

## 4. GENERAL REQUIREMENTS

### **4.1 APPLICATION FOR SERVICE**

Application for service must be made to, and accepted by, the Company before service will be furnished. At the time of application, the Customer shall describe as completely as possible the equipment to be served and the size of the load to be supplied so that adequate capacity may be provided in the Company's facilities. Before proceeding with wiring, the point of delivery and meter location shall be determined by the responsible PECO New Business representative.

#### **4.1.1 Alternate Meter Agents**

Alternate Meter Agents must comply with all requirements of these Electric Service Requirements. PECO will determine the physical location of all meter equipment and the design of the metering system.

#### **4.1.2 The Electric Service Tariff**

The Rules and Regulations under which the Company will supply Electric Service to its Customers are on file with the Public Utility Commission of the Commonwealth of Pennsylvania and are posted and open for inspection at the offices of the Company. Abstracts are available at Company offices. These Electric Service Requirements supplement the Rules and Regulations filed under the Tariff, but shall not be interpreted as conflicting with or superseding them.

#### **4.1.3 Standard Types of Service Furnished**

It is the Customer's responsibility to secure information pertaining to the types of service available before completing his electrical plans. All types of service are not available in every locality and the company does not offer to supply non-standard type of services. All services are at 60 hertz and all stated voltages are nominal.

#### **4.1.4 Application for Air Conditioning Service**

Applications for electric services, which involve air conditioning loads, must specifically include the manufacturer's name, model number, the locked rotor current and the BTU/HR capacity.

#### **4.1.5 Applications for Electric Heating Service**

Electric Heating service is available for heating entire areas as well as supplemental or auxiliary heating under applicable rates. Contact the PECO Company office in the appropriate region for details before preparing bids or specifications.

##### **4.1.5.1 Information Required for Heating Service**

The number, size and type of heating units must be specified on Application for Electric Service and Meter. Details of all other load also must be specified.

##### **4.1.5.2 Metering for Electric Heating Service**

A separate heating rate is available for certain type installations. Contact the local PECO Distribution office for details.

#### **4.1.6 Off-Peak Residential Service (Rate OP)**

Off Peak Residential Service is no longer offered. Effective 1/1/2004, service under rate OP will be restricted to service locations already receiving rate OP service or are the subject of a rate OP service application as of 12/31/2003. Any load connected for service under Rate OP may not be connected for service under any other rate during the period that service under Rate OP is interrupted.

#### **4.1.6.1 Information Required For Off-Peak Service**

Off Peak Residential Service is no longer offered.

#### **4.1.7 Application for Parallel Operation of Non-Utility Generation**

An addendum to these Electric Service Requirements entitled "**Requirements** FOR PARALLEL OPERATION FOR CUSTOMERS WITH GENERATION NOT EXCEEDING 50 kW" (**yellow book**) and "**INTERCONNECTION REQUIREMENTS FOR PARALLEL OPERATION OF GENERATION GREATER THAN 50 KW CONNECTED TO THE PECO DISTRIBUTION SYSTEM**" (**gray book**)", which includes an application for parallel operation, is available upon request. Contact a Distributed Energy Group representative for details before preparing bids or specifications.

#### **4.2 ADDITIONAL LOAD**

The capacity of the service connection, transformers, meters and equipment supplied by the Company is based on the type of equipment and estimated loads provided by the Customer at the time of application for service. Capacity is limited, no additions to the Customer's equipment or load will be allowed except by consent of the Company. The Company shall be notified, well in advance of the contemplated change, in order to permit arrangements for any necessary alteration to the Company's service and metering facilities

#### **4.3 CUSTOMER'S INSTALLATION**

##### **4.3.1 Point of Delivery**

The Company will designate in writing, upon request, a satisfactory point of delivery where the Customer shall terminate wiring and facilities for connection to the supply lines of the Company. The failure to request and obtain such location may result in refusal of service pending rearrangement of Customer's facilities. However, the designation of a point of delivery does not constitute an agreement or obligation on the part of the Company to furnish service.

##### **4.3.2 Service Entrance Equipment**

The Customer shall install all equipment beyond the point of delivery, except the meter. Installation shall conform with the National Electrical Code as well as with all applicable ordinances of authorities having jurisdiction and to these Electric Service Requirements. No customer devices shall be mounted between the meter and meter socket. Where necessary, the Customer shall provide an PECO approved sealable/lockable meter panel for mounting a meter, which will be furnished and owned by the customer, and sealed by the Company.

