

Reference Guide



*Our Promise is Your
Power*

Contents

- Corporate Profile..... 3
- Our Service Area 3
- Industry Overview..... 3
- Customer Service: 310-WIRE (9473) or 1-855-333-9473..... 5
- FortisAlberta Control Centre (FCC) 5
 - Outage Management System (OMS) 5
 - Supervisory Control and Data Acquisition (SCADA)..... 5
- Planned Power Outages (PPO)..... 6
- Unplanned Power Outages 6
- Distribution System Maintenance Activities..... 6
 - Detailed Line Patrols 6
 - Vegetation Management 6
 - Pole and Ground Testing..... 6
 - Cable Rejuvenation 7
 - Bulk Lamp Replacement 7
 - Re-Painting Program 7
 - Steel Street Light Pole Testing 7
 - Steel Street Light Pole Painting..... 7
- Public Safety..... 8
 - Power Line Clearances 8
 - Call Before You Dig..... 8
- Moving High Loads..... 8
- First Responders Safety..... 9
 - Emergency Response Plan (ERP)..... 9
- Employee Safety 9
 - Mission Zero..... 9
- Facilities Mapping 10
- Street Lights 10
 - Reporting Street Light Repairs 10
 - Banner Process..... 10
 - Street Light Catalogue..... 10

Community Investment 11
Energy Efficiency 11

Corporate Profile

As the owner and operator of more than 60 per cent of Alberta’s total electricity distribution network, FortisAlberta is committed to delivering safe and reliable electricity service to more than half a million residential, farm and business customers. The company serves more than 200 communities with 119,000 kilometres of distribution power lines across Alberta.

The electricity that enters the homes or businesses of our customers is transmitted along our distribution power lines, which are either above ground or underground, and carry between 4,000 and 25,000 volts of electricity.

In 2014, we invested \$300 million in our electricity distribution system to improve reliability of service and meet customer needs.

FortisAlberta is a wholly owned subsidiary of Fortis Inc., the largest investor-owned gas and electricity distribution utility in Canada.

Our Service Area

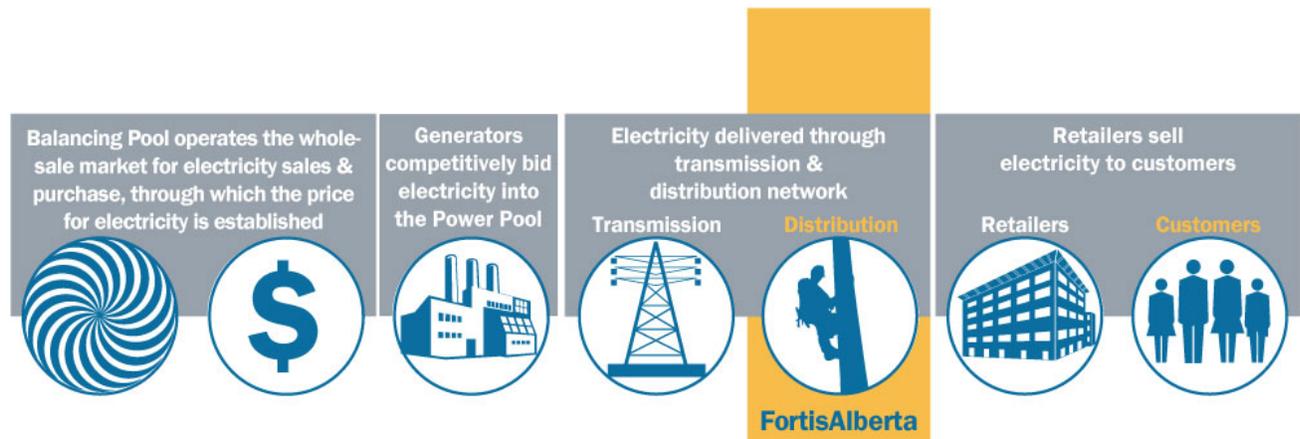
To view our service area, please follow the link below.

<http://www.fortisalberta.com/residential/customerservice/map/Pages/default.aspx>

Industry Overview

FortisAlberta is the first point of contact to connect your new electricity service; however there are many participants in the overall system who make sure the power is there when you need it.

Here’s an overview of the different industry participants.



BALANCING POOL – In Alberta’s restructured electricity industry; the Balancing Pool manages the financial accounts arising from the transition to a competitive generation market on behalf of electricity consumers and meets any obligations and responsibilities associated with both sold and unsold Power Purchase Arrangements (PPAs) from several major power plants.

