

## Proposed Alterations at Dover Substation

ATCO Electric wishes to advise neighbouring landholders, agencies and other interested parties about some alterations planned at Dover substation, located about 60 kilometres northwest of Fort McMurray, Alberta.

### Purpose of Alterations

The Alberta Electric System Operator (AESO) has identified the need for two additions at Dover substation:

- A **phase-shifting transformer** is needed to enhance the transfer capability of the transmission system to and from Northeast Alberta. The need was approved by the Alberta Utilities Commission (AUC) as a part AESO's Need Application for Edmonton Region 240 kilovolt (kV) system upgrades.
- A **capacitor bank** is needed to help maintain voltage stability in the Fort McMurray area. The need for the capacitor bank is described in the enclosed information from AESO.

### Impacts to Neighbours

- All of the improvements will be within ATCO Electric's existing 400 by 400-metre (m) substation lease.
- Neighbouring landholders may notice some increased traffic and noise during construction.
- Interruptions to electric service during construction are not expected.

### Substation Location

- NE 31, 92-12-W4M, near Petro-Canada's MacKay River site in the Regional Municipality of Wood Buffalo.

### Details of Improvements (see attached map-drawing)

- Expand the substation fenced area to the west and northeast.
- Add the phase-shifting transformer within the west expansion area, connected to a re-terminated 240 kV line 9L57.
- Add the 100 MVAR capacitor bank within the northeast expansion area.
- Add 240 kV circuit breakers, and related infrastructure, protection, control and communication equipment.

### Timing

- ATCO Electric plans to submit a Permit and Licence Application to the AUC for the phase-shifting transformer addition by July 31, 2009. ATCO Electric plans to apply to the AUC for the capacitor bank addition by October 2009, at the same time that AESO applies for approval of the need.
- The work is planned to occur between January 2010 and September 2011. Prior to construction, ATCO Electric would seek approvals from other agencies as required.

**Note: timing, layout and other details may vary with final plans.**

**If you have any questions or concerns about the planned activity, please contact:**

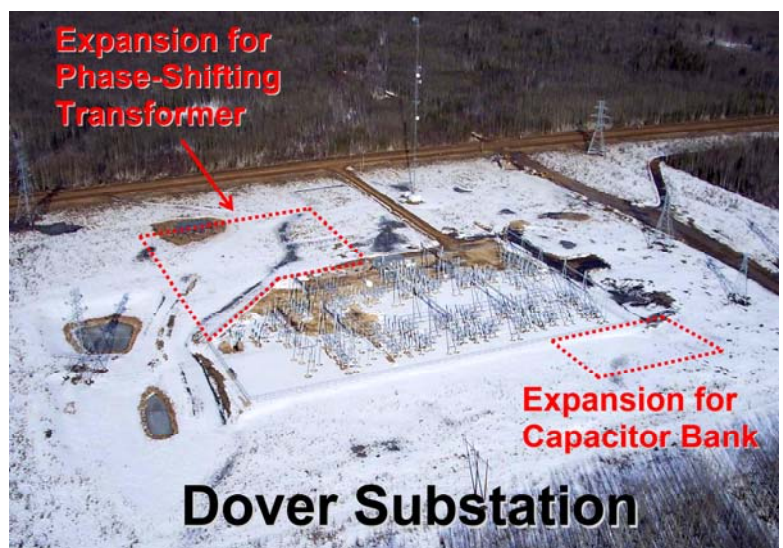
**George Duffy**

ATCO Electric, Box 2426, Edmonton, Alberta, T5J 2V6

Phone 780-420-5592, Toll-free 1-866-600-0022

Fax 780-420-8017

E-mail [george.duffy@atcoelectric.com](mailto:george.duffy@atcoelectric.com)



## Definition of Terms

**Transmission System:** The transmission system or "grid" is made up of transmission lines and substations that have the ability to efficiently transmit power over long distances, between generators and "load" (customer) centres, or between regions. Transmission lines (69 kilovolts or more) are higher voltage, and transmit power to local substations where the distribution lines (25 kilovolts and lower) deliver power to homes, farms and businesses. The transmission system is like a major highway network for longer distance travel, whereas distribution lines are comparable to secondary roads and local streets.

