

# **CALEDONIA LINE EXTENSION AND ELECTRIC USE POLICY**

**City of Caledonia, MN**

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# 1 Introduction

This purpose of these policies is to provide uniform electric installations and modifications to the electric customers of the City of Caledonia. These policies are necessary to allow the municipal electric utility to serve all its electric customers in a fair and efficient manner.

This following polices are covered in this document:

- General information on rates, metering and easements.
- Voltage and capacity of electric service available and type of service facilities
- Transformers and metering information
- Customer costs for new electric service and modifications to existing electric service

## 2 General Information

The following is general information on the electric service rules and regulations that apply to customers receiving electric service from the City of Caledonia. The City may have additional requirements. The City in this document refers to the City of Caledonia or employees or contractors designated by the City to perform work on the electric utility.

### ***2.1 Rate Schedules and Connection Rules***

Electric service is supplied to customers under the City's established rates, rules, and regulations. Rate information along with other information on fees and rules is available from the City Clerk's office.

Service shall be supplied to the customer from the City's nearest suitable power line. Service shall only be used by the customer for the purpose as established in the rate schedule.

Connection or disconnection to the City's distribution equipment shall be made only by the City. Customers are not permitted access to City owned electrical equipment.

Customers may not connect to the City's facilities in such a way to permit the use of un-metered energy.

## **2.2 Customer's Responsibility**

The customer shall give authorized employees of the City access to the premises of the customer in order to operate and maintain the City electrical equipment. Operation and maintenance activities include meter reading, tree trimming, replacement or modification of the electric equipment, and other maintenance and operating activities.

The customer is responsible for protecting the electrical equipment located on the customer's property against damage such as damage from vehicles or vandals.

The customer shall provide City approved conduit if required by the City to serve underground electric to a customer. This will be required in locations that are not readily accessible by the City such as under driveways, roads, parking lots, and other paved areas. The customer will provide the trench, plowing, or horizontal directional boring whichever is the City preferred method. The city preferred method may vary from service to service depending on the circumstance from the City of Caledonia electrical equipment to the customer owned service entrance equipment. The trench, plowing, or horizontal directional boring shall be a minimum of 30 to 36" deep and a width of 4" for the trench method. The customer shall backfill the trench after the City of Caledonia installs the service wires. The backfill material shall be free from rocks or other debris that could cause damage to the service wires. For three-phase services, the customer will provide the trench, transformer ground sleeve (provided by City of Caledonia and paid by customer), conduit and wire from transformer to the current transformer (CT) cabinet.

The customer will provide adequate clearance from electrical equipment in order for the city to operate and maintain the equipment. The City requires 10 feet of clearance in front of doors of pad-mounted equipment.

## **3 Type of Service and Service Facilities**

The city will provide a service from either overhead or underground distribution. If both overhead and underground are available, the City will select the least cost alternative, which will be overhead in most cases. The customer may elect to have underground installed and pay the difference between the costs of underground versus the less expensive overhead options.

### **3.1 Services**

The City will normally provide only one electric service to a building or property owned by the same individual or company. Additional services may be provided for special circumstances. Contact the City for specific information.

The City will specify the location of the point of attachment to the City owned electric distribution. The point of attachment for an overhead service is normally within 24 inches of the weatherhead. Adequate clearance is required for the overhead service based on the applicable codes. Contact the City for information on the required clearances for overhead wires.

Installation of underground services and pad-mounted equipment shall not be done until the property is within 6 inches of the final grade. The depth of underground wires shall be done in accordance with the applicable codes. The point of connection to City owned equipment shall be determined by the City.