GENERATORS – Generation is the first step in the process to provide electricity to consumers. Half of the electricity in Alberta is generated by coal-fired generation plants with natural gas and renewable generation (e.g.

hydroelectric, biomass and wind-powered plants) as other sources of electricity. Generation of electricity in Alberta is non-discriminatory and is open to any generator.

TRANSMISSION SERVICE PROVIDERS – Once generated, electricity travels across Alberta from generating plants over high-voltage transmission lines to local substations. The transformers at these substations reduce the voltage level making it suitable for local distribution. The transmission utilities retain ownership of the high voltage lines and operate under regulation of the Alberta Utilities Commission (AUC). The long-term planning of the overall transmission system is undertaken by the Alberta Electric System Operator (AESO).

DISTRIBUTION SERVICE PROVIDERS – Electricity travels over low-voltage distribution lines, typically starting at the substations, owned by the distribution provider, to customers' homes or businesses. We build, operate and maintain the poles and wires in our service area. In Alberta, distribution companies are designated and regulated by the AUC, and have a number of obligations to customers, including installing, reading, and verifying customers' meters. Distribution companies are also responsible for providing billing information for the distribution portion of the bill, to Retailers. A customer then receives their bill from their billing company.

RETAILERS – Retailers, or billing companies, purchase power electricity in large volumes from the wholesale markets, and then sell the electricity in smaller packages to their customers. They process accounts, produce and deliver bills. Retailers also ensure the customer is connected to the distribution system to receive power.

Customers have options for buying their electricity. Customers can choose to:

- 1) Purchase their energy through a default service provider at regulated rates. If they currently receive electricity and have not entered into a contract with a competitive retailer; then customers are defaulted on the Regulated Rate Option (RRO), which is approved by the AUC. By not signing a competitive electricity contract, customers will continue to receive the regulated rate.

OR

- 2) Purchase their electricity through competitive contract offers. This means the customer and the Retailer of their choice agree to a contract that determines their retail rates. A website provided by the Utilities Consumer Advocate is available to compare competitive electricity prices:
<http://www.ucahelps.alberta.ca/price-summary.aspx>

REPRESENTING CUSTOMERS –The Utilities Consumer Advocate's (UCA) main objective is to represent consumers' interests in regulatory proceedings before the AUC and other regulatory agencies whose decisions impact consumers.

One of the main services provided by the UCA is the mediation of complaints from residential or farm customers and small businesses, not including Rural Electrification Association (REA) customers. They will also provide information to help consumers make informed choices about how to purchase electricity and natural gas based on their individual circumstances by explaining the difference between regulated and competitive Retailers.

If you have questions or would like to find out more about the UCA please visit their website at www.ucahelps.alberta.ca or call at 310-4-UCA (310-4822).

Customer Service: 310-WIRE (9473) or 1-855-333-9473

As your electricity service provider, we:

- Perform 24-hour outage repair and emergency response
- Build, maintain, and upgrade power lines and facilities
- Install and read meters
- Provide consumption data to retailers (who bill customers)
- Promote electrical safety education in our communities

FortisAlberta is committed to provide our customers with safe, responsive, and reliable service. Employees are located throughout the province and are poised to respond to service issues and your questions. Please call **310-WIRE (9473) or 1-855-333-9473** to address the following concerns:

- Power outages
- Power quality
- Vegetation management
- New service construction
- High load moves
- Power emergencies
- Meter reads

Hours: Emergency - 24 hours a day, 7 days a week

Customer Service: Monday to Friday (7:00a.m. – 10:00 p.m.); Saturday (8:00 a.m. – 8:00 p.m.); Sunday and Statutory Holidays (9:00 a.m. – 6:00 p.m.).

FortisAlberta Control Centre (FCC)

The FCC is housed at the FortisAlberta Airdrie building. Having the FCC, Dispatch and Contact Centre under one roof optimizes communication channels among these groups and leads to more efficient outage identification and management in addition to quicker power restoration.

Outage Management System (OMS)

The OMS is made up of several system components, each designed and tested individually, before eventually being amalgamated and tested as one unified system. When multiple calls come into the Contact Centre during an outage, the OMS will be able to link customer data to a common point and direct the local Power Line Technician (PLT) to the failed device. This eliminates the guesswork when locating a failed device.

Supervisory Control and Data Acquisition (SCADA)

Installed in selected areas, SCADA operable devices will allow Fortis to remotely reclose individual lines during outages. This will be a more safe and efficient procedure to get customers' power back on.

SCADA devices will be added to FortisAlberta's lines over the next few years to extend the reach of the Control Centre to more points within the service territory.

