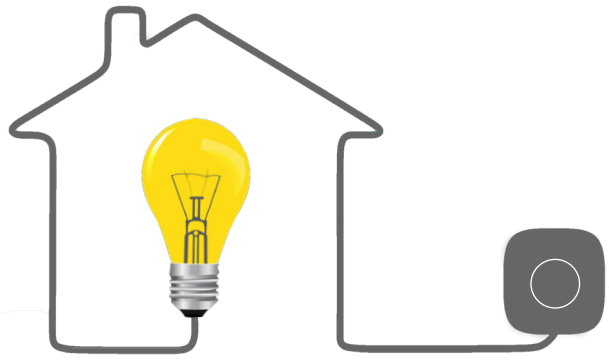
Planning a safe and reliable grid

The transmission network is like a major highway system for electricity, moving large quantities of power from where it is generated to where it is consumed. Over time, this system of lines and towers must be upgraded and expanded as equipment ages, demand for electricity increases and additional sources of energy (generation) are created in different areas of the province.

As Alberta's electricity landscape evolves over time, the transmission system can become constrained, which can lead to challenges with delivering reliable, efficient and economic electricity to Albertans. One of the Alberta Electric System Operator's (AESO) responsibilities is to plan a transmission system that Albertans can count on to power our homes and businesses each and every day.

A RANGE OF FACTORS CONTRIBUTE TO THE NEED TO STRENGTHEN THE TRANSMISSION SYSTEM INCLUDING:

- Fulfilment of reliability requirements as part of a network of electric utilities and independent system operators across North America
- Alberta's economic outlook, including the growth of gross domestic product, population and industrial production
- Electricity demand growth rate and locations
- Timing and location of future electricity generation development
- Condition and age of the transmission assets
- Contributions of new facilities to maintain a competitive market
- Ability of the system to transmit energy during emergency conditions and to allow for maintenance and construction of new facilities



WHO IS THE AESO?

The Alberta Electric System Operator (AESO) plans and operates Alberta's electricity grid and wholesale electricity market safely, reliably and in the public interest of all Albertans. We are a not-for-profit organization with no financial interest or investment of any kind in the power industry.

SHARING INFORMATION WITH STAKEHOLDERS

The AESO plans Alberta's transmission system for the province in accordance with legislation, reliability standards, government policies and economic outlook.

The AESO is committed to open and transparent communication with stakeholders. Throughout the transmission development process the AESO is proud to be a source of credible information for all stakeholders.

EXPLORING TRANSMISSION DEVELOPMENT OPTIONS

Following the AESO's identification of the need for transmission, comprehensive planning and engineering studies present high-level technical alternatives that will address the need. These alternatives are then evaluated, compared and ranked based on their technical, economic, environmental and social merits.

THE NEED FOR DEVELOPMENT — OBTAINING APPROVALS

Once the AESO has identified a preferred alternative for transmission development, we will prepare a Needs Identification Document (NID) application. This application is filed with Alberta's independent utility regulator, the Alberta Utilities Commission (AUC), for approval.

Potential locations of needed transmission facilities, including detailed routing and siting, are determined in a standalone Facility Application, either filed concurrently or sequentially with the AESO's NID. Potential routing and siting is proposed by the transmission facility owner (TFO), who constructs, owns and maintains transmission facilities. There are four major TFOs in Alberta: ATCO Electric Ltd., AltaLink Management Ltd., EPCOR Utilities Inc. (owned by the City of Edmonton), and ENMAX Power Corporation (owned by the City of Calgary). The TFO must also file a Facility Application with the AUC for approval of the routing and siting of proposed transmission facilities.

The AUC is Alberta's regulator for the electric industry, and is responsible for reviewing and approving:

- The need
- The preferred option to meet the need
- Transmission siting and construction
- Associated costs of construction and operation of Alberta's electricity system

With unique access to credible, accurate and real-time electricity information, the AESO is the single largest source of transmission planning expertise in Alberta.