The National Electrical Code requires service equipment to be suitable for the short circuit current available at its supply terminals. Many but not all residences supplied by overhead services or underground services in single house residential developments can be adequately protected by over current protective devices having a minimum interrupting rating of 10,000 amperes. Most apartments and townhouses supplied by services from underground or pad mounted transformers can be adequately protected by fuses or circuit breakers with a minimum interrupting rating of 22,000 amperes

The available short-circuit current for secondary services to commercial, industrial, or multiple occupancy residential buildings may be obtained through the local PECO Energy Company office or by using the following information. The available short circuit current may be calculated assuming a transformer impedance of 1.5% to 2.5% for transformer nameplate ratings through 500 kVA and 5.5% for 750 kVA and larger transformers. For convenience the following table lists the maximum available short circuit at the secondary terminals of various three-phase transformers based on typical transformer impedances.

Maximum Short Circuit Current Available at Transformer Secondary Terminals (Amperes)

<u>Transformer Size 3-Phase (kVA)</u>	<u>120/208 Volt Secondary</u>	<u>240 Volt Secondary</u>	<u>277/480 Volt Secondary</u>
75	14,000	12,000	6,000
150	28,000	24,000	12,000
300	56,000	48,000	24,000
500	93,000	80,000	40,000
750	38,000	33,000	16,000
1000	-----	-----	22,000
1500	-----	-----	33,000

#### **4.3.3 Nonstandard Voltages**

The Customer shall pay the cost of any extra installation necessary to meet special requirements for service at other than standard voltages, or for the supply of closer voltage regulation than required by standard practice.

## **4.4 PRIVATE PROPERTY CONSTRUCTION**

### **4.4.1 Company's Service Supply Lines**

Where the Company has supply facilities of adequate capacity adjacent to the premises to be served, it will provide, own and maintain standard service supply lines for a new service or for a change in load, or for a change in rate as follows:

#### **4.4.1.1 Overhead Service - All Customers**

Where existing Company supply facilities are overhead, the Company will install a single span of aerial wire or cable to the first suitable support of the Customer, nominally 100 feet inside the property line of the Customer. The Customer's support shall be so located that the service span will be free of obstruction, and adequately supported as required by the size and weight of the conductors. The span shall meet all clearance specifications as required by the National Electrical Code, the National Electric Safety Code, and any legal codes having jurisdiction.

Where the existing Company facilities are aerial and the Customer requests an underground service, the Tariff requires that the customer pay the difference in cost between an aerial and underground service. Customers may provide cable and other material in lieu of payment. In either case, the Company will make property line splices.

#### **4.4.1.2 Underground Service - Commercial and Industrial**

Where existing Company supply facilities are underground, the Company will extend an underground service from its supply facilities to the point of delivery 18" inside the Customer's property line. A property line splice box or manhole shall normally be provided by the Customer but may be omitted where practical by agreement with the Company.

Where the existing Company facilities are aerial and the Customer requests an underground service, the Tariff requires that the customer pay the difference in cost between an aerial and underground service. Customers may provide cable and other material in lieu of payment. In either case, the Company will make property line splices.

If mutually agreeable the service splice can be eliminated and either party may act as the contractor for the other as follows: the Customer may provide sufficient cable at the point of delivery to allow extension to the Company's supply facilities by either party. See Section 4.4.2.

The Company will not extend its cables under a building, or further into a building than an end box located on the inside of an exterior building wall. The Company shall be contacted to determine the specific point of delivery for each underground service.

#### **4.4.1.3 Underground Service - Residential**

The Company will extend an underground service to the defined point of delivery for residential occupancy premises. The point of delivery will normally be an outdoor meter socket located on the front wall of the residence or a sidewall within two feet of the front wall. Only meter sockets listed in Tables 8.01 and 8.16 are acceptable for outdoor installation. Refer to Figure 8.05 for installation details.

The Company will own and maintain these underground services on private property to the defined point of delivery as prescribed in the Electric Service Tariff Rule 7.3, or by special agreement with the Customer. Consult the local PECO New Business office or (NRCG) for detailed information on underground service installations.