Planned Power Outages (PPO)

As part of our commitment to provide the highest quality and reliable service FortisAlberta performs regular maintenance upgrades and activities. This type of work prevents more extensive and unplanned outages in the future. Sometimes maintenance work requires planned power outages to ensure the safety of our employees and the public. These service interruptions involve extensive planning, which is why we can schedule and refer to them as planned power outages.

We make every effort to contact our customers at least two days ahead of the scheduled outage to ensure they are aware of the outage and can make alternate arrangements if necessary. Planned outage information is available on our website at <http://www.fortisalberta.com/residential/outages/planned/Pages/default.aspx> or visit our Outage map <http://outagemap.fortisalberta.com>.

If you are experiencing power disruptions and we have not contacted you, please contact us immediately at 310-WIRE (9473) or 1-855-333-9473.

Unplanned Power Outages

Customers are asked to call 310-WIRE (9473) or visit <http://outagemap.fortisalberta.com> to report an outage or an electrical emergency. It is crucial that customers report all unplanned outages immediately as we are unaware of these situations otherwise and cannot begin the process to resolve the situation until notified. When there is an extensive outage situation, we call in available additional resources as needed and enable an automated phone system to assist with the increased call volume.

Distribution System Maintenance Activities

Detailed Line Patrols

Detailed line patrols are conducted on each feeder once every seven years. Field information is compared to our records, and any work that is required to correct deficiencies is recorded and prioritized. Work that is assigned a high priority is fixed immediately; work assigned a medium priority is completed within two to six months; and work assigned a low priority is completed the following year.

Vegetation Management

Tree branches near power lines can cause a loss of service during storms. A favourite tree can present a danger to children who climb too close to overhead lines. Although we cannot prune trees along the service drop (the line running from our facility – usually a power pole – to a home or business) unless a limb is rubbing on the wire, we will drop the service wire at customer request whenever the wire interferes with customer tree removal.

A vegetation management program is conducted on each feeder on a three-year cycle. Emergency trimming takes place annually, where required. The brushing crew completes the work within the same year as the patrol.

Pole and Ground Testing

Pole testing is a scheduled inspection of poles, including those with street lights, to determine the integrity of the wood. These poles are also assessed for stubbing and replacement based on decay and/or damage. Poles that are 15 years or older receive a three hole drill test to check for decay.

Ground testing is conducted on a sampling basis, in conjunction with pole testing. Ground testing is an impedance (resistance) test to ensure distribution system grounds meet the Alberta Electrical and Communication Utility Code (AECUC) and Canadian Electrical Code (CEC) requirements.

These tests are conducted once every seven years on each feeder. Pole replacement, stubbing and external treatment work as well as grounding replacement is normally completed in the year following the test.

Cable Rejuvenation

Cable rejuvenation has a minimal environmental impact as one litre of fluid will mend approximately 500 metres of cable. It also helps to avoid costly emergency repairs where a great deal of cable might have to be dug up disturbing the landscape.

This process can take as little as a few hours for one cable segment and can extend the life of the underground cable for up to another 40 years. Some cable sections will have to be replaced during the process if they've deteriorated beyond the point at which they can be injected. In many cases, this can be done without customer outages.

Bulk Lamp Replacement

FortisAlberta replaces the bulbs in its luminaires every five years and the photo eyes every 10 years.

High Pressure Sodium (HPS) light bulbs have a manufacturer's rated life of 24,000 hours or approximately six years. Although most HPS bulbs will last longer than this estimate, their failure rate increases and light output decreases. We strive to reduce street light outages by changing all bulbs, inspecting ballasts and cleaning fixtures based on the percentage rates of failures in a service area.

Re-Painting Program

Facilities such as steel street light poles, padmount transformers, and pedestals, require periodic re-painting and are identified during detailed line patrols or through request by our PLTs, or the general public. Re-painting is normally completed within the year it was identified (weather permitting).

Steel Street Light Pole Testing

Steel street light poles are inspected as part of the Detail Line Patrol or in the same cycle as bulk lamp replacement when practical, to optimize the use of resources. Inspection includes visual, hammer and ultrasound testing.

Steel street light poles that exhibit signs of rust, or whose base is below ground line, are tested using ultrasound to assess integrity. Criteria have also been established to assess dents. Street light poles are replaced the following year if their structural integrity is suspect. However, poles that are determined to be in danger of failure before the scheduled pole replacement are scheduled for immediate replacement.

Steel Street Light Pole Painting

Steel street light poles are painted in order to extend the life of these facilities and address graffiti or aesthetic issues.

Locations for painting are identified through the bulk lamp replacement program, line patrols or via customer feedback. Steel street light pole painting is done in conjunction with our re-painting program.

