

Service Connection Requirements

METERING

Single Phase or Three Phase main metering will be supplied by PKM Electric Cooperative, Inc.

OFF-PEAK SERVICE & METERING

Off-Peak meter, socket, CT's for metering if needed and load controller supplied by PKM but installed by licensed electrical contractor provided by member owner.

THREE PHASE TRANSFORMERS

For three phase services, a grade level transformer will be provided that puts out 120/208 or 277/480 "wye" voltage. If 120/240 voltage is required, an "open delta" two phase service (two grade level transformers) will be considered but limited to 150 HP capacity in most cases.

DISCONNECTS

PKM requires a disconnect at every service so it can be de-energized during emergencies or for changes and additions to the customer's wiring.

INSPECTION

As always, PKM will not energize a new service until an inspection certificate has been provided. Emailing or faxing to PKM's office is acceptable.

If you have questions about the information, please contact Jeff Rustad or Joe Marcotte at PKM Electric Cooperative, Inc.

ELECTRIC SERVICE FOR LARGE MOTOR LOADS

1. Any motor – single or three phase – 15 HP or larger need "soft start" equipment to avoid voltage dips when the motor starts, according to Cooperative policy.
2. The customer will be required to pay the cost of any special equipment necessary to maintain the Cooperative's service reliability and integrity. This may include voltage regulators, filters for "harmonics", power factor correction and other devices.

PHASE CONVERTERS AND LARGE SINGLE-PHASE MOTORS

The following are general statements from PKM Electric Cooperative, Inc. consulting electrical engineers. Please discuss this information with your electrician and equipment supplier also.

Our consultants recommend that you purchase from a supplier that has been in business for at least five years and that you look for a five-year warranty.

1. *STATIC PHASE CONVERTERS*

They are supplied by many suppliers, but they may not produce constant three phase power. They are less efficient, and motors can only run at 2/3 their rated horsepower.

2. *ROTARY PHASE CONVERTERS*

They produce steady three phase and are therefore more efficient for operating motors. Motors can be used to their full horsepower and if sized properly, a rotary phase converter can also provide “soft starting” for the motors.

3. *VARIABLE FREQUENCY DRIVES (VFD's)*

One VFD is required for each motor. They are more susceptible to an impure voltage source. A VFD or several VFD's may cause harmonic voltage distortion, which must be eliminated by filters at the customer's expense. Filters shall be built in to VFD or externally mounted.

INFORMATION NEEDED TO ANALYZE LARGE MOTOR LOADS

1. Number and size of motors.
2. Manufacturer
3. NEMA code for the motor starting characteristics.
4. When the motor will be running, how often it will be started and stopped.

Your equipment supplier can help with the proper sizing of phase converters and VFD's. If you have questions about the above information, please contact Jeff Rustad or Joe Marcotte at PKM Electric Cooperative, Inc.

ACCOUNTS CONSTRUCTED AFTER MARCH 31, 2011

1. **Homestead Accounts:** Electrical service provided will require a flat fee of \$1500 and contribution to construction equal to 75% of the estimated construction cost with service capacity up to 400 amps and transformer capacity not to exceed 100 kVa. Construction cost will be the Cooperative's recent standard cost. Any costs will be required to be paid in full before construction commences, unless other payment satisfactory to the Cooperative is agreed upon.

- 2. Non-homestead Accounts:** Electrical service provided to a member or perspective member of the Cooperative which does not come under the homestead classification shall be required to pay a contribution to construction equal to 100% of the estimated cost of construction, less the cost of the transformer and switch as identified in paragraph 1. Contributions to construction will be based upon the Cooperative's recent standard costs. Any costs will be required to be paid in full before construction commences, unless other payment satisfactory to the Cooperative is agreed upon.

- 3. Multi-phase Service:** Electric service extended to a member or perspective member which by nature or member request requires multi-phase service shall require a flat fee of \$2000 and contribution to construction equal to 100% of the cost of construction. Contributions to construction will be based upon the Cooperative's recent standard costs. Any costs will be required to be paid in full before construction commences, unless other payment satisfactory to the Cooperative is agreed upon.

If it is determined that an extension of the multi-phase service will be of mutual benefit to the member and the Cooperative and its system capacity, reliability or if the construction is part of the current two-year work plan or part of the long-range engineering plan of the Cooperative, a pro-rata adjustment in the construction contribution may be made. The Operations Manager shall determine the pro-rata adjustment and if the member feels that he/she has been deprived of the provisions of this policy, he/she may appeal the decision to the Board of Directors. The decision of the Board of Directors will be final.

- 4. COGENERATION & DG:** Applications and fees are completed through the NOVA Portal at ww.pkmcoop.com. Any DG installed by member owner at or under 39.9 KW shall be connected on the load side of PKM Electric Cooperative meter disconnect by licensed electrical contractor. PKM will upgrade the transformer and switch if needed, this will be paid for by the member owner. DG will not be energized until inspected by area electrical inspector. A flat fee of \$1500 will also be charged to be connected to PKM Electrics distribution equipment. Contractor shall supply a disconnect and metering socket for DG system. PKM Electric Cooperative will supply net meter for the main supply and the DG socket.

Please call the office if you have any questions at 218-745-4711 or email at info@pkmcoop.com.

