



**SaskEnergy**

# Your Guide To Natural Gas Service



# NATURAL GAS SERVICE GUIDE

At SaskEnergy we work closely with you to understand your energy needs and provide you with natural gas solutions. We deliver the benefits of safe, convenient and environmentally friendly natural gas to more than 347,000 residential, farm, commercial and industrial customers throughout Saskatchewan. We purchase natural gas from independent suppliers and transport it through our 67,000 km distribution system to 92% of Saskatchewan communities.

As well as being safe, convenient, reliable and clean burning, natural gas is the lowest cost fuel to serve your home and business energy needs. Your local SaskEnergy Business Representative looks forward to working with you throughout your project - from planning through delivery. Meeting your needs with the benefits of natural gas is our priority. Please get in touch with us early in your planning process so that we can work together on a successful project. This guide is designed to assist builders, contractors and developers in coordinating natural gas service. If you or your customers have any questions about SaskEnergy services, please call us toll-free at **1-800-567-8899**.

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- 1.3 Codes and Safety Considerations
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## SECTION 1- GENERAL

### 1.1 - Definitions

**BTU**- abbreviation for British Thermal Unit. An Imperial measurement of energy.

**Clearances** - minimum distances SaskEnergy facilities must maintain from other utilities, obstructions, vents, air intakes, and windows and doors. These are prescribed by various codes.

**Customer Owned Supply Line**- customer owned piping downstream of the Point of Delivery.

**Delivery Pressure**- the natural gas pressure, in psig or kPag that is supplied to the customer.

**kPag**- abbreviation for kiloPascals (gauge) - A metric unit for the measurement of pressure.

**Load Requirement** - The total amount of natural gas required for a customer's natural gas equipment. May be provided to SaskEnergy in a variety of measures, including British Thermal Units per hour (BTU/hr), cubic meters per hour (m<sup>3</sup>/hr), standard cubic feet per hour (scfh) or kiloWatt per hour (kWhr) (*See Appendix 1*)

**m<sup>3</sup>**- abbreviation for cubic meter. A metric unit for the measurement of volume. (*See Appendix 1*)

**Main Line** - SaskEnergy pipelines that serve more than one customer and to which individual Service Lines are connected.

**Meter Footprint**- the physical space required to accommodate SaskEnergy metering facilities.

**Meter Board (Residential)**- a suitable wooden backing material with dimensions of 0.6 x 3.0 meters (2" x 10") and between .45 and 0.6 meters long. This shall be supplied and installed by the owner at the time of route selection and installed 1.2 - 1.5 meters above the final grade

**Meter Set** - consists of the meter and regulator and is the point where ownership of the natural gas is transferred from SaskEnergy to the customer.

**Multi-Unit Residential Dwelling** - any building that is not a single detached home that is used primarily for residential applications. Typically served by a single SaskEnergy Service Line and may have single or multiple meters.

**Native Backfill** - the original soil displaced by the installation of the SaskEnergy facilities through excavation will be replaced.

**Plot Plan** - a drawing showing the building location on a lot or subdivision plan that the customer wishes to have served with natural gas.

**psig**- abbreviation for pounds per square inch (gauge). An Imperial measurement of pressure.

**Route**- the path that will be followed for the installation of a SaskEnergy Main and/or Service Line.

**Service Connect Charge**- charge to activate the Customer's billing account and meter.

**Service Line** - the SaskEnergy owned pipe that is installed to bring the natural gas from the main line to the meter and typically serves one customer or building.

**Subdivision Plan**- a surveyed plan indicating lots contained within a subdivision.

**Venting Requirements** - the minimum clearances needed for the operation of a customer's equipment and appliances.



## SECTION 1 - GENERAL

### 1.2 - How to Contact SaskEnergy

All customers requiring natural gas service should visit our website at [saskenergy.com](http://saskenergy.com) and click on the “Get Hooked Up Now” link.



New Natural Gas Service.  
Get Hooked Up Now!



This link will take you to a choice of natural gas service options. Select the appropriate link for your servicing needs. Once you have submitted the application, either by email/fax or mail, you will be contacted within five business days of receiving your application to discuss your plans and inquiry.

Residential - application for residential homeowners, landlords, farms, acreages etc.

Commercial and Industrial - application for commercial and industrial facilities and equipment (restaurants, grain dryers, mills, etc).

Builders and Developers - application for small and large builders and developers where gas mains are currently in place and service is required for individual residences.