### **3.2 Power Quality**

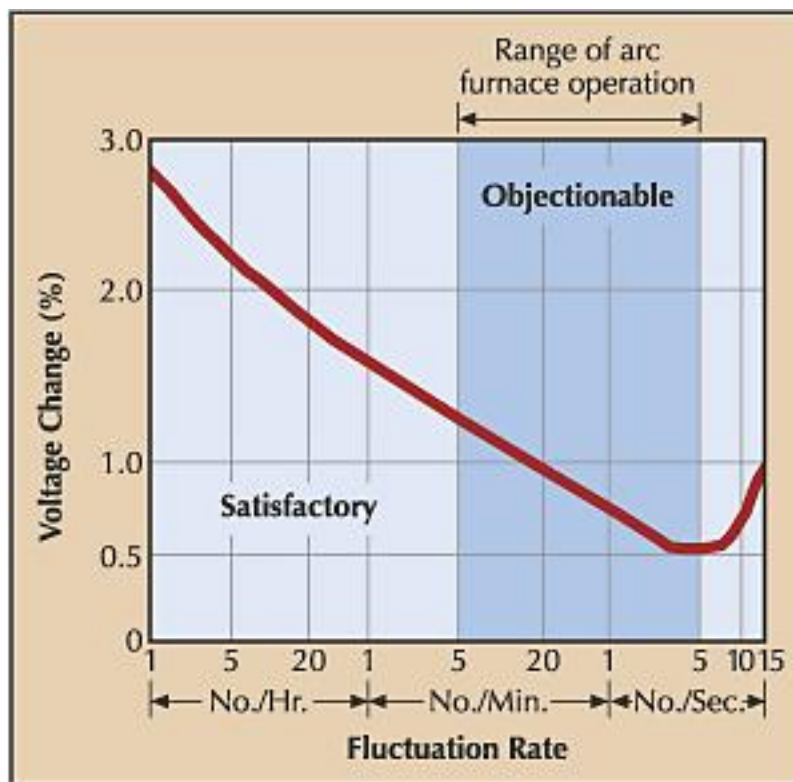
The customer is responsible for the utilizing the power delivered in such as manner as to prevent power quality concerns to the City owned electric equipment or to other electric customers. The power quality pertains to voltage unbalance, harmonics, power factor, voltage flicker, and load balance. The City is responsible for providing power of sufficient quality to meet the needs of the customer. The City will work with customers that are experiencing or causing power quality concerns.

The City's goal is to limit the maximum steady-state voltage unbalance to 3% or less. Voltage unbalance is measured at the customer's service entrance. The voltage unbalance may be caused by the customer equipment or due to the voltage delivered by the City. The City will work with the customer to reduce any voltage unbalances to 3% or less.

The City will follow the guidelines of IEEE Standard 519-1992 "IEEE Recommended Practices and Requirements for Harmonic Control in Electrical Power Systems". Harmonic concerns may be due to customer equipment or equipment from neighboring electric services. Customers may be required to pay for a power quality investigation if the problem is due to customer owned equipment.

Customers may be required to improve low power factor conditions if requested by the City. The City may elect to charge the customer for modifications in electric utility equipment to accommodate the low power factor or charge the customer a monthly fee that is included in the electric rate to recover the costs.

The City will use IEEE Standard 141-1976 as a guideline for the level of allowable flicker caused by the operation of customer owned electric equipment. Voltage flicker can be caused by motor starting current, welders, arc furnaces, pulsing loads such as wood chippers or rock crushers, and other loads that where the current varies in magnitude during the operation of the load. The customer may be required to install soft-start equipment for 3-phase motors rated 50 HP and larger and 1-phase motors rated 10 HP and larger. Air-conditioners rated 4 tons and above may also cause objectionable voltage flicker. The customer is responsible to provide a list of equipment with operating conditions before installing the equipment. The customer will be required to modify their equipment or disconnect the equipment if the equipment causes objectionable voltage flicker.



The above chart is a guideline for allowable voltage flicker.

No single-phase loads in excess of 50 kVA on a 4.16 kV system or 100 kVA on the 12.5 kV system will be served without special permission by the City. Customers with 3-phase services shall arrange the equipment on panels so the maximum deviation from the average current is 30% or less.

### **3.3 Voltage and Phases**

The following voltages are available:

- 120/240 volts 1-phase
- 120/208 volts 3-phase
- 277/480 volts 3-phase

In some situations, the City may offer 120/240 volts 3-phase to existing buildings. Contact the City if this service voltage is requested.

The City will not normally install 3-phase service where 1-phase is adequate. Motors 10 HP and less can usually be served from 1-phase. A customer with a total demand of 50 kW or less can normally be served with 1-phase power.

## **4 Transformer and Metering Information**

Transformers will be installed and maintained by the City. The City will provide a transformer to meet the peak load of the facility. The City has the right to down-size transformers that are over-sized based on the peak load of the facility. If the customer requires a larger transformer due to special circumstances such as to accommodate the in-rush current of motors, the customer shall pay the difference between the actual transformer installed and the transformer that would be installed to meet the peak average demand.