#### **4.4.1.4 Underground Service from Overhead Facilities**

Customers desiring an underground service from existing overhead facilities must pay the difference in cost between an underground service and an overhead service. See Fig. 12.04. The Company on request will furnish specifications and terms for such construction. The Company will furnish and install underground service facilities for residential developments or garden type apartments under the conditions set forth in the Electric Tariff.

#### **4.4.2 Maintenance of Customer's Service Extension**

The Customer shall provide, own, and maintain the service extension from the point of delivery to his receiving equipment.

Where the manhole or splice box has been omitted on an underground service, the Customer shall be responsible for the replacement of the Customer's portion of the service cable if the Company's portion of the service cable fails. If the Customer's portion of the service cable fails, the Customer shall be responsible for replacement of the entire service cable, including splices or terminators, from the end box, manhole or switchgear to the nearest connection point to the Company's facilities.

#### **4.4.3 Service Supply Alterations (Existing Services)**

Changes in location of service supply lines or meters for the accommodation of the Customer shall be at the expense of the Customer.

### **4.5 REQUIREMENTS OF SERVICE**

#### **4.5.1 Wiring in Progress**

Service supply lines will not be installed prior to the time the wiring of the premises is actually in progress. The Customer shall furnish, install, and connect such approved meter mounting devices as are necessary in accordance with these Electric Service Requirements to accommodate any meter required for billing under the Tariff.

#### **4.5.2 Inspection of Customer Facilities**

**For the Customer's protection, the Contractor should obtain a written certificate of approval from a competent inspection agency authorized to perform this service in the specific locality of the premises to be supplied.**

**See Section 9.** The certificate must be satisfactory to the Company and must certify that the Customer's wiring system is in compliance with the National Electrical Code, as well as being in compliance with all applicable ordinances of authorities having jurisdiction. The Company reserves the right to refuse introduction of service if a satisfactory certificate of approval has not been obtained. The Company is not responsible for foreign wiring or incorrectly wired services.

##### **4.5.2.1 Introduction of Service**

Inspections shall be made where service is introduced to a new building or where additional service equipment and meters are added in an existing building. Inspection shall also be made where service is introduced to an existing building, which has been vacated for rehabilitation.

##### **4.5.2.2 Reintroduction of Service**

Inspections shall be made where the service has been de-energized previously, due to a hazardous condition, or when the meter has been removed, or when the service has been de-energized for 12 months or more, or when in the judgment of the Company it is deemed unsafe to re-energize the Customer's service.

##### **4.5.2.3 Changes to Customer's Service**

It is the Contractor's responsibility to have an inspection performed whenever changes or alternations are made to his service entrance conductors, meter-mounting equipment, or service equipment of occupied premises. In such cases service will continue to be metered and the Contractor should secure, for the protection of the Customer, a written certificate of inspection.

#### **4.5.3 PECO Company's Right to Inspect**

The Company shall have the right, but shall not be obliged, to inspect any installation before electricity is introduced or at any later time, and reserves the right to reject any wiring or appliances not in accordance with the Company's standard requirements or the National Electric Code. Such inspection, or failure to inspect or reject, shall not render the Company liable or responsible for any loss or damage resulting from defects in the installation, wiring, or appliances, or from violation of Company rules, or from accidents, which may occur upon the premises of the Customer.

#### **4.6 DEFECTIVE OR UNSATISFACTORY INSTALLATIONS**

The Company may refuse to connect if, in its judgment, the Customer's installation is defective, does not comply with reasonable requirements necessary for safety, or is in violation of the Company's standard requirements. The Company may also refuse to connect if, in its judgment, the Customer's equipment, or use thereof, might adversely affect the equipment of the Company, or the Company's service to other Customers.

#### **4.7 RELOCATION OF COMPANY FACILITIES**

The cost for removal or relocation of Company owned distribution facilities made pursuant to the request of a residential or non-residential property shall be at the expense of the customer, contractor, builder, or developer. See Company representatives for details.

#### **4.8 FINAL CONNECTION**

The final connection between the Customer's installation and the Company's service supply lines shall be made by, or under the supervision of a representative of the Company **except for standard single-phase secondary aerial service**, in which the Customer's Contractor shall make the final connection in accordance with the Company standard requirements. See Table 10.01 for connection information.

