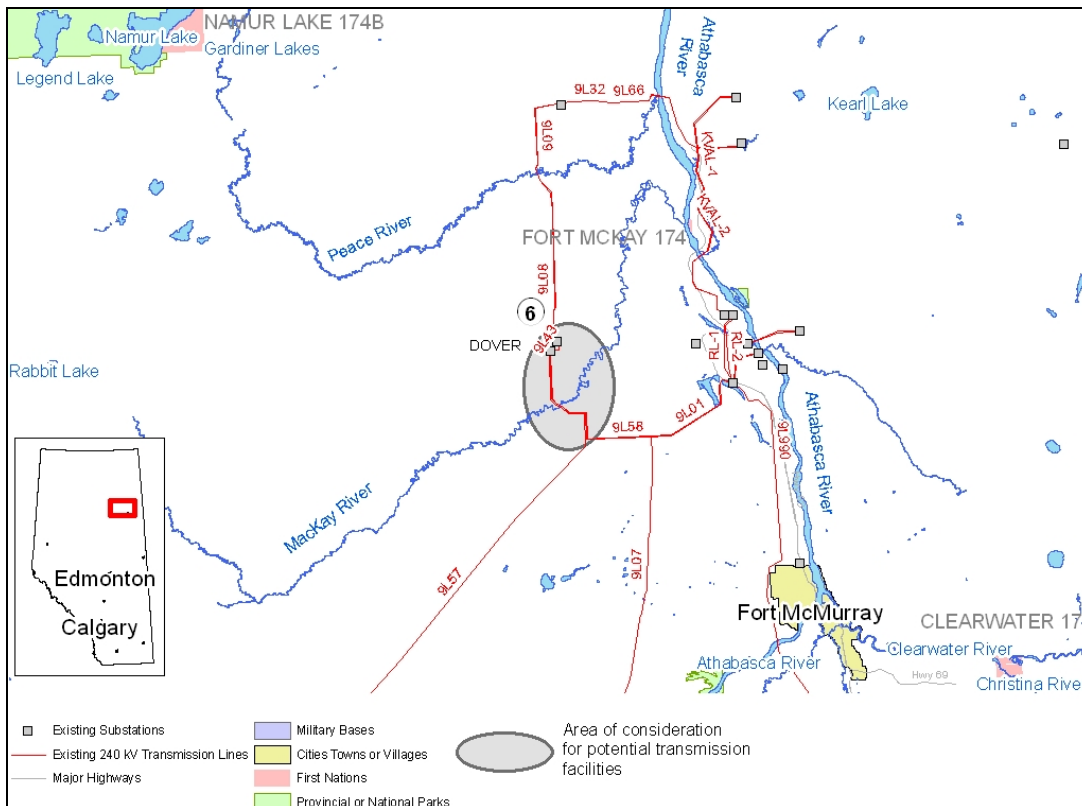
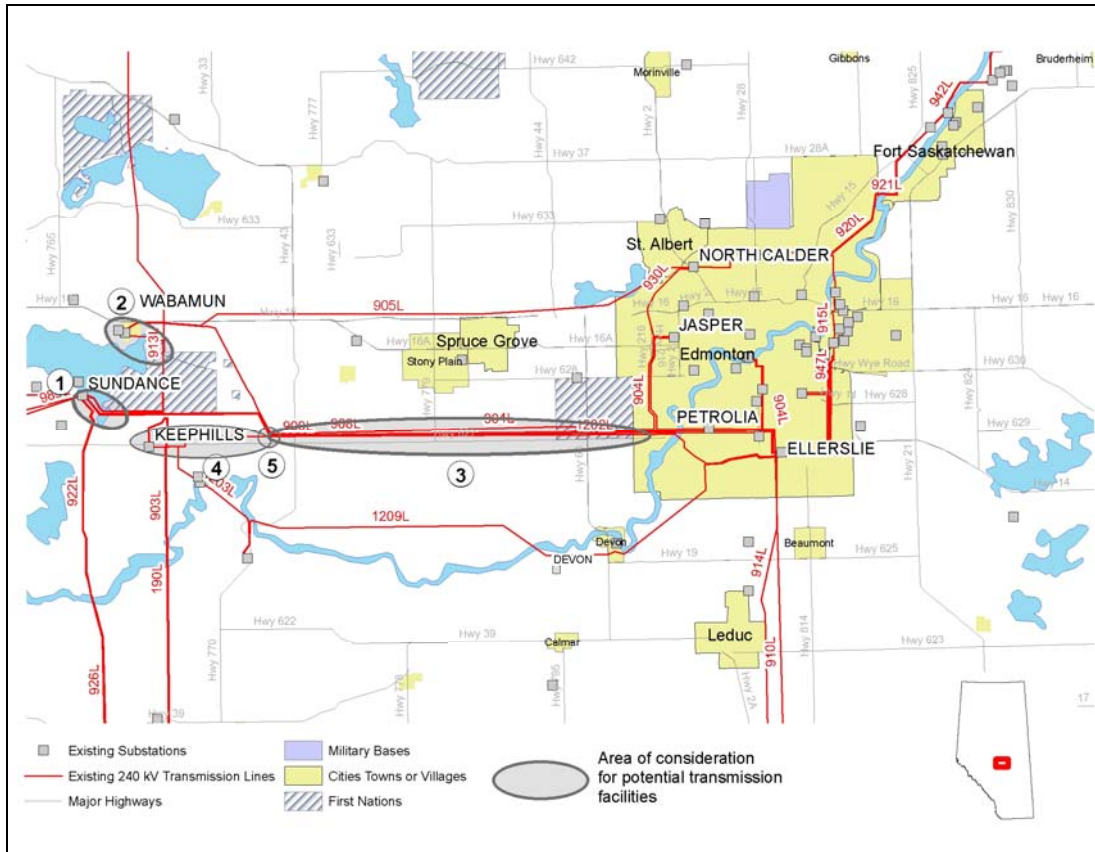
### **What kind of transmission reinforcement is needed?**