Non-Served Community or Subdivision - inquiry process for communities and subdivisions where gas mains are *not* currently in place.

Early communication with SaskEnergy will help ensure that you receive the benefits of natural gas service in a timely manner.

### 1.3 - Codes & Safety Considerations

Natural Gas is one of the safest and most reliable fuels available, and at SaskEnergy, the safety of our customers and employees is a priority. To ensure safety, SaskEnergy follows a number of national, provincial, and municipal codes, internal standards, and offers line locating and odour response at no charge. Please contact **Sask 1<sup>st</sup> Call at 1-866-828-4888** for a line locate at least two business days before you are going to dig. For all your other safety concerns, please contact SaskEnergy at **1-888-700-0427**.

**Meter Board (Residential)**- a white metal clad wood board (plywood) or a white plastic board( PALIGHT Trimboard or equivalent) with the dimensions of 20 mm X 305 mm X 350 to 545 mm long(3/4” X 12” X 14” to 18” long), with top of meter board installed 1.2 m(48”) above final grade. Meter board to be supplied and installed by the homebuilder/owner at time of SaskEnergy’s site visit for the route and meter location selection. For new house/building service, the Builder is to provide suitable blocking (behind meter board) in the house framing to fasten meter board.

The Canadian Standards Association’s code CSA Z662 Oil and Gas Pipeline Systems is the national code that governs the installation and operation of utility natural gas systems.

The Canadian Standards Association’s code CSA B149.1 Natural Gas Installation Code is the national code that governs customer owned piping and equipment installation standards.



## SECTION 1 - GENERAL (Cont'd)

### 1.4 - SaskEnergy Standard Business Practices

#### a) New Facility Requests - Residential and Commercial

With some exceptions, all new facilities to be installed qualify for a SaskEnergy investment. This investment effectively reduces your cost for the natural gas service. The customer is responsible to pay that portion of the cost of service that exceeds the SaskEnergy investment.

#### b) Alterations to Existing Facilities

Alterations to existing SaskEnergy facilities may also qualify for a SaskEnergy investment. This investment effectively reduces your cost for the alteration of the natural gas service. The customer is responsible to pay that portion of the cost of the alteration that exceeds the SaskEnergy investment..



## SECTION 2 - RESIDENTIAL

### 2.1– Requesting Service

SaskEnergy strives to install the natural gas service in a timely manner. Factors such as third party approvals, routing, obstacles, customer delays, or weather conditions can all impact installation schedules. Facilities requested to be installed under frost conditions will result in additional costs to the customer. For customers who are building in the winter, SaskEnergy may be able to supply natural gas service for temporary construction heaters. If this is of interest to you, please mention it when requesting service.

#### **Individual Residential Request Process:**

Please provide SaskEnergy a plot plan, indicating the location of the residence within the property. For urban applications, please include the civic address, lot and block and plan number. For rural applications, please include the land location, LSD, lot or parcel (if applicable).

In order to meet your energy needs, we require the total hourly load and delivery pressure requirement for all natural gas equipment and appliances. Please provide any special considerations that may impact the installation of SaskEnergy facilities, such as obstacles, environmental concerns or special routing.

The following outlines the typical process:

- Customer request received
- SaskEnergy representative and customer meet to agree on route/costs/timelines
- Any required approvals are obtained
- Service is scheduled for installation
- Activation of account and meter

#### **Subdivision and Rural Residential Request Process:**

Please provide SaskEnergy a subdivision plan, indicating the legal land description, the total number of lots to be served, and their location. For rural applications, please include the land location.

To meet your energy needs, we require the total hourly load and delivery pressure for all natural gas needs. Please indicate any special considerations that may impact the installation of the SaskEnergy facilities, such as obstacles, special routing, backfill needs, or environmentally sensitive areas. For larger subdivisions, if all lots are not to be served in the initial year, SaskEnergy may request a forecast of when all the lots within the subdivision will be developed.

The following outlines the typical process:

- Customer request received
- Initial System Design
  - Business Review and Offer provided to Customer, including route/cost/timelines
- Offer accepted by customer, and returned to SaskEnergy
- Final System Design & Approvals
- Construction Scheduled
- Installation of required facilities
- Activation of account and meter



## SECTION 2 - RESIDENTIAL (cont'd)

### 2.2 - Planning for Natural Gas Facilities

When planning your residential subdivision layout, please consider your current and future plans.

Following installation in accordance with the routing agreement, all costs related to SaskEnergy facility alterations will be the owner's responsibility.

