

Project Overview

Through its technical studies and consultation with the public, the AESO has determined areas of Alberta's transmission system that are in need of reinforcement. The following projects have been identified as critical to maintaining system reliability, increasing efficiency, keeping ahead of future growth, enabling renewable energy and low emission generation, increasing intertie capability and providing certainty to new power generators and power consumers.

EDMONTON TO CALGARY

Increased demand for electricity in southern and central Alberta is stressing the existing system. Without reinforcement, the system will be operating below North American reliability standards and the region will be at increased risk of outages by 2014.

Two high voltage direct current lines between Edmonton and Calgary are required to address issues of reliability, maximize efficiency, accommodate long term growth and lead generation decisions. Reinforcement is also needed to restore the capacity of the B.C. intertie to its full design capability.

HEARTLAND

Although activity in the oilsands industry has slowed due to a decrease in the price of oil, investment in the oilsands is expected to be strong over the long term. The power requirements to extract and upgrade bitumen require strengthening of the transmission system in northeastern Alberta.

Options for the reinforcement include a new 500 kV double circuit line from an existing substation in south Edmonton (Ellerslie) to a new substation in the Industrial Heartland area and a 500 kV double circuit line connecting into an existing line on the west side of Edmonton to a new substation in the Industrial Heartland area.

FORT MCMURRAY

The expected growth of the oilsands industry is the primary driver for additional transmission infrastructure in the northeastern part of the province. The AESO is recommending a 500 kV alternating current (AC) line from the Lake Wabamun area west of Edmonton to a new 500 kV substation in Fort McMurray, as well as a 500 kV AC line from the new Heartland substation to the new Fort McMurray 500 kV substation.

SOUTHERN ALBERTA

In December 2008, the AESO filed a Needs Identification Document (NID) with the Alberta Utilities Commission (AUC) regarding transmission reinforcement in the south region of Alberta, the province's primary wind power generation area. To date, the AESO has received approximately 8,000 MW in applications for the new wind generation in the area. Multiple new transmission lines, substations and upgrades to existing facilities are required to accommodate these wind power interconnections. The AUC approved this NID on Sept. 8, 2009.

SOUTH CALGARY

The AESO is looking at various options to strengthen the transmission system in southern Calgary and will be conducting further analysis and stakeholder consultation. Potential reinforcements include an additional substation and new transmission lines.

Alberta Electric System Operator

2500, 330 - 5th Avenue SW
Calgary, Alberta T2P 0L4
t 403-539-2450
f 403-539-2949

www.aeso.ca