**240 kilovolt (240 kV):** This is a higher capacity type of line or substation, usually associated with transmitting bulk power between regions.

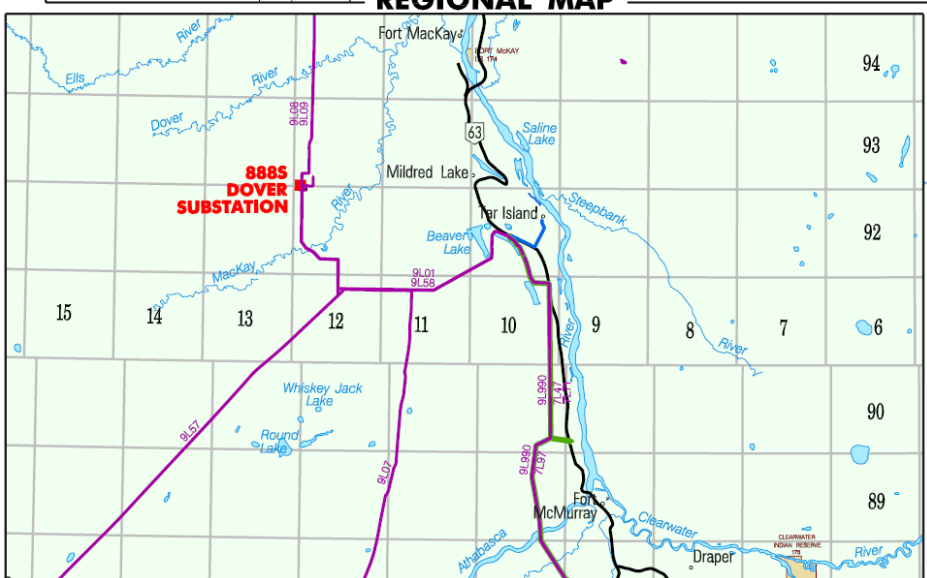
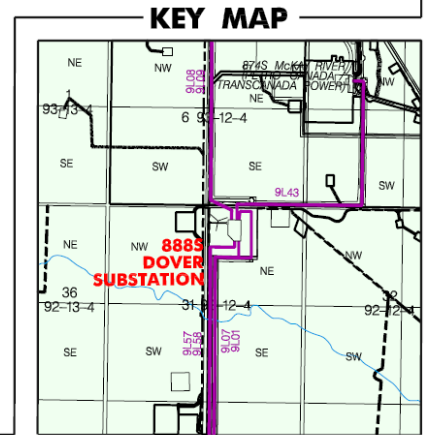
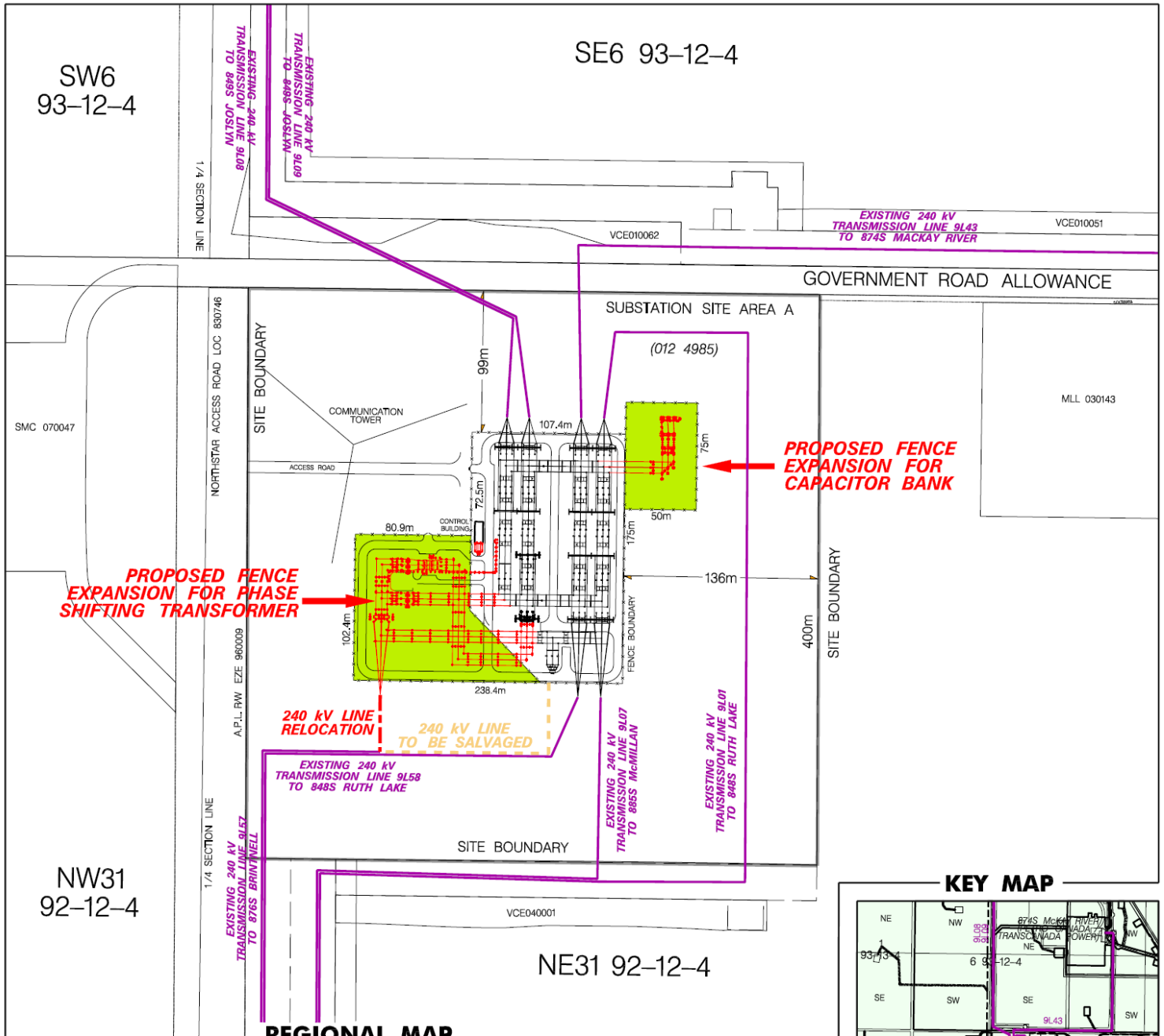
**Substation:** A fenced enclosure containing equipment such as step-down transformers that connect the transmission lines to the distribution system, and other equipment to manage the flow and quality of power. Substations are designed to operate and protect the electric system similar to in-home breaker units but are a much more sophisticated, larger scale version. **Dover substation** is a 240 kV switching station that helps manage the flow of bulk power to, from and within the region. A **phase-shifting transformer** is specialized equipment that helps direct the flow of power on the transmission system, and a **capacitor bank** helps maintain voltage stability.