If any of the above programs (except for Detailed Line Patrols) are scheduled to happen in your area, your FortisAlberta representative will contact you beforehand.

Public Safety

Power Line Clearances

You must stay a minimum of seven metres away from any overhead power line until a FortisAlberta representative has confirmed the line's voltage for you.

Voltage	Safe Distance
0 - 40 kV	3 metres (9 feet, 10 inches)
69 - 72 kV	3.5 metres (11 feet, 6 inches)
138 - 144 kV	4 metres (13 feet, 2 inches)
230 - 240 kV	5 metres (16 feet, 5 inches)
500 kV	7 metres (22 feet, 11 inches)

Our power lines are constructed according to Alberta Electric and Communication Utility Code Standards. To find more information about Power Line Clearances please

visit <http://www.fortisalberta.com/residential/safety/moving-high-loads/Pages/default.aspx>

We have also developed a video for the agricultural community focusing on the increasing heights of equipment and the heights of the existing power lines. The Company released another video focused on the construction industry. These videos can be viewed at www.fortisalberta.com

To access our Farm Safety Brochure please follow the link below:

<http://www.fortisalberta.com/SiteCollectionDocuments/Safety%20Reusable/Electrical-Safety-Farm.pdf>

Call us at 310-WIRE (9473) or 1-855-333-9473 prior to beginning any work within seven metres of a power line to arrange a meeting.

Call Before You Dig

Underground excavation accounts for more than 20 per cent of power line contacts.

FortisAlberta locates its own lines up to the meter and does not locate customer-owned lines. Locating of our facilities up to the meter is free of charge. Customers are responsible for hiring a utility locating company to locate the customers' own secondary lines and there is a charge if the customer-owned facilities are located after the meter or if the meter is not located on the house. Private utility locators can be found in the yellow pages under "Utility Locators" or check out the website of the Canadian Association of Pipeline and Utility Locating Contractors at <http://www.capulc.ca/>

To find out about other considerations in safe work planning please

visit <http://www.fortisalberta.com/residential/safety/call-before-you-dig/Pages/default.aspx>

Excavators and contractors must call Alberta One-Call at 1-800-242-3447 as their first step. Alberta One-Call will arrange to have most utility lines marked. They require at least two working days' notice and these markings are valid for 14 days. You can also visit their website at www.alberta1call.com

Moving High Loads

If the total height of your load is more than 4.15 metres (13.6 feet), it is considered over height or a "High Load." A permit to travel must be secured from Alberta Infrastructure and Transportation. You can contact them at 1-800-662-7138 or at www.travis.gov.ab.ca.



If the load is over 5.3 metres (17.4 feet), you will also be directed to call your electric distribution utility. We will either clear you to move the load yourself or escort the load lifting or dropping power lines along the way depending on the route and situation. We require a minimum of seven working days' notice. FortisAlberta's 24-hour High Load number is 1-888-251-3907.

- The Transmission Company also requires notification

In warm months, power lines have greater sag reducing limits of approach, making winter months better to perform load moves.

First Responders Safety

Emergency Response Plan (ERP)

FortisAlberta's Emergency Response Plan (ERP) is designed to enable employees to react to emergency situations (i.e. unplanned power interruptions) in a safe and effective way. Employees are equipped with the tools and knowledge to act in the best interest of customers and restore power to customers as quickly and safely as possible.

The ERP is most commonly activated at times of large storms of snow, ice, and wind. The magnitude of the event determines the extent of the organizational structure required to effectively respond.

Level one – Multiple outages in one service point that require additional resources to manage but can be restored within 24 hours.

Level two – Multiple outages, possibly in multiple service points, that will require additional resources from other service areas and may take several days to restore.

Level three – Multiple Service areas without power, likely including major transmission damage and the requirement to bring in Mutual Aid Partners from outside of Alberta.

FortisAlberta was also instrumental in the development of a video for emergency responders that has become an important tool to help ensure their safety when responding to incidents involving power lines. To access the Safety for First Responders brochure please follow the link below:

<http://www.fortisalberta.com/SiteCollectionDocuments/Safety%20Reusable/First-Responders-Safety.pdf>

Employee Safety

Mission Zero

Public safety goes hand-in-hand with employee safety. Our accredited Power Line Technician Apprentice Program ensures appropriate training and work experience for all new employees. Each year, more than 300 Power Line Technicians participate in hands-on training at our Employee Development Centre to enhance their skills related to work techniques, tools, incident prevention and emergency response.

FortisAlberta is an active member of the Canadian Electrical Association (CEA) and is represented on the CEA's Occupational Health & Safety Working Group. This participation helps ensure we have the latest work methods and safety information.

