

Wind Power in Alberta

The AESO's mandate is to "integrate as much wind as possible while maintaining reliable grid operation and ensuring the fair, efficient and openly competitive operation of the Alberta electricity market."

There is currently 563 MW (about 5% of total installed capacity) of wind connected to the grid (600 MW including wind connected by distribution) in a jurisdiction with a total installed capacity of 12,427 MW.

AESO has received about 70 requests for interconnection of wind generation developments totalling approximately 12,500 MW of generation province-wide; these requests are concentrated in the south of the province.

Every generation source is unique in its own way and wind's nature is that there is no control over when it blows, how much it blows or when it stops blowing. In this sense, it cannot be "dispatched" like coal or gas fired generation can.

Because the supply and demand of an electricity system must be in perfect balance at all times, other quickly dispatchable generation sources are needed to offset the variable nature of wind.

The AESO has been working with industry stakeholders and the Canadian Wind Energy Association (CanWEA) for years to develop solutions to the challenge of integrating more wind to the grid.

Some of the key initiatives we are undertaking to address this challenge are:

- AESO issued a Request for Proposal (RFP) June 25, 2009 for a centralized wind power forecast vendor for Alberta. Having access to a reliable forecast will help the system operator anticipate ramping events, estimate the amount and timing of energy required to offset wind's variability and know if wind power management techniques are required.
- Working with stakeholders to develop wind power management requirements.

TRANSMISSION DEVELOPMENT TO INTERCONNECT WIND

The South Needs Identification Document (NID) was filed by the AESO at the end of December 2008 identifying \$1.83 billion in transmission reinforcements required to interconnect 2,700 MW of wind in the South using a staged approach over the next 10 years.

The AUC conducted a hearing for the NID in Lethbridge in June and issued their approval of the NID on September 8, 2009.

AESO filed a NID in June for reinforcement of the transmission system in the Hanna / East Central Alberta area that will enable the interconnection of about 700 MW of wind and as well accommodate anticipated load growth in the area.

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