**Alberta Utilities Commission (AUC):** The AUC is an independent, quasi-judicial agency of the Government of Alberta. Its mission is to ensure that the delivery of Alberta's utility services take place in a manner that is fair, responsible, and in the public interest. The AUC ensures that electric facilities are built, operated, and decommissioned in an efficient and environmentally responsible way. All new transmission facilities require the approval of the AUC. The AUC replaced the Alberta Energy and Utilities Board (EUB) on January 1, 2008. If you have any questions regarding the process for applications to the AUC, please see the enclosed AUC brochure "*Public Involvement in Facility Applications to the Alberta Utilities Commission*", or contact the Commission at 780-427-4903.

**Alberta Electric System Operator (AESO):** A corporation established under provincial law, the AESO acts as the independent system operator, directing the reliable and economic operation of Alberta's interconnected electric system. AESO plans the transmission development in Alberta by identifying present and future needs, and contracts with transmission facility owners such as ATCO Electric and AltaLink to provide the needed transmission services and facilities. AESO is independent of any industry affiliations and owns no transmission assets. AESO's role is described in the enclosed document, "*Need for Capacitor Banks in the Fort McMurray Area*". Enquiries about the need for the proposed alterations at Dover can be directed to AESO at 1-888-866-2959, [stakeholder.relations@aeso.ca](mailto:stakeholder.relations@aeso.ca).