The customer shall provide 10 feet of clearance on the side of the transformer with the door opening. Transformer shall be located to minimize the overall electric service costs. Customers may be required to pay for additional costs if the location requested causes additional distribution equipment to be installed.

The following restrictions apply to oil-filled pad-mounted transformer locations near walls and openings:

- Pad-mounted transformers shall not be located within 30 inches of a non-combustible wall without any openings within 10 feet of the transformer.

- Pad-mounted transformers shall not be located within a zone extending 20 feet outward and 10 feet to either side of a building door and 30 inches from a non-combustible wall.
- Pad-mounted transformers shall not be located within a zone extending 10 feet outward and 10 feet to either side of an air intake opening and 30 inches from a non-combustible wall.
- Pad-mounted transformers shall not be located within a zone extending 10 feet outward and 10 feet to either side of an air intake opening and 30 inches from a non-combustible wall.
- Pad-mounted transformers shall not be located within 10 feet of a combustible wall.

A barrier with a 3-hour fire rating can be installed between the transformer and the wall if the required separation can't be attained. The barrier should be located 30 inches from the transformer.

The customer is responsible for purchasing, installing, connecting and maintaining self-contained and transformer rated meter sockets for services rated 200 amps and below. All meter sockets shall be UL listed. All self-contained meter sockets shall have a by-pass lever. The customer shall purchase metering equipment that is approved by the City of Caledonia. A list of approved metering equipment is available from the City Electrician. All customer equipment installed shall be new and not used unless approval is obtained from the City Electrician.

The City will furnish instrument transformers and install in cabinets furnished and installed by the customer. The electrician will provide mounting brackets for the instrument transformers. Current transformers (CT) are required for services with a rated capacity exceeding 200 amps. Potential transformers are required for voltages rated 277/480 volts or higher. The customer is responsible for furnishing and installing the CT rated meter socket.

The meter location shall be approved by the City. The meter is normally required to be installed outdoors in an easily accessible location 4 – 6 feet above grade. There shall be no barriers installed preventing the City of Caledonia employees from safely reading the meter.

The customer is responsible for installing main panels or switchgear with adequate fault interrupting capacity. The customer should contact the City for information on available fault current.



## **5 Policies for New Electric Service**

The following are the rules pertaining to the installation of new electric services.

### **5.1 *Pre-Construction Activities***

The applicant shall complete an Application for Electric Service.

The applicant shall meet with the City at the site.

The applicant shall provide a legal property description and shall clear the right-of-way or pay the City to clear the right-of-way if required.

The applicant shall pay all fees and charges for line extension.

The electrician shall submit a signed and dated affidavit to the City attesting that the electrical installation has been completed and installed according to the applicable codes before the electric service is energized. An inspection by the State of Minnesota electrical inspector is required for premises wired by a person that does not have a Masters Electrician certification.

The grade shall be within 6 inches of final grade before construction begins.

The City has exclusive right to determine route and method of construction.

The applicant is required to pay the costs over the City preferred method.

The applicant is responsible for easements if the City cannot obtain an easement.

The City will begin billing the customer at the time the service transformer can be energized.

The applicant will pay for any relocation costs of service and distribution equipment.

The applicant is required to provide the trench, plowing, or horizontal directional boring and sand back-fill for underground facilities installed between November 15 and April 30 or pay for a temporary underground service installed in conduit above ground.

## **5.2 Front Lot Line Construction for Subdivisions**

Developers requesting service must provide a 10' utility easement adjacent to the street located at the front of the lots. The City of Caledonia will install the electrical equipment on the front lot line within this 10' utility easement. The details of the easement and location of the easement shall be discussed and approved by the City Electrician.

## **5.3 Temporary Service Charges**

Temporary metered service may be constructed and installed at the request of the applicant or contractor. The applicant is required to prepay \$100 for the temporary metered service that meets the electrical code and the City of Caledonia requirements.

## **5.4 Secondary Service Charges**

Single phase and 3-phase underground services will be installed to the customer service entrance equipment with a length up to 125 feet from the City of Caledonia equipment to the customer service entrance equipment. The customer will provide the trench, plowing, or horizontal directional boring from the City of Caledonia electrical equipment to the customer owned service entrance equipment. The trench, plowing, or horizontal directional boring shall be a minimum of 30 to 36" deep and a width of 4" for the trench method only. The customer shall backfill the trench after the City of Caledonia installs the service wires. The backfill material shall be free from rocks or other debris that could cause damage to the service wires. For three-phase services, the customer will provide the trench, transformer ground sleeve (provided by City of Caledonia and paid by customer), conduit and wire from transformer to the current transformer (CT) cabinet.