For additional information about power line safety contact your Stakeholder Relations Manager or visit our website at www.fortisalberta.com.

Facilities Mapping

FortisAlberta's facility data, including the location of poles, conductors and street lights, is available through AltaLIS, the one-stop shop for mapping data in Alberta. Through AltaLIS's website, customers can access the latest data and instantaneously load it directly into their Geographic Information System (GIS). You can visit the AltaLIS website at <http://www.altalis.com/>

Every effort has been made to ensure spatial accuracy of the data, however, this product is a mapping representation of FortisAlberta owned and operated facilities only and may not accurately depict the exact geographic locations on the ground. For any planned or required ground disturbances, you must obtain accurate location details from one of our field staff. To locate underground services, ALWAYS "Dial Before You Dig" and contact Alberta One Call at 1-800-242-3447.

Benefits of using AltaLIS:

- Customers do not have to wait for us to do most of their pre-planning for projects
- Facility data is provided in a GIS format that customers can directly integrate into their systems
- Customers only pay per request (no monthly subscription)

Street Lights

Reporting Street Light Repairs

Our customers are able to report a burnt out or cycling (intermittent on/off) street light by submitting the online [Street Light Repair](#) form located on our website. Additionally, customers can call **310-WIRE (9473)** or **855-333-9473** where a customer service agent would be happy to log and action a repair order for the street light in question.

Banner Process

If a developer is interested in banners on new street light poles it is important to note that approval is required from the municipality as well as FortisAlberta before proceeding.

The process is as follows:

- Upon receiving approval from the municipality, the specifications of the banners must be sent to the Stakeholder Relations Manager to submit for review and approval from the Standards Department. Assessment charges may apply.
- Upon approval, the banners can be installed and remain hanging for the approved length of time. An orientation with FortisAlberta's local PLTs may be required.

If you require further information regarding banner arms or the installation of banner arms on existing street light poles, please consult with a FortisAlberta representative.

Street Light Catalogue

FortisAlberta's updated streetlight catalogue is now available and in it you will find more LED options for most of our decorative streetlights. These options are available in both 70W and 250 W LED equivalents. Estimated costs and render drawings have also been updated in the catalogue.

To view the catalogue please visit the following

link: <http://www.fortisalberta.com/municipalities/Documents/StreetLight-Catalogue.pdf>

If you would prefer a hardcopy of the streetlight catalogue, please contact your local Stakeholder Relations Manager.

Community Investment

Through sponsorships, donations and the personal involvement of our employees, our vision is to empower communities by contributing to causes and organizations who offer programs and services that align with our business priorities: safety, education, and the environment.

We are proud to give to grass-root, Alberta-based organizations that impact our customers and benefit their communities. Every application for assistance is considered and applied against our eligibility criteria, which can be viewed at <http://www.fortisalberta.com/residential/community/investment/Pages/How-We-Give.aspx>

Support can be provided in the form of donations, event sponsorship or corporate volunteerism.

We are proud of our provincial partnerships, like Alberta 4-H and STARS, as well as our sponsorship programs for community-based organizations and individuals, like our “Green Teams” for community events and the ZAP program. We continually develop new partnerships and programs and we encourage your feedback about how we can support your community.

For more information you can visit our website at www.fortisalberta.com where you will learn about some of our initiatives. You can also contact the Stakeholder Relations Manager serving your community, or contact the FortisAlberta Corporate Communications department at:

FortisAlberta Inc.

Community Investment Programs

Debbie Bowering, Communications Advisor

320 – 17th Avenue SW

Calgary, Alberta T2S 2V1

E-mail: Debbie.Bowering@fortisalberta.com or Phone: (403) 514-4168 or Fax: (403) 514-5168

Energy Efficiency

FortisAlberta wants to help customers in the communities we serve by providing the tools to learn about their electricity usage and energy conservation.

Improving energy efficiency in the home requires an understanding of where energy is consumed. Whether it's purchasing energy efficient lights and appliances, turning the thermostat down before going to bed, anything that conserves energy and saves money, that's Energy Your Way[™].

Resources

We want to connect our customers to detailed information on energy-efficient changes to the home and small business. The resources listed below have information about incentive programs that will help cut the costs of energy upgrades.

- The Energy Your Way Home Energy Savings Guide offers these practical, easy and inexpensive energy efficiency tips. To view our guide please visit <http://www.fortisalberta.com/residential/energy/Documents/Energy-Your-Way-Booklet.pdf>
- Customers can also go to our website at www.fortisalberta.com to learn about electricity savings tips.