Minimizing land use impact, the AESO has identified the opportunity to modify existing transmission facilities to relieve the constraints identified. The potential modifications will include:

1. Replacing the conductor (wires) of a short section of existing transmission line near the existing Sundance substation;
2. Replacing the conductor (wires) of a short section of existing transmission line in the Lake Wabamun area;
3. rebuilding approximately 40 km of existing transmission line which has reached its' end-of-life on an existing right-of-way between Lake Wabamun and Edmonton;
4. Building approximately 14 km of new 240 kV transmission line between the existing Keephills substation and the existing transmission system;
5. Making alterations to two existing 240 kV lines to change where they terminate at the existing Keephills and Sundance substations; and
6. Adding a phase shifting transformer (PST) at or near the existing Dover substation (near Fort McMurray).

These upgrades will resolve the limitations identified on the specified existing facilities. In addition to these reinforcements the AESO is continuing its analysis and implementation of transmission system reinforcements into the area northeast of Edmonton (referred to as the 'Heartland' area) required to supply load growth in the longer term.

The shaded areas in the following maps illustrate the existing facilities that will require modifications as well as the high-level area of study for locating the potential new facilities as identified in items 1 through 6 above.



## **What are the next steps?**

The AESO is currently preparing a Needs Identification Document (NID) for the transmission modifications that will be required for this project. We intend to file the NID for approval with the Alberta Utilities Commission (AUC) in June 2008. This document will include a recommendation based on stakeholder feedback and the AESO's technical and cost analysis.

Once the AESO submits the NID, the AUC will review the application and advertise that it has received it. The AUC will outline how interested stakeholders can get involved in a regulatory process. If you have any questions regarding the Alberta Utilities Commission application process, please contact the Commission at (780) 427 4903.

Concurrently, the AESO will direct the Transmission Facility Owners involved, AltaLink and ATCO Electric, to develop detailed Facilities Applications. These applications will include recommendations for detailed engineering of the facilities as well as recommendations for specific siting and routing of new facilities. The applications will be developed with further public consultation and submitted to the AUC for approval.

If you have any questions, suggestions or concerns regarding this project please contact:

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*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](mailto:stakeholder.relations@aeso.ca).*