Single phase and 3-phase overhead services will be installed to the customer service entrance equipment with a length up to 100 feet from the City of Caledonia equipment to the customer service entrance equipment.

Service to platted subdivisions, industrial parks and manufactured home parks require a customer payment for the line extension and a payment of \$500 per lot.

The charge to replace an overhead service with an underground service is \$225. The customer is required to provide the trench and backfill as discussed previously for overhead to underground service replacements.

## **5.5 Primary Service Charges**

The following charges shall apply to a service extension to extend the high voltage (4.2 or 7.2 kV) distribution.

Primary overhead and underground single-phase wire charges:

Length in Feet	Cost/ft.
0 to 400 ft.	No charge
Over 400 ft.	\$14.00

Primary overhead and underground three-phase wire installation charges:

Length in Feet	Cost/ft.
0 to 400 ft.	No charge
Over 400 ft.	\$24.00

The charges over 400 ft. are based on the customer paying 40% of the cost of the equipment required for the primary extension, except for the cost of the transformers. The costs are based on 2009 estimated construction costs.

## **5.6 Other Charges**

Additional construction costs due to obstacles, weather conditions or extraordinary requirements such as costs for boring of underground cable shall be paid by applicant.

If a permanent structure is not in place 12 months after line extension, applicant may be required to pay an additional extension charge.

**Application for Electric Service  
City of Caledonia Electric Utility**

231 East Main St. • P.O. Box 232 • Caledonia, MN 55921 • 507-725-3450

Return this completed form to the above address or fax to City of Caledonia at 507-725-5258. This information is required before service will be installed.

Name: \_\_\_\_\_

Current Mailing Address: \_\_\_\_\_

Service Location Address: \_\_\_\_\_

Phone: \_\_\_\_\_ (work) \_\_\_\_\_ (home)

Mobile/Cell#: \_\_\_\_\_

Type of Service Desired (Indicate all of the following that apply):

Permanent	<input type="checkbox"/>	Temporary	<input type="checkbox"/>
Overhead	<input type="checkbox"/>	Underground	<input type="checkbox"/>
Residential	<input type="checkbox"/>	Commercial	<input type="checkbox"/>
Subdivision	<input type="checkbox"/>	Overhead to underground	<input type="checkbox"/>

Voltage: 120/240 1-phase ☐ 120/208 3-phase ☐ 277/480 3-phase ☐

120/240 3-phase ☐ (existing buildings only)

Main Service Amp Rating: 100 ☐ 150 ☐ 200 ☐ 400 ☐ 600 ☐ other \_\_\_\_\_ ☐

Estimated connected load: \_\_\_\_\_ kW \_\_\_\_\_ Amps \_\_\_\_\_ HP

Largest motor in HP \_\_\_\_\_

Electrician: \_\_\_\_\_ Phone: \_\_\_\_\_

Applicant has read and understands the conditions of the service rules attached to this application:

Applicant: \_\_\_\_\_ Date Signed: \_\_\_\_\_

Service Rules: City refers to the City of Caledonia

1. Deposit – Applicant agrees to pay City any deposit and/or service fee required for the type of service requested.
2. Service Extension Fees – Applicant agrees to pay City any extension fees required for the type of electric service requested before installing the service.
3. Power Quality and Wiring – Applicant agrees to maintain all wiring, motors, and electrical equipment to meet the applicable wiring codes and to prevent any power quality concerns to the City owned electrical equipment or equipment owned by other customers.
4. Liability – City is not liable for any damages resulting from the interruption of the electric service to the Applicant.
5. Right to maintain City equipment – The City has the right to access the premise at all times for the purpose of reading the electric meter or for maintaining the City owned electrical equipment.
6. Right to Clear Right-of-Way – The City has the right to access the premise at all times to cut and control the growth of trees or other vegetation in the Right-of-Way of the City owned poles, wires or other electrical equipment.

Extension and Electric Use Policy – The policy for rules and regulations covering the charges for services and use of electric service is included in the document “Caledonia Line Extension and Electric Use Policy”. The applicant can obtain a copy of the policy from the office of the City Clerk.