Installation of gas lines and facilities are a condition of service. In some circumstances gas lines are installed within easements registered on title, in other circumstances they are not. For safety and access reasons, customers are not permitted to build over *any* SaskEnergy natural gas facilities, and will be responsible for all costs to correct these encroachments. Pits, wells, foundations, pavements, buildings or other structures or installations are not generally permitted on SaskEnergy's easements. Written consent is required prior to planting trees or shrubs within an easement, and SaskEnergy generally has the right to trim, cut back or remove any trees or shrubs which, because of over-hanging branches or extensive root growth, are likely to interfere with SaskEnergy facilities or activities.

SaskEnergy standards do not allow underground service entrances into buildings.

Meters will be located on the outside of all buildings. When considering your meter location requirements it is important to meet with SaskEnergy to determine your on-site needs such as:

- Route selection
- Meter location
- Future development
- Venting restrictions
- Clearances from other utility facilities
- Verification of load and delivery pressure

#### **Additional Metering Requirements:**

- **Meter Board (Residential)**- a white metal clad wood board (plywood) or a white plastic board (PALIGHT Trimboard or equivalent) with the dimensions of 20 mm X 305 mm X 350 to 545 mm long (3/4" X 12" X 14" to 18" long), with top of meter board installed 1.2 m (48") above final grade. Meter board to be supplied and installed by the homebuilder/owner at time of SaskEnergy's site visit for the route and meter location selection. For new house/building service, the Builder is to provide suitable blocking (behind meter board) in the house framing to fasten meter board.
- The recommended location for the natural gas meter is on the side of the building, within 1 metre of the corner of the structure.
- The SaskEnergy service regulator and meter must have clearance from vents, electrical facilities, and openings such as windows and doors according to The Canadian Standards Association's code CSA B149.1 Natural Gas Installation Code.



## SECTION 2 - RESIDENTIAL (cont'd)

### 2.3 - Installing the SaskEnergy Natural Gas Facilities:

- SaskEnergy will proceed with the installation of the natural gas service line once all designs and approvals have been received. Installation of the facilities is typically by the open-trench method; however in certain circumstances a plough may be used. If boring is requested to install the facility, the additional costs will be the responsibility of the customer. Pipeline materials may be steel or polyethylene.
- All obstacles such as building material, dirt piles, vehicles, etc. on the route must be removed by the owner prior to installation to allow access for equipment.
- Main lines are typically installed at a depth ranging from 0.9 to 1.5 meters, while service lines are usually installed at a minimum depth of 0.6 meters below final grade. The width of the trench will depend on the type of equipment used. Requests for additional depth should be made at the time of the service request, and may be provided at an additional cost to the customer.
- The service line will terminate above ground at the point of delivery, a maximum of 1 meter from the corner of the building closest to the main line. This is where the meter and regulator assembly is installed. SaskEnergy must have access to these facilities for maintenance, safety, and meter reading purposes.
- The trench will be filled with native backfill unless otherwise requested. Requests for compaction or other types of backfill must be included at the time of the service request, and will be provided at an additional cost to the customer.
- While SaskEnergy will strive to restore the property to its original condition, the trench may settle over time depending on soil conditions. To help alleviate this, the trench is typically left with a crown to allow for settlement. Where applicable, landscaping, concrete or pavement restoration will be included in the cost and completed following facility installation.

### 2.4 - Account and Meter Activation

- An application must be made to SaskEnergy for meter installation and account activation. A SaskEnergy representative will explain administrative charges including the connection fee and any required security deposit which will be applied to the account.
- After the completion of the service line installation, your licensed plumbing and heating contractor must contact SaskEnergy to advise that they are ready for the meter activation. They will provide SaskEnergy a Gas Inspection Division permit number, at which time SaskEnergy will install and activate the meter.



## SECTION 3 - COMMERCIAL

SaskEnergy strives to install the natural gas service in a timely manner. Factors such as third party approvals, routing, obstacles, customer delays, or weather conditions can all impact installation schedules. Facilities requested to be installed under frost conditions will result in additional costs to the customer. For customers who are building in the winter, SaskEnergy may be able to supply natural gas service for temporary construction heaters. If this is of interest to you, please mention it when requesting service.