#### **4.9 COMPANY EQUIPMENT ON CUSTOMER'S PREMISES**

##### **4.9.1 Access to Company Equipment**

The Company's identified employees shall have access to the premises of the Customer at all reasonable times for the purpose of installing meters, and for installing, testing, inspecting, repairing, removing or changing any or all equipment belonging to the Company. The Customer shall maintain a minimum of 3 feet x 3 feet working space in front of each meter. Additional space will be required adjacent to moving machinery.

##### **4.9.2 Protection of Company Equipment**

The Customer shall be responsible for safekeeping of the Company's property while on the Customer's premises. In the event of injury or destruction of any such property the Customer shall pay the cost of repairs and replacement.

##### **4.9.3 Protection by Customer**

The Customer shall protect the equipment of the Company on his premises and shall not permit any person except a Company employee having appropriate Company identification, to break any seals on or do any work on any meter or other apparatus of the Company located on the Customer's premises.

#### **4.10 EFFECT OF CUSTOMER'S EQUIPMENT ON POWER QUALITY**

Certain types of equipment, which may be purchased and used by the Customer, have operating characteristics, which may have a detrimental effect on other equipment of the Customer or may interfere with the satisfactory use of service by other Customers connected to the same distribution system. It is in the interest of all Customers that the use of such equipment be avoided. The Company reserves the right to refuse service where such equipment is installed unless the Customer provides suitable compensating or protective devices, or makes satisfactory financial arrangements with the Company to provide the necessary capacity or protective measures. Types of conditions or equipment particularly included in this category are listed below.

#### **4.10.1 Fluctuations**

Apparatus which results in high momentary loads or repeated fluctuations such as motors drawing a high starting current, welders and similar apparatus, may not be objectionable when they constitute only a small proportion of the Customer's total load, although the Company should be consulted before the equipment is purchase and installed. See Section 5.6 for Motor Installations.

#### **4.10.2 Power Factor**

Devices are available for improving power factor. The Company should be consulted when equipment with low power factor is being considered for installation.

#### **4.10.3 Interference**

Equipment giving rises to severe and prolonged interference with radio and television reception or other communication services must be properly adjusted or provided with adequate corrective devices.

#### **4.10.4 Waveform and Harmonic Distortion**

Control devices or other types of power equipment shall be of such design as to introduce a minimum of waveform or harmonic distortion in the Company supply circuits. Devices that utilize part wave rectification as a means of control may not be permitted depending upon the degree of effect of the current or voltage distortion. See IEEE Standard 519 for recommended maximum harmonic current and voltage distortion limits as measured at the service point.

### **4.11 CUSTOMER OCCUPANCY OF COMPANY FACILITIES**

No distribution circuits, telephone or signal wires or other equipment belonging to the Customer shall be attached to Company poles or installed in Company conduits or trenches except under special arrangements with the Company covered by a written agreement.

### **4.12 SAFE INSTALLATION**

#### **4.12.1 General**

It is necessary for the protection of the Customer that all wiring and equipment on the premises be installed and maintained in a safe manner. In all cases, the Company strongly recommends inspection of all electrical equipment and wiring on the Customer's premises by a competent electrical inspector. The Company reserves the right to refuse or discontinue service where unsafe wiring or equipment is known to exist on the premises. In order to safeguard the properties of both the Customer and the Company, the Customer and Contractor are warned against installing circuit breakers or fuses in the main or branch circuits larger than permitted by the National Electrical Code. Warning is also issued against the use of shunting wires, coins, unsafe wiring, or any other means, which render protective devices ineffective.



#### **4.12.2 Customer Antennas**

Antennas shall be located well away from overhead conductors of electric lights and power circuits in order to avoid the possibility of their falling onto or coming into accidental contact with such circuits. Consideration must be given to the movements that the antennas and the power circuit conductors may be expected to make under storm conditions. Outdoor antennas should be fabricated of durable materials and erected so that they will withstand ice and wind loading conditions.

#### **4.13 IDENTIFICATION OF ELECTRICAL CONTRACTOR**

Electrical Contractors are requested to leave their name, address, and telephone number on or adjacent to the Customer's service equipment. This information will enable the Company to communicate with the Contractor promptly when necessary.

NOTE: Any reference in this section to Figures or Tables 8.??, 10.?? or 12.?? can be found in Sections 8, 10 or 12, of this Blue book, titled "Metering", "Accepted Equipment" and "Illustrations" respectively.