**ATCO Electric:** ATCO Electric Ltd. builds, operates and maintains more than 68,600 kilometres of transmission and distribution power lines in northern and east-central Alberta. With a service area covering almost two-thirds of the province, ATCO Electric provides safe, reliable delivery of electricity to Alberta homes, farms, and businesses. ATCO Electric also reads the electricity meters and provides consumption information to the retailer, which passes these charges on to their customers. ATCO Electric's costs are regulated by the Alberta Utilities Commission.

For power emergencies call ATCO Electric at 1-800-668-5506. For general enquiries about power lines or meters call us at 1-800-668-2248. For questions about hook-ups or your bill, please contact your energy retailer (see the phone number on your bill).



Dover Substation  
Alteration Project

DOVER SUBSTATION 888S  
SITE PLAN

DATE: \_\_\_\_\_

FAX TO: **George Duffy, ATCO Electric, Fax No. 780-420-8017**

PROJECT: **Alterations at Dover Substation 888S**

**Do you have any facilities or developments in the area that may be affected by this project?**

No.       Yes, and they are as follows:

\_\_\_\_\_  
\_\_\_\_\_

**Do you have any concerns about the project?**

No.       Yes, and they are as follows:

\_\_\_\_\_  
\_\_\_\_\_

**Is there anyone else we should be contacting about this project?**

No.       Yes, and they are as follows:

\_\_\_\_\_  
\_\_\_\_\_

**Do you have any other comments or questions?**

No.       Yes, and they are as follows:

\_\_\_\_\_  
\_\_\_\_\_

**If we have any errors in your name and address, please provide corrections.**

\_\_\_\_\_  
\_\_\_\_\_

Sent By: Name \_\_\_\_\_

Agency/Company Name \_\_\_\_\_

Address \_\_\_\_\_

Phone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

E-mail/Other: \_\_\_\_\_



## Need for Capacitor Banks in the Fort McMurray Area

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)  
May 25, 2009

### Why are capacitor banks needed in the Fort McMurray area?

Industrial demand for electricity in the Fort McMurray area continues to grow and transmission system reinforcements to help meet this demand are required. The Alberta Electric System Operator (AESO) has identified the need for transmission system reinforcement in the Fort McMurray area due to voltage instability and has confirmed that electricity demand by 2010 in this area can be reliably met by adding several capacitor banks in the northeast area of Alberta. One of the capacitor banks is proposed to be installed at Dover 888S substation with 100MVar capacity.

### Who is the AESO?

Alberta's transmission system, sometimes referred to as the Alberta Interconnected Electric System (AIES), is planned and operated by the Alberta Electric System Operator (AESO). The transmission system is comprised of the high-voltage lines, towers and equipment (generally 69 kV and above) that 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 operation of the provincial transmission grid. Our planning responsibility includes identifying needed transmission reinforcement and recommending preferred options to meet these needs. We are regulated by the Alberta Utilities Commission (AUC) and must apply for approval of the transmission system needs we identify. Further, the AESO is also mandated to facilitate the interconnection of qualified electricity generators and new load customers to the provincial transmission power grid.

The AESO intends to apply to the AUC for approval of the need identified for transmission reinforcement in the Fort McMurray area in December 2009.

### How is ATCO Electric Ltd. involved?

ATCO Electric Ltd. is the Transmission Facility Owner (TFO) in the Fort McMurray Area. While the AESO is responsible for determining the need for transmission system reinforcement, ATCO Electric, when directed by the AESO, is responsible for filing an application with the AUC for approval of the transmission facilities that will satisfy the transmission system reinforcement need identified by the AESO.

The AESO appreciates the views of stakeholders. Your comments and suggestions on the plan for transmission system reinforcement are encouraged. If you have any questions or suggestions regarding the need for transmission system reinforcement in the Fort McMurray area or the AESO's application regarding this need, please contact:

**Pam Allen**  
**AESO Stakeholder Relations**  
**1-888-866-2959**  
**[stakeholder.relations@aeso.ca](mailto:stakeholder.relations@aeso.ca)**  
**2500, 330 – 5<sup>th</sup> Avenue SW**  
**Calgary, Alberta T2P 0L4**

*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 local 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).*