### *3.1 - Requesting Service*

Our website [saskenergy.com](http://saskenergy.com) contains information for Commercial users and can help you with your planning. Please be prepared to discuss your natural gas requirements and provide the following information:

1. Contact names, titles, addresses and telephone numbers of persons or firms involved in the customer's natural gas system and equipment design.
2. A plot plan, indicating the civic address, lot and block and plan number for urban applications, or land location, LSD, lot or parcel number for rural applications.
3. Approved mechanical system drawing(s) showing proposed outside meter(s) location, and an indication of metering options:
  - a) Multiple meters for individual customers
  - b) Single meter for the entire building
4. The total hourly load and delivery supply pressure requirement.
5. Any special considerations that may impact the installation of the SaskEnergy facilities, such as pavement, obstacles, environmental concerns, meter signal requirements, or special routing.

### **Commercial Request Process**

Please provide SaskEnergy a construction plan, indicating the legal land description, the total number of lots to be served, and their location. For rural applications, please include the land location.

To meet your energy needs, we require the total hourly load and delivery pressure for all current (and future, if available) natural gas needs. Please indicate any special considerations that may impact the installation of SaskEnergy facilities, such as obstacles, special routing, backfill needs, or environmentally sensitive areas. The following outlines the typical process:

- Customer request received
- Initial System Design
- Business Review and Offer provided to customer, including route/cost/timelines
- Offer accepted by customer, and returned to SaskEnergy
- Final System Design & Approvals
- Construction Scheduled
- Installation of required facilities
- Activation of account and meter



## SECTION 3 - COMMERCIAL (cont'd)

### 3.2 - Planning for Natural Gas Facilities

When planning your individual residential lot or an entire subdivision layout, please consider current plans and future growth possibilities.

Following installation in accordance with the routing agreement, all costs related to SaskEnergy facility alterations will be the owner's responsibility.

Installation of gas lines and facilities are a condition of service. In some circumstances gas lines are installed within easements registered on title, in other circumstances they are not. For safety and access reasons, customers are not permitted to build over any SaskEnergy natural gas facilities, and will be responsible for all costs to correct these encroachments. Pits, wells, foundations, pavements, buildings or other structures or installations are not generally permitted on SaskEnergy's easements. Written consent is required prior to planting trees or shrubs within an easement, and SaskEnergy generally has the right to trim, cut back or remove any trees or shrubs which, because of over-hanging branches or extensive root growth, are likely to interfere with SaskEnergy facilities or activities.

SaskEnergy standards do not allow underground service entrances into buildings.

Meters will be located on the outside of all buildings. When considering your meter location requirements it is important to meet with SaskEnergy to determine your on-site needs such as:

- Route selection
- Meter location
- Future development
- Venting restrictions
- Clearances from other utility's facilities
- Verification of load and delivery pressure

#### **Additional Metering Requirements:**

- **Meter Board (Residential)**- a white metal clad wood board (plywood) or a white plastic board (PALIGHT Trimboard or equivalent) with the dimensions of 20 mm X 305 mm X 350 to 545 mm long (3/4" X 12" X 14" to 18" long), with top of meter board installed 1.2 m (48") above final grade. Meter board to be supplied and installed by the homebuilder/owner at time of SaskEnergy's site visit for the route and meter location selection. For new house/building service, the Builder is to provide suitable blocking (behind meter board) in the house framing to fasten meter board.
- Large meter sets require a concrete pad (typically 3' x 3' or 3' x 5') to accommodate the meter set. This will be discussed with your SaskEnergy representative.
- Customers with large gas volume, pressure, or special environmental needs may require special meter locations.
- If a SaskEnergy regulator is installed downstream of the meter, it is to be identified as such.
- The SaskEnergy service regulator and meter must have clearance from vents, electrical facilities, and openings according to CSA Z662 code.



## SECTION 3 - COMMERCIAL (cont'd)

### **3.3 - Installing the SaskEnergy Natural Gas Facilities**

SaskEnergy will install the natural gas service line once all designs and approvals have been received. Installation of the facilities is typically by the open-trench method; however in certain circumstances a plough may be used. If boring is requested to install the facility, the additional costs will be the responsibility of the customer. Pipeline materials may be steel or polyethylene.

- All obstacles such as building material, dirt piles, vehicles, etc. on the route must be removed by the owner prior to installation to allow access for equipment.
- Main lines are typically installed at a depth ranging from 0.9 to 1.5 meters, while service lines are usually installed at a minimum depth of 0.6 meters below final grade. The width of the trench will depend on the type of equipment used. We may be able to provide additional depth for an additional cost. Please request this option when you apply for service.
- The service line will terminate above ground at the point of delivery, in a typically suitable location near the corner of the building closest to the main line. This is where the meter and regulator assembly is installed. SaskEnergy must have access to these facilities for maintenance, safety, and meter reading purposes.
- The trench will be filled with native backfill unless otherwise requested. We can provide compaction or other types of backfill for an additional cost. Please request this option when you apply for service.
- While SaskEnergy will strive to restore the property to its original condition, the trench may settle over time depending on soil conditions. To help alleviate this, the trench is typically left with a crown to allow settlement. Where applicable, landscaping, concrete or pavement restoration will be included in the cost and provided following facility installation.

### **3.4 - Account and Meter Activation**

An application must be made to SaskEnergy for meter installation and account activation. A SaskEnergy representative will explain the administrative charges including the connection fee and any required security deposit which will be applied to the account.

After the completion of the service line installation, your licensed plumbing and heating contractor must contact SaskEnergy at **1-888-700-0427** to advise that they are ready for the meter activation. They will provide SaskEnergy a Gas Inspection Division permit number, at which time SaskEnergy will install and activate the meter.



## APPENDIX 1

### NATURAL GAS CONVERSIONS & EQUIVALENTS

1m <sup>3</sup> natural gas*	- 35.300962 ft <sup>3</sup> NG
@ 101.325 kPa	@ 14.73 psia
& 15°C (dry)	& 60°F (dry)

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1 ft <sup>3</sup> natural gas*	- 0.02832784 m <sup>3</sup> NG
@ 14.73 psia	@ 101.325 kPa
& 60°F (dry)	& 15°C (dry)

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\* SaskEnergy Natural Gas Specification

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1 m <sup>3</sup> natural gas	- 35,375 BTU Average
	- 37,320 kJ Average
	- 0.707 kg NG
	- 1.059 litres gasoline (0.233 imp. gal)
	- 1.462 litres propane
	- 0.9826 litres fuel oil

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1 therm natural gas	- 100,000 BTU
	- 105,506 kJ
	- 2.8269 m <sup>3</sup> NG

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1 ft <sup>3</sup> natural gas	- 1,000 BTU Average
	- 1,055 kJ Average

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1 litre fuel oil	- 36,000 BTU
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1 litre #1 winter diesel	- 33,228 BTU
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1 litre #2 summer diesel	- 34,074 BTU
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1 litre LNG	- 20,606 BTU
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## APPENDIX 1 (CONT'D)

### NATURAL GAS CONVERSIONS & EQUIVALENTS

1 litre propane	- 24,197 BTU
	- 25,529 kJ
	- 0.684 m <sup>3</sup> NG
	- 1.12 lbs propane
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1 ft <sup>3</sup> propane	- 2,590 BTU
	- 2,733 kJ
<hr/>	
1 BTU	- 1.05506 kJ
<hr/>	
1 kWh	- 3,412 BTU
	- 3,600 kJ
<hr/>	
1 hp	- 2544.5 BTU/hr
	- 0.7457 kW
<hr/>	
1 Boiler hp	- 33,475 BTU/hr
	- 9.81 kW
	- 33.5 scfh NG
<hr/>	
Irrigation Pump 1 hp	- about 10 scfh NG
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1 ton refrigeration	- 12,000 BTU/hr
<hr/>	
1 imperial gallon	- 3.516 kW
	- 4.546 litres
	- 1.20095 U.S. gallons
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1 psi	- 27.7 inches W.C.
	- 16 ounces/in <sup>2</sup>
	- 6.895 kPa
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## ABBREVIATIONS

Bcf	- billion cubic feet
bhp	- brake horsepower
BTU	- British Thermal Unit
BTU/hr	- British Thermal Unit (s) per hour
ft <sup>3</sup> or cf	- cubic foot (feet)
GJ	- gigajoule - billion joules
hp	- horsepower
J	- Joule
kJ	- kilojoules - thousand Joules
kPa	- kilopascal
kVA	- kilovolt ampere
kW	- kiloWatt
kWh	- kiloWatt hour
LNG	- Liquefied Natural Gas
m <sup>3</sup>	- cubic metre
MBTU	- thousand British Thermal Units
Mcf	- thousand cubic feet
MJ	- mega joule - million joules
MMBTU	- million British Thermal Units
MMcf	- million cubic feet
MW	- megawatt
NG	- natural gas
psi	- pounds per square inch
psia	- pounds per square inch absolute
psig	- pounds per square inch gauge
scfh	- standard cubic foot (feet) per hour
scfm	- standard cubic foot (feet) per minute
Tcf	- trillion cubic feet
W.